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1 OF 2

ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES IN THE STATE OF NEW YORK

PRELIMINARY SITE ASSESSMENT REPORT
WESTINGHOUSE ELECTRIC CORPORATION SITE NO. 915066
Work Assignment No. D002520-8

Town of Cheektowaga Erie County

FINAL
SEPT. 1991

Prepared for:

New York State
Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233
Thomas C. Jorling, *Commissioner*

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

Prepared by:

DUNN GEOSCIENCE ENGINEERING COMPANY, P.C.
12 Metro Park Road
Albany, New York 12205

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PRELIMINARY SITE ASSESSMENT REPORT

WESTINGHOUSE ELECTRIC CORPORATION SITE

Town of Cheektowaga
Erie County
New York State

NYSDEC Site Number 915066
Work Assignment Number D002520-8

TABLE OF CONTENTS

APPENDICES

LIST OF PLATES

SUPPORTING DOCUMENTATION
FOR THE
PRELIMINARY SITE ASSESSMENT REPORT
WESTINGHOUSE ELECTRIC CORPORATION SITE

Town of Cheektowaga
Erie County
New York State

NYSDEC Site Number 915066
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APPENDICES

Appendix D: Historic Documentation and Correspondence

Appendix D-1:	Memorandum Regarding a Conference between Westinghouse Electric Corporation and D. B. Stevens of the New York State Water Pollution Control Board Dated, January 10, 1955
Appendix D-2:	Correspondence from Westinghouse Electric Corporation to the Interagency Task Force on Hazardous Waste, 1978
Appendix D-3:	Interagency Task Force on Hazardous Waste in Erie and Niagara Counties, 1979
Appendix D-4:	Erie County Department of Environment and Planning (ECDEP) Investigation Report, 1984
Appendix D-5:	NYSDEC Site Investigation Report, December 1981
Appendix D-6:	Correspondence from New York State Department of Health (NYSDOH) to Erie County Department of Environment and Planning (ECDEP), July 12, 1985
Appendix D-7:	Test Pit Logs and Analytical Results "Flying Tiger's" Restaurant "Environmental Study-Speciality Restaurant, Greater Buffalo International Airport, Buffalo, New York", Empire Soils Investigation, Inc., for the NFTA, March, 1987.
Appendix D-8:	Underground Storage Tank Location Map Taken from Letter report, "NFTA Acquisition of the Westinghouse Site-Phase II Reconnaissance", Empire Soils Investigations for the NFTA, December 22, 1987

Appendix D-9: Boring Logs and Analytical Results from *"Field Investigation Report"*, Prepared by Malcolm-Pirnie for Westinghouse Corporation, April 1987

Appendix D-10: Analytical Results from ERM's Site Characterization and Remedial Measures Summary Report: Outfalls 001, 002, and 003, *"Summary Report: Site Characterization and Recommended Remedial Measure Outfalls 001, 002 and 003 Former Westinghouse Facility, 4454 Genesee Street, Cheektowaga, Erie County, New York"* ERM-Northeast, January 1991

Appendix D-11: Flora and Fauna Information

Appendix E: Well Development Logs

Appendix F: Field Sampling Logs (Organized Alphabetically by Area of Investigation)

Appendix G: Hydraulic Conductivity Calculations

Appendix H: Data Validation Summary Logs

Appendix I: Geotechnical Analysis Reports

LIST OF FIGURES

LIST OF FIGURES (continued)

LIST OF TABLES

LIST OF TABLES (Continued)

LIST OF TABLES (Continued)

LIST OF TABLES (Continued)

LIST OF TABLES (Continued)

LIST OF TABLES (Continued)

EXECUTIVE SUMMARY

This Preliminary Site Assessment (PSA) Report for the Westinghouse Electric Corporation Site (New York State Site Number 915066, USEPA Site Number NY D092474592) has been prepared by Dunn Geoscience Engineering Company, P.C. (DUNN) under the State Superfund Standby Contract (Work Assignment No. D002520-8) with the New York State Department of Environmental Conservation (NYSDEC). All project activities associated with this work assignment were conducted during August 1990 to August 1991.

The Westinghouse Electric Corporation Site, approximately 143 acres in size, is located in the western portion of Erie County, New York, at 4454 Genesee Street in the Town of Cheektowaga (refer to Figure ES-1). The site is bordered to the north and west by the Greater Buffalo International Airport, to the east by Holtz Drive, and to the south by Genesee Street.

Between 1940 to 1946, Curtis-Wright Corporation utilized the facility for the manufacture and production of aircraft for World War II. In 1946, the 143 acre plant site was sold to the Westinghouse Electric Corporation. During 1946 to 1984, Westinghouse utilized the facility to manufacture electric motors and controls.

In 1964, Westinghouse sold approximately 0.7 acres of the northern tip portion of the property to the Niagara Frontier Transportation Authority (NFTA). During 1984, Westinghouse sold an additional 11.4 acres of the northern tip of the subject property to the NFTA.

In December 1984, Westinghouse entered into an agreement to sell the plant building and remaining property to Mr. Barry M. Weinstein.

In 1985, Mr. Weinstein assigned all his rights and interest in the facility to the Erie County Industrial Development Agency (ECIDA), who in turn, amended and signed the purchase agreement. In August of the same year, the ECIDA entered into a lease with an option to purchase the facility with the Buffalo Airport Center Associates (BACA).

Presently, the BACA manages the site and subleases portions of the property for a variety of uses, including general office and warehousing and distribution operations. In addition, Westinghouse continues to lease a portion (approximately 100,000 square foot) of the main plant building from BACA for limited manufacturing activities associated with its International and Speciality Services Division.

In 1979, the Interagency Task Force on Hazardous Wastes in Erie and Niagara Counties (a coalition of the NYSDEC, New York Department of Health (NYSDOH) and Region II USEPA personnel) identified Westinghouse as a significant generator of hazardous waste. However, it could not identify where wastes generated at the facility were disposed prior to 1971. According to the Task Force Report, the following waste materials were generated in varying quantities by Westinghouse's manufacturing processes:

- General refuse;
- Waste oil;
- Non-ferrous scrap;
- Ferrous scrap;
- Waste mineral oil;
- Ultra filter rinse oil;
- Iron phosphate solution;
- Deionized resin solution; and
- Chemical wastes.

No information could be found pertaining to waste generation and disposal practices associated with Curtis-Wright's manufacturing activities at the plant site.

In June 1980, Westinghouse was listed in the registry of Inactive Hazardous Waste Disposal Sites as "suspected" of disposing cyanide salts on-site at an unknown location. The issue of suspected disposal of cyanide salts was raised as a result of a Westinghouse memorandum concerning a conference between Westinghouse and D. B. Stevens of the New York State Water Pollution Control Board. This January 10, 1955 memorandum makes reference to cyanide waste from the heat treating room: *"The spent solid cyanide is collected and disposed of by burial on the property."* In that same memorandum are references to off-site disposal of sludges, as well as plating solutions, that are *"...diluted and flushed down the drain."*

Based on the review of aerial photograph coverage of the Westinghouse Site (Dames and Moore, 1986), the alleged dumping of solid cyanide, waste oil and lubricants may have taken place in the portion of the property north of the paved parking lot areas.

Allegations have subsequently been made by the NFTA that there are other areas of the property, both inside and outside the main building structure, where additional environmental concerns may exist as a result of past disposal practices or site operations.

Based on the information obtained from site reconnaissance/interviews and the results of previous investigations conducted at the Westinghouse Electric Site, Dunn Engineering Company, P.C. (DUNN) recommended that a detailed surface/subsurface investigation of the study area be conducted to properly classify the site. The initial study area, an 11.4 acre site situated at the northern portion of the property, was significantly broadened to incorporate the total 143 acres of the subject property. The increase in the study area was based upon information provided by former Westinghouse employees pertaining to alleged on-site disposal of chemical wastes, site reconnaissance observations made by DUNN and NYSDEC personnel, and from the increase in information concerned with the use, storage and handling of bulk chemical products/by-products utilized at the Westinghouse plant.

Analytical results obtained from the PSA study indicated that hazardous waste materials have been disposed on various portions of the project site over an extended period of time. This conclusion is further supported by historic documentation and statements made by former Westinghouse Electric employees.

Based on the findings and conclusions presented in this report, DUNN recommends that the entire Westinghouse Electric Corporation Site, approximately 143$\pm$ acres in size, be classified to a Class 2 site by the NYSDEC and that a more extensive investigation be undertaken to define the extent of contamination and provide the necessary information required to evaluate possible alternatives for remediating the project site.

The preliminary assessment score calculated for this site was:

Ground Water Pathway Score	(Sgw)	=	5.33
Surface Water Pathway Score	(Ssw)	=	6.61
Soil Exposure Pathway Score	(Sso)	=	15.87
Air Pathway Score	(Sa)	=	21.70

SITE SCORE = 14.09

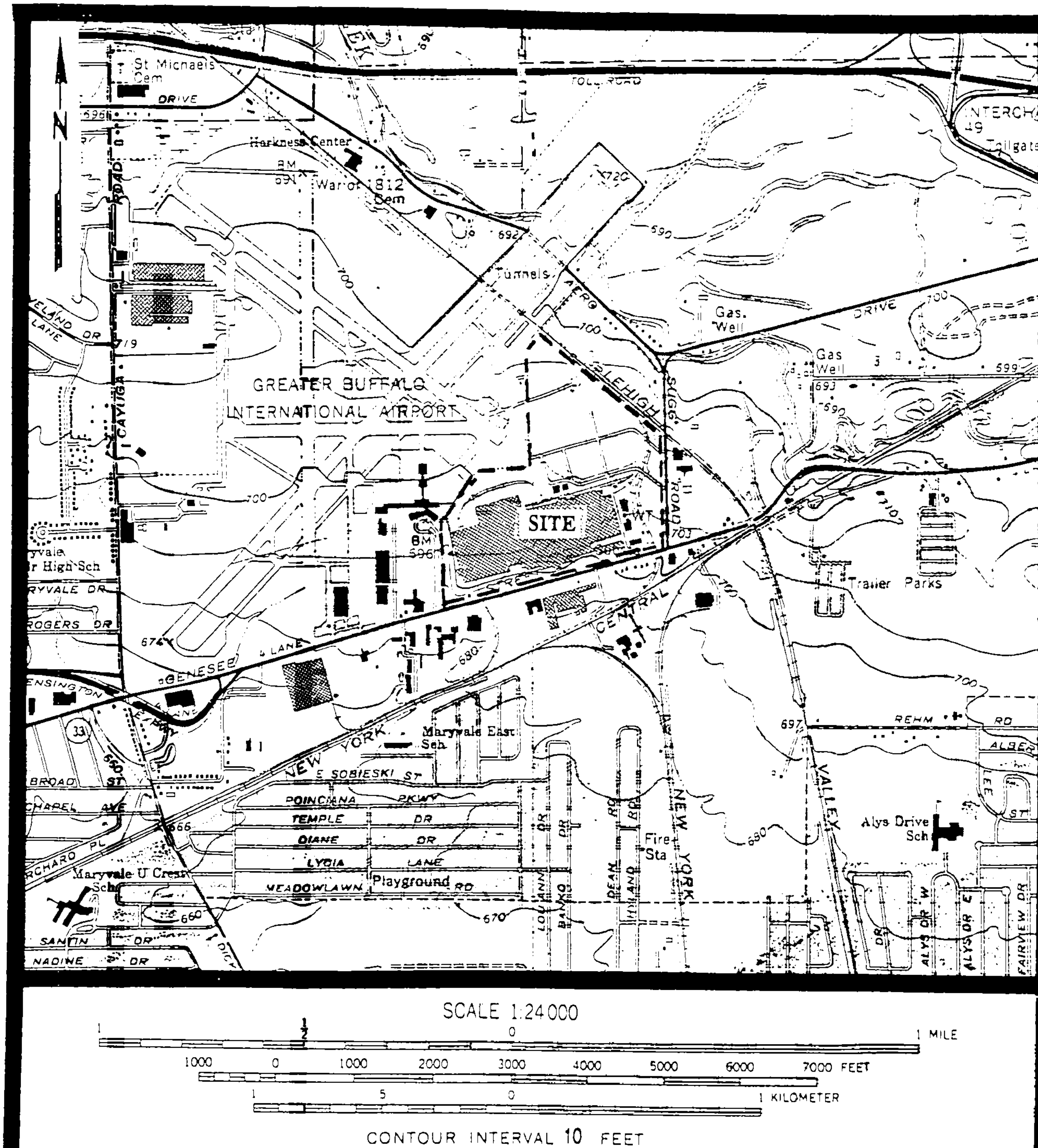


Figure ES-1
SITE LOCATION MAP

WESTINGHOUSE ELECTRIC CORPORATION
CHEEKTOWAGA, NEW YORK
(78° 43' 24" W. Long; 42° 56' 04" N. Lat)

U.S.G.S 7.5 Min Quad. Lancaster, New York

DUNN GEOSCIENCE CORP

1.0 INTRODUCTION

1.1 General

This Preliminary Site Assessment (PSA) Report for the Westinghouse Electric Corporation Site (NYS Site No. 915066, USEPA Site No. NYD092474592) has been prepared by Dunn Geoscience Engineering Company, P.C. (DUNN), under the State Superfund Standby Contract (Work Assignment No. D002520-8) with the New York State Department of Environmental Conservation.

1.2 Scope and Purpose of Investigation

In order to comply with the intent and schedule of the inactive hazardous waste site classification program, the NYSDEC initiated a Preliminary Site Assessment (PSA) for the Westinghouse Electric Site. The purpose of this study was to characterize and classify this site into the respective site classification as defined by Article 27, Title 13, of the Environmental Conservation Law (ECL). In order to classify the site, a twofold determination is necessary. This determination requires that (1) hazardous waste disposal on-site as defined by 6 NYCRR Part 371 is documented and (2) the site's significance as to the threat to the public health and environment due to the presence of hazardous waste disposal is documented. To accomplish this, the NYSDEC and DUNN developed and implemented a series of task/subtask work activities, which included:

- Data Records Search and Assessment;
- Preparation of Project Related Documents (Work Plan, Health & Safety Plan, Quality Assurance Project Plan);
- Geophysical Survey/Initial Environmental Sampling Program;
- Subsurface Investigation and Sampling Programs;
- Data Validation Program;
- Calculation of Preliminary Assessment Score; and
- Preparation of a Final PSA Report.

1.3 Site Location and Description

The Westinghouse Electric Corporation site is located in the western portion of Erie County, New York, at 4454 Genesee Street in the Town of Cheektowaga. The site is situated at 78° 43' 24" west longitude and 42° 56' 04" north latitude. Figure 1-1 depicts the site location.

The site is bordered to the north and west by the Greater Buffalo International Airport, to the east by Holtz Drive (formerly Sugg Road) and to the south by Genesee Street.

The site itself is approximately one hundred and forty three (± 143) acres in size. A large plant building structure, approximately 2.5 million square feet in size, and several smaller buildings occupy a significant portion of the site. The remaining portion of the site consists of paved areas, roadways, railroads, and open grass/vegetated areas. A map depicting the present layout of the site is shown on Figure 1-2.

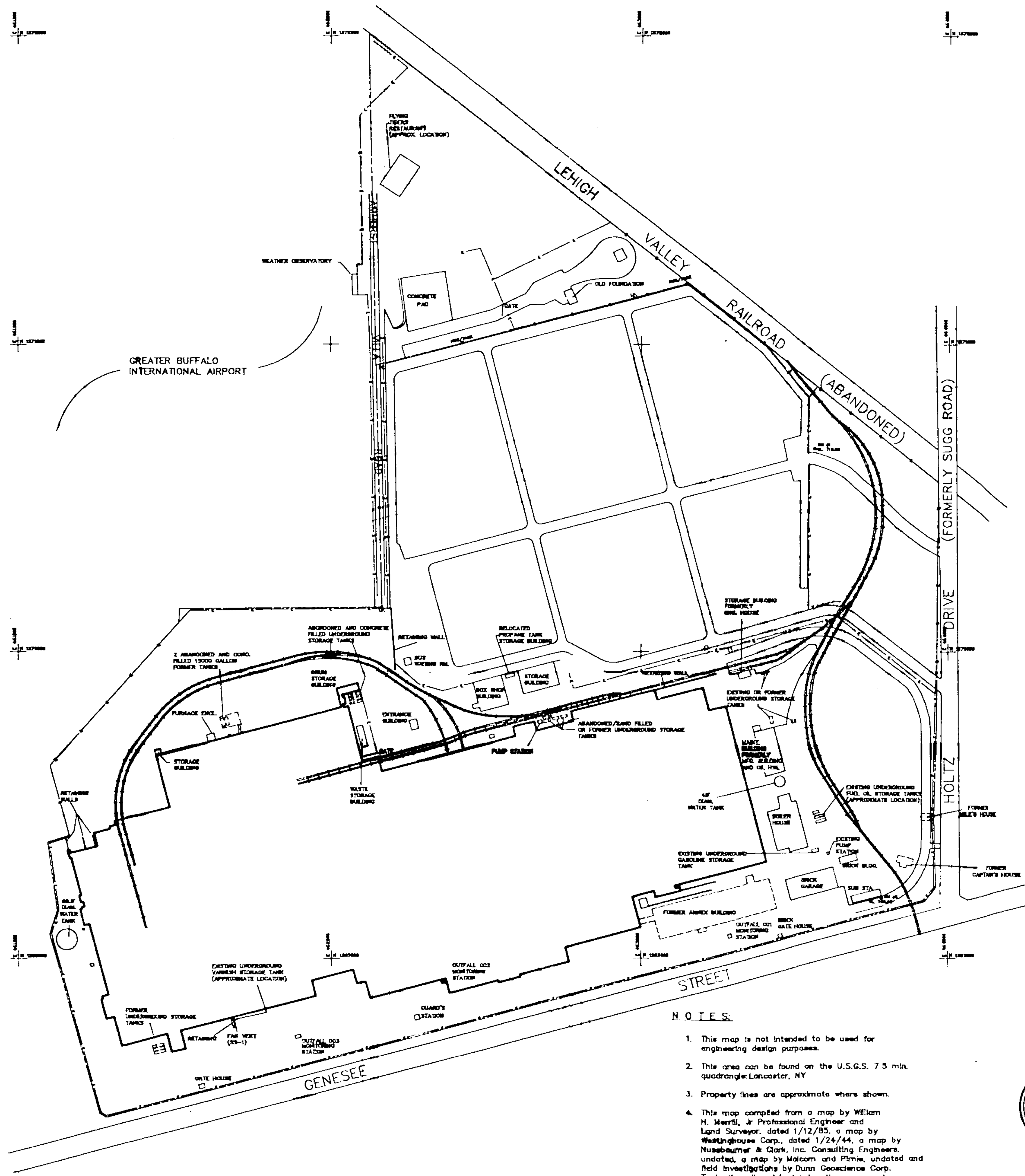
The nearest buildings to the site include a small weather station located on the Buffalo Airport property, the Flying Tiger's restaurant, the Buffalo Airport terminal, and several businesses south of Genesee Street, including Calspan Research (refer to Figure 1-2).

1.4 Site Ownership

Prior to 1940, the 143 acre study area was undeveloped and consisted mainly of open fields. The existing facility was constructed in 1940 by owner/operator Curtis-Wright Corporation and utilized for aircraft production.

In 1946, the site was sold to the Westinghouse Electric Corporation who operated the facility from 1946 to December 1984. During that period, they manufactured the following products:

- AC and DC industrial motor controls;
- Custom built industrial controls;
- Large rectifier and inverters;
- Military and defense controls;
- Selenium rectifiers and surge compressors;
- Gears;



NOTES:

1. This map is not intended to be used for engineering design purposes.
2. This area can be found on the U.S.G.S. 7.5 min. quadrangle: Lancaster, NY
3. Property lines are approximate where shown.
4. This map compiled from a map by William H. Merrill, Jr Professional Engineer and Land Surveyor, dated 1/12/85, a map by Westinghouse Corp., dated 1/24/44, a map by Nussbaumer & Clark, Inc. Consulting Engineers, undated, a map by Malcom and Pirnie, undated and field investigations by Dunn Geoscience Corp. Test pit, well and boring locations surveyed by Om P. Popli, PE.

DUNN GEOSCIENCE ENGINEERING CO., P.C.
12 Metro Park Road
Albany, NY 12205

SITE LAYOUT MAP
WESTINGHOUSE ELECTRIC CORP.
BUFFALO AIRPORT CENTER

TOWN OF CHEEKTOWAGA	ERIE COUNTY, NY
PROJECT NO. 00296 – 01699	DWG. NO. 2808937-B
SCALE 1"=400' / DATE 5/15/91	FIGURE NO. 1–2

- Copper and aluminum bare wire;
- Copper and aluminum insulated wire;
- AC and DC electric motors and generators;
- ARC welding power supplies;
- Gas engine driven welders;
- Welding torches and guns; and
- Welding wire drives.

Principal manufacturing processes at the Westinghouse facility included wire production, copper and aluminum casting, as well as metal machining, fabrication, plating and finishing.

In 1964, Westinghouse sold approximately 0.7 acres of the northern tip portion of the property to the Niagara Frontier Transportation Authority (NFTA). During 1984, Westinghouse sold an additional 11.4 acres of the northern tip of the subject property to the NFTA.

In December 1984, Westinghouse entered into an agreement to sell the plant building and remaining property to Mr. Barry M. Weinstein.

In 1985, Mr. Weinstein assigned all his rights and interest in the facility to the Erie County Industrial Development Agency (ECIDA), who in turn, amended and signed the purchase agreement. In August of the same year, the ECIDA entered into a lease with an option to purchase the facility with the Buffalo Airport Center Associates (BACA).

Presently, the BACA manages the site and subleases portions of the property for a variety of uses, including general office, warehousing and distribution operations. In addition, Westinghouse leases a portion (approximately 100,000 square foot) of the main plant building from BACA for limited manufacturing activities associated with its International and Speciality Services Division.

Property tax identification numbers for the project site were obtained from the Town of Cheektowaga Assessor's office. The main portion of the site is divided into two parcels; tax identification numbers 92.02-1-16.1 and 92.02-1-16.1-A. The northern portion of the project site, owned by the NFTA, is referenced as tax identification number 92.02-1-16.2-A.

Figure 1-3 depicts the present property boundaries of the site.

1.5 Waste Generation and Disposal Practices

The following section discusses the generation of waste and disposal practices associated with manufacturing activities conducted at the plant site.

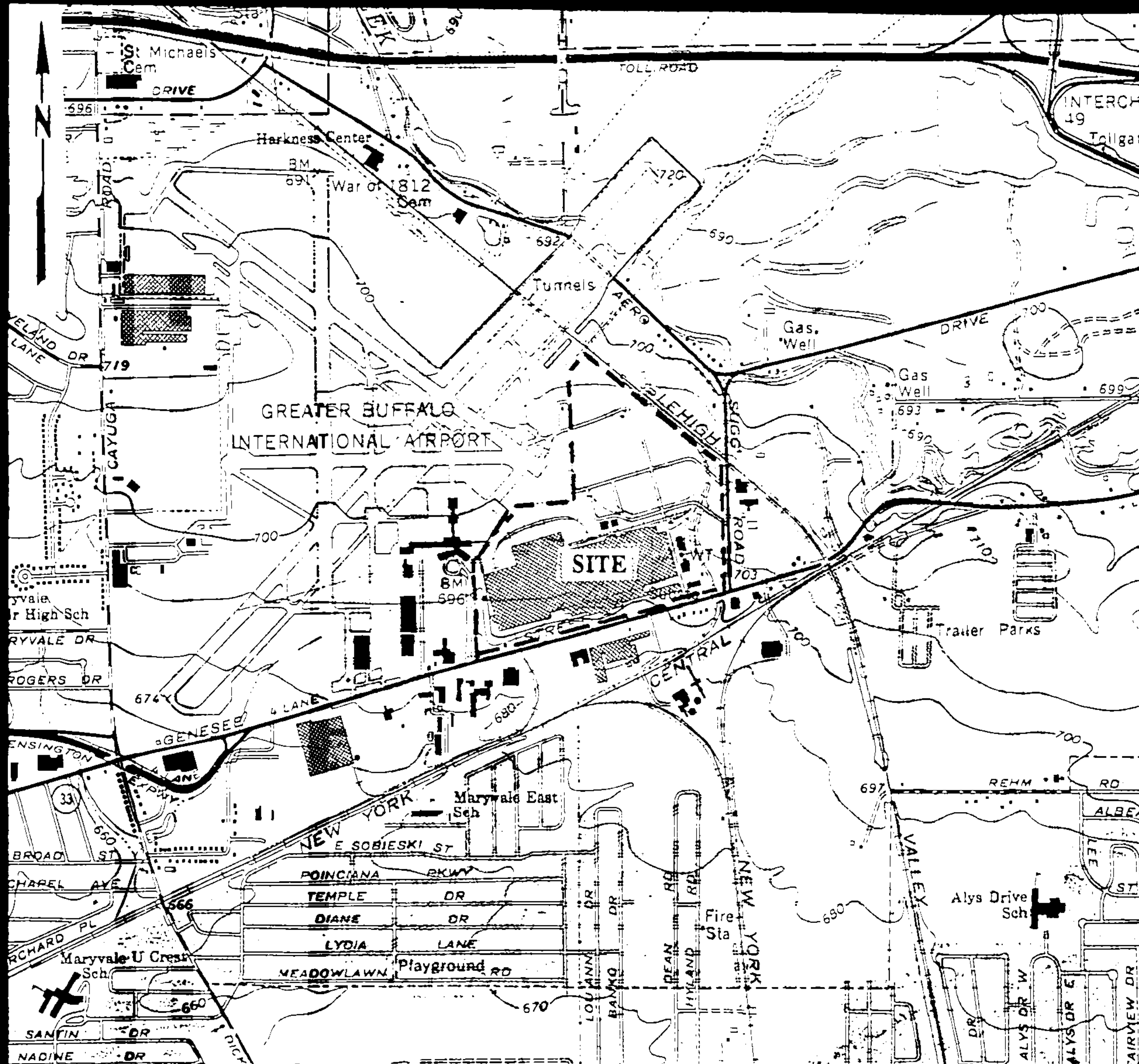
No information could be found pertaining to waste generation and disposal practices associated with Curtis-Wright's manufacturing activities at the plant site.

As discussed in Section 1.4, between 1946 to 1984, Westinghouse Electric Corporation utilized the plant site to manufacture electric motors and controls which involved metal casting and plating operations. In 1979, the Interagency Task Force on Hazardous Wastes in Erie and Niagara Counties, a coalition of the NYSDEC, New York State Department of Health (NYSDOH) and Region II EPA personnel, identified Westinghouse as a significant generator of hazardous waste. However, it could not identify where wastes generated at the facility were disposed prior to 1971. According to the Task Force Report, the following waste materials were generated in varying quantities by Westinghouse's manufacturing processes:

- General refuse;
- Waste oil;
- Non-ferrous scrap;
- Ferrous scrap;
- Waste mineral oil;
- Ultra filter rinse oil;
- Iron phosphate solution;
- Deionized resin solution; and
- Chemical wastes.

Table 1-1 lists the known chemical wastes generated by Westinghouse.

In June 1980, Westinghouse was listed in the Registry of Inactive Hazardous Waste Disposal Sites as "suspected" of disposing cyanide salts on site at an unknown location as a result of an internal Westinghouse memorandum concerning a conference between Westinghouse and D. B.



SCALE 1:24 000

1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

CONTOUR INTERVAL 10 FEET

FIGURE 1 - 1

SITE LOCATION MAP

WESTINGHOUSE ELECTRIC CORPORATION

CHEEKTOWAGA, NEW YORK

(78° 43' 24" W. Long; 42° 56' 04" N. Lat)

U.S.G.S 7.5 Min Quad. Lancaster, New York

DUNN GEOSCIENCE CORP

TABLE 1-1

LIST OF CHEMICAL WASTES GENERATED BY WESTINGHOUSE ELECTRIC CORPORATION

- Trichloroethylene;
- Aqueous Waste (Containing Sodium Phosphate, Borate, Nitrate and Other Materials);
- Paint Waste (Containing Toluene and Xylene);
- Metal Hydroxide Sludge (Containing Heavy Hydrated Oxides or Hydroxides);
- Chloride and Cyanide Salts (Containing Sodium Chloride, Barium and Sodium Cyanide);
- Solidified Varnish;
- Waste Copper Brite;
- Mercury Sweepings and Pallets Contaminated with Mercury;
- Carbonate and Chromic Acid;
- Nitric Acid;
- Liquid PCBs;
- Solid PCB Waste;
- Varnish Water Waste;
- Houghto-Safe 620 (Containing Alcohols and Water);
- Fine Still Waste;
- Chlorinated Solvents, Varnishes and Resins;
- Sodium Sulfide in Water;
- Waste Methylene Chloride; and
- Freon.

Source: Interagency Task Force on Hazardous Wastes-Draft Report, March 1979.

Stevens of the New York State Water Pollution Control Board (refer to Appendix D-1). This January 10, 1955 memorandum makes reference to cyanide waste from the heat treating room: *"The spent solid cyanide is collected and disposed of by burial on the property."* In that same memorandum are references to off-site disposal of sludges, as well as plating solutions that are *"... diluted and flushed down the drain."*

Based on the review of aerial photograph coverage of the Westinghouse Site (Dames and Moore, 1986), the alleged dumping of solid cyanide, waste oil and lubricants may have taken place in the portion of the property north of the paved parking lot areas.

Allegations have subsequently been made by the NFTA that there are other areas of the property, both inside and outside the building, where additional environmental concerns may exist as a result of past disposal practices or site operations.

No information could be found pertaining to subsequent waste disposal practices at the site after 1985.

1.6 Previous Investigations

There have been several environmental investigations conducted at the Westinghouse site in recent years. A majority of these investigations have been conducted to determine and evaluate the potential hazard to public health and the environment caused by the present condition of the site and to identify and assess the source of organic solvents in the storm water system. These investigations include:

- Study of Water Effluents, prepared by the New York State Water Pollution Control Board and the Buffalo I.J.C., January 1955;

- Site Inspection Report, prepared by the Erie County Department of Environment and Planning, August 1979;

- Phase I Investigation, prepared for the NYSDEC by Engineering-Science in association with Dames & Moore, January 1986;

- <u>Environmental Study for the Speciality Restaurant Site</u>, prepared by Empire-Thomsen for the Niagara Frontier Transportation Authority (NFTA), March 1987;

- <u>Field Investigation Report</u>, prepared by Malcolm Pirnie for the Westinghouse Electric Corporation, April 1987;

- <u>Environmental Review of the Former Westinghouse Electric Plant</u>, prepared by Thomsen Associates (Empire Soils Investigations) for Moot & Sprague-Legal Counsel for the NFTA, December 1987;

- <u>Site Inspection Report-Final Draft</u>, prepared by NUS Corporation for the United States Environmental Protection Agency (USEPA), August 1989;

- <u>Hazard Ranking System Report-Final Draft</u>, prepared by NUS Corporation for the USEPA, August 1989;

- <u>Site Characterization and Recommended Remedial Measure Outfalls 001, 002 and 003-Summary Report</u>, prepared by ERM-Northeast for the Westinghouse Electric Corporation, January 1991; and

- <u>Data Records Search and Assessment Study</u>, prepared for the NYSDEC by Dunn Geoscience Engineering Company, P.C., January 1991.

A report entitled *"Study of Waste Effluents-Buffalo Motor Control Division Plant-Westinghouse Electric Corporation"* prepared by the New York State Water Pollution Control Board and the Buffalo I.J.C. Field Unit in January 1955 indicates that spent solid cyanide, waste oil and lubricants were disposed by burial on the subject property. The exact location of the alleged disposal site(s) as well as the quantity of waste material disposed on-site could not be determined. In addition, the exact quantity of waste material disposed on the property is unknown.

At the request of the Interagency Task Force on Hazardous Waste, Westinghouse interviewed past and present employees who may have had knowledge of hazardous waste disposal on the

Westinghouse property. Westinghouse was unable to locate an employee with any personal knowledge of on-site disposal of cyanide wastes (NYSDEC 1978).

During August 1979, the Erie County Department of Environment and Planning (ECDEP) conducted an investigation of the Westinghouse Electric site. The investigation concluded that there was no evidence of any landfilling of hazardous wastes at the site (ECDEP 1979).

In December 1981, the NYSDEC conducted a limited sampling program at the plant site. The NYSDEC collected one surface water sample and one soil sample from the site. The samples were taken from a ditch behind the plant, downstream from the confluence of two storm water drainage pipes which collect runoff from the Westinghouse parking lot. The samples were analyzed for heavy metals, cyanides, halogenated organics and PCBs. Analyses of the soil sample detected concentrations of lead and zinc (56 and 68 ug/g, respectively). No detectable concentrations of cyanide, halogenated organics and PCBs were obtained from the soil samples. The water sample contained concentrations of priority pollutants near or below detection limits, with the exception of halogenated organics which were found at a concentration of 0.33 ug/l as chlorine (Lindane Standard). The analytical results associated with the NYSDEC investigation are presented in Table 1-2.

In 1985, a Phase II study of the northern portion of the site was conducted by Engineering-Science (ES) and Dames & Moore (D&M) for the NYSDEC. The field inspection associated with the study indicated no measurable volatile organic gases or evidence of on-site hazardous waste disposal. Prior to performing the field inspection, ES and D&M personnel inspected aerial photographs of the site for area of suspected landfilling. These photographs indicated debris and surface disturbances on the north end of the site, portions of which had been sold to the NFTA in 1963, 1964 and 1984.

In March 1985, Westinghouse Electric Corporation hired Malcolm-Pirnie to conduct a study to investigate the presence of trichloroethane (TCA) and trichloroethylene (TCE) detected in Storm Water Outfall 003. The elevated concentrations of TCA and TCE were first detected in December of 1980 while the NYSDEC was conducting surveillance monitoring of Outfall 003 which took place during the demolition of the enamel mixing room. During the demolition process, a sump pump in the mixing room was activated causing a discharge of phenolic material

TABLE 1-2

ANALYTICAL RESULTS OF SEDIMENT AND SURFACE WATER SAMPLES NYSDEC REGION 9 INVESTIGATION WESTINGHOUSE ELECTRIC CORPORATION SITE

Parameter	Soil Sample (ug/g dry)	Water Sample
Antimony	<5	1.8 mg/l
Arsenic	3.2	< 5 ug/l
Beryllium	0.52	< 0.01 mg/l
Cadmium	3.3	< 0.005 mg/l
Chromium	11	0.012 mg/l
Copper	18	0.020 mg/l
Lead	56	< 0.03 mg/l
Mercury	< 0.7	< 1 ug/l
Nickel	6.7	< 0.02 mg/l
Selenium	< 0.08	< 2 ug/l
Silver	< 0.2	< 0.008 mg/l
Thallium	2	< 0.1 mg/l
Zinc	68	0.089 mg/l
Dry Weight	75%	
Total Cyanide	< 5	< 10 ug/l
Halogenated Organic Scan (as Cl_2 Lindane Standard)	< 0.1	0.33 ug/l
PCB (as Aroclor 1242)	< 0.1	< 0.1 ug/l

Source: NYSDEC, Site Profile Report (date unknown).

into the storm sewer system. As a result of the phenol detected by the NYSDEC, surveillance monitoring of Outfall 003 continued to March 1981, during which time elevated concentrations of TCA and TCE were identified. The Malcolm-Pirnie study was conducted between October 1986 to April 1987, mainly investigating storm sewer line 003 and its associated subsurface conditions. The study consisted of the following:

- Installation of six groundwater monitoring wells;
- Sampling of the storm sewer system associated with Outfall 003;
- Drilling of three test borings;
- Excavation of one test pit;
- Soil gas survey;
- Televised storm sewer survey; and
- Sampling and testing of groundwater, soil, sediment and surface water.

The report concludes that "... *while contamination of the storm sewers and associated sewer sediments is indicated as a primary source of contamination reaching Outfall 003, the contamination of MW-3 indicates that the contamination has likely exfiltrated from the sewers through cracks and joints and contaminated the surrounding native soils. While the permeability of the soils is in general low; desiccation cracks or lenses of silts and sands through the clays could enable localized contaminant migration.*

However, additional evidence of contamination in the groundwater at MW-2 and in the surficial soils in the area of electrical manhole 5A, indicate a source of contamination unrelated to the contamination found within the sewers. The contamination at electrical manhole 5A indicates a surface spill of volatile organics, while the contamination at MW-2 could be through a surface spill or even from off-site migration in the groundwater."

A copy of the analytical results obtained from this study is included in Appendix D-9.

In 1987, an environmental study was conducted by Empire-Thomsen Associates on the 11.4 acre parcel of property obtained by the NFTA in 1984. During the construction of the "Flying Tiger's" speciality restaurant and associated parking lot, it became apparent that possible waste disposal had occurred in this area. The NFTA initiated the study to: (1) assess possible environmental degradation due to previous site activities; (2) to evaluate if site remediation was necessary; and (3) determine the extent of the necessary remediation. A series of four test pits were excavated and sampled in close proximity to the restaurant facility. Analytical results from the test pits indicated the presence of toluene and several heavy metals at elevated levels. Refer to Appendix D-7 for a summary of the test results.

In 1990, an environmental study of the storm sewer system was conducted by ERM-Northeast for Westinghouse Electric Corporation. The study was done in response to the November 1988 Order on Consent between Westinghouse and the NYSDEC. The ERM study involved:

- Collection of sediment and surface water samples from selected storm sewer manholes, sumps and three outfalls at the site;
- Excavation of five test pits;
- Drilling of five test borings;
- Collection of subsurface soil samples from test boring and pit locations;
- Measurement of groundwater levels;
- Collection of groundwater samples; and
- Elevation and location survey.

ERM utilized the information collected to identify source areas of the elevated volatile organic compounds (VOCs) and cadmium detected within the storm sewer system. The study concluded that the present source of the cadmium and VOCs in the surface water within the storm sewer systems appears to be the sediments contained within the storm sewer lines. A copy of the analytical results associated with this study is included in Appendix D-10.

1.7 Site Interviews/Reconnaissance

On August 30, 1990, DUNN attended a meeting scheduled by the NFTA pertaining to past waste disposal practices at the Westinghouse facility. In particular, the NFTA arranged to have two former Westinghouse employees made available for questioning. These employees, along with several others, were previously interviewed by the NFTA in an effort to acquire additional information concerning past practices and potential environmental concerns at the former Westinghouse facility. The two former employees agreed to answer questions posed by the NYSDEC and DUNN under the condition that they remain anonymous. Both individuals worked at the Westinghouse facility for a number of years (early 1960's to the early 1980's) during which time they acquired firsthand knowledge of disposal operations. The following text summarizes the testimony of the former employees by specific areas within the subject property:

Hazardous Waste Storage Area

This area was a general staging area for all plant wastes. These wastes included waste oils, solvents, creosote, enamel, "*Formax*" (an additive for thinning enamel) as well as others. There was no segregation of wastes. Approximately 100-200 open top drums were brought to this area at various times from all areas of the plant and staged for either off-site or on-site disposal, or in some cases, dumping in place in the staging area. This area was known to be used for staging plant wastes for at least 15-20 years.

Gunnery/Firing Range

This area north of the parking lot was a major dumping area at the plant. The former employees indicated that for many years it was standard operating procedure to haul waste drums to this area and dump the wastes along the access roads. According to one of the former employees who claimed to have been directly involved in the dumping; *"If you don't find anything in this area, you might as well pack up and go home."* All types of unsegregated waste including liquids, solids, oils, solvents and caustics were dumped in this area.

Captain's Pool

A concrete inground swimming pool had been installed during Curtis-Wright's ownership of the property. The former employees indicated that after its abandonment, drums of wastes including perchloroethylene, coolants, cutting oils and general plant debris were dumped in the swimming pool. It was unknown if the pool drains were sealed prior to the dumping. As best as could be recalled, drums were emptied into the pool rather than deposited filled with wastes.

Heat Treating and Plating Area

This area was used until approximately 1975. Tanks in this area were cleaned at least once a year. Sludges were placed in drums and disposed on-site.

Railroad Track Area (Track 13)

The former employees stated that Track 13, located north of the plant, was used to stage railroad cars in which scrap metal and other wastes were loaded for off-site transport. Many of the wastes were covered with oils, solvents or other liquids which allegedly drained out of the railroad cars onto the ground. Some drummed wastes were also reportedly dumped directly onto the ground in this area.

Oil Storage/Maintenance Building

It was indicated the structure currently known as the Maintenance Building was formerly used for the storage of chemicals and oils. The former employees stated that convenience dumping of oils and solvents (degreasers) occurred outside in the area immediately adjacent to the building.

Termite (Annex) Building

The former employees indicated that the Termite (or Annex) Building housed a plating operation on the first floor and offices in the upper floors. While many chemicals were used in this building, no in-place dumping was recalled. It was further indicated that a great deal of asbestos had been present in the building. This structure subsequently burned to the ground.

Underground Storage and Mixing Room

This room was used for mixing enamels and other coatings for electrical equipment. The room was reported to have been "caked" with chemicals and resins.

North Employee Parking Lot Areas

It was indicated that waste oils were commonly used for dust control in this area. The practice was apparently discontinued after concerns regarding possible prior use of PCB contaminated oils were raised.

Solvent Underground Storage

It was reported that "thousands" of gallons of solvent were spilled in this area over an extended period of time.

Storm Sewers

The former employees stated that vats used in the copper mill area were flushed periodically and drained into the storm sewer system.

During late August and early September 1990, DUNN conducted several site visits at the former Westinghouse Electric Corporation facility. The purpose of the site visits was twofold: (1) to investigate and, if possible, confirm statements made by former Westinghouse employees, and (2) observe and assess present site conditions. The following observations were documented by DUNN personnel during the site visits:

- Elevated HNU readings were detected from several sumps inside the main building structure;
- Significant quantities of construction debris and railroad ties/cinders were noted in the Gunnery Range;
- Piles of waste material, mainly metal cuttings, were observed in the north parking lot areas;
- Solidified resin material was observed on the ground surface in the Hazardous Storage Area and along old railroad track lines;

- Areas of stressed vegetation were noted behind the former oil storage building;

- A large mound area, possible landfill, was observed due east of the Boiler House; and

- Ground stains and surface stains were observed in several areas, both inside and outside of the plant site.

1.8 Nature and Extent of Problem

Based on the information obtained from site reconnaissance/interviews and the results of previous investigations conducted at the Westinghouse Electric Site (as discussed in Section 1.7 and 1.6, respectively) Dunn Geoscience Engineering Company, P.C. recommended that a detailed surface/subsurface investigation of the study area be conducted to classify the site. The initial study area (11.4 acre site situated at the northern portion of the property) was significantly broadened to incorporate the total 143 acres of the subject property. The increase in the study area was based upon information provided by former Westinghouse employees pertaining to alleged on-site disposal of chemical wastes, site reconnaissance observation made by DUNN and NYSDEC personnel and from the increase in information concerned with the use, storage and handling of bulk chemical products/by-products utilized at the Westinghouse plant.

Based on DUNN's recommendation, the NYSDEC authorized an additional investigation at the subject property.

1.9 Organization of Report

The Preliminary Site Assessment Report is divided into two volumes. Volume I contains the text, tables, figures, forms and plates for the report and Volume II contains the appendices for the report.

The remaining sections of the report are presented as follows:

- **Section 2-Site Features:** Includes a brief description of the regional and local physical features associated with the site.

- **Section 3-Field Investigation Methodologies:** Describes the methods and equipment utilized to perform the various field investigation programs. This section also discusses laboratory analyses and data validation procedures.

- **Section 4-Areas of Investigation:** This section has been broken into subsections which describe the location, scope of the investigation, findings of the investigation, and conclusions associated with each Area of Investigation.

- **Section 5-Summary of Conclusions:** This section summarizes the findings drawn from the various Areas of Investigation.

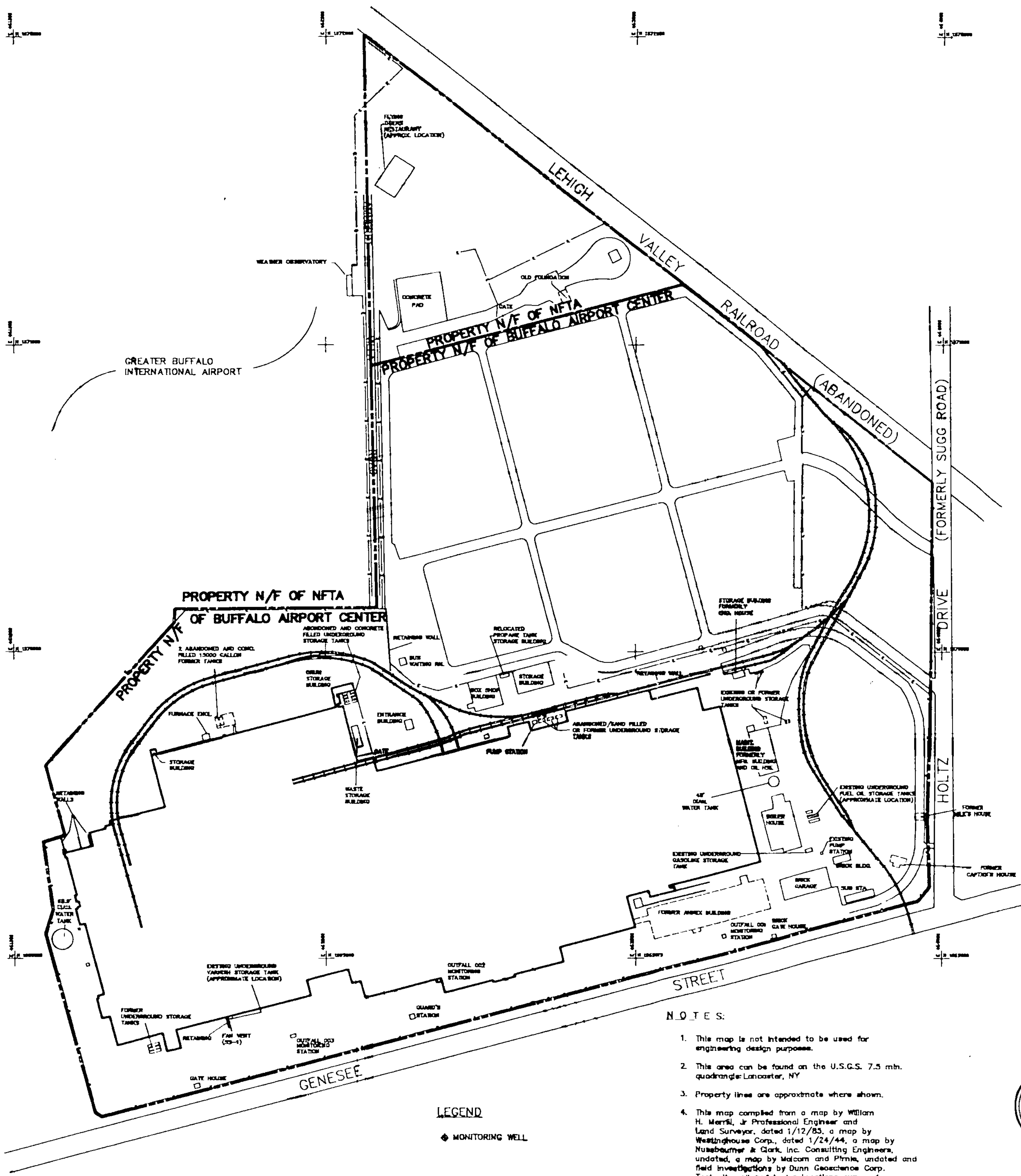
- **Section 6-Preliminary Assessment Determination**

- **Section 7-Recommendations:** This section presents the conclusions/findings of the PSA study, and discusses the overall classification status of the site.

- **Section 8-Glossary of Terms**

- **Section 9-References**

- **Section 10-Photo Documentation**



N O T E S:

1. This map is not intended to be used for engineering design purposes.
2. This area can be found on the U.S.G.S. 7.5 min. quadrangle: Lancaster, NY
3. Property lines are approximate where shown.
4. This map compiled from a map by William H. Merrill, Jr Professional Engineer and Land Surveyor, dated 1/12/85, a map by Westinghouse Corp., dated 1/24/44, a map by Nussbaumer & Clark, Inc. Consulting Engineers, undated, a map by Malcom and Pirnie, undated and field investigations by Dunn Geoscience Corp. Test pit, well and boring locations surveyed by Om P. Popli, PE.

DUNN GEOSCIENCE ENGINEERING CO., P.C.
12 Metro Park Road
Albany, NY 12205

PROPERTY IDENTIFICATION MAP
WESTINGHOUSE ELECTRIC CORP.
BUFFALO AIRPORT CENTER

TOWN OF CHEEKTOWAGA | ERIE COUNTY, NY

PROJECT NO. 00296 – 01699	DWG. NO. 2B08937-C
SCALE 1"=400'	DATE 5/15/91
	FIGURE NO. 1–3

2.0 SITE FEATURES

2.1 Land Use

Present land use at the former Westinghouse facility is considered light industrial, however, prior land use included heavy industrial activity (Curtis-Wright Corporation and Westinghouse Electric Corporation). Currently, the BAC has several tenants which lease the facility for various purposes including office space, warehouse space and light manufacturing.

A review of aerial photographs and site inspections determined that there is no land utilized for agricultural purposes within two miles of the site.

2.2 Demography

The Westinghouse site is located in the Town of Cheektowaga in Erie County, New York. Cheektowaga has a population of approximately 99,000 (1990 Census). Additional townships and population centers in close proximity of the site (less than 5 miles) are the Town of Lancaster, Village of Depew, the Village of Williamsville and the Town of Clarence (refer to Figure 1-1). The closest residential neighborhood consists of a trailer park located approximately one-half mile southeast of the site.

The total population within one mile of the site is approximately 3,000. The total population within two and three miles of the Westinghouse site is approximately 35,000 and 75,000, respectively. The distance to the nearest off-site building is 0.1 mile and the number of buildings within two miles of the site is greater than 1,000. A restaurant, "Flying Tiger's", is located within the northern portion of the project site.

2.3 Physiography

The project site is located in the Erie-Ontario lake plain physiographic province. The Erie-Ontario Plain has little significant relief which is consistent with a former lake bed. Elevation ranges from 700 to 1,000 feet above mean sea level. The topography rapidly changes to that of the Allegheny Plateau to the south and east.

2.4 Topography-Surface Water Drainage

The topography of the site is consistent with that of this region, primarily flat with elevations varying across the site from 700 to 710 feet above mean sea level. Areas of higher elevation are found to the north and east of the site.

A review of USGS 7.5 minute topographic maps (Lancaster, Buffalo NE, 1975) indicates surface water drainage in the area to be in a north to northeast direction towards Ellicott Creek (refer to Figure 1-1), the primary watershed for the area. However, the major portion of the site runoff is directed to Scajaquada Creek, located south of the project site. The nearest wetland is located along Ellicott Creek, approximately one-half mile from the site. The wetland is situated within the 500 year flood plain. The site itself is situated above the 100 year flood plain level of Ellicott Creek.

As previously discussed, a large percentage of the site is either paved or otherwise developed with impervious structures (buildings, etc.). Runoff for the majority of the site is channeled into storm sewers via a series of catch basins. The storm sewers are directed to three outfalls (001, 002 and 003) which discharge south to the U-Crest Ditch emptying to the Scajaquada Creek, Black Rock Canal and ultimately to the Niagara River. Stormwater runoff from the northernmost portion of the site is collected in three catch basins. These catch basins drains into a 48 inch main concrete drainage pipe which discharges into an unnamed ditch. The ditch ultimately discharges into Ellicott Creek.

2.5 Geology and Soils

In recent geologic history, Erie County, as well as most of New York State, has been repeatedly covered by a series of continental ice sheets. The advances and retreats of glacial ice began approximately 300,000 years ago and ended approximately 10,000 years ago. The activity of the glaciers widened pre-existing valleys and deposited widespread accumulations of glacial till. Throughout the region, moraines (generally till) mark former ice margins. The melting of ice produced large volumes of meltwater which shaped channels and deposited thick accumulations of stratified, granular sediments. The project site appears to be located on the Niagara Moraine, a WNW-ESE trending ridge that marks a temporary stopping position for a previously retreating ice sheet.

As glacial ice retreated from the region, meltwater formed lakes in front of the ice margins. The Niagara County region is covered by lake sediments, the most recent being from Lake Warren (a larger predecessor to Lake Ontario and Lake Erie). The sediments consist of blanket sands and beach ridges which are occasionally underlain by lacustrine silts and clays.

The main portion of the project site as well as the surrounding area is classified as Urban land according to the Erie County Soil Conservation Service. Urban land is defined as nearly level urbanized areas, areas of well-drained to poorly drained soils and disturbed soils on lowland plains. It is not practical to examine and identify the soils underlying these urban lands as 80 percent or more of the soil surface is covered by asphalt, concrete, buildings or other impervious structures.

Soils located in the northern portion of the project site are identified as the Ovid silt loam which is a nearly level, somewhat poorly drained soil. It is found in broad, flat areas of till plains which are often adjacent to glacial lake beds. This soil formed in reddish glacial till or lacustrine sediment that had been reglaciated and mixed with till. The Ovid silt loam is characterized by a seasonally high water table and low permeability in the substratum.

Subsurface investigations undertaken during this investigation support the findings of the Erie County Soil Conservation Service. Reddish-brown to brown glacial till was encountered throughout the project site at the boring and test pit locations. The till consisted predominantly of a clayey silt matrix with varying amounts of embedded fine to coarse sands, gravels and rock fragments. Relative density of the till was observed to range from firm to very compact. The till is assumed to overlie bedrock on the project site, although this was not confirmed.

Overlying the till throughout most of the project site is a layer of fill material which varies in depth from approximately two feet in open areas to eleven feet adjacent to some building areas. The fill consists predominantly of silty sands and gravels. Cinders, coal fragments and concrete have been noted in some areas. Notably, a veneer of glaciolacustrine deposits as well as glacial outwash deposits were encountered beneath the fills and overlying the till in some areas. Refer to Test Boring Logs and Test Pit Logs in Appendix B for detailed information.

The bedrock in the region consists predominantly of limestone, dolostone and shale (refer to Figure 2-1). The Onondaga Limestone underlies the project site. It is comprised of three members: the Moorehouse Limestone Member which is a lightly gray limestone containing numerous corals and considerable dark gray chert nodules; the Nedrow Member which consists of intermixed light gray limestone and dark gray chert; and the Edgecliff Member which is a light gray limestone with some light gray chert nodules. Although bedrock was not encountered in this investigation, depth to bedrock beneath the project site is estimated to be forty feet.

2.6 Hydrogeology

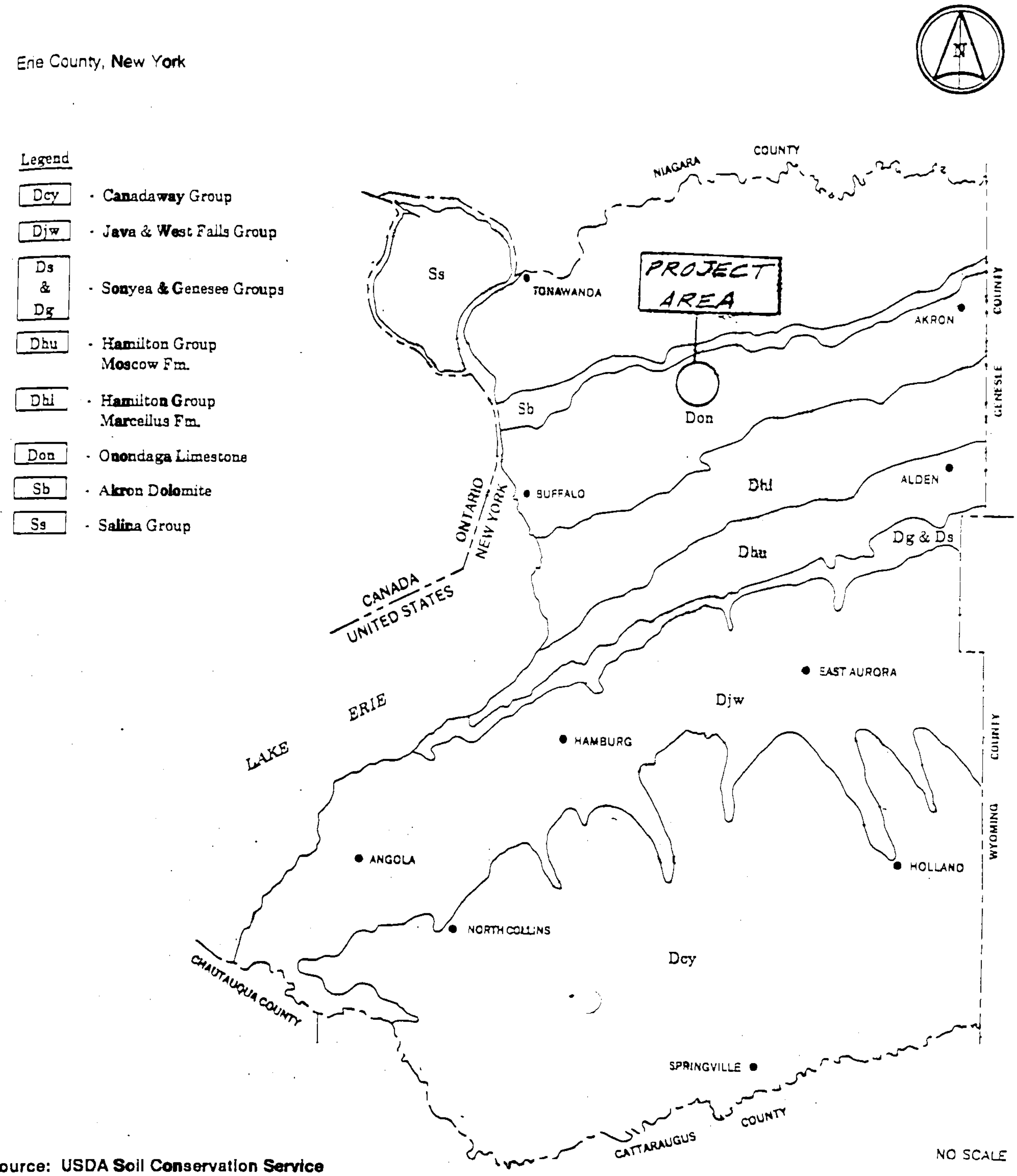
Regional Hydrogeology

The occurrence of groundwater and groundwater flow is consistent with the previously discussed geology of the area. Due to the low permeability of the unconsolidated overburden, the till and lacustrine units are not important sources of water. The relatively impermeable clays, silts and tills limit the rate of groundwater movement in the overburden and generally act as confining units. However, these soils frequently contain higher permeability horizontal laminations (silt and sand seams) as well as partings and fractures which facilitate lateral groundwater movement. Outside of these areas, groundwater flow is predominantly downwards which is the primary source of bedrock recharge on a regional scale.

Higher permeability granular deposits may also occur and act as shallow aquifers, however, the yield of wells completed in these sand and gravel units is dependent on the permeability, saturated thickness and areal extent of the deposit. Sand and gravel units in the region are typically thin and relatively isolated, yielding only small quantities of groundwater to individual wells.

The groundwater in the limestone, dolostone and shale bedrock of the region represent significant regional aquifers and are the primary sources of groundwater in the area. Groundwater in the bedrock commonly occurs under confined conditions within the secondary porosity of the bedrock, such as joints, fractures, bedding planes and solution cavities. Large quantities of groundwater can also be found in highly weathered zones at the top of bedrock surfaces and

Erie County, New York



Source: USDA Soil Conservation Service

FIGURE 2 - 1

Bedrock Map of Erie County

DUNN GEOSCIENCE CORP

overburden/bedrock interfaces. High yielding wells can be developed in zones of enhanced porosity, such as fracture intersections and bedding planes.

Site Hydrogeology

As previously discussed, the Westinghouse site is underlain predominantly by low permeability glaciolacustrine and till units. Higher permeability fill units and backfill around sewer lines may locally influence groundwater flow in some portions of the site. Previous studies performed by Malcolm-Pirnie revealed hydraulic conductivities of selected wells, including MW-2, MW-4, and MW-5, ranged from 1×10^{-5} to 2×10^{-5} cm/sec. Monitoring Well MW-1 has a reported hydraulic conductivity of 2×10^{-3} cm/sec, however, the boring log indicates the well was screened across fill and undisturbed glaciolacustrine sediments.

Westinghouse, via ERM-Northeast, recently collected water level data from existing wells during the Consent Order investigation. The data indicates groundwater in the western portion of the site is approximately four to ten feet below grade. Groundwater in that portion of the site generally appears to flow to the south and exhibit a hydraulic gradient of 0.012 (ERM-Northeast, 1991). The ERM report entitled *"Summary Report: Site Characterization and Recommended Remedial Measure Outfalls 001, 002 and 003"* (refer to Appendix D-10) calculated the groundwater velocity (seepage rate) to be approximately 0.002 ft/day. The report also states that based on the above estimate of the groundwater velocity, groundwater at the site has migrated less than 40 feet in approximately 50 years.

A more detailed site-specific discussion of the hydrogeologic conditions will be addressed in Section 4.20.

2.7 Climatology

The Erie County region has a humid continental climate that is characterized by moderate annual precipitation and by marked differences between summer and winter temperatures. The main circulation of air in the region is along the path of the prevailing westerly winds, with the highest average windspeed (14 miles per hour) occurring in winter. Total annual precipitation in Buffalo, New York, is 37 inches, including an average seasonal snowfall of 97 inches. The mean winter and summer temperature are 26°F and 67°F, respectively. The statistics presented herein were recorded in the period 1951-1977 by the Erie County Soil Conservation Service.

2.8 Flora and Fauna

No scientific studies were undertaken as part of this PSA study with respect to the wildlife and vegetation found within the Westinghouse Electric Corporation project area. However, a list of endangered and threatened species present within a three-mile radius of the Westinghouse property was prepared by the New York State Department of Environmental Conservation (NYSDEC) Wildlife Resources Center Information Services under the Significant Habitat Unit and the New York Natural Heritage Program. It indicated that a rare plant, the Prairie Gentian (gentana puberulenta), may be present at the site if a suitable habitat still exists. This vulnerable plant was last recorded in 1878 (refer to Appendix D-11).

3.0 FIELD INVESTIGATION METHODOLOGIES

3.1 Geophysical Investigation

Prior to initiating the subsurface investigation, geophysical surveys were performed to delineate the location of the Captain's Pool (Area F) and define the location of two underground storage tanks in Area J. Refer to Plate 1, Areas of Investigation Map located in the back of Volume I.

The geophysical survey within the Captain's Pool Area (Area F) employed both electromagnetic (EM) and magnetic geophysical techniques. The electromagnetic survey utilized the Geonics EM-31 non-contacting terrain conductivity meter (EM-31) and the Geonics DL 55/31 Polycorder Data Logger. This equipment detects and records lateral changes in ground conductivity which can indicate the presence of subsurface structures (drums, etc.). The magnetic survey utilized the EG&G Geometrics Model G-856 Proton Precession Magnetometer (magnetometer). This instrument measures total magnetic field intensity, a further indication of the presence of subsurface structures. Both instruments utilized in the survey were calibrated in accordance with procedures outlined in the operator's manuals.

Historic aerial photographs were utilized to determine the approximate location of the Captain's Pool. This area was subsequently divided into a 100 foot by 140 foot grid for the field surveys. Prior to starting the magnetometer survey, a base station was established outside the gridded survey area to obtain background field intensity readings and to document fluctuations in the earth's magnetic field. The total magnetic field intensity as measured by the magnetometer was recorded. The data was then transferred to a personal computer and contoured. Refer to Section 4.7 for a detailed discussion of the results of the magnetometer survey.

The EM-31 survey was performed utilizing the same grid as the magnetometer survey and essentially the same procedure. The EM-31 was adjusted to the vertical mode of operation. Both in-phase and quadphase terrain conductivity readings were recorded at each station. The data was then transferred to a personal computer and contoured. Refer to Section 4.7 for a detailed discussion of the EM survey results.

The survey in the underground storage tank area was performed utilizing a Schoenstedt MAC 51-B magnetic and cable locator (metal detector) set in the magnetic mode with an audio alarm.

The operator, while holding the Schoenstedt, traversed the study area in a systematic fashion noting changes in the frequency of the audio alarm. Refer to Section 4.11 for a discussion of the magnetic locator geophysical results.

3.2 Non-Intrusive Sampling

Preliminary investigation of the project site involved sampling at selected locations within the former Westinghouse facility, as well as several areas outside the main structure. Areas incorporated into this initial sampling program include drainage sumps, storm sewers, outfalls, a floor drain, an underground storage tank, waste and surface soil samples. The location of all non-intrusive sampling points are shown in Plate 2. General procedures utilized to decontaminate field sampling equipment can be found in Section 3.5.2. Specific sampling methodologies were as follows. All sampling was performed by DUNN personnel in accordance with the NYSDEC approved Quality Assurance Project Plan (QAPP) and Health and Safety Plan (HASP).

3.2.1 Sumps

A total of six drainage sumps, WEC-SP1 to WEC-SP6, were sampled as part of the initial sampling program. Both aqueous and non-aqueous sludge/sediment samples were obtained from each sump. Aqueous samples were collected utilizing a dedicated, laboratory cleaned glass jar at each location. Sampling was performed in such manner as to minimize disturbance to the samples and water surfaces. VOA containers were filled first at all locations throughout the initial sampling program for both aqueous and non-aqueous samples. In areas where access to the sumps was difficult, the dipper jar was attached to a steel pole with a stainless steel clamp (pond sampler). The clamp and pole were decontaminated between each location as outlined in Section 3.5.2.

Upon completion of the aqueous sampling, non-aqueous samples were collected utilizing the previously described pond sampler apparatus. The non-aqueous samples were lifted from the sumps in dedicated, laboratory-cleaned glass jars, decanted and collected on polyethylene sheeting. This process was repeated until a sufficient quantity of sample was obtained. The sample was then transferred to an appropriate sample container with a decontaminated stainless steel spoon or spatula. One non-aqueous sediment sample from Sump No. 4, WEC-SP4, was collected with a decontaminated stainless steel bucket auger due to access restrictions.

3.2.2 Storm Sewers, Outfalls and Floor Drains

A total of three storm sewer lines (001, 002 and 003) were sampled as part of the initial sampling program (Area E). This included sampling at the outfall locations (monitoring stations 001, 002 and 003), as well as one upgradient point on each sewer line. Both aqueous and non-aqueous samples were collected from each outfall. All outfall locations were sampled by direct submergence of a dedicated laboratory-cleaned glass jar for both aqueous and non-aqueous samples. Upgradient sewer line locations where access was limited were sampled utilizing the pond sampler apparatus as described in Section 3.2.1. The pond sampler was decontaminated prior to each sampling operation as outlined in Section 3.5.2.

One aqueous sample was collected from a floor drain during the initial sampling program in Area A. The sample was obtained with a Teflon bailer, lowered with a Teflon leader attached to dedicated nylon string (one-eighth inch diameter). The Teflon bailer and leader were decontaminated prior to sampling as described in Section 3.5.2.

3.2.3 Surface Soil Samples

A total of six non-aqueous surface soil samples, WEC-SS1 through WEC-SS6, were collected as part of the initial sampling program. Five of the samples were obtained from shallow test pits excavated in parking lots (Area N and Q) utilizing a backhoe to remove the pavement and subbase. The exposed soils were then hand excavated with a stainless steel spoon and transferred directly into the appropriate sample jars. The spoon was decontaminated (refer to Section 3.5.2) between locations. The sixth surface soil sample was obtained from the fan vent room (Area C). Due to the limited access at this location, a stainless steel trowel attached to a steel pole was utilized for sample collection. The collected material was then transferred from the trowel directly into the sample containers.

3.2.4 Waste Samples

One waste sample, WEC-SS-7, was collected from a pile of surface material located in the Parking Area (Area Q). The pile was hand excavated utilizing a decontaminated stainless steel spoon. Material was obtained from the interior portion of the pile and transferred directly into the appropriate sample containers.

3.2.5 Underground Storage Tank Samples

The contents of one underground storage tank were sampled as part of the non-intrusive sampling program. The sampled tank is located outside Area C and is believed to contain waste varnish material. The sample was obtained utilizing a PVC bailer left inside the tank man-way from a previous sampling program performed by ERM-Northeast.

3.3 Test Borings

A total of thirty-one test borings were drilled at the project site as part of the subsurface investigation. The borings were completed utilizing a Mobil B-57 truck mounted drill rig. The drilling was performed under the supervision of an Environmental Geologist from DUNN.

The boreholes were advanced through unconsolidated (overburden) soils utilizing four and one-quarter inch I.D. hollow stem auger casing. Split-spoon sampling of soils was carried out simultaneously in conjunction with ASTM Method D-1586, *"Standard Method of Penetration Testing and Split Spoon Sampling of Soils"*. Split spoons and other "downhole" equipment was decontaminated between locations in accordance with Section 3.5.2. All recovered soil samples were visually classified by the on-site geologist in accordance with the New York State Department of Transportation (NYSDOT) Soil Description Procedure. A detailed subsurface log was prepared for each boring (refer to Appendix B). The subsurface logs reflect soil classifications as well as field observations made during drilling operations.

3.3.1 Sampling and Headspace Analysis

Upon recovery of each split spoon sample, the recovered soil was visually inspected by the on-site geologist and screened with an HNU portable photoionization detector. The HNU detects the aggregate concentration of a number of volatile organic compounds (VOCs), if present.

A representative portion of each split spoon sample was placed into individual laboratory cleaned jars and the cap sealed with aluminum foil. The samples were subsequently stored overnight in the field office and allowed to attain room temperature. VOC concentrations of the "head space" within each jar were recorded by inserting the tip of the HNU through the aluminum foil seal. Results of the HNU screenings are presented in the Test Boring Logs in Appendix B, as well as Section 4.0 within their respective Areas of Investigation.

Soils exhibiting odors and/or elevated HNU readings were sampled immediately utilizing a decontaminated stainless steel spatula (refer to Section 3.5.2) to transfer the sample from the split-spoon to the appropriate VOA sample container. VOA samples were collected at discrete, two-foot intervals. The remainder of the soil samples were collected on a composite basis. A representative sample was collected from the split spoon at each two foot interval. This process was repeated five times so that a ten foot section of the borehole was represented. The samples were then thoroughly mixed with a stainless steel spoon and/or spatula and transferred into appropriate sample containers. Selection of the ten foot interval from which the soil samples were obtained was determined by the on-site geologist on the basis of visual observations. All sampling equipment utilized (i.e., stainless steel bowl, spatula, spoon) was decontaminated between each borehole as outlined in Section 3.5.2.

3.3.2 Abandonment of Boreholes

Those borings which were not subsequently converted to groundwater monitoring wells were backfilled with the generated auger cuttings. The top two feet of each borehole was then filled with a cement/bentonite grout to ground surface.

Auger cuttings exhibiting elevated VOC levels with the HNU were containerized in 55 gallon drums and stored in a secured area until final deposition could be determined.

3.3.3 Monitoring Well Installation

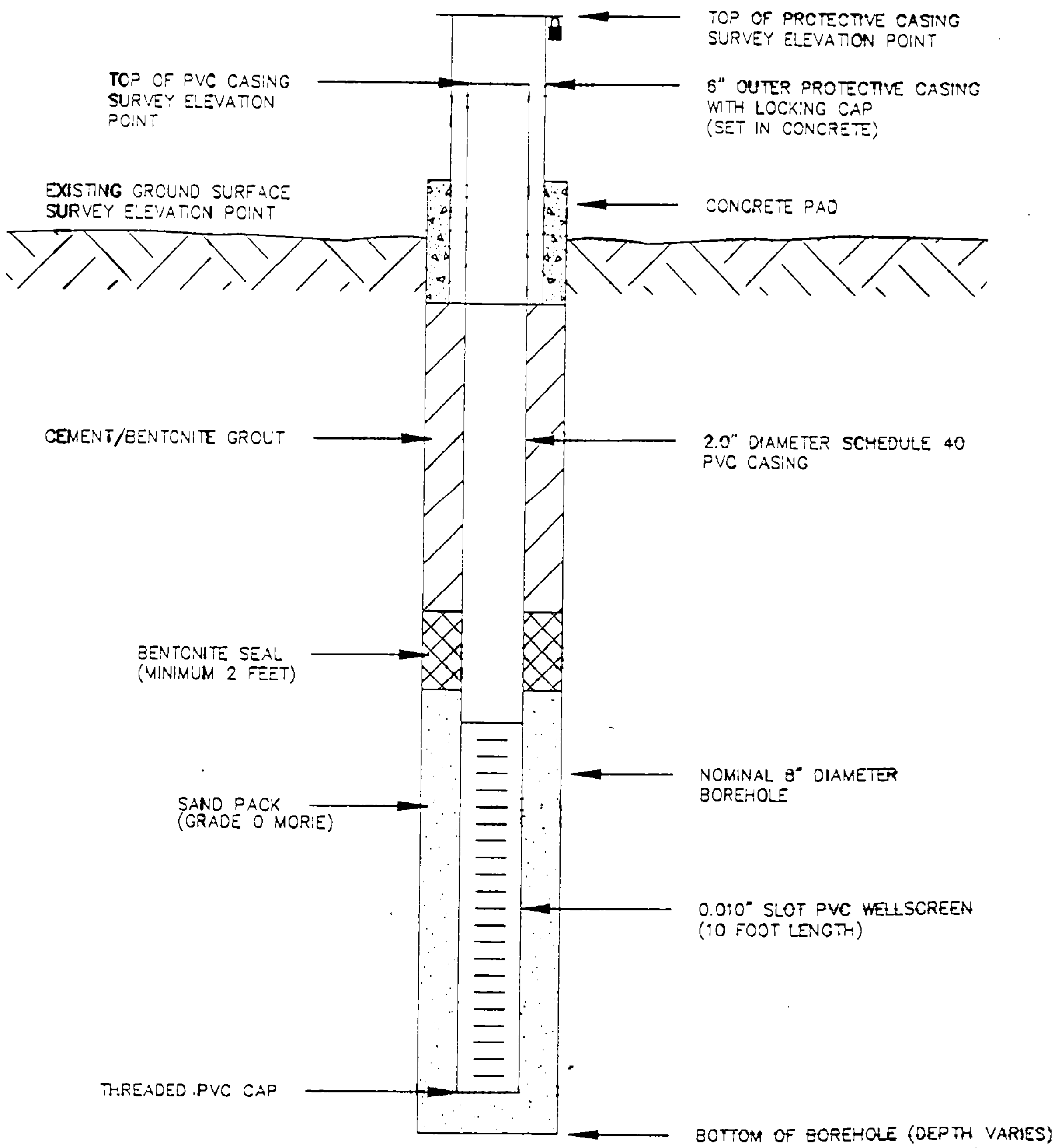
A total of twelve groundwater monitoring wells were installed on the project site as part of the subsurface investigation. The monitoring wells were installed in borings selected by the on-site geologist on the basis of HNU data or groundwater flow considerations. The monitoring wells were constructed of nominal two inch diameter by ten foot PVC machine slotted well screen (0.010 inch slots) and solid PVC riser pipe. All components were constructed of flush threaded materials. No solvents or glues were used in the well construction. The annulus between the borehole wall and the monitoring well casing was packed with the clean silica sand (Morie-Grade O) to a level above the screened portion of the well. The sand pack was followed by a two to three foot thick bentonite seal to prevent migration of surface water into the monitoring well. A cement/bentonite grout seal was emplaced above the bentonite seal and extended to the ground surface. A locking protective metal casing grouted in place completed each well installation. Refer to Figure 3-1 for a general monitoring well construction diagram. A monitoring well construction log was prepared for each monitoring well (refer to Appendix C).

3.3.4 Monitoring Well Development

Development of the newly installed monitoring wells was performed immediately following the completion of the subsurface investigation. Development was conducted with a battery operated centrifugal pump (Teel Water Systems Model 1P580D) and dedicated polyethylene tubing. The check valves and associated hardware were decontaminated prior to development of each well (refer to Section 3.5.2). Well development was accomplished by pumping water from each well until the discharged water was sufficientely sediment free. Well development was discontinued when ten well volumes were removed from the well or when discharge water reached a predetermined turbidity value of 50 NTU. Temperature, pH, HNU and conductivity measurements were collected during the development process. Well Development Logs have been included in Appendix E. Monitoring wells WEC-MW7, WEC-MW8, WEC-MW11, WEC-MW13 and WEC-MW18 exhibited very slow recharge rates which did not allow the aforementioned development goals to be achieved. See Table 3-1 for an overall well development record.

Three monitoring well locations, WEC-MW7, WEC-MW8 and WEC-MW16, exhibited elevated HNU readings during development. Groundwater evacuated from these wells during

CONSTRUCTION DETAIL



DUNN GEOSCIENCE ENGINEERING Co., P.C. 12 Metro Park Road Albany, NY 12205	TYPICAL SHALLOW MONITORING WELL WESTINGHOUSE ELECTRIC CORP. BUFFALO AIRPORT CENTER

PROJECT NO. 00296 – 01699	DATE April 16, 1991	DWG. NO. C253	SCALE NOT TO SCALE	FIGURE NO. 3-1

TABLE 3-1

MONITORING WELL DEVELOPMENT RECORD

Monitoring Well	Well Volume (gallons)	Gallons Targeted (10 Volumes)	Gallons Evacuated	Turbidity (NTU) at Completion	Comments
MW-7	2.9	28	13	20	• Elevated HNU readings. • Terminated development due to slow recovery time.
MW-8	2.4	24	11	38	• Elevated HNU readings. • Terminated development due to slow recovery time.
MW-9	2.0	20	20	60	• Septic odor.
MW-10	2.0	20	23	40	
MW-11	2.1	21	5	65	• Terminated development due to very slow recovery time.
MW-12	2.8	28	31	58	
MW-13	3.1	31	8	200	• Terminated development due to very slow recovery time.
MW-14	3.8	38	38	80	
MW-15	2.9	29	27	45	
MW-16	2.1	21	45	20	• Elevated HNU readings.
MW-17	3.1	31	35	35	
MW-18	1.9	19	5	8	• Terminated development due to very slow recovery time.

development as well as sampling was collected in 55 gallon metal drums and were staged in a secure area until final disposal can be determined.

3.3.5 Purging and Groundwater Sampling

Methodologies utilized to complete well purging were identical to those outlined in Section 3.3.4 for well development, in so far as equipment and monitoring procedures utilized. Monitoring wells were purged until three to five well volumes were evacuated from each well. Monitoring well locations WEC-MW7, WEC-MW8, WEC-MW11, WEC-MW13 and WEC-MW18 were not purged prior to sampling due to slow recovery rates.

Groundwater sampling from each monitoring well was conducted within 24 hours after purging was completed. Groundwater sampling was performed utilizing Teflon bailers attached to dedicated nylon string (one-eighth inch) with Teflon coated stainless steel leaders. The Teflon coated leads and bailers were decontaminated prior to each sampling operation as discussed in Section 3.5.2. As previously noted, VOA containers were first to be filled at each sampling location. In addition, pH, conductivity and turbidity measurements were obtained during sampling. Refer to Appendix F for details associated with groundwater sampling.

Well purging and sampling were also performed on existing monitoring wells MW-1 through MW-6 as part of the initial sampling program utilizing the methodologies previously described.

3.4 Test Pitting

A total of forty-one test pits were excavated in five principal Areas of Investigation (F, G, Q, O and M). Refer to Plate 2 for test pit locations within each Area of Investigation. The test pits were excavated with a backhoe.

Test pit dimensions varied considerably depending on the sampling objective and the geology encountered at each location. The test pits ranged between four to 13 feet deep, six to 58 feet long and three to six feet wide. The test pits were excavated in approximate two-foot lifts. The excavated soil was visually classified by a geologist using the NYSDOT Soil Description Procedure. Subsurface logs were prepared for each test pit and are presented in Appendix B. The subsurface logs include detailed soil descriptions, field observations made during excavation activities and sampling details. The backhoe was decontaminated prior to the excavation of each test pit as outlined in Section 3.5.1.

3.4.1 Subsurface Soil Sampling

Samples were obtained from eighteen of the forty-one test pits and subjected to chemical analysis. The criterion used in selecting the test pits to be sampled included visual observations of the soil/fill and organic vapor readings obtained with an HNU during excavation. Samples were also collected from excavations which did not exhibit signs of contamination due to the proximity to areas of concern. Refer to test pit logs in Appendix B and air monitoring summary tables (Section 4.0, Areas of Investigation) for records of HNU readings obtained during the test pitting activities. Representative grab or composite samples were collected at select locations within each test pit.

Grab samples were collected at discrete intervals where visual observations indicated the presence of chemical contaminants or where elevated HNU readings were encountered. Soil samples were collected from the backhoe bucket using a stainless steel spoon. The samples were then transferred into the appropriate sample containers. Samples selected for volatile organic analysis were collected first in an effort to minimize volatilization. Samples that did not exhibit obvious signs of contamination were sampled from a discrete interval at or above the interface possessing moist to wet conditions. If contamination was detected visually or with the HNU, a representative portion of the contaminated zone was collected for analysis.

Composite soil samples were collected from several test pit locations when there were:

- No visual/olfactory signs of contamination;
- No elevated HNU readings; and
- No evidence of any water-bearing zones.

In this situation, the on-site geologist would assess the spatial relationship of the test pits in the Area of Interest and determine if a composite sample was required to address the characteristics of the subsurface conditions encountered within the total area. A representative fraction of soil from each one to two foot interval was collected from the backhoe bucket and placed into a stainless steel mixing bowl with a stainless steel spoon. Upon conclusion of the test pit, composited soil in the mixing bowl was placed into an appropriate sample container. All sampling tools were decontaminated prior to each sampling operation in accordance with Section 3.5.2.

3.5 Field Equipment Cleaning and Decontamination Procedures

Systematic and thorough decontamination procedures were employed throughout the entire field program. The objective of this activity was to ensure the authenticity and accuracy of the analytical results by preventing cross-contamination between sampling locations and/or the introduction of unwanted chemical constituents into sample matrices.

3.5.1 Heavy Equipment Decontamination

During the mobilization and demobilization phase of the field program and prior to each sampling operation, the drill rig, backhoe and all associated equipment were thoroughly cleaned and decontaminated using a high-pressure steam wash. Decontamination was carried out at a ten foot by twelve foot decontamination pad constructed with two inch by ten inch rails and two layers of heavy duty woven plastic liner (10 ml.). The decontamination pad served to contain wash water used during the decontamination process. Decontamination water associated with borings or test pits with elevated HNU readings was containerized in 55 gallon drums and stored in a secure area pending final disposal.

3.5.2 Decontamination of Field Sampling Equipment

All equipment and tools used to collect samples for chemical analyses (spatulas, spoons, bowls, split spoons, bailers, check valves, probes, etc.) were decontaminated using the following five step procedure:

- Potable water wash;
- Alconox/potable water wash;
- Potable water rinse;
- Three or more deionized water rinses; and
- Air dry and wrap in aluminum foil, shiny side out.

3.5.3 Personal Decontamination

Personal decontamination was conducted according to the procedures outlined in the QAPP and HASP.

3.6 Air Monitoring

Air monitoring was conducted by DUNN personnel during all phases of the non-intrusive sampling program as well as the subsurface investigation. The purpose of this activity was to determine the level of respiratory protection and other protective equipment required to protect personnel from any release of toxic vapors.

Air monitoring during the non-intrusive sampling was conducted utilizing a portable photoionization detector (Model HNU PI-101, 10.2 ev lamp). This instrument was utilized during the sampling of the sewer lines, outfalls, sumps, surface soil samples, waste and tank samples.

Air monitoring during the subsurface investigation was conducted utilizing the HNU, an explosimeter and a radiation meter. Neither the explosimeter(s) nor the radiation meter detected levels which would indicate an environmental concern during the subsurface investigation. The HNU was utilized to continuously monitor the breathing zone, recovered soils, test pit and auger casings. Results of air monitoring are included in Section 4.0 within their respective Areas of Investigation.

All monitoring equipment was calibrated and maintained in accordance with QA/QC procedures and the manufacturer's specifications.

3.7 Permeability Testing

The twelve newly installed groundwater monitoring wells were subjected to permeability testing in order to determine the horizontal hydraulic conductivity of the respective water bearing units. The permeability of the overburden surrounding each well was determined by measuring the water level recovery of each well (relative to the initial static water level) as a result of an instantaneous displacement of water within the well by means of injection or withdrawal of an object of known volume (slug). The water level recovery was measured automatically using an

In-Situ Hermit SE1000B Environmental Data Logger and pressure transducer. The data logger recorded water level data based on a pre-programmed logarithmic sampling schedule. The pressure transducer used for all testing had a scale factor of 10.10 PSI/g and no offset. The "slug" used to displace the water within the well was a five foot long, one inch O.D. hollow PVC pipe filled with deionized water and fitted with two watertight, threaded PVC plugs. The slug was inserted and retrieved from the well via dedicated nylon rope (one-eighth inch). Prior to initiating a test, the static water level was obtained and all testing equipment was decontaminated according to the procedure specified in Section 3.5.2. Due to the slow recovery of many of the wells and associated time constraints, slug injection tests as opposed to slug withdrawal tests were performed. For those wells where water levels recovered quickly (i.e., less than an hour) both slug withdrawal/injection tests were performed.

The injection tests were conducted by slowly lowering the PVC slug to just above the static water level surface in order to prevent splashing, recording the height of water above the transducer (i.e., reference point) and submerging the slug in the water column while simultaneously activating the data logger.

Slug withdrawal tests utilized essentially the same methodology as described above, however, the slug was instantaneously removed from the well, causing a depression of the water level within the well. The subsequent water level recovery was then measured by the data logger.

Ideally, slug tests were continued until 80 percent of well recovery was achieved. However, in many cases recharge rates were slow and time constraints precluded recovery to this target value. In an effort to record as much data as possible, permeability tests on less responsive wells were allowed to proceed up to 24 hours.

The data stored in the data logger was subsequently downloaded to a personal computer and used to calculate the horizontal hydraulic conductivity via the Hvorslev method. Refer to Appendix G for calculations of horizontal hydraulic conductivity for each well using the above stated method.

3.8 Surveying

Upon completion of the field operations, a survey of the site was performed. The surveyor's scope of work involved locating all test borings, test excavations, newly installed monitoring wells and surface soil/waste sampling points. Ground elevations were also determined at the test excavation, test boring and surface soil/waste sampling locations. Elevations of the ground surface, top of protective casing and top of PVC well casing were determined for the newly installed monitoring wells. All elevations presented in this report are referenced to mean sea level (MSL) vertical datum.

In addition, the surveyor established two permanent bench marks on the subject property. These bench marks were "tied in" to a New York State monument marker located on Aero Drive, as well as a benchmark located on Genesee Street.

3.9 Laboratory Analyses

Chemical analyses of all environmental samples collected in this investigation were performed by three analytical laboratories: Weston Analytical of Lionville, Pennsylvania; International Technologies Corporation of Export, Pennsylvania; and the NYSDEC laboratory in Albany, New York. The methods used to analyze all samples collected at the project site were in accordance with those presented in the September 1989 NYSDEC Analytical Services Protocol (ASP) and Superfund Contract Laboratory Program (CLP). Specific methods for each parameter (i.e., volatiles, semi-volatiles, etc.) are presented in Table 3-2. Analytical results are presented in Section 4.0 within their respective Areas of Investigation.

3.10 Data Validation

In addition to the laboratories' (IT Corporation and R.F. Weston) in-house review of the data, a detailed review and validation of all analytical data was carried out by DUNN prior to its incorporation into this report.

All analytical data was validated in accordance with the United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) Organics Data Review and Preliminary Review (SOP No. HW-6, Revision No. 7, March 1990), in conjunction with USEPA's CLP,

TABLE 3-2
ANALYTICAL PARAMETERS

SCHEDULE		DOCUMENT/METHOD NO.
TCL Volatiles		NYSDEC ASP-CLP Volatile Organics 89-1
TCL Semi-Volatiles		NYSDEC ASP-CLP Semi-Volatile Organics 89-2
TCL Pesticides/PCBs		NYSDEC ASP-CLP Pesticide/PCB 89-3
TAL Metals (23)		Methods for Chemical Analysis of Water and Waste, EPA 600/4-79-020, March 1983 using either ICP (200.7) or individual metal specific methods as modified for NYSDEC CLP (200 Series).
Aluminum	Magnesium	
Antimony	Manganese	
Arsenic	Mercury	
Barium	Nickel	
Beryllium	Potassium	
Cadmium	Selenium	
Calcium	Silver	
Chromium	Sodium	
Cobalt	Thallium	
Copper	Vanadium	
Iron	Zinc	
Lead		
Total Cyanide		Methods for Chemical Analysis of Water and Waste, EPA 600/4-79-020, March 1983, Method 335 as modified for NYSDEC CLP.

Statement of Work for Organic Analysis (Document No. OLM 1.0). Modifications to these criteria, as may be found in the CLP portion of the September 1989 NYSDEC Analytical Services Protocol (ASP) were applied where applicable and relevant. The following items/criteria were reviewed:

- Holding times;
- Surrogate recovery;
- GC/MS tuning and mass calibration;
- Initial calibration;
- Continuing calibrations;
- Internal standards;
- Matrix Spike (MS) and Matrix Spike Duplicate (MSD) recovery;
- Laboratory method blanks;
- Holding blanks;
- Field and trip blanks:
- Target compound identification and quantification; and
- Tentatively identified compounds (TICs).

All analytical results presented in this report are based upon the data validation and summary tables contained in Appendix H. The order of the data summary tables is based upon the sample delivery groups (SDGs) submitted to the laboratory. Negated or rejected data from the summary tables were not utilized for chemical evaluation.

4.0 AREAS OF INVESTIGATION

4.1 General

A total of eighteen areas of potential environmental concern were addressed in this investigation, Areas A through S. The original Work Plan called for the investigation of Area L-The Railroad Transfer Sump, however, this area was excluded due to difficulties associated with sampling of the sump. At the request of NYSDEC, an additional study area, Area R-Southwest Corner/Storage Tank Area, was added to the investigation. Plate 1, Areas of Investigation, presents an overview of the project site and associated study areas. The following sections will address each area and include a description of the area, purpose for investigation, scope of the investigation, findings, analytical results and conclusions.

The analytical results are presented in a tabular format within each Area of Investigation. The analytical tables summarize the results associated with those samples in each Area of Investigation. Applicable standards and/or guidance values have been incorporated into the analytical summary tables in order to provide a basis for comparison. There are a number of footnotes (qualifiers) associated with these tables. These footnotes are summarized in Tables 4-1 and 4-2, respectively.

Criterion utilized to evaluate surface waters included 6NYCRR Part 703 Standards and NYSDEC TOGS Guidance Values for Class C waters (refer to Table 4-3). Part 703 Standards for Groundwater (Class GA) were substituted when Class C water standards or guidance values were not available.

Criterion used to evaluate groundwater included 6NYCRR Part 703 Standards, NYSDEC TOGS Guidance Values, 10NYCRR Part 5 Standards and 10NYCRR Part 170 Standards (refer to Table 4-3). From these, the most stringent criteria for each compound and parameter was selected as the basis for comparison.

The criteria utilized to evaluate volatile and semi-volatile compounds detected in the sediments, surface soil and subsurface soil samples was the NYSDEC Soil Guidance Values. The guidance values are based upon the Water-Soil Partition Model (refer to Table 4-3 for details). The criteria utilized to evaluate inorganic parameters was the average concentration value and concentration range for respective elements found in uncontaminated soils. The average values were obtained by way of a literature search.

TABLE 4-1

EXPLANATION OF QUALIFIERS FOR ORGANIC COMPOUND ANALYTICAL RESULTS

U - Indicates that the compound was analyzed for but not detected at or above the detection limit.

J - Indicates that the compound was analyzed for and determined to be present in the sample. The mass spectrum of the compound meets the identification criteria of the method. The concentration listed is an estimated value which is less than the specified quantitation limit but is greater than zero.

B - The analyte is found in the blanks as well as the sample. It indicates possible sample contamination and warns the data user to use caution when applying the results of this analyte.

C - Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.

K - This is a common laboratory contaminant where the sample result was less than 10 times the associated blank value. The original sample was revised to the Contract Required Quantitation Limit (CRQL)/laboratory reporting limit and qualified with a "U".

L - The parameter is not a common laboratory contaminant but was in the sample result as less than five times the blank result. The original sample result was revised to the CRQL/laboratory reporting limit and qualified with a "U".

N - Indicates that the compound was analyzed for but not requested as an analyte. Value will not be listed on tabular result sheet.

NA - Not analyzed

ND - Not detected

NS - A clean-up standard has not been determined.

M - Matrix spike compound.

V - Reported value is estimated due to variance from quality control limits.

R - Reported value is unusable and rejected due to variance from quality control limits.

E - Reported value is estimated due to the presence of matrix interference.

D - Reported result taken from diluted sample analysis.

A - Aldol condensation product.

TABLE 4-2

EXPLANATION OF QUALIFIERS FOR INORGANIC ANALYTE RESULTS

U - Indicates analyte result less than Instrument Detection Limit (IDL).

B - Indicates analyte result between IDL and CRDL.

V - Reported value is estimated due to variance from quality control limits identified during data validation procedures.

E - Reported value is estimated because of the presence of interference.

R - Reported value is unusable and rejected due to variance from quality control limits.

K - Since this is a common laboratory contaminant, EPA guidelines suggest this data revision whenever the sample is less than 10 times the associated blank value. The original sample result was revised to the CRDL/laboratory reporting limit and qualified with a "U".

L - Although the parameter is not a common laboratory contaminant, EPA guidelines suggest that if the sample result is less than five time the blank result this data revision is appropriate. The original sample result was revised to the CRDL/laboratory reporting limit and qualified with a "U".

M - Duplicate injection precision not met.

N - Spiked sample recovery not within control limits.

NA - Not analyzed

ND - Not detected

NS - A clean-up standard has not been determined.

S - The reported value was determined by the Method of Standard Additions (MSA).

W - Post-digest spike recovery furnace analysis was out of 85 - 125 percent control limit while sample absorbance was less than 50 percent of spike absorbance.

* - Duplicate analysis not within control limit.

+ - Correlation coefficient for MSA is less than 0.995.

A

TABLE 4-3

SOURCES OF STANDARDS/GUIDELINE VALUES APPEARING ON ANALYTICAL SUMMARY TABLES

- 6NYCRR Part 703 Standards - obtained from the New York State Official Compilation of Codes, Rules and Regulations, Title 6, Chapter X, Part 703 (revised 1990). *"Water Quality Regulations: Surface Water and Groundwater Classification and Standards"*, September 25, 1990.

- NYSDEC TOGS (1.1.1) Guidance - Guidance values obtained from the New York State Department of Environmental Conservation Division of Water, Technical Operations Guidance Series (1.1.1) September 25, 1990.

- 10NYCRR Part 5 Standards - obtained from the New York State Official Compilation of Codes, Rules and Regulations Title 10, Part 5 - NYSDOH Maximum Contaminant Levels for Public Water Supplies.

- 10NYCRR Part 170 Standards - obtained from the New York State Official Compilation of Codes, Rules and Regulations, Title 10, Part 170 - NYSDOH Standard for Sources of Water Supply.

- NYSDEC Soil Guidance Values are based on the Water - Soil Partition Model.

The model predicts the maximum contaminant concentration which is allowed in soil such that if the soil were to be exposed to the groundwater, it would not leach in excess of the groundwater standards. It is based on the soil sorption coefficient between water and soil and the fraction of organic matter in the soil. There is a direct relationship between the organic matter in soils and their capacity to sorb most organic chemicals.

Using the equation below, the maximum soil concentration can be determined for a contaminant given the values for the fraction of organic matter in the soil, the contaminant's partition coefficient, and the contaminant's groundwater or drinking water standard.

$$Cs = f \times Koc \times Cw$$

where: Cs = allowable concentration in the soil
f = fraction of the total organic matter (TOC) in the soil. (A value of 2.5% was used as a conservative estimate.)
Koc = partition coefficient between water and soil
Cw = allowable groundwater/drinking water standard (whichever is more stringent)

4.2 Area A-Fan Room

The Fan Room is located in the basement of the eastern section of the main building structure. Areas of concern include three floor drains located in the main fan/mechanic's room and a sump (Sump No. 1) situated in an air duct tunnel beneath the basement floor adjacent to the fan room. Refer to Figure A for the location of sump and floor drains. Historical information indicates that the sump was formerly connected to the Storm Sewer Line 003.

Purpose of Investigation

Previous sampling of surface water and sediment in the Fan Room sump conducted by ERM-Northeast indicated elevated concentrations of trichloroethene (TCE) and cadmium (Cd). An initial site inspection performed by DUNN indicated HNU readings in the sump of 60 parts per million (ppm). The purpose of investigating this area was to verify ERM-Northeast's analytical results.

Scope of Investigation

One aqueous and one non-aqueous sediment sample were collected from the sump situated in the air duct tunnel. These samples were analyzed for Full CLP parameters (including TCL-VOA, TCL-BNA, TCL-PEST/PCBs, TAL Metals) and total cyanide (refer to Section 3.9). The Work Plan for the project called for the sampling of all three floor drains, however, two of the drains were not accessible for sampling. Due to the limited volume of water and absence of sediment in the accessible floor drain, only one aqueous sample was collected and analyzed for TCL-VOA. Methodologies utilized to obtain the samples from the sump and floor drain are discussed in Section 3.2.1 and 3.2.2, respectively..

Findings of Investigation

<u>Field Observations and Measurements</u>

The aqueous sample collected from the sump was relatively clear in color and exhibited a slight chemical solvent odor. Measurements obtained from a sample of the water included temperature

(59.1^{0}F), pH (8.09) and specific conductivity (370 umhos/cm). Headspace screening of the aqueous sample with the HNU indicated a volatile organic compound (VOC) level of 55 ppm.

The sediment sample collected from the sump consisted of brown silty sand and gravel and exhibited a strong chemical solvent odor. A headspace screening of the sample performed with an HNU indicated a VOC level of 400 ppm.

The aqueous sample collected from the floor drain was black in color and had a coffee-like odor. Headspace screening of the sample with an HNU did not indicate a VOC level above background. Measurements obtained from the aqueous sample included temperature (71.7^0 F), pH (7.86) and specific conductivity (2,250 umhos/cm). Refer to the Sampling Logs contained in Appendix F of this report for sump and floor drain sampling details.

Analytical Results

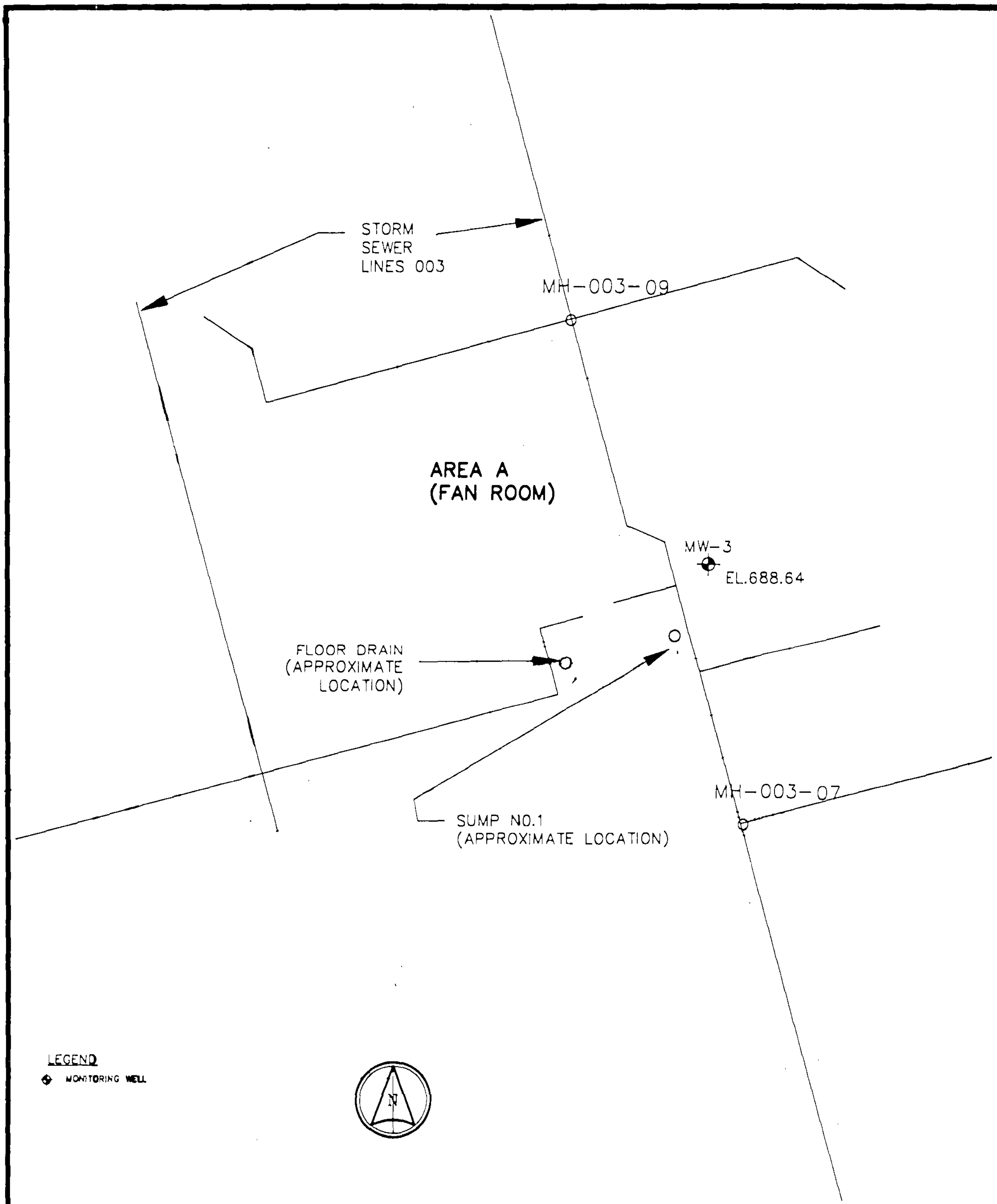
Analysis of the surface water sample collected from WEC-SP1 indicated a concentration of trichloroethene (17,000 ug/l) which exceeds New York State Guidance Values for Class C surface waters. In addition, several inorganic parameters including aluminum, iron, selenium, silver and zinc were detected at levels above New York State Water Quality Standards. Refer to Table A-1 and A-2 for a summary of the analytical results associated with the surface water samples collected from Area A.

Analysis of the aqueous sample collected from the floor drain did not indicate elevated concentrations of volatile organic compounds.

Analysis of the sediment sample obtained from WEC-SP1 (refer to Table A-3 and A-4) indicated elevated concentration levels of trichloroethene (1,500,000 ug/kg) and tetrachloroethene (13,000 ug/kg) in excess of NYSDEC Soil Guidance Values. In addition, several semi-volatile organic compounds and inorganic parameters, primarily heavy metals, were detected at elevated concentrations in excess of NYSDEC Soil Guidance Values. Aroclor-1254, a PCB compound, was detected at a level above the NYSDEC Soil Guidance Values.

Conclusions

The findings of this investigation indicate an environmental concern stemming from the elevated concentrations of volatile organic compounds and inorganic parameters detected in WEC-SP1. Additional concerns are associated with the prior connection of the sump to the storm water sewer which may have contributed to the migration of potential contaminants.



DUNN GEOSCIENCE ENGINEERING CO., P.C.

12 Metro Park Road
Albany, NY 12205

FIGURE A - FAN ROOM

WESTINGHOUSE ELECTRIC CORP.
BUFFALO AIRPORT CENTER

PROJECT NO. 00296 - 01699	DATE 5/16/91	DWG. NO. 2A08937-A	SCALE 1"=50'	FIGURE NO. A

TABLE A-1

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS
SURFACE WATER SAMPLES
AREA A - FAN ROOM SUMP(S)
(Concentration Values in ug/l - ppb)

	SURFACE WATER LOCATION			
	WEC-SP1-L A55712 Sump	WEC-FD1-L A55717 Floor Drain	NYS Water Quality Standards	NYSDEC TOGS (1.1.1)
VOLATILE ORGANIC COMPOUNDS				
Methylene Chloride	ND	7 J	NS	50
Trichloroethene	17000 D	ND	NS	11
Total Volatiles	17000	7	NS	-
Total Volatile TICs	ND	ND	NS	-
SEMI-VOLATILE ORGANIC COMPOUNDS				
Total Semi-Volatiles	0	NA	NS	-
Total Semi-Volatile TICs	ND	NA	NS	-

TABLE A-2

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF INORGANIC PARAMETERS
SURFACE WATER SAMPLES
AREA A - FAN ROOM SUMP(S)
(Concentration Values in ug/l - ppb)

	SURFACE WATER LOCATION			
	WEC-SP1-L A55712 Sump	WEC-FD1-L A55717 Floor Drain	NYS Water Quality Standards	NYSDEC TOGS (1.1.1)
TAL METALS				
Aluminum	160 V	NA	100	-
Antimony	11.3 B	NA	NS	3.0
Barium	54.0 E	NA	1000	-
Cadmium	5.6	NA	10*	-
Calcium	34800	NA	NS	-
Chromium	21.3	NA	50*	-
Copper	99.3 V	NA	200*	-
Iron	409	NA	300	-
Lead	17.5	NA	25*	-
Magnesium	8280	NA	NS	35000
Manganese	22.4	NA	300*	-
Nickel	10.8	NA	NS	-
Potassium	7340	NA	NS	-
Selenium	2.0 B	NA	1.0	-
Silver	12.3	NA	0.1	-
Sodium	15200	NA	20000*	-
Vanadium	6.5	NA	14	-
Zinc	91.4 E	NA	30	-
MISCELLANEOUS COMPOUNDS				
Total Cyanide	ND	NA	5.2	-

* Represents Groundwater Standard (Class GA)

TABLE A-3

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS
SEDIMENT SAMPLES
AREA A - FAN ROOM SUMP(S)
(Concentration Values in ug/kg - ppb)

	SEDIMENT SAMPLE LOCATION	
	WEC-SP1-S A55714 Fan Room Sump	NYSDEC Soil Guidance Values *
VOLATILE ORGANIC COMPOUNDS		
Trichloroethene	1500000 D	15.75
Tetrachloroethene	13000 JV	45.5
Total Volatiles	1513000	NS
Total Volatile TICs	1100000 J	NS
SEMI-VOLATILE ORGANIC COMPOUNDS		
1,3 - Dichlorobenzene	410 J	212.5
1,4 - Dichlorobenzene	300 J	212.5
1,2 - Dichlorobenzene	2400	212.5
1,2,4 - Trichlorobenzene	440 J	1150
Naphthalene	290 J	325.0
2 - Methylnaphthalene	270 J	10000
Phenanthrene	1500 J	10000
Anthracene	240 J	10000
Di-n-Butylphthalate	770 J	-
Fluoranthene	3100	10000
Pyrene	2800	10000
Benzo(a)Anthrancene	1500 J	69.0
Chrysene	2000	10000
Bis(2-Ethylhexyl)Phthalate	5200	10.0
Benzo(b)Fluoranthene	7000 V	275.0
Benzo(a)Pyrene	2600 V	61.0
Total Semi-Volatiles	30820	NS
Total Semi-Volatile TICs	123100 J	NS
PEST/PCB COMPOUNDS		
Aroclor - 1254	12000*	13.25

* Sample result based on manually integrated peak area due to chromatographic interference.

TABLE A-4

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF INORGANIC PARAMETERS
SEDIMENT SAMPLES
AREA A - FAN ROOM SUMP(S)
(Concentration Values in mg/kg - ppm)

	SEDIMENT SAMPLE LOCATION WEC-SP1-S A55714 Fan Room Sump	Avg. Conc. of Element in Uncont. Soils	Conc. Range of Element in Uncont. Soils
TAL METALS			
Aluminum	9410 EV	33000	10000 - 300000
Antimony	54.1 V	0.76	0.2 - 150
Arsenic	19.6 V	5.0	3.0 - 12
Barium	210 EV	290	15 - 600
Beryllium	1.0 BV	0.6	0 - 1.75
Cadmium	89.2 EV	0.6	0.1 - 7.0
Calcium	108000 EV	3400	130 - 35000
Chromium	135 V	33.0	1.5 - 40
Cobalt	41.4 V	5.9	2.5 - 60
Copper	1190 V	20	2.0 - 100
Iron	151000 EV	14000	2000 - 550000
Lead	1080 SV	14	4.0 - 61
Magnesium	50700 EV	6300	400 - 9000
Manganese	723 EV	850	100 - 4000
Nickel	92.6 V	40	0.5 - 60
Potassium	1090 BV	12000	100 - 37000
Selenium	12.7 SV	0.2	0.01 - 12
Silver	15.8 V	-	.01 - 8.0
Sodium	300 BEV	6300	150 - 15000
Vanadium	51.6 EV	100	1.3 - 300
Zinc	3880 EV	50	10 - 300
MISCELLANEOUS COMPOUNDS			
Total Cyanide	1.1 BV	-	-

4.3 Area B-Storm Sewer Line 003-Borings

Area B is located along Storm Sewer Line 003 in the southwestern portion of the main building structure, west of the Heat Treatment/Plating Room (Area C). Refer to Plate 1, Areas of Investigation Map.

Purpose of Investigation

The investigation of this area was performed by ERM-Northeast in accordance with a Consent Order between the NYSDEC and Westinghouse Electric Corporation. The purpose of DUNN's investigation was to ascertain the presence or absence of contamination within the subsurface soils/bedding material located adjacent to the storm sewer line.

Scope of Investigation

A total of five test borings, B1 through B5, were advanced by ERM-Northeast along the sewer line at the locations shown on Figure B. Soil samples were provided to DUNN by ERM-Northeast from boring locations B2, B4 and B5. The samples were analyzed for Full CLP parameters and total cyanide (refer to Section 3.9).

Findings of Investigation

<u>Subsurface Conditions</u>

Fill material was encountered at each boring location and consisted predominantly of loose, brown sands and gravels with varying amounts of silt. The fill ranged in depth from two to five feet below grade.

Glacial till was encountered beneath the fill at each location and extended to the terminus of the borehole. The till consisted predominantly of reddish-brown, dense silt and clay, with varying amounts of embedded gravel. No staining, discoloration or odors were observed within the recovered soil samples at any of the boring locations.

B

Air Monitoring/Soil Screening

Elevated volatile organic compound (VOC) levels were encountered during the advancement of borehole B1. HNU readings measured by DUNN indicated VOC levels of 20 ppm at the completion of the B1 boring, approximately eight feet below grade.

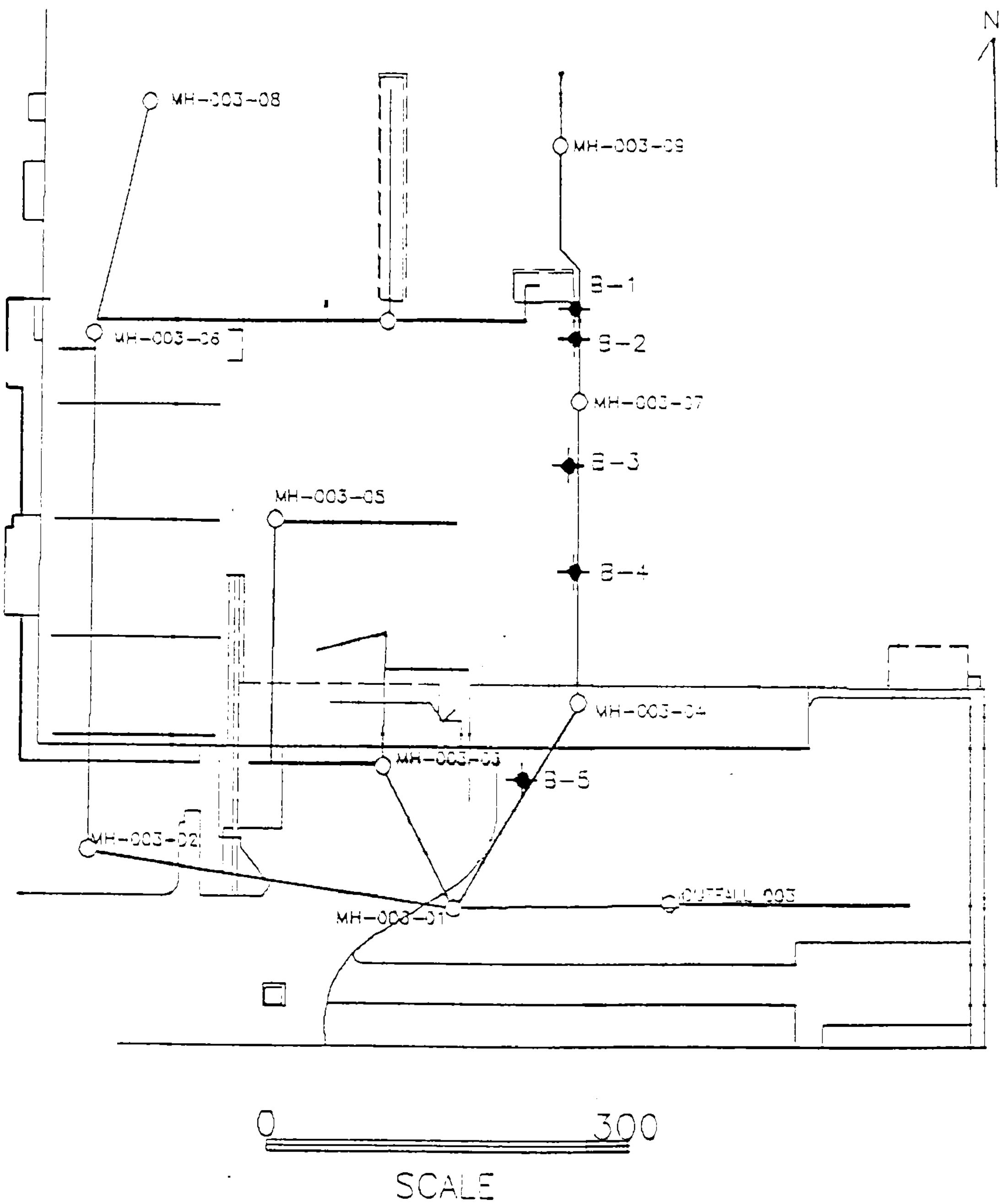
Analytical Results

Volatile and semi-volatile analytical results from soil boring split-spoon samples obtained from Area B are presented in Table B-1. In general, the analytical results indicated low concentrations of volatile and semi-volatile organic compounds. The highest volatile organic compound concentration detected was trichloroethene (180 ug/kg) from boring location West-B-2-B. Aroclor-1254, a PCB compound, was detected in boring location West-B-4-B at a low concentration of 42 ug/kg.

Inorganic parameters detected in the boring samples are listed in Table B-2. Elevated concentrations of barium (786 mg/kg) were detected in West-B-5-B. In addition, elevated concentrations of thallium were detected in all three boring locations.

Conclusions

Within the parameters of this investigation, the concentration levels of volatile organic compounds and inorganic parameters detected in the soil samples obtained from Area B indicates that this area does pose an environmental concern.



LEGEND:

TEST BORING DRILLED IN SEPTEMBER 1990.

STORM SEWER MANHOLE

STORM SEWER LINE

NOTES:

1) BASE MAP WAS ADAPTED FROM "BUILDING PLAN" PROVIDED BY WESTINGHOUSE ELECTRIC CORPORATION, LAST REVISION DECEMBER 1984.

2) LOCATIONS OF TEST BORINGS AND TEST PITS WERE SURVEYED BY KREHBIEL ASSOCIATES, INC.

3) MAP WAS OBTAINED FROM ERM-NORTHEAST REPORT (1991) PREPARED FOR WESTINGHOUSE ELECTRIC CORPORATION.

FIGURE B

STORM SEWER LINE 003 - TEST BORINGS
WESTINGHOUSE ELECTRIC CORP.

DUNN GEOSCIENCE ENGINEERING CO., P.C.
12 Metro Park Road
Albany, NY 12205

DUNN GEOSCIENCE CORP

TABLE B-1

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS
SOIL BORING SPLIT-SPOON SAMPLES
AREA B - SUBSURFACE SOIL/BEDDING MATERIAL - STORM SEWER LINE 003
(Concentration Values in ug/kg - ppb)

Boring Location	WEST-B-4-B A55706	WEST-B-5-B A55707	WEST-B-2-B A55709	NYSDEC Soil Guidance Values
Depth Interval (ft.)	0 - 7	0 - 6	1 - 7*	
VOLATILE ORGANIC COMPOUNDS				
1,2 Dichloroethene (Total)	ND	ND	4 J	45.0
Trichloroethene	2 J	ND	180	15.75
Toluene	5	ND	ND	37.5
Total Volatiles	7	ND	184	-
Total Volatile TICs	ND	ND	ND	-
SEMI-VOLATILE ORGANIC COMPOUNDS				
Total Semi-Volatiles	ND	ND	ND	-
Total Semi-Volatile TICs	7400 J	400 J	1200 J	-
PEST/PCB COMPOUNDS				
Aroclor - 1254	42 J	ND	ND	13.25

* Collected VOC sample from fill material depth interval 3 - 5 feet.

TABLE B-2

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF INORGANIC PARAMETERS
SOIL BORING SPLIT-SPOON SAMPLES
AREA B - SUBSURFACE SOIL/BEDDING STORM SEWER LINE 003
(Data Reported in mg/kg - ppm)

Soil Boring Location	WEST-B-4-B A55706	WEST-B-5-B A55707	WEST-B-2-B A55709	Avg. Conc. of Element in Uncont. Soils	Conc. Range of Element in Uncont. Soils
Depth Interval (ft.)	0 - 7	0 - 6	1 - 7		
TAL METALS					
Aluminum	6340	10500	9680	33000	10000 - 300,000
Arsenic	2.6 S	3.7 S	2.7 S	5.0	3.0 - 12.0
Barium	43.8	786	72.6	290	15 - 600
Beryllium	0.40 BV	0.54 BV	0.55 BV	0.6	0 - 175
Cadmium	ND	1.9	ND	0.6	0.1 - 7.0
Calcium	71100	65200	76900	3400	130 - 35,000
Chromium	8.3	17.1	12.7	33	1.5 - 40
Cobalt	6.1 B	11	7.7 B	5.9	2.5 - 60
Copper	11.2	24	17.3	20	2 - 100
Iron	11100	17300	16100	14000	2,000 - 550,000
Lead	8.3	16.9 V	11.4	14	4 - 61
Magnesium	32000	24100	31900	6300	400 - 9000
Manganese	331	573	474	850	100 - 4000
Nickel	8.1 B	15.8	13.7	40	0.5 - 60
Potassium	1890 V	2690 V	2950 V	12000	100 - 37,000
Selenium	4.2 UV	4.2 UV	ND	0.2	0.01 - 12
Sodium	168 B	152 B	184 B	6300	150 - 15000
Thallium	1.3 B	1.3 BW	1.4 B	-	0.1 - 0.8
Vanadium	18.8 WV	24.6 V	24.3 V	100	1.0 - 300
Zinc	60.7 V	99.5 V	4.1 BV	50	10 - 300
MISCELLANEOUS COMPOUNDS					
Total Cyanide	ND	ND	ND	-	-

C

4.4 Area C-Heat Treatment/Plating Area

The Heat Treatment/Plating Area is located on the ground floor of the southeast portion of the main building structure. Areas for investigation included one sump (Sump No. 2) beneath the plating room in a subfloor area, a fan ventilation structure adjacent to the subfloor area and a 550 gallon underground storage tank. The tank is located outside the plating room several feet from the fan ventilation structure. Refer to Plate 1, Area C-Heat Treatment/Plating Area.

Purpose of Investigation

A site inspection performed by DUNN revealed visual evidence (i.e., staining and discoloration) of potential contamination in both the sump and fan ventilation areas. In addition, during the course of the investigation of this area, a 550 gallon underground tank was discovered. Subsequent correspondence between DUNN and ERM-Northeast indicated that ERM-Northeast had also noted and sampled the underground tank during the Consent Order investigation of the storm sewer system. Analytical results asssociated with the tank sample indicated high concentration levels of toluene, ethylbenzene and total xylenes. ERM-Northeast personnel stated (based on information provided by Westinghouse) that the underground tank contained waste varnish. Other contamination concerns in this area pertain to allegations made by former Westinghouse employees regarding poor housekeeping practices.

The purpose of the investigation was to determine the absence or presence of contamination in Area C, explore the allegations of the former Westinghouse employees and confirm the composition of the waste varnish material contained in the tank.

Scope of Investigation

One aqueous and one non-aqueous sediment sample were collected from the sump. One non-aqueous surface sample was collected from the floor of the fan ventilation structure. These samples were analyzed for Full CLP parameters and total cyanide (refer to Section 3.9).

One product/waste sample was collected from the underground storage tank and analyzed for TCL VOA only.

Test boring WEC-B31 was advanced approximately twenty feet from the underground storage tank to explore the potential of subsurface contamination. This boring was converted to monitoring well WEC-MW18 in order to assess groundwater quality and flow patterns in this area. Soil samples recovered from the test boring were analyzed for Full CLP parameters and total cyanide. Results of the laboratory analyses performed on the groundwater obtained from the monitoring well, as well as the associated hydrogeologic investigation, are presented in Section 4.20. Methodologies utilized to obtain samples from the sump, fan vent, tank and test boring are presented in Sections 3.2 and 3.3, respectively.

Findings of Investigation

Subsurface Conditions

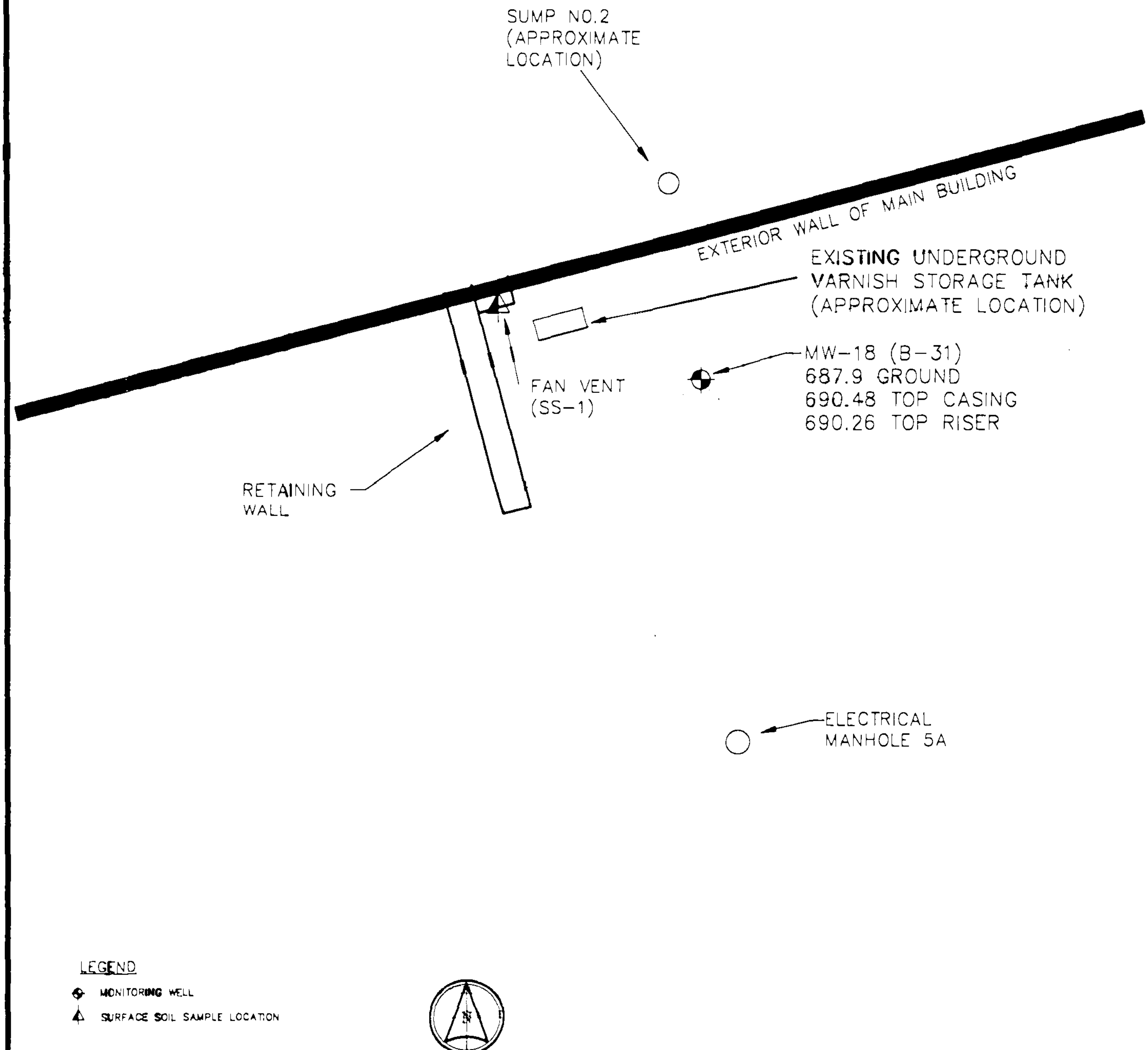
Fill material underlain by glacial till was encountered in boring location WEC-B31. The total depth of the boring was approximately twenty feet. The fill consisted of brown sandy silt containing lesser amounts of gravel, trace amounts of organic material and cinders. The fill extended to a depth of two feet below grade. The glacial till extended to the terminus of the borehole and consisted of brown silts and clays with embedded gravel and rock fragments. Refer to the Test Boring Logs contained in Appendix B for a detailed geologic description of the strata encountered in Area C. No visible staining, discoloration or odor was noted in the recovered soil samples.

Field Observations and Measurements

The aqueous sample collected from the sump was odorless and orange-brown in color. Measurements obtained from a sample of the water included temperature (56.1°F), pH (9.45) and specific conductivity (7,120 umhos/cm).

The sediment sample collected from the sump consisted of brown silty sand and gravel. No staining, discoloration or odors were noted.

The non-aqueous surface sample obtained from the floor of the fan ventilation structure consisted predominantly of reddish-brown fibrous material intermixed with brown silty sand. Refer to Appendix F-Sampling Logs for sump and fan vent sampling details.



DUNN GEOSCIENCE ENGINEERING CO., P.C.

12 Metro Park Road
Albany, NY 12205

FIGURE C – HEAT TREATMENT PLATING AREA

WESTINGHOUSE ELECTRIC CORP.
BUFFALO AIRPORT CENTER

PROJECT NO. 00296 – 01699	DATE 5/16/91	DWG. NO. 2A08937-C	SCALE 1"=25'	FIGURE NO. C

TABLE C-1

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS
SURFACE WATER SAMPLES
AREA C - HEAT TREATMENT/PLATING AREA
(Concentration Values in ug/l - ppb)

	SURFACE WATER LOCATION		
	WEC-SP2-L A55711 Sump	NYS Water Quality Standards	NYSDEC TOGS (1.1.1)
VOLATILE ORGANIC COMPOUNDS			
Total Volatiles	ND	NS	-
Total Volatile TICs	ND	NS	-
SEMI-VOLATILE ORGANIC COMPOUNDS			
Pentachlorophenol	3300	0.4	-
Total Semi-Volatiles	3300	NS	-
Total Semi-Volatile TICs	ND	NS	-

TABLE C-2

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF INORGANIC PARAMETERS
SURFACE WATER SAMPLES
AREA C - HEAT TREATMENT/PLATING AREA
(Concentration Values in ug/l - ppb)

	SURFACE WATER LOCATION		
	WEC-SP2-L A55711 Sump	NYS Water Quality Standards	NYSDEC TOGS (1.1.1)
TAL METALS			
Aluminum	62.7	100	-
Antimony	81.6	NS	3.0
Arsenic	37	190	-
Barium	25.6	1000	-
Beryllium	1.7	11	-
Cadmium	8.1	10*	-
Calcium	11200	NS	-
Chromium	72.8	50*	-
Cobalt	10.2	5.0	-
Copper	659 V	200*	-
Iron	1910	300	-
Lead	32.1	25*	-
Magnesium	3810	NS	35000
Manganese	30	300*	-
Mercury	0.34 V	NS	0.2
Nickel	49.7	NS	-
Potassium	1020000	NS	-
Selenium	49.8 S	1.0	-
Silver	16.2	0.1	-
Sodium	993000	20000*	-
Vanadium	89.4	14	-
Zinc	241 E	30	-
MISCELLANEOUS COMPOUNDS			
Total Cyanide	10.5 V	5.2	-

* Represents Groundwater Standard (Class GA)

TABLE C-3

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS
SEDIMENT SAMPLES
AREA C - HEAT TREATMENT/PLATING AREA
(Concentration Values in ug/kg - ppb)

	SEDIMENT SAMPLE LOCATION		
	WEC-SP2-S A55715 Sump	WEC-SS-1 A55716 Fan Sump	NYSDEC Soil Guidance Values
VOLATILE ORGANIC COMPOUNDS			
Toluene	780 JV	ND	37.5
Ethylbenzene	66000 V	ND	137.5
Total Xylene	490000 BEV	ND	30
Total Volatiles	556780	ND	-
Total Volatile TICs	66000 JV	28 J	-
SEMI-VOLATILE ORGANIC COMPOUNDS			
Bis(2-Chloroethyl)Ether	800 J	ND	-
Naphthalene	14000	210 J	325
4-Chloro-3-Methylphenol	ND	1600 J	-
2-Methylnaphthalene	3700	ND	10000
Acenaphthene	ND	530 J	2300
Dibenzofuran	390 J	280 J	-
Fluorene	470 J	510 J	9125
N-Nitrosodiphenylamine	700 J	ND	-
Pentachlorophenol	93000 D	950 J	530
Phenanthrene	3600	5600	10000
Anthracene	ND	1200 J	10000
Di-n-Butylphthalate	3200	1100 J	-
Fluoranthene	2400	9400	10000
Pyrene	2600	14000	10000
Butylbenzylphthalate	3000	650 J	-
Benzo(a)Anthracene	ND	7400	69
Chrysene	ND	8000	10000
Bis(2-Ethylhexyl)Phthalate	32000	6800	10
Benzo(b)Fluoranthene	ND	11000	275
Benzo(k)Fluoranthene	ND	11000	27.5
Benzo(a)Pyrene	ND	9300	61
Indeno(1,2,3-cd)Pyrene	ND	6900	80
Dibenz(a,h)Anthracene	ND	3200	14
Benzo(g,h,i)Perylene	ND	6700	80
Total Semi-Volatiles	159860	106330	-
Total [illegible]Volati[illegible]	[illegible]000 [illegible]	[illegible] J	[illegible]

TABLE C-4

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF INORGANIC PARAMETERS
SEDIMENT SAMPLES
AREA C - HEAT TREATMENT/PLATING AREA
(Concentration Values in mg/kg - ppm)

	SEDIMENT SAMPLE LOCATION			
	WEC-SP2-S A55715 Sump	WEC-SS-1 A55716 Fan Sump	Avg. Conc. of Element in Uncont. Soils	Conc. Range of Element in Uncont. Soils
TAL METALS				
Aluminum	9610 EV	5870 EV	33000	10000 - 300000
Antimony	28.5 BV	28.7 V	0.76	0.2 - 150
Arsenic	5.4 V	9.7 V	5.0	3.0 - 12
Barium	550EV	354 EV	290	15 - 600
Beryllium	0.68 V	0.71 BV	0.6	0 - 1.75
Cadmium	76.1 EV	67.2 EV	0.6	0.1 - 7.0
Calcium	44700 EV	141000 EV	3400	130 - 35000
Chromium	400 V	47.2 V	33	1.5 - 40
Cobalt	32.6 BV	14.2 BV	5.9	2.5 - 60
Copper	711 V	105 V	20	2 - 100
Iron	28200 EV	18700 EV	14000	2000 - 550000
Lead	636 V	623 SV	14	4.0 - 61
Magnesium	13400 EV	38900 EV	6300	400 - 9000
Manganese	344 EV	404 EV	850	100 - 4000
Nickel	41.9 V	36.3 V	40	0.5 - 60
Potassium	14700 V	11300	12000	100 - 37000
Selenium	11.5 SV	5.1 SV	0.2	0.01 - 12.0
Silver	4.2 BV	4.3 V	-	.01 - 8.0
Sodium	6780 EV	12400 EV	6300	150 - 15000
Vanadium	20.5 BEV	34.0 EV	100	1.3 - 300
Zinc	6350 EV	2090 EV	50	10 - 300
MISCELLANEOUS COMPOUNDS				
Total Cyanide	2.4 V	1.9 V	-	-

TABLE C-5

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUND
SOIL BORING SPLIT-SPOON SAMPLES
AREA C - HEAT TREATMENT/PLATING AREA
(Concentration Values in ug/kg - ppb)

Boring Location	WEC-B31 A55799	NYSDEC Soil Guidance Values
Depth Interval (ft.)	0 - 10	
VOLATILE ORGANIC COMPOUNDS		
Trichloroethene	24	15.75
Total Volatiles	24	-
Total Volatile TICs	ND	-
SEMI-VOLATILE ORGANIC COMPOUNDS		
4- Nitrophenol	200 J	-
Pentachlorophenol	450 J	530
Di-n-Butylphthalate	100 J	-
Pyrene	200 J	10000
Total Semi-Volatiles	950	-
Total Semi-Volatile TICs	16830 J	-

TABLE C-6

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF INORGANIC PARAMETERS
SOIL BORING SPLIT-SPOON SAMPLES
AREA C - HEAT TREATMENT/PLATING AREA
(Data Reported in mg/kg - ppm)

Soil Boring Location	WEC-B31 A55799	Avg. Conc. of Element in Uncont. Soils	Conc. Range of Element in Uncont. Soils
Depth Interval (ft.)	0 - 10		
TAL METALS			
Aluminum	8870	3300	10000 - 300000
Antimony	6.0 B	0.76	0.2 - 150
Arsenic	2.8	5.0	3.0 - 12
Barium	75.8	290	15 - 600
Beryllium	0.52 B	0.6	0 - 1.75
Cadmium	1.4 V	0.6	0.1 - 7.0
Calcium	45800	3400	130 - 35000
Chromium	15.6 V	33	1.5 - 40
Cobalt	9.2 BV	5.9	2.5 - 60
Copper	25.3 E	20	2 - 100
Iron	14100	14000	2000 - 550000
Lead	17.5 S	14	4.0 - 61
Magnesium	16600	6300	400 - 9000
Manganese	467	850	100 - 4000
Nickel	17.4 V	40	0.5 - 60
Potassium	1350 E	12000	100 - 37000
Silver	0.86 B	-	0.1 - 8.0
Sodium	118 B	6300	150 - 15000
Thallium	0.22 B	-	-
Vanadium	20.2	100	1.3 - 300
MISCELLANEOUS COMPOUNDS			
Total Cyanide	ND	-	-

TABLE C-7

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF VOLATILE ORGANIC COMPOUNDS
TANK / WASTE SAMPLE
AREA C - HEAT TREATMENT/PLATING AREA
(Concentration Values in ug/kg - ppb)

VOLATILE ORGANIC COMPOUNDS	TANK/WASTE SAMPLE LOCATION WEC-T1-W A55825
Benzene	400000
Toluene	1250000
Ethylbenzene	3750000
Total Xylenes	167500000
Total Volatiles	172900000
Total Volatile TICs	*

* Many substituted Aromatics detected.

The underground storage tank sample consisted of a reddish-brown, highly viscous liquid which exhibited a strong chemical odor.

Air Monitoring/Soil Screening Results

Air monitoring activities conducted with an HNU during the test boring and collection of sediments/soil samples did not indicate elevated levels of VOCs above ambient background. Air monitoring of the tank atmosphere indicated VOC levels as high as 150 ppm. Headspace screening associated with the collection of the aqueous sample from Sump No. 2, WEC-SP2, indicated slightly elevated VOC levels. No other elevated VOC levels were measured with the HNU during the course of headspace screening of the various sample media from this area.

Analytical Results

Analysis of the surface water sample collected from WEC-SP2 indicated a concentration of pentachlorophenol (3,300 ug/l) in excess of New York State Water Quality Standards. Several inorganic parameters including total cyanide were also detected at levels above New York State Water Quality Standards (refer to Tables C-1 and C-2).

Analysis of the sediment sample collected from WEC-SP2 indicated concentrations of toluene (780 ug/kg) and ethylbenzene (66,000 ug/kg) in excess of NYSDEC Soil Guidance Values. Semi-volatile organic compounds were detected in both the sump sediment and fan room surface soil sample WEC-SS1 at concentration levels above NYSDEC Soil Guidance Values. Elevated concentrations of inorganic parameters including cadmium, chromium, lead and zinc were also detected at each location (refer to Tables C-3 and C-4).

Analysis of the soil sample collected from WEC-B31 indicated a concentration of trichloroethene (24 ug/kg) in excess of NYSDEC Soil Guidance Values. No other compounds or parameters were detected at elevated concentrations within the subsurface soil sample (refer to Tables C-5 and C-6). It should be noted that the levels of calcium and magnesium detected are within expected concentration ranges associated with the project site.

Analysis of the waste sample collected from the underground storage tank indicated elevated concentrations of benzene, toluene, ethylbenzene and total xylenes. The total volatile organic concentration detected in the waste sample was approximately seventeen percent (refer to Table C-7).

Conclusions

Analyses of the surface water and sediment samples collected from WEC-SP2 indicate the presence of various volatile organic compounds, semi-volatile organic compounds and inorganic parameters at concentrations in excess of New York State Water Quality Standards and NYSDEC Soil Guidance Values. As the sump may have formerly been connected to the storm sewer system, it presents an environmental concern to the area in regards to potential surface water and/or sediment contamination in the storm sewer system.

The presence of the underground storage tank and its contents is a potential source of subsurface contamination if the tank has leaked. An additional concern is posed by the proximity of the underground utilities adjacent to the tank in that these services lines may serve as potential pathways for contamination.

D

4.5 Area D-Storm Sewer Line 003-Test Pits

Area D is located off the southwest corner of the main building structure, south of the Heat Treatment/Plating Room (Area C). Refer to Plate 1, Areas of Investigation Map.

Purpose of Investigation

ERM-Northeast conducted an investigation in this area in accordance with a Consent Order between the NYSDEC Region 9 Division of Water and Westinghouse Electric Corporation. DUNN's investigation was coordinated with ERM-Northeast's in order to be cost-effective. The purpose of DUNN's investigation was to ascertain the presence or absence of contamination within the subsurface soils and/or bedding material located adjacent to Storm Sewer Line 003.

Scope of Investigation

ERM-Northeast excavated a total of five test pits, TP1 through TP5, adjacent to the storm sewer line, west of Outfall Monitoring Station 003. Refer to Figure D for test pit locations. Split soil samples were provided to DUNN by ERM-Northeast at test pit locations TP1, TP3 and TP5. These samples were analyzed for Full CLP parameters and total cyanide (refer to Section 3.9).

Findings of Investigation

Subsurface Conditions

Fill material was encountered at each test pit location. It consisted predominantly of brown to gray silts and clays with varying amounts of fine to coarse sands and gravels with some organic debris noted. The fill ranged in depth from four to ten feet below grade. A sheen was observed on the fill recovered from TP1 and TP5 at a depth of approximately ten feet. In addition, a hydrocarbon odor was noted in TP5.

Glacial till was encountered beneath the fill at test pit locations TP2 and TP4. The till consisted of brown to gray dense silt and clay with varying amounts of embedded gravel. No staining, discoloration or odors were observed within the recovered till samples.

Air Monitoring/Soil Screening Results

Elevated volatile organic compound (VOC) levels were detected with the HNU within the fill material recovered from TP1 and TP5. HNU readings of 20 ppm and 4 ppm were indicated within TP1 and TP5, respectively, at a depth of ten feet below grade.

Analytical Results

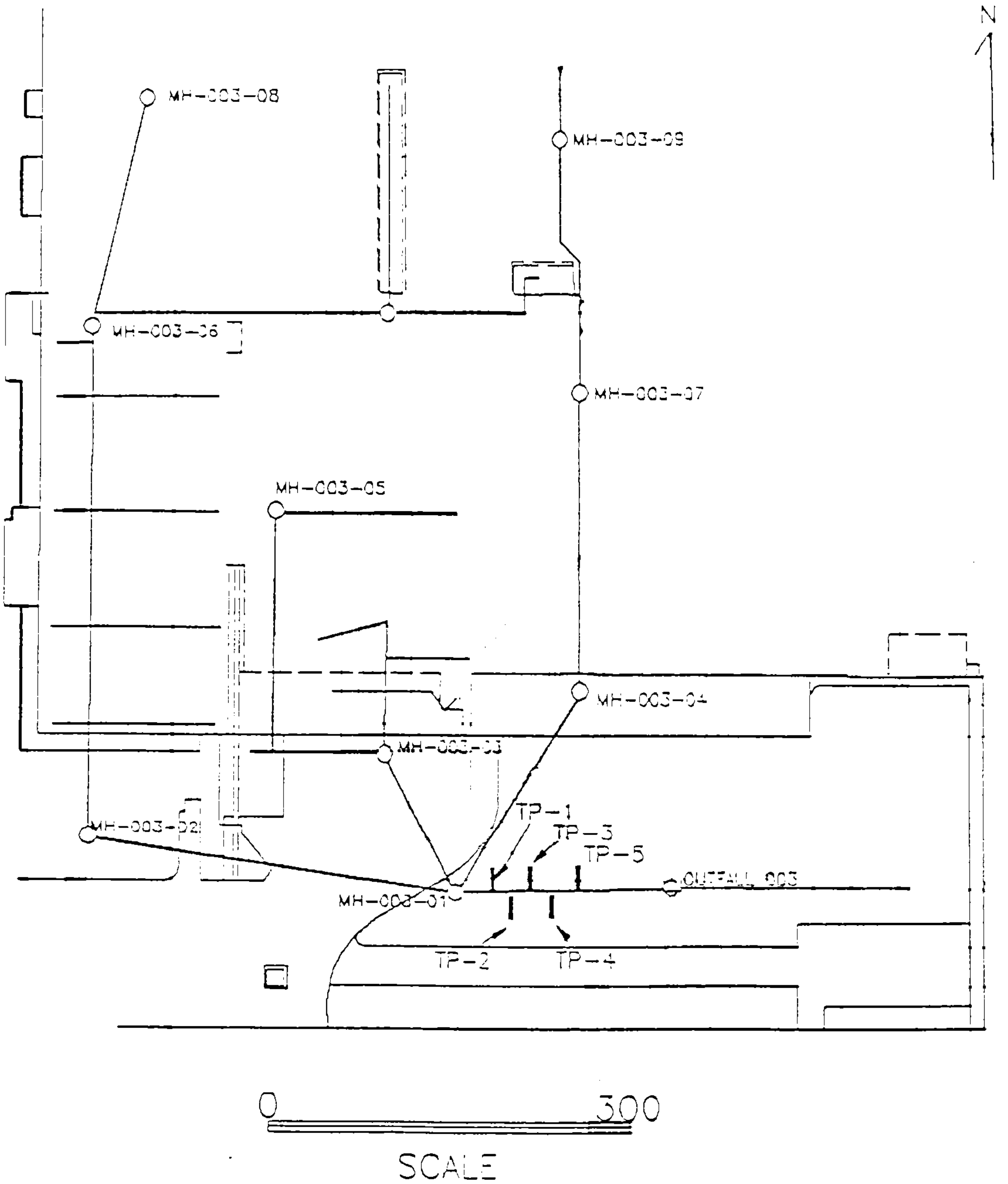
A summary table of the volatile and semi-volatile organic compounds detected from the three test pit soil samples collected in Area D are presented in Table D-1. Elevated concentrations of 1,1-dichloroethene, 1,2-dichloroethene (total), trichloroethene and total xylene were detected in excess of NYSDEC Soil Guidance Values.

Several semi-volatile organic compounds, mainly polynuclear aromatic hydrocarbons (PAHs), were detected in excess of the NYSDEC Soil Guidance Values at all three test pit locations. A PCB compound, Aroclor-1254, was detected in low concentrations at all three test pit locations.

Inorganic parameters detected in the test pit soil samples are presented in Table D-2. In general, inorganic parameter concentrations were low and within the normal concentration range associated with the site.

Conclusions

The elevated concentrations of volatile and semi-volatile organic compounds found in all three test pit locations indicate that the bedding material and adjacent subsurface soils in the vicinity of the Storm Sewer Line 003 pose some environmental concern and warrant further study regarding the extent of contamination and possible remediation of this area.



LEGEND:

I	TEST PIT EXCAVATED ON SEPTEMBER 20, 1990.
○	STORM SEWER MANHOLE
———	STORM SEWER LINE

NOTES:

1) BASE MAP WAS ADAPTED FROM "BUILDING PLAN" PROVIDED BY WESTINGHOUSE ELECTRIC CORPORATION, LAST REVISION DECEMBER 1984.

2) LOCATIONS OF TEST BORINGS AND TEST PITS WERE SURVEYED BY KREHBIEL ASSOCIATES, INC.

3) MAP WAS OBTAINED FROM ERM-NORTHEAST REPORT (1991) PREPARED FOR WESTINGHOUSE ELECTRIC CORPORATION.

FIGURE D

STORM SEWER LINE 003 - TEST PITS
WESTINGHOUSE ELECTRIC CORP.

DUNN GEOSCIENCE ENGINEERING CO., P.C.
12 Metro Park Road
Albany, NY 12205

DUNN GEOSCIENCE CORP

TABLE D-1

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS
TEST PIT SOIL SAMPLES
AREA D - STORM SEWER LINE 003
(Concentration Values in ug/kg - ppb)

Test Pit Location	WEST-TP-1-D A55701	WEST-TP-3-D A55702	WEST-TP-5-D A55703	NYSDEC Soil Guidance Values
Depth Interval (ft.)	9 - 10	9 - 10	7 - 8	
VOLATILE ORGANIC COMPOUNDS				
Vinyl Chloride	24	ND	ND	-
1,1 - Dichloroethene	9	ND	ND	8.1
1,2 - Dichloroethene (Total)	22,000 D	17	2 J	45
Trichloroethene	5,100 DV	82	44	15.75
Tetrachloroethene	14	ND	ND	45.5
Toluene	11	ND	ND	37.5
Ethylbenzene	11	ND	ND	137.5
Xylene (Total)	49	ND	ND	30
Total Volatiles	27218	99	46	-
Total Volatiles TICs	900 J	100 J	230 J	-
SEMI-VOLATILE ORGANIC COMPOUNDS				
Pentachlorophenol	ND	ND	46 J	530
Fluoranthene	91 J	490	720	10000
Pyrene	61 J	320 J	440	10000
Benzo(a)Anthracene	ND	210 J	310 J	69
Chrysene	49 J	230 J	320 J	10000
Bis(2-Ethylhexyl)Phthalate	190 J	1800	500	10
Benzo(b)Fluoranthene	190 J	ND	230 J	275
Benzo(k)Fluoranthene	150 J	ND	220 J	27.5
Benzo(a)Pyrene	130 J	ND	180 J	61
Indeno(1,2,3-cd)Pyrene	110 J	ND	130 J	80
Dibenz(a,h)Anthrancene	ND	ND	46 J	14
Benzo(g,h,i)Perylene	96 J	ND	110 J	80
Total Semi-Volatiles	1067	3050	3252	-
Total Semi-Volatile TICs	ND	ND	ND	-
PEST/PCB COMPOUNDS				
4,4 - DDD	5.3 JV	ND	ND	19.25
Aroclor - 1254	71 J	190	260	13.25

TABLE D-2

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF INORGANIC PARAMETERS
TEST PIT SOIL SAMPLES
AREA D - STORM SEWER LINE 003
(Concentration Values in mg/kg - ppm)

Test Pit Location	WEST-TP-1-D A55701	WEST-TP-3-D A55702	WEST-TP-5-D A55703	Avg. Conc. of Element in Uncont. Soils	Conc. Range of Element in Uncont. Soils
Depth Interval (ft.)	9 - 10	9 - 10	7 - 8		
TAL METALS					
Aluminum	5790	6810	9280	33000	10000 - 300000
Arsenic	3.0 NS	3.9 NS	5.07 NS	5.0	3 - 12
Barium	38.1 B	46.1	52.3	290	15 - 600
Beryllium	0.28 BV	0.38 BV	0.48 BV	0.6	0 - 1.75
Cadmium	1.1	1.7	ND	0.6	0.01 - 7.0
Calcium	91800	82600	65700	3400	130 - 35000
Chromium	10.8	23.2	14.3	33	1.5 - 40.0
Cobalt	5.3 B	5.6 B	7.4 B	5.9	2.5 - 60
Copper	28.9	89.2	22.7	20	2.0 - 100
Iron	10900	12100	15300	14000	2000 - 550000
Lead	11.1 N	26.4 N	17.7 N	14	4.0 - 61
Magnesium	46000	34500	32400	6300	400 - 9000
Manganese	352 N	352 N	384 N	850	100 - 4000
Nickel	9.1	10.9	13.3	40	0.5 - 60
Potassium	1490	2080 V	2180 V	12000	100 - 37000
Selenium	4.3 UNV	4.4 UNV	4.8 UNV	0.2	0.01 - 12.0
Sodium	196	162 B	153 B	6300	150 - 15000
Vanadium	20.3 V	20.0 V	21.9 V	100	1.3 - 300
Zinc	82.3 EV	94.1 EV	88.3 EV	50	10 - 300
MISCELLANEOUS COMPOUNDS					
Total Cyanide	ND	ND	ND	-	-

M

4.6 Area E-Storm Sewer System

Three primary storm sewer lines exist beneath the main building structure (Lines 001, 002 and 003). Line 001 collects runoff from the eastern portion of the site; Line 002 collects runoff from the central portion of the site; and Line 003 collects runoff from the western portion of the site. Refer to Figure E for the location of the various storm sewer lines. The storm sewer lines discharge south of the building at three respective outfall locations (Outfall Monitoring Stations 001, 002 and 003).

Purpose of Investigation

Previous investigations by others (Malcolm Pirnie and ERM-Northeast) indicated the presence of several contaminants in the storm sewer system. Concentration of one or more of the following contaminants were detected in all three storm sewer lines in both the surface water and sediments: cadmium (Cd), trichloroethene (TCE), trichloroethane (TCA), vinyl chloride (VC) and 1,2-dichloroethene (DCE). The purpose of the investigation was to expand and verify the previously obtained analytical results.

Scope of Investigation

Samples were collected from the three outfall monitoring stations and from one upgradient point on each storm sewer line. Refer to Figure E for the location of the sampling points. One aqueous and one non-aqueous sediment sample were collected from each sampling location, with the exception of the upgradient point of Line 001 where no sediment was present. All samples were analyzed for Full CLP parameters and total cyanide (refer to Section 3.9). Samples were collected via the methodologies described in Section 3.2.2.

Findings of Investigation

Field Observations and Measurements

The table below presents field observations and measurements obtained during the sampling of surface water at the storm sewer locations:

	Temperature (ºF)	pH	Specific Conductivity (umhos/cm)	HNU Reading (ppm)	Color	Odor
Line 001						
Outfall	49.6	8.46	800	<1	Clear	None
MH-001-06	51.3	7.55	1160	<1	Clear	None
Line 002						
Outfall	46.6	8.12	791	2.0	Clear	Slight
MH-002-12	48.3	7.63	2020	3.0-8.0	Clear	Slight
Line 003						
Outfall	43.8	7.47	1050	2.0	Clear	Slight
MH-003-13	-	-	-	8.0	Clear	Slight

Sediment samples collected from the storm sewer locations consisted predominantly of brown coarse to medium sand and fine gravel. A slight odor was noted in the sediments collected from the upgradient sample points of Lines 002 and 003. In addition, a sheen was observed in the sediments collected from the upgradient location of Line 003. Specific details associated with the storm sewer sampling are presented in Appendix F of this report.

Air Monitoring/Sample Screening Results

Refer to the table above for HNU readings obtained during the sampling activities conducted at the various storm sewer locations.

Analytical Results

Analyses of surface water samples collected from the storm sewer lines/outfalls indicated the presence of several volatile organic compounds (refer to Table E-1). One or more of the following compounds were detected at concentrations in excess of New York Standard Water Quality Standards or Guidance Values for Class C surface waters at every sampling locations except Outfall 002 and Line 003 upgradient (MH-003-13): 1,2-dichloroethene, 1,1,1-trichloroethane and trichloroethene.

Several semi-volatile organic compounds were also detected within the surface water samples (refer to Table E-2). However, only 1,2-dichlorobenzene (Line 003-upgradient) and pentachlorophenol (Outfall 002) were detected at levels that exceed New York State (Class C) Water Quality Standards. In addition, several inorganic parameters, predominantly heavy metals, were detected at all sampling locations at elevated concentrations.

Analyses of sediment samples collected from the storm sewer lines/outfalls indicate the presence of several volatile organic compounds. The contaminant concentrations detected were above NYSDEC Soil Guidance Values at two locations, Line 003-upgradient and Outfall 003. Numerous semi-volatile organic compounds and inorganic parameters were also detected within the sediments at concentrations above NYSDEC Soil Guidance Values.

Conclusions

The elevated concentrations of volatile and semi-volatile organic compounds and inorganic parameters detected in the surface water and sediment contained within the storm sewer system pose an environmental concern. The results of this investigation generally confirm the findings of past studies relative to the storm sewer system. The levels of contamination detected within the surface water, as well as the sediments, may indicate the presence of source areas located adjacent to the storm sewers. The storm sewer system poses an environmental concern to the entire southern portion of the site, in that it serves a potential conduit of contamination which ultimately discharges off-site.

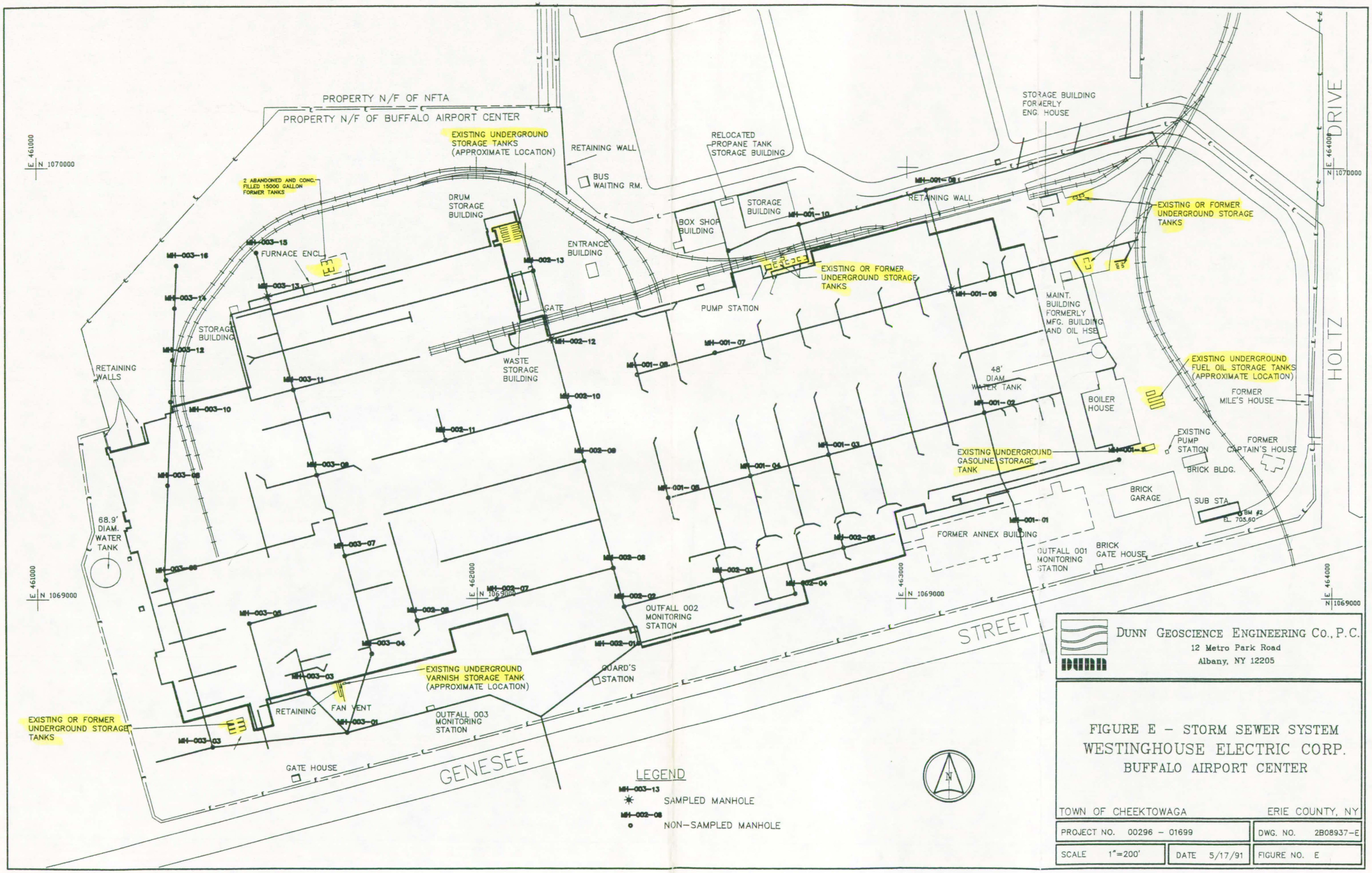

PROPERTY N/F OF NFTA
PROPERTY N/F OF BUFFALO AIRPORT CENTER
EXISTING UNDERGROUND STORAGE TANKS (APPROXIMATE LOCATION)
2 ABANDONED AND CONC. FILLED 15000 GALLON FORMER TANKS
DRUM STORAGE BUILDING
RETAINING WALL
BUS WAITING RM.
ENTRANCE BUILDING
RELOCATED PROPANE TANK STORAGE BUILDING
BOX SHOP BUILDING
STORAGE BUILDING
STORAGE BUILDING FORMERLY ENG. HOUSE
EXISTING OR FORMER UNDERGROUND STORAGE TANKS
EXISTING OR FORMER UNDERGROUND STORAGE TANKS
FURNACE ENCL.
STORAGE BUILDING
GATE
PUMP STATION
WASTE STORAGE BUILDING
MAINT. BUILDING FORMERLY MFG. BUILDING AND OIL HSE.
RETAINING WALLS
48' DIAM. WATER TANK
EXISTING UNDERGROUND FUEL OIL STORAGE TANKS (APPROXIMATE LOCATION)
BOILER HOUSE
FORMER MILE'S HOUSE
EXISTING PUMP STATION
FORMER CAPTAIN'S HOUSE
EXISTING UNDERGROUND GASOLINE STORAGE TANK
BRICK BLDG.
BRICK GARAGE
SUB STA.
BM #2 EL. 705.60
FORMER ANNEX BUILDING
OUTFALL 001 MONITORING STATION
BRICK GATE HOUSE
68.9' DIAM. WATER TANK
OUTFALL 002 MONITORING STATION
GUARD'S STATION
EXISTING UNDERGROUND VARNISH STORAGE TANK (APPROXIMATE LOCATION)
EXISTING OR FORMER UNDERGROUND STORAGE TANKS
RETAINING
FAN VENT
OUTFALL 003 MONITORING STATION
GATE HOUSE
GENESEE STREET
HOLTZ DRIVE
E 461000 N 1070000
E 464000 N 1070000
E 461000 N 1069000
E 462000 N 1069000
E 463000 N 1069000
E 464000 N 1069000
MH-001-01
MH-001-02
MH-001-03
MH-001-04
MH-001-05
MH-001-06
MH-001-07
MH-001-08
MH-001-09
MH-001-10
MH-002-01
MH-002-02
MH-002-03
MH-002-04
MH-002-05
MH-002-06
MH-002-07
MH-002-08
MH-002-09
MH-002-10
MH-002-11
MH-002-12
MH-002-13
MH-003-01
MH-003-02
MH-003-03
MH-003-04
MH-003-05
MH-003-06
MH-003-07
MH-003-08
MH-003-09
MH-003-10
MH-003-11
MH-003-12
MH-003-13
MH-003-14
MH-003-15
MH-003-16
LEGEND
MH-003-13 SAMPLED MANHOLE
MH-002-08 NON-SAMPLED MANHOLE
N
DUNN GEOSCIENCE ENGINEERING CO., P.C.
12 Metro Park Road
Albany, NY 12205
FIGURE E – STORM SEWER SYSTEM
WESTINGHOUSE ELECTRIC CORP.
BUFFALO AIRPORT CENTER
TOWN OF CHEEKTOWAGA
ERIE COUNTY, NY
PROJECT NO. 00296 – 01699
DWG. NO. 2B08937-E
SCALE 1"=200'
DATE 5/17/91
FIGURE NO. E

TABLE E-1

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS
SURFACE WATER SAMPLES
AREA E - STORM SEWER SYSTEM
(Concentration Values in ug/l - ppb)

	SURFACE WATER LOCATION							
	WEC-S1-L A55719 Line 001 MH-001-06 Upgradient	WEC-S2-L A55720 Outfall 001 Downgradient	WEC-S3-L A55721 Line 002 MH-002-12 Upgradient	WEC-S4-L A55722 Outfall 002 Downgradient	WEC-S5-L A55723 Line 003 MH-003-13 Upgradient	WEC-S6-L A55724 Outfall 003 Downgradient	NYS Water Quality Standards	NYSDEC TOGS (1.1.1)
VOLATILE ORGANIC COMPOUNDS								
Methylene Chloride	3 J	3 J	4 J	3 J	3 J	3 J	5.0*	50.0
1,2 - Dichloroethene (Total)	38	7	8	4 J	2 J	33	5.0	-
Chloroform	ND	5	4 J	5	ND	3 J	7.0*	50.0
1,1,1 - Trichloroethane	41	ND	7	ND	ND	29	5.0*	50.0
Bromodichloromethane	ND	2 J	2 J	3 J	ND	1 J	NS	50.0
Trichloroethene	40	6	31	6	7	180	NS	11
Tetrachloroethene	1 J	3 J	ND	ND	ND	ND	NS	1.0
Ethylbenzene	ND	ND	1 J	ND	ND	ND	5.0*	50.0
Total Xylene	ND	ND	5 J	ND	ND	ND	5.0*	50.0
Total Volatiles	123	26	62	21	12	249	NS	100
Total Volatile TICs	ND	ND	ND	ND	ND	ND	NS	-
SEMI-VOLATILE ORGANIC COMPOUNDS								
1,2 - Dichlorobenzene	ND	ND	ND	ND	9 J	ND	5.0	-
2,4 - Dimethylphenol	ND	ND	3 J	ND	ND	ND	NS	50.0
Benzoic Acid	ND	5 J	5 J	ND	ND	5 J	NS	50.0
Pentachlorophenol	ND	ND	ND	4 J	ND	ND	0.4	-
Total Semi-Volatiles	ND	5	8	4	9	5	NS	-
Total Semi-Volatile TICs	ND	ND	ND	ND	ND	ND	NS	-

* Represents Groundwater Standard (Class GA)

TABLE E-2

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF INORGANIC PARAMETERS
SURFACE WATER SAMPLES
AREA E - STORM SEWER SYSTEM
(Concentration Values in ug/l - ppb)

	WEC-S1-L A55719 Line 001 MH-001-06 Upgradient	WEC-S2-L A55720 Outfall 001 Downgradient	WEC-S3-L A55721 Line 002 MH-002-12 Upgradient	WEC-S4-L A55722 Outfall 002 Downgradient	WEC-S5-L A55723 Line 003 MH-003-13 Upgradient	WEC-S6-L A55724 Outfall 003 Downgradient	NYS Water Quality Standards	NYSDEC TOGS (1.1.1)
TAL METALS								
Aluminum	856 V	114 V	109 V	99.4 V	188 V	98.0 V	100	-
Antimony	18.0 B	15.5 B	22.1 B	8.5 B	8.8 B	12.3 B	NS	3.0
Arsenic	4	5	ND	ND	2	ND	190	-
Barium	55.4 E	37.2	88.0 E	43	25.5	50.8 E	1000	-
Cadmium	20.5	12.7	5.8	5.7	3.2 B	2.8 B	10.0*	-
Calcium	95600	63800	95500	52300	28400	61500	NS	-
Chromium	22	15.2	29.8	10.4	5.8 B	40.1	50*	-
Cobalt	3.6	ND	ND	ND	ND	ND	5.0	-
Copper	31.8 V	22.0 V	17.1	24.3	14.1	11.3	200*	-
Iron	2030	142	234	154	327	109	300	-
Lead	9.4	3.1	1.7 B	2.9 B	1.3 B	2.3 B	25*	-
Magnesium	17100	12600	17300	11000	3800	13100	NS	35000
Manganese	81.1	9.9	18.4	5.7	10.5	21.4	300*	-
Nickel	13.6	7.9	9.1	11.8	7.7	5.2	NS	-
Potassium	3460	6680	4580	2480	1840	3610	NS	-
Selenium	11.4 S	15	4.0 B	2.0 B	2.0 B	ND	1.0	-
Silver	8.1	6.2	9.1	10.6	4.5	4.2	0.1	-
Sodium	143000	93100	317000	105000	10700	157000	20000*	-
Vanadium	9.2	7.3	8.8	6	5.5	6.1	14.0	-
Zinc	86.7 E	42.5	44	85.9 E	34.8	58.6 E	30.0	-
MISCELLANEOUS COMPOUNDS								
Total Cyanide	ND	ND	ND	ND	ND	ND	5.2	-

* Represents Groundwater Standard (Class GA)

TABLE E-3

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF VOLATILE ORGANIC COMPOUNDS
SEDIMENT SAMPLES
AREA E - STORM SEWER SYSTEM
(Concentration Values in ug/kg - ppb)

	SEDIMENT SAMPLE LOCATION					
	WEC-S5-S A55727 Outfall 001 Downgradient	WEC-S3-S A55730 Line 002 MH-002-12 Upgradient	WEC-S4-S A55728 Outfall 002 Downgradient	WEC-S5-S A55731 Line 003 MH-003-13 Upgradient	WEC-S6-S A55729 Outfall 003 Downgradient	NYSDEC Soil Guidance Values
VOLATILE ORGANIC COMPOUNDS						
Methylene Chloride	120	ND	ND	ND	ND	-
1,2 - Dichloroethene (Total)	4 J	3 J	ND	ND	540+	45.0
1,1,1 - Trichloroethane	5 JV	6 J	ND	ND	ND	19.0
Trichloroethene	6 JV	16	ND	ND	4100 D+	15.75
Tetrachloroethene	4 JV	2 J	ND	ND	53+	45.5
Chlorobenzene	ND	ND	ND	93+	ND	41.25
Ethylbenzene	ND	ND	ND	330+	ND	137.5
Total Xylene	ND	ND	ND	1600 E+	77+	30.0
Total Volatiles	139	27	0	2023	4770	-
Total Volatile TICs	ND	ND	ND	ND	ND	-

+ Out of compliance,but useable data.

TABLE E-4

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE SEMI-VOLATILE ORGANIC COMPOUNDS
SEDIMENT SAMPLES
AREA E - STORM SEWER SYSTEM
(Concentration Values In ug/kg - ppb)

	SEDIMENT SAMPLE LOCATION					
	WEC-S5-S A55727 Outfall 001 Downgradient	WEC-S3-S A55730 Line 002 MH-002-12 Upgradient	WEC-S4-S A55728 Outfall 002 Downgradient	WEC-S5-S A55731 Line 003 MH-003-13 Upgradient	WEC-S6-S A55729 Outfall 003 Downgradient	NYSDEC Soil Guidance Values
SEMI-VOLATILE ORGANIC COMPOUNDS						
Phenol	ND	ND	ND	410 J	ND	-
1,3 - Dichlorobenzene	ND	ND	ND	790	ND	212.5
1,4 - Dichlorobenzene	ND	ND	ND	1900	ND	212.5
1,2 - Dichlorobenzene	ND	150 J	ND	25000 D	ND	212.5
2 - Methylphenol	ND	ND	ND	120 J	ND	62.5
4 - Methylphenol	ND	240 J	ND	360 J	ND	62.5
2,4 - Dimethylphenol	ND	ND	ND	440 J	ND	53.1
Naphthalene	49000	2200	3100 J	100 J	37000 J	325
2 - Methylnaphthalene	14000 J	4200	970 J	240 J	16000 J	10000
Acenaphthylene	ND	180 J	ND	ND	ND	3125
Acenaphthene	40000 J	2700	4000 J	250 J	52000 J	2300
Dibenzofuran	3000 J	2500	2500 J	160 J	43000 J	-
Fluorene	41000 J	4000	3900 J	260 J	60000 J	9125
Phenanthrene	340000	24000 D	31000	960	530000	10000
Anthracene	710000	4700	7900	200 J	120000	10000
Di-n-Butylphthalate	ND	ND	2400 J	ND	ND	-
Butylbenzylphthalate	ND	ND	5200	ND	ND	-
Fluoranthene	4000000	42000 D	35000	1100	650000	10000
Pyrene	330000	41000 D	31000	1300	430000	10000
Benzo(a)Anthracene	160000	25000 D	18000	550 J	240000	69.0
Chrysene	160000	26000 D	17000	570 J	240000	10000
Bis(2-Ethylhexyl)Phthalate	ND	ND	2100 J	ND	ND	10.0
Benzo(b)Fluoranthene	110000 V	24000 D	12000	610 J	160000	275
Benzo(k)Fluoranthene	180000	33000 D	13000	ND	260000	27.5
Benzo(a)Pyrene	110000	26000 D	13000	480 J	190000	61.0
Indeno(1,2,3-cd)Pyrene	66000	3600 V	8500	ND	73000 J	80.0
Dibenz(a,h)Anthracene	ND	1300 V	ND	ND	ND	14.0
Benzo(g,h,i)Perylene	62000	32000 V	7500	ND	59000 J	80.0
Total Semi-Volatiles	6375000	298770	218070	35800	3160000	-
Total Semi-Volatile TICs	298000 J	143400 J	52600 J	33230 J	257000 J	-

TABLE E-5

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF INORGANIC PARAMETERS
SEDIMENT SAMPLES
AREA E - STORM SEWER SYSTEM
(Concentration Values in mg/kg - ppm)

	SEDIMENT SAMPLE LOCATION						
	WEC-S5-S A55727 Outfall 001 Downgradient	WEC-S3-S A55730 Kine 002 MH-002-12 Upgradient	WEC-S4-S A55728 Outfall 002 Downgradient	WEC-S5-S A55731 Line 003 MH-003-13 Upgradient	WEC-S6-S A55729 Outfall 003 Downgradient	Avg. Conc. of Element In Uncont. Soils	Conc. Range of Element in Uncont. Soils
TAL METALS							
Aluminum	2160 EV	2600 EV	3440	2750 EV	4010 EV	33000	10000 - 300000
Antimony	28.9 V	13.8 BV	23.1	18.9 V	25.6 V	0.76	0.2 - 150
Arsenic	2.6 V	5.4 V	20.6	3.5 V	7.2 V	5.0	3.0 - 12.0
Barium	62.7 EV	930 EV	136	41.3 BEV	27 EV	290	15 - 600
Beryllium	0.44 BV	0.28 BV	0.47 B	0.40 BV	0.48 BV	0.6	0 - 1.75
Cadmium	379 EV	11.8 EV	139	8.6 EV	37.6 EV	0.6	0.1 - 7.0
Calcium	134000 EV	41900 EV	88800	131000 EV	59200 EV	3400	130 - 35000
Chromium	48.8 V	55.3 V	90.0	21.6 V	196 V	33	1.5 - 40
Cobalt	12.1 BV	7.9 BV	13.5	7.5 BV	15.0 V	5.9	2.5 - 60
Copper	101 V	667 V	222	72.6 V	2440 V	20.0	2.0 - 100
Iron	23600 EV	21300 EV	44900	8200 EV	40600 EV	14000	2000 - 550000
Lead	76.2 V	331 V	517	57.7 SV	729	14.0	4.0 - 61.0
Magnesium	44900 EV	11300 EV	24700	35200 EV	13400 EV	6300	400 - 9000
Manganese	280 EV	257 EV	359	296 EV	458 EV	850	100 - 4000
Mercury	0.25 V	ND	ND	ND	ND	0.06	0.001 - 0.2
Nickel	39.1 V	23.4 V	23.6	14.4 V	133 V	40	0.5 - 60
Potassium	412 B	426 B	342 B	541 B	741 B	12000	100 - 37000
Selenium	14.7 S	0.49 V	2.5	0.47 BV	1.4 V	0.2	0.01 - 12.0
Silver	2.3 BV	25.9 V	3.9	1.6 BV	69.4	-	0.01 - 8.0
Sodium	219 BEV	267 BEV	182 B	160 BEV	249 BEV	6300	150 - 15000
Vanadium	26.1 EV	15.0 EV	19.8	13.7 EV	27.0 EV	100	1.3 - 300
Zinc	2680 EV	1470 EV	1950	103 EV	1300 EV	50	10 - 300
MISCELLANEOUS COMPOUNDS							
Total Cyanide	0.59 BV	0.43 V	1.9	ND	0.79 V	-	-

F

4.7 Area F-Captain's Pool Area

Area F is located in the southeast corner of the study area and encompasses the former Captain of Security's residence. A swimming pool, herein referred to as the Captain's Pool was located just north of the house. Refer to Plate 1, Area of Investigation Map for the location of Area F.

Purpose of Investigation

The purpose for the investigation in this area was to confirm statements provided by former Westinghouse employees regarding alleged disposal of hazardous material within the Captain's Pool.

Scope of Investigation

Since the house and pool structure were demolished and subsequently covered with soil material, the initial phase of work focused on precisely locating the Captain's Pool. A geophysical program was conducted to delineate the pool location as well as determine locations for the proposed test pits.

The geophysical program consisted of two separate geophysical surveys: an electromagnetic terrain conductivity survey using an EM-31 terrain conductivity meter and a magnetic field intensity survey using a EG & G proton magnetometer. The surveys were conducted using methodologies described in Section 3.1 of this report.

Based upon the results of the geophysical program, the second phase of the investigation commenced. This investigation involved the excavation of four test pits: WEC-TP1, WEC-TP2, WEC-TP3 and WEC-TP4. Refer to Figure F for the location of the test pits. Test pits WEC-TP1 and WEC-TP2 were excavated in an effort to locate the pool foundation. Test pits WEC-TP3 and WEC-TP4 were excavated within the Captain's Pool to collect soil samples for chemical analysis. A duplicate soil sample was also collected from test pit WEC-TP4 as specified in the Quality Assurance Project Plan (QAPP). The three soil samples were analyzed for Full CLP parameters and total cyanide (refer to Section 3.9).

The final phase of the investigation involved the drilling of subsurface soil borings WEC-B19 and WEC-B20 in order to investigate potential subsurface and groundwater contamination in the vicinity of the pool structure. Boring WEC-B20 was subsequently converted to groundwater monitoring well WEC-MW13. Groundwater samples obtained from WEC-MW13 were analyzed for Full CLP parameters and total cyanide. The results of the groundwater analyses as well as the associated hydrogeologic investigation are presented in Section 4.20.

Advancement of test borings and test pits as well as soil sampling were performed utilizing procedures outlined in Sections 3.3 and 3.4 of this report.

Findings of Investigation

Geophysical Results

Contoured data of the EM and magnetometer surveys (refer to Figure F-1 and F-2, respectively) both indicate the presence of a subsurface magnetic anomaly in the pool area. However, data from the EM terrain conductivity survey produced more definitive data with respect to background values. For this reason, field locations of the proposed test pits were based primarily on the EM-31 data which indicated an east-west trending anomaly that correlated well with the suspected location and orientation of the former pool structure.

Subsurface Conditions

The two exploratory test pits were excavated south to north in an effort to locate the pool foundation. Test pit WEC-TP1 was excavated seven feet deep, thirty-three feet long and three feet wide; it did not encounter the pool foundation. Test pit WEC-TP2 was advanced to a depth of seven feet deep, fifty-seven feet long and three feet wide. The southern wall pool foundation was encountered approximately thirty-six feet north of the test pit starting point.

Subsurface conditions encountered during the excavations consisted of both fill and native material. The fill material, ranging from three and one half to four feet thick, was comprised of loose, brown-gray fine sandy, clayey silt and gravel mixed with various household wastes, construction/demolition debris and metal debris.

Native strata encountered in this area were dense brown-gray to brown-red till comprised of moist-dry, clayey silt and embedded coarse to fine sand and gravel. The till was directly overlain by fill material and persisted to the termination of the excavation.

Test borings WEC-B19 and WEC-B20 were advanced to twenty feet and twenty-six feet respectively. Native subsurface soil conditions were essentially the same as encountered in the two exploratory test pits (i.e., brown till). No construction and demolition debris was encountered during the advancement of either test boring.

Soil excavated from test pits WEC-TP2A, WEC-TP3 and WEC-TP4 within the Captain's Pool consisted of loose, dark brown to gray black, moist to wet, clayey silt with large (three to four feet) concrete slabs, bricks, brick fragments, rebar and various metal debris. The majority of the construction and demolition (C&D) debris encountered is believed to be the remnants of the pool structure (i.e., pool walls).

Refer to Appendix B for a more detailed geologic description of the fill material and native strata encountered throughout Area F.

Field Observations and Measurements

The former Captain's Pool was encountered at approximately one and one half feet below grade. The remaining pool structure was intact and holding water. The depth of water within the pool was approximately three feet; the total depth of the pool structure was approximately four and one half to five feet below grade. The Captain's Pool, as revealed by test pitting activities, was a concave cement structure with sloping side walls approximately eighteen feet wide (north-south), thirty feet long (east-west) and four and one half to five feet deep.

Refer to Figures F-3 and F-4 for respective cross-sectional and planimetric maps of the Captain's Pool Area detailing pool dimensions and test pit configurations as described above.

No visual signs of contamination were observed (i.e., a sheen on the water surface), however, a slight hydrocarbon odor was noted during sampling of WEC-TP4.

Air Monitoring Results

Organic vapor levels, as measured by the HNU, were not detected above ambient background values in any of the subsurface borings or excavations.

Analytical Results

A summary table of the volatile and semi-volatile organic compounds detected in the test pit soil samples are presented in Table F-1 and F-2, respectively.

Volatile organic compounds detected in the two test pit soil samples collected from within the Captain's Pool structure did not exceed NYSDEC Soil Guidance Values.

Several semi-volatile organic compounds, mainly polynuclear aromatic hydrocarbons (PAHs) were found in excess of the NYSDEC Soil Guidance Values. The highest concentration of semi-volatile compounds was detected in the soil sample from test pit location WEC-TP3.

Aroclor-1242 , a PCB compound, was detected at a concentration of 640 ug/kg in WEC-TP4.

Inorganic parameters detected in the test pit soil samples are listed in Table F-3. Elevated concentrations of cadmium, calcium, lead, zinc and magnesium were found in the soil samples. However, the elevated levels of calcium and magnesium are not viewed as an indication of contamination caused by past site activities, but rather reflect the ambient concentration of these elements at the site.

Duplicate test pit soil sample results obtained from WEC-TP4 generally confirmed the presence and concentration levels detected in the associated test pit sample location.

Conclusions

The elevated concentrations of semi-volatile organic compounds, mainly PAHs, appears to confirm allegations regarding the disposal of coolants and cutting oils in the swimming pool. The contaminate concentration levels obtained from the test pit soil samples does indicate an environmental concern.

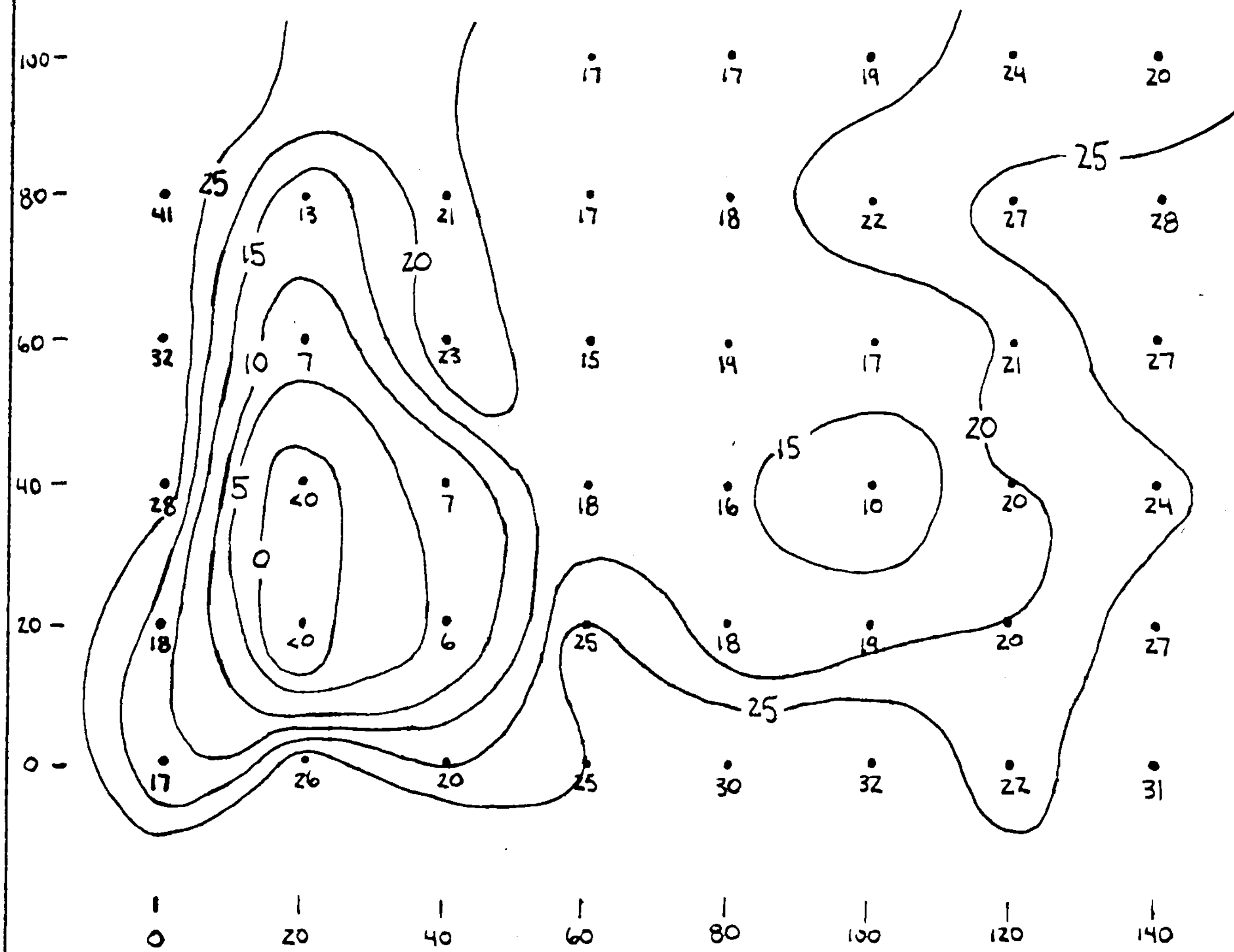
AREA F - CAPTAIN'S POOL

GEONICS EM-31 GEOPHYSICAL INVESTIGATION

LEGEND

—— 20 —— Conductivity Contour (mmhos/m)

• 5 Survey Station



Scale: 1 inch = 25 feet

Contour Interval : 5 mmhos/m

FIGURE F-1

TERRAIN CONDUCTIVITY MAP

WESTINGHOUSE ELECTRIC CORPORATION

DUNN GEOSCIENCE CORP

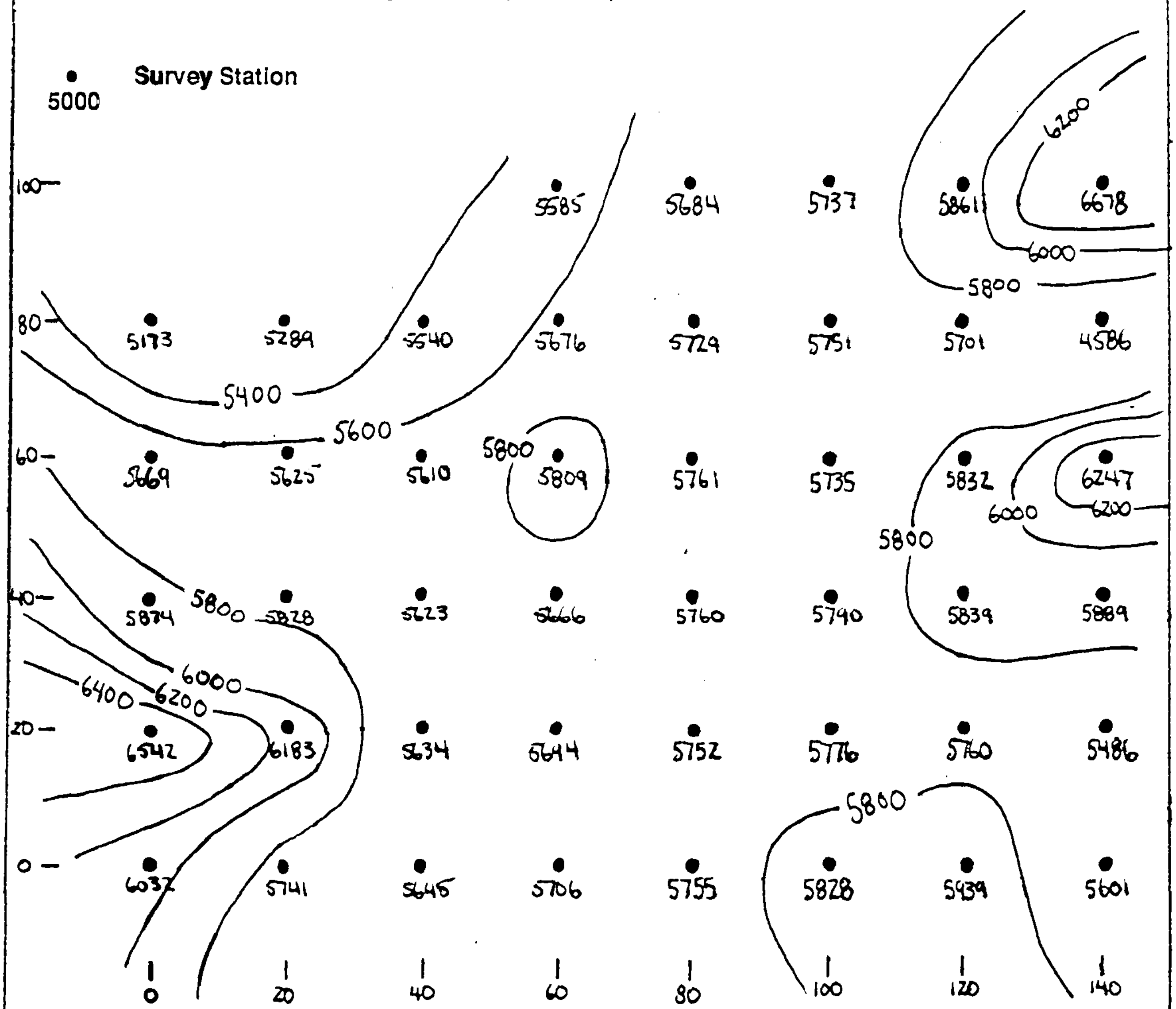
AREA F - CAPTAIN'S POOL

PROTON MAGNETOMETER - **GEOPHYSICAL INVESTIGATION**

LEGEND

—— 5400 —— Field Intensity **Contour** (Gammas)

• **Survey** Station
5000



Scale: 1 inch = **25** feet

Contour Interval : 200 Gammas

FIGURE F-2

MAGNETIC FIELD INTENSITY **MAP**

WESTINGHOUSE ELECTRIC **CORPORATION**

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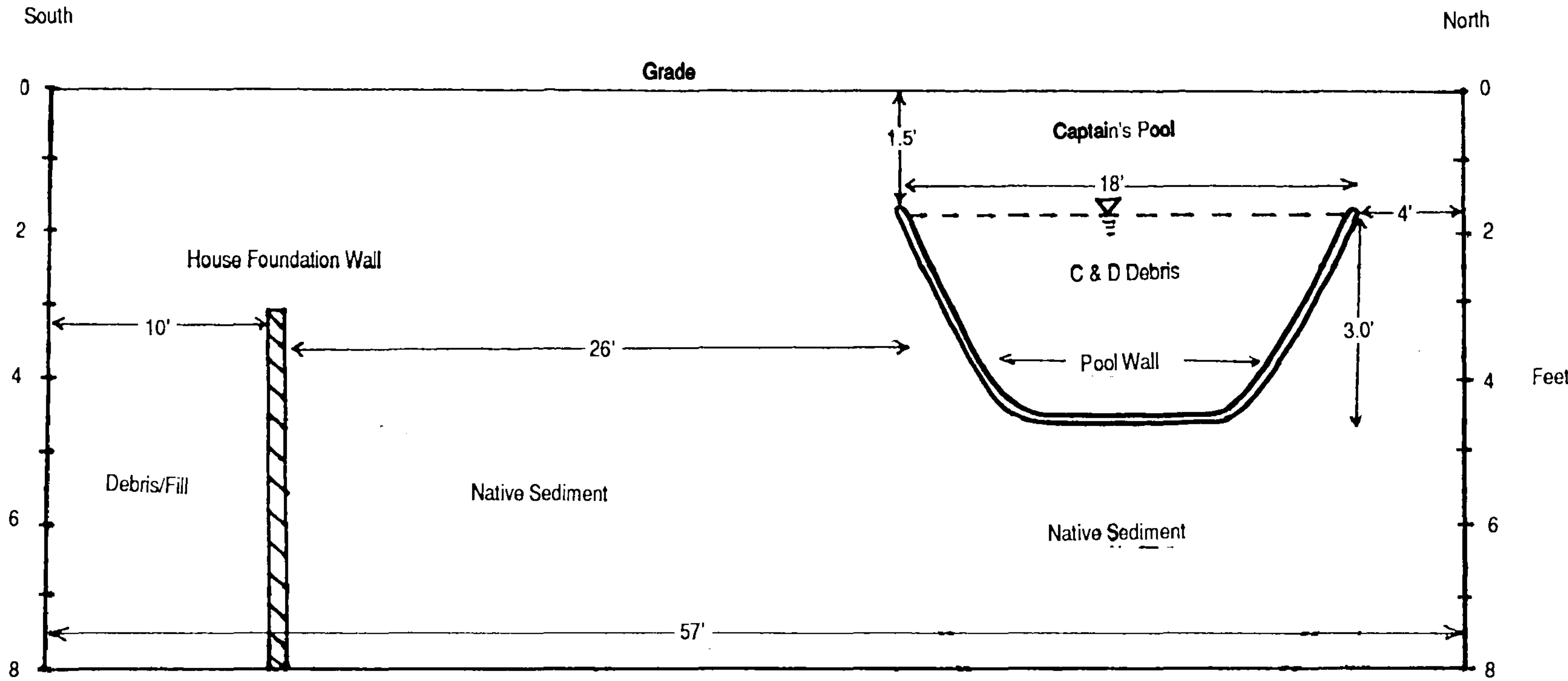

EXPLANATION

Horizontal Scale: 1" = 7.3'
Vertical Scale: 1" = 2.5'

FIGURE F-3 : Generalized Cross-Section of TP-2 in Area F: Captain's Pool Area

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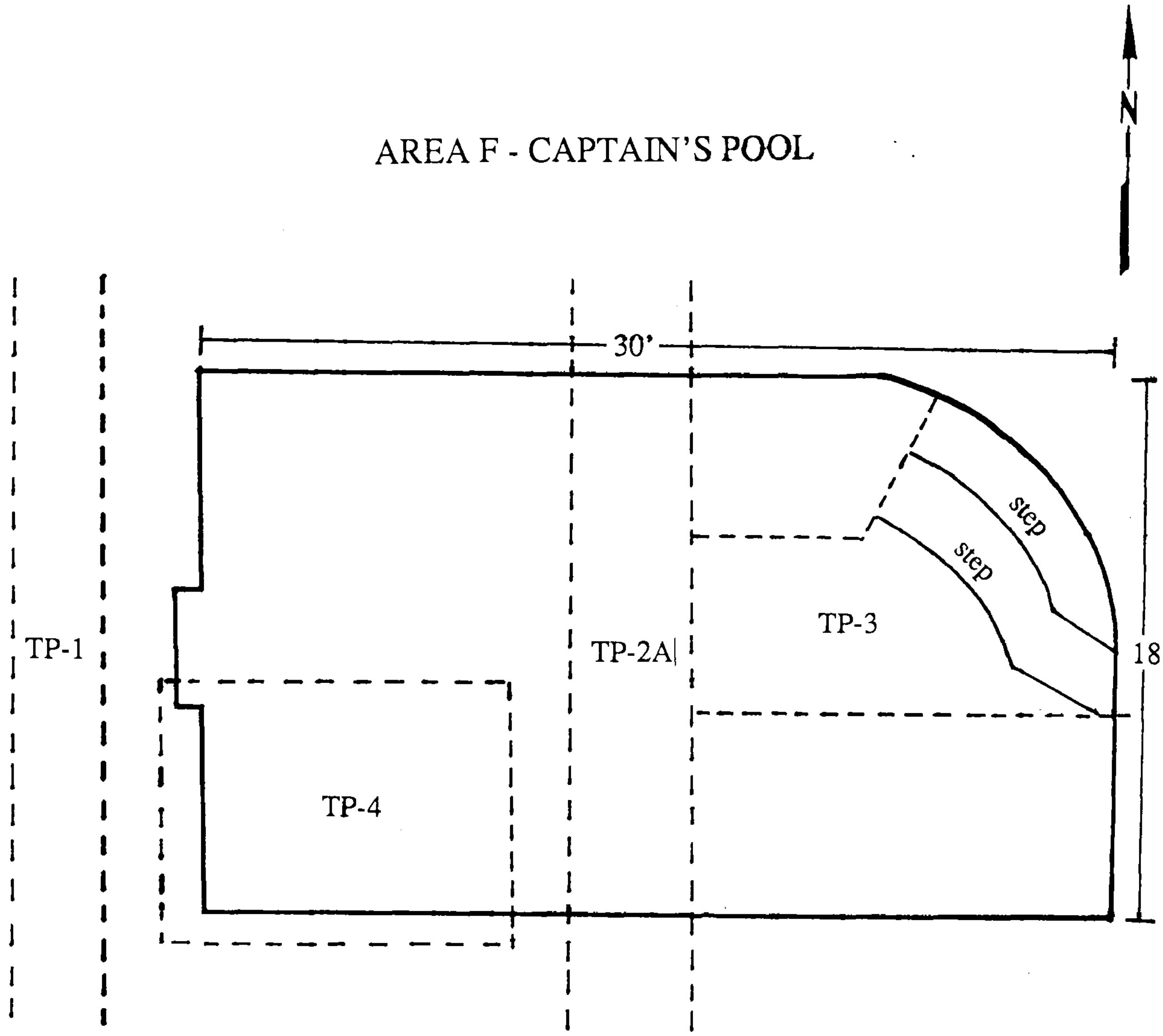

EXPLANATION

- - - - Test trench location and approximate dimensions

——— Approximate pool configuration

SCALE

1 inch = 6 feet

FIGURE F-4

Approximate Configuration of the Captain's Pool and Test Trench Locations (Plan View).

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captains pool results

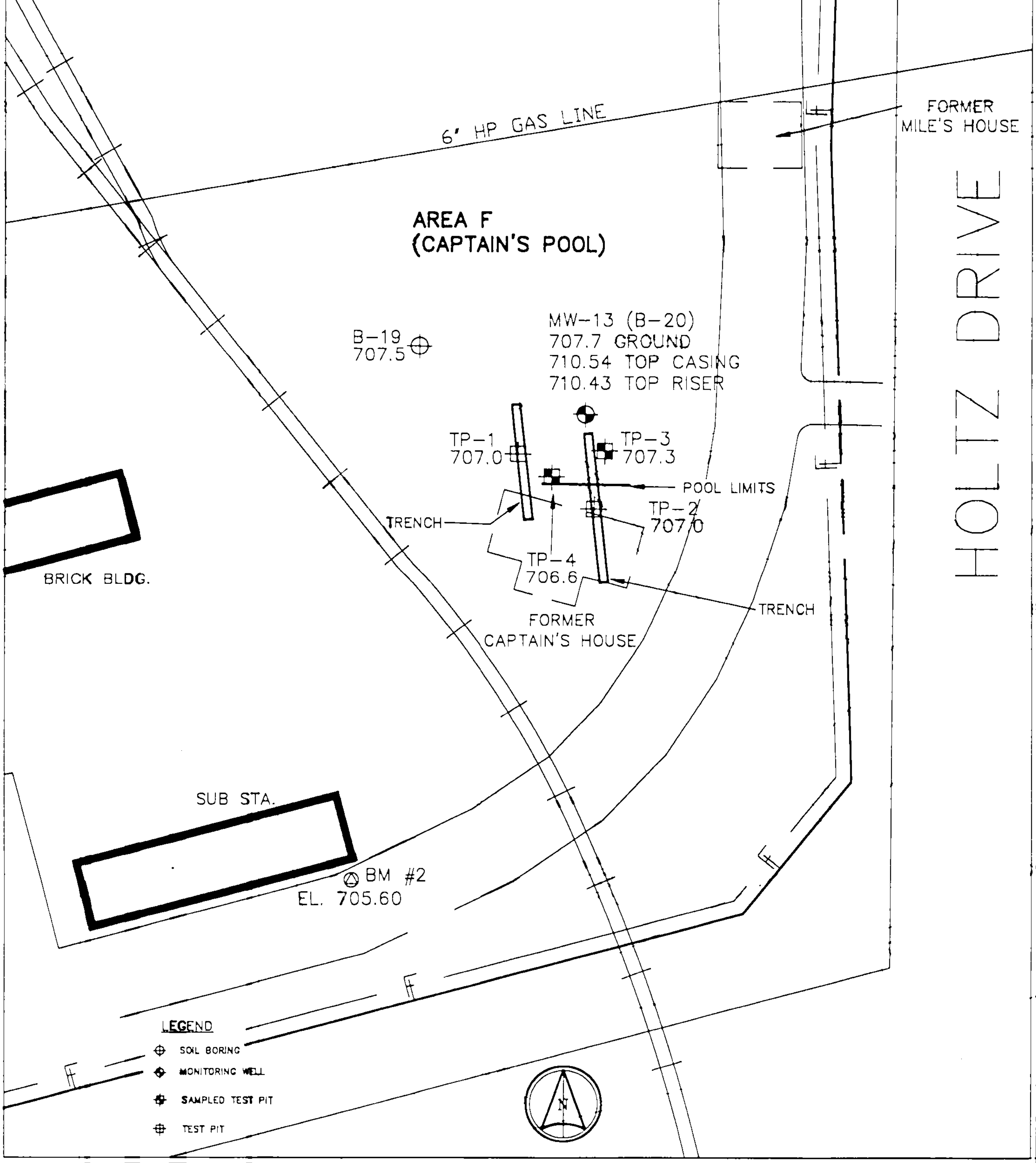

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FIGURE F – CAPTAIN'S POOL

WESTINGHOUSE ELECTRIC CORP.
BUFFALO AIRPORT CENTER

PROJECT NO. 00296 – 01699	DATE 5/16/91	DWG. NO. 2A08937-F	SCALE 1"=50'	FIGURE NO. F

TABLE F-1

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF VOLATILE ORGANIC COMPOUNDS
TEST PIT SOIL SAMPLES
AREA F - CAPTAIN'S POOL AREA
(Concentration Values in ug/kg - ppb)

Test Pit Location	**WEC-TP3** A55752	**WEC-TP4** A55753	**WEC-TP4 (DUP)** A55754	**NYSDEC** Soil Guidance Values
Depth Interval (ft.)	4 - 5	4 - 5	4 - 5	
VOLATILE ORGANIC COMPOUNDS				
Methylene Chloride	30	25	24	-
Carbon Disulfide	4 J	5 J	5 J	67.5
1,1,1 - Trichloroethane	3 J	4 J	4 J	19
Toluene	2 J	3 J	4 J	37.5
Total Volatiles	39	37	37	-
Total Volatile TICs	14 J	26 J	26 J	-

TABLE F-2

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF SEMI-VOLATILE ORGANIC AND PEST/PCB COMPOUNDS
TEST PIT SOIL SAMPLES
AREA F - CAPTAIN'S POOL AREA
(Concentration Values in ug/kg - ppb)

Test Pit Location	WEC-TP3 A55752	WEC-TP4 A55753	WEC-TP4 (DUP) A55754	NYSDEC Soil Guidance Values
Depth Interval (ft.)	4 - 5	4 - 5	4 - 5	
SEMI-VOLATILE ORGANIC COMPOUNDS				
4 - Methylphenol	110 J	ND	ND	62.5
Benzoic Acid	880 J	ND	ND	-
Naphthalene	2500	ND	87 J	325
2 - Methylnaphthalene	720 J	ND	ND	10000
Acenaphthene	1700	ND	150 J	2300
Dibenzofuran	1100	ND	92 J	-
Fluorene	1800	150 J	140 J	9125
Phenanthrene	13000	1100	1200	10000
Anthracene	3300	380 J	370 J	10000
Di-n-Butylphthalate	83 J	ND	ND	-
Fluoranthene	7800 D	1600	1700	10000
Pyrene	11000	1100	1300	10000
Benzo(a)Anthracene	5800	740 J	830	69.0
Chrysene	4900	730 J	780 J	10000
bis(2-Ethylhexyl)Phthalate	190 J	120 J	110 J	10.0
Benzo(b)Fluoranthene	3600	610 J	700 J	275
Benzo(k)Fluoranthene	5100	680 J	650 J	27.5
Benzo(a)Pyrene	4800	690 J	740 J	61.0
Indeno(1,2,3-cd)Pyrene	2900	390 J	450 J	80
Dibenz(a,h,)Anthracene	1100	ND	ND	14.0
Benzo(g,h,i)Perylene	2600	370 J	460 J	80
Total Semi-Volatiles	74983	8660	9759	-
Total Semi-Volatile TICs	46040 J	20970 J	22640 J	-
PEST/PCB COMPOUNDS				
Aroclor - 1242	ND	640 V	ND	13.25

TABLE F-3

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF INORGANIC PARAMETERS
TEST PIT SOIL SAMPLES
AREA F - CAPTAIN'S POOL AREA
(Concentration Values in mg/kg - ppm)

Test Pit Location	WEC-TP-3 A55752	WEC-TP4 A55753	WEC-TP4 (DUP) A55754	Avg. Conc. of Element in Uncont. Soils	Conc. Range of Element in Uncont. Soils
Depth Interval (ft.)	4 - 5	4 - 5	4 - 5		
TAL METALS					
Aluminum	6660	7300	7230	33000	10000 - 300000
Antimony	12.8 B	14.4 B	14.7	0.76	0.2 - 150
Arsenic	4.7	4.3	3.7	5.0	3.0 - 12
Barium	80.4	70.9	71.1	290	15 - 600
Beryllium	0.51 B	0.54 B	0.56 B	0.6	0 - 1.75
Cadmium	45.2	35.3	26	0.6	0.1 - 7.0
Calcium	50100	52100	56400	3400	130 - 35000
Chromium	16.3 V	18.8V	16.3V	33	1.5 - 40
Cobalt	8.4 BV	8.8 BV	9.7 BV	5.9	2.5 - 60
Iron	11300	11800	14400	14000	2000 - 550000
Lead	95.2 V	78V	85.3V	14	4.0 - 61
Magnesium	17800	17700	17900	6300	400 - 9000
Manganese	340	317	355	850	100 - 4000
Mercury	ND	0.15	0.12	0.06	0.001 - 0.2
Nickel	16.6 V	17.7V	17.9V	40	0.5 - 60
Potassium	907 B	1150 B	1440	12000	100 - 37000
Selenium	0.49 BW	0.51 BW	ND	0.2	0.01 - 12.0
Silver	1.8 BV	2.1 BV	2.4BV	-	0.01 - 8.0
Sodium	133 B	126 B	152 B	6300	150 - 150000
Thallium	0.25 B	0.51 B	0.24 B	-	-
Vanadium	18.8	19.8	20.7	100	1.3 - 300
Zinc	152	145	385	50	10 - 300
MISCELLANEOUS COMPOUNDS					
Total Cyanide	ND	ND	ND	-	-

G

4.8 Area G-East Fill/Mound Area

Area G consists of a mound located in the southeastern portion of the project area, north of Area F. It is bounded to the north and east by the access roadway running roughly parallel with Holtz Drive and to the west by a drainage ditch and a former rail line. Due west of Area G is the Boiler House Facility (Area H) and the Oil Storage Building (Area I). Refer to Plate 1, Areas of Investigation Map.

Purpose of Investigation

The purpose of the investigation in this area was to determine the presence or absence of contamination and ascertain the extent of fill material associated with the mound.

Scope of Investigation

A series of ten test pits, WEC-TP5 through WEC-TP14, were excavated within the East Fill/Mound Area. The test pit locations were selected to provide systematic areal coverage such that a representative characterization of the subsurface conditions could be determined. Refer to Figure G for the location of the test pits. Based on field observations made during the excavations, samples were collected from three test pits and submitted for chemical analysis. One soil sample was obtained from WEC-TP5 and WEC-TP13, respectively, and composited over the depth of the excavation. The third soil sample was collected from WEC-TP8 as a grab sample. The test pitting activities followed the excavation and sampling procedures outlined in Section 3.3 and 3.4, respectively. The soil samples were analyzed for Full CLP parameters and total cyanide, as described in Section 3.9 of this report.

Findings of Investigation

Subsurface Conditions

As a result of the subsurface conditions encountered at each test pit location, excavation dimensions ranged from four to ten feet deep, six to eighteen feet long and three to six feet wide. The subsurface stratigraphy consisted of both fill material and native strata that ranged in thickness and areal extent.

Overall, the fill material was relatively limited in depth and areal extent. At WEC-TP7 and WEC-TP14, the native till or glaciolacustrine units were exposed at the surface. However, test pits WEC-TP8, WEC-TP9 and WEC-TP13 exhibited greater depths of fill. The fill units encountered at test pits WEC-TP8 and WEC-TP9 were approximately four feet and two and one half feet thick, respectively. The fill was comprised of loose brown-gray to black clayey silt and gravel with organic debris and brick fragments. WEC-TP8 also contained cement and coal fragments, slag and large (four to six feet in length) pieces of metal debris.

The fill encountered in test pit WEC-TP13 was distinctly different than the fill encountered in the aforementioned test pits. The fill at this location was approximately four and one half feet thick and was comprised of brown clayey silt, asphalt and very large concrete slabs. At a depth of approximately four feet, a concrete slab (approximately three to four inches thick) underlain by one half foot layer of crushed stone was encountered. Based on a review of past aerial photographs of the area, this was apparently a roadway and/or turnaround for transportation purposes.

The native strata consisted of glaciolacustrine sediments and till. The most distinctive glaciolacustrine unit encountered was a thin, light brown, tan-orange oxidized silt layer. This layer ranged between zero to one foot in thickness and was encountered in nine of the ten test pits. It was directly underlain by dense reddish-brown till consisting of moist-dry clayey silt and embedded coarse to medium fine sand and gravel. Additional observed physical properties of the till include relatively low plasticity and blocky structure. Refer to Appendix B for a more detailed geologic description of the fill and native strata encountered.

Air Monitoring/Soil Screening Results

Organic vapor levels as measured by the HNU were not detected above ambient background values in any of the excavations.

Analytical Results

A summary table of the volatile and semi-volatile organic compounds from the three test pit soil samples are presented in Table G-1 and G-2, respectively.

Relatively low concentrations of volatile organic compounds were detected in the soil samples. Soil collected from test pit WEC-TP8 contained the highest total volatile organic concentration which was 70 ug/kg. However, the concentration levels dectected did not exceed NYSDEC Soil Guidance Values.

Several semi-volatile organic compounds, mainly polynuclear aromatic hydrocarbons (PAHs), were detected in concentrations in excess of the NYSDEC Soil Guidance Values.

Pesticide compounds 4,4-DDE and 4,4-DDT were detected in concentrations in excess of the NYSDEC Soil Guidance Values in the soil sample collected from test pit WEC-TP5.

Inorganic results were generally low and within the normal concentration levels associated with the site. Elevated concentrations of arsenic (56.8 mg/kg) and cadmium (12.5 mg/kg) were detected in the soil sample collected from test pit WEC-TP8.

Conclusions

Based on the analytical results and the information obtained during the subsurface program, the East Mound/Fill Area (Area G) does pose an environmental concern, in that several of the NYSDEC Soil Guidance Values were exceeded for several semi-volatile and pesticide compounds.

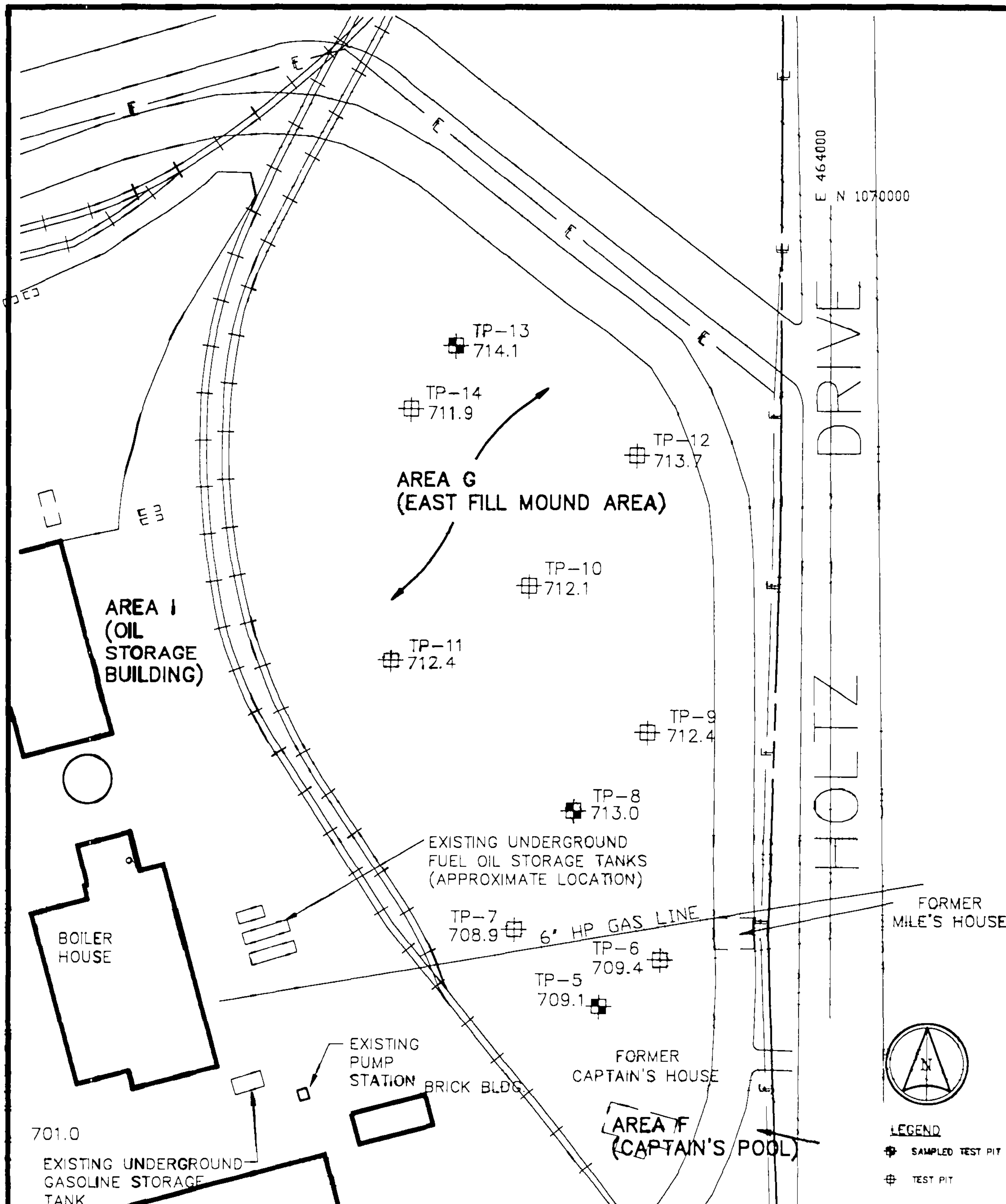

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FIGURE G – EAST FILL MOUND AREA

WESTINGHOUSE ELECTRIC CORP.
BUFFALO AIRPORT CENTER

PROJECT NO. 00296 – 01699	DATE 5/16/91	DWG. NO. 2A08937-G	SCALE 1"=100'	FIGURE NO. G

TABLE G-1

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF VOLATILE ORGANIC COMPOUNDS
TEST PIT SOIL SAMPLES
AREA G - EAST FILL/MOUND AREA
(Concentration Values in ug/kg - ppb)

Test Pit Location	WEC-TP5 A55775	WEC-TP8 A55761	WEC-TP13 A55774	NYSDEC Soil Guidance Values
Depth Interval (ft.)	0 - 6	3.0	1 - 7	
VOLATILE ORGANIC COMPOUNDS				
Methylene Chloride	ND	48 V	ND	-
Acetone	4 J	-	ND	-
Carbon Disulfide	ND	4 JV	ND	67.5
Chloroform	ND	2 JV	ND	5.4
1,1,1 - Trichloroethane	ND	8 V	ND	19.0
Benzene	ND	1 JV	ND	1.5
Toluene	ND	7 V	2 J	37.5
Xylene (Total)	ND	ND	2 J	30.0
Total Volatiles	4	70	4	-
Total Volatile TICs	ND	407 J	ND	-

TABLE G-2

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF SEMI-VOLATILE ORGANIC AND PEST/PCB COMPOUNDS
TEST PIT SOIL SAMPLES
AREA G - EAST FILL/MOUND AREA
(Concentration Values in ug/kg - ppb)

Test Pit Location	WEC-TP5 A55775	WEC-TP8 A55761	WEC-TP13 A55774	NYSDEC Soil Guidance Values
Depth Interval (ft.)	0 - 6	3.0	1 - 7	
SEMI-VOLATILE ORGANIC COMPOUNDS				
Naphthalene	ND	160 J	ND	325
2 - Methylnaphthalene	ND	250 J	ND	10000
Acenaphthene	ND	100 J	ND	2300
Fluorene	ND	130 J	ND	9125
Pentachlorophenol	290 JV	ND	ND	530
Phenanthrene	160 J	860 J	81 J	10000
Anthracene	ND	200 J	ND	10000
Di-n-Butylphthalate	ND	200 J	ND	-
Fluoranthene	230 J	770 J	160 J	10000
Pyrene	230 J	620 J	120 J	10000
Benzo(a)Anthracene	120 J	390 J	93 J	69
Chyrsene	140 J	410 J	110 J	10000
bis(2 - Ethylhexyl)Phthalate	100 J	270 J	150 J	10
Benzo(b)Fluoranthene	190 J	330 J	91 J	275
Benzo(k)Fluoranthene	ND	290 J	87 J	27.5
Benzo(a)Pyrene	93 J	340 J	ND	61
Total Semi-Volatiles	1553	5320	892	-
Total Semi-Volatile TICs	1390 J	29230 J	2020 J	-
PEST/PCB COMPOUNDS				
4,4 - DDE	380	ND	ND	110
4,4 - DDT	3500	ND	ND	6.0

TABLE G-3

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF INORGANIC PARAMETERS
TEST PIT SOIL SAMPLES
AREA G - EAST FILL/MOUND AREA
(Concentration Values in mg/kg - ppm)

Test Pit Location	WEC-TP5 A55775	WEC-TP8 A55761	WEC-TP13 A55774	Avg. Conc. of Element in Uncont. Soils	Conc. Range of Element in Uncont. Soils
Depth Interval (ft.)	0 - 6	3	1 - 7		
TAL METALS					
Aluminum	7480	6270	6380	33000	10000 - 300000
Antimony	16 N	14.5	15 N	0.76	0.2 - 150
Arsenic	3.1	56.8 S	3.7	5.0	3.0 - 12.0
Barium	58.6	116	59	290	15 - 600
Beryllium	0.56 B	0.69 B	0.53 B	0.6	0 - 1.75
Cadmium	5.5	12.5	2.4	0.6	0.1 - 7.0
Calcium	61800*	29500	68200*	34000	130 - 35000
Chromium	14.7 V*	29 V	14.1 V*	33	1.5 - 40
Cobalt	10.2 BV	18.5 V	8.8 BV	5.9	2.5 - 60
Copper	27.1 EV	-	19.6 EV	20	2.0 - 100
Iron	13800 EV	41400	12000 EV	14000	2000 - 550000
Lead	13.2 N*	58.5 S	24.7 N*	14	4.0 - 61
Magnesium	21200*	9920	21800*	6300	400 - 9000
Manganese	437 ENV	795	397 ENV	850	100 - 4000
Nickel	21.3 V	31.5 V	19.2 V	40	0.5 - 60
Potassium	1650	786 B	1110 B	12000	100 - 37000
Selenium	ND	1.4	ND	0.2	0.01 - 12.0
Silver	2.3 V	3.0 V	2.1 BV	-	0.01 - 8.0
Sodium	160 B	133 B	137 B	6300	150 - 15000
Thallium	ND	0.47 B	ND	-	-
Vanadium	20.4 V	23.9	18.1 V	100	1.3 - 300
Zinc	106 ENV	91.8	84 ENV	50	10 - 300
MISCELLANEOUS COMPOUNDS					
Total Cyanide	ND	ND	ND	-	-

H

4.9 Area H-Boiler House Facility

The Boiler House is located east of the main building structure and south of the former Oil Storage Building. Refer to Figure H for the location of Area H. A sump (Sump No. 3) is located in the basement of the boiler house in the former incinerator room.

Purpose of Investigation

A site inspection performed by DUNN personnel revealed the presence of suspected fuel oil in the basement sump. According to BACA maintenance personnel, this was the result of an oil discharge (fuel oil No. 6) which had occurred within the building. An oil/water separation system is currently in place to recover oil from the sump. Additional concerns were raised in regards to uncertainties as to the type and quantity of materials incinerated in the furnaces located adjacent to the sump, when the furnaces were in use.

Scope of Investigation

One non-aqueous sludge/sediment sample was collected from the bottom of the sump and analyzed for Full CLP parameters and total cyanide (refer to Section 3.9). Methodologies utilized to obtain the sample are discussed in Section 3.2.1 of this report.

Findings of Investigation

Field Observations and Measurements

The sludge/sediment collected from the sump consisted of black sandy silt which was saturated with fuel oil. Refer to Appendix F for details associated with the sampling of the sump.

Air Monitoring/Headspace Results

Air monitoring with the HNU did not detect elevated VOC levels above background values during the course of the investigation. Headspace screening of the recovered sample was not performed due to the visual presence of fuel oil in the sediment.

Analytical Results

Analysis of sludge/sediment sample WEC-SP3 collected from Sump No. 3 indicated the presence of four volatile organic compounds (refer to Table H-1). All four volatile compounds (benzene, toluene, ethylbenzene and total xylenes (BTEX)) were detected in concentrations in excess of NYSDEC Soil Guidance Values.

Numerous semi-volatile organic compounds were also detected at concentration levels above NYSDEC Soil Guidance Values (refer to Table H-2). In addition, several inorganic parameters, mainly heavy metals, were detected at elevated concentration levels (refer to Table H-3).

Conclusions

The elevated concentrations of volatile and semi-volatile organic compounds and inorganic parameters detected in the sediment/sludge sample indicate an environmental concern. Specifically, this concern is based upon the possible migration of contaminants through the leakage of the sump into the surrounding groundwater and/or the direct discharge of contaminants into the storm/sanitary sewer system.

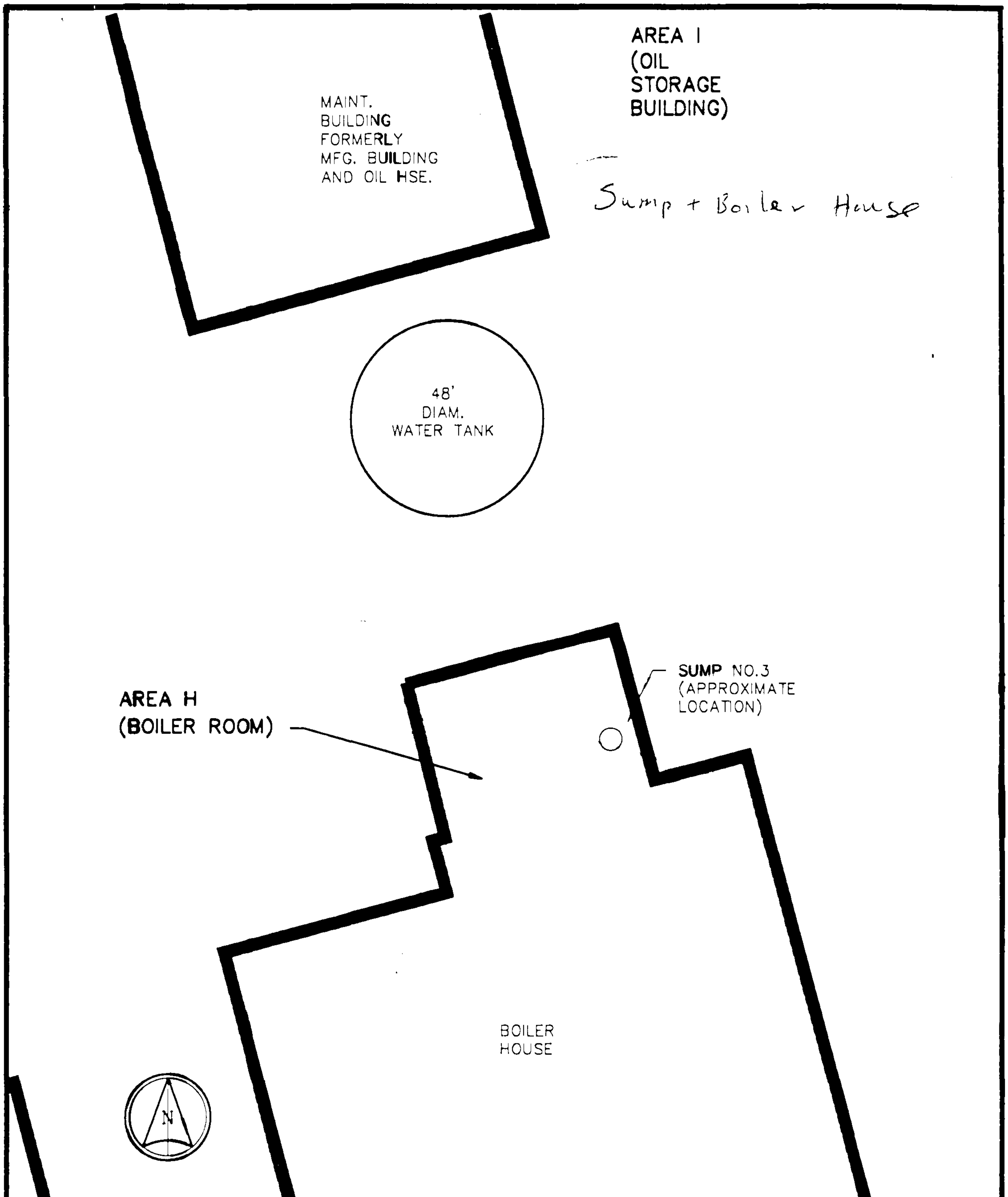

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FIGURE H – BOILER ROOM

WESTINGHOUSE ELECTRIC CORP.
BUFFALO AIRPORT CENTER

PROJECT NO. 00296 – 01699	DATE 5/16/91	DWG. NO. 2A08937–H	SCALE 1"=25'	FIGURE NO. H

TABLE H-2

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF SEMI-VOLATILE ORGANIC COMPOUNDS
SEDIMENT SAMPLE
AREA H - BOILER HOUSE FACILITY
(Concentration Values in ug/kg - ppb)

SEMI-VOLATILE ORGANIC COMPOUNDS	SUMP SEDIMENT SAMPLE LOCATION WEC-SP3-S A55745	NYSDEC Soil Guidance Values
Naphthalene	22000 J	325
2 - Methylnaphthalene	150000	10000
Acenaphthylene	9300 J	3125
Acenaphthene	10000 J	2300
Dibenzofuran	19000 J	-
Fluorene	33000	9125
Phenanthrene	71000	10000
Fluoranthene	9600 J	10000
Pyrene	39000 V	10000
Chrysene	30000	10000
Bis(2 - Ethylhexyl)phthalate	32000	10.0
Benzo(b)Fluoranthene	8500 J	275
Benzo(k)Fluoranthene	6500 J	27.5
Benzo(a)Pyrene	11000 J	61.0
Total Semi-Volatiles	450900	-
Total Semi-Volatile TICs	2800 J	-

TABLE H-1

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF VOLATILE ORGANIC COMPOUNDS
SEDIMENT SAMPLE
AREA H - BOILER HOUSE FACILITY
(Concentration Values in ug/kg - ppb)

	SUMP SEDIMENT SAMPLE LOCATION	
	WEC-SP3-S A55745	NYSDEC Soil Guidance Values
VOLATILE ORGANIC COMPOUNDS		
Benzene	56+	1.5
Toluene	280+	37.5
Ethylbenzene	1300 D	137.5
Total Xylenes	2600 D	30
Total Volatiles	4236	-
Total Volatile TICs	1800 J	-

+ Usable data, but out of compliance

TABLE H-3

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF INORGANIC PARAMETERS
SEDIMENT SAMPLE
AREA H - BOILER HOUSE FACILITY
(Concentration Values in mg/kg - ppm)

	SUMP SEDIMENT SAMPLE LOCATION		
	WEC-SP3-S A55745	Avg. Conc. of Elements in Uncont. Soils	Conc. Range of Elements in Uncont. Soils
TAL METALS			
Aluminum	5930	33000	10000 - 300000
Antimony	30.4 NV	0.76	0.2 - 150
Arsenic	27.6	5.0	3.0 - 12.0
Barium	293 N*V	290	15 - 600
Beryllium	1.0 B	0.6	0 - 1.75
Cadmium	108*	0.6	0.1 - 7.0
Calcium	34500*	3400	130 - 35000
Chromium	8.7*	33	1.5 - 40
Cobalt	33.5	5.9	2.5 - 60
Copper	527*	20	2.0 - 100
Iron	164000 E*V	14000	2000 - 550000
Lead	3880 S*	14	4.0 - 61
Magnesium	2490 EV	6300	400 - 9000
Manganese	900 E*V	850	100 - 4000
Mercury	3.7*	0.06	0.001 - 0.2
Nickel	74.4	40	0.5 - 60
Potassium	358 B	12000	100 - 37000
Selenium	22.8 S*	0.2	0.01 - 12.0
Silver	5.7 NV	-	0.01 - 8.0
Sodium	389 B	6300	150 - 15000
Thallium	2.1 B	-	-
Vanadium	201	100	1.3 - 300
Zinc	1030 V	50	10 - 300
MISCELLANEOUS COMPOUNDS			
Total Cyanide	1.2 NV	-	-

I

4.10 Area I-Oil Storage Building Area

The Oil Storage Building is located east of the main plant structure and north of the Boiler House Facility. Abandoned railroad tracks are located to the east. Refer to Plate 1, Areas of Investigation. There were five underground storage tanks located north and east of the Oil Storage Building. The underground tanks ranged from 550 to 15,000 gallons in size. Information obtained from site maps indicates that the tanks may have contained toluene and chlorethene. The Empire Soils Report (1987) states that the tanks may have been removed between 1985 and 1987.

Purpose of Investigation

Statements made by former Westinghouse employees allege that various wastes may have been disposed in the rear (eastern side) of the oil storage building. In addition, the proximity of the underground solvent storage tanks poses an additional environmental concern.

Scope of Investigation

A total of six test borings, WEC-B1 through WEC-B6, were drilled to the east and northeast of the Oil Storage Building as part of this investigation. The location of the six borings in this area is shown in Figure I. All borings were drilled to a depth of twenty feet below grade utilizing the methodologies described in Section 3.3. Soil samples were collected from borings WEC-B1, WEC-B4, WEC-B5 and WEC-B6 and analyzed for Full CLP parameters and total cyanide (refer to Section 3.9). The TCL VOA samples were collected at discrete intervals from each boring location and the remainder of the sample fractions were composited from a ten foot section of each borehole. Soil sampling was performed as outlined in Section 3.3.1 of this report. Due to elevated HNU readings recorded during the advancement of the WEC-B5, the boring was converted to groundwater monitoring well WEC-MW7. A groundwater sample was collected and analyzed for Full CLP parameters and total cyanide. Results of the groundwater analyses as well as the associated hydrogeologic investigation are presented in Section 4.20.

Findings of Investigation

Subsurface Conditions

Fill material underlain by glacial till was encountered at each boring location. The fill, ranging in depth from one to three feet below grade, consisted predominantly of loose brown silt with varying amounts of sand, gravel, coal fragments, cinders and wood. The fill encountered in WEC-B3 consisted entirely of black coal fragments and cinders. The native glacial till unit extended to the terminus of each boring and consisted of dense, brown clayey silt with varying amounts of embedded coarse sand, gravel and rock fragments. Refer to Appendix B for a detailed geologic descriptions of the strata. No staining or discoloration of soils was observed in any of the test borings, however, elevated HNU readings were noted during the drilling of WEC-B5.

Air Monitoring/Headspace Results

Excavated VOC levels up to 500 ppm in the borehole were detected with the HNU during the drilling of WEC-B5. Air monitoring with the HNU for the balance of the investigation did not indicate any VOC levels above ambient background values.

Headspace screening of soil sampled from the borings are presented in the table below. The soil screening results from WEC-B5 appear to confirm the of contamination detected during the drilling of the borehole.

HEADSPACE RESULTS-AREA I

Sample Depth (ft)	VOC Concentration (ppm) WEC-B1	WEC-B2	WEC-B3	WEC-B4	WEC-B5	WEC-B6
0 - 2	3.8	2.4	1.0	1.8	175	7.0
2 - 4	5.0	3.0	1.0	2.0	320	7.0
4 - 6	1.8	1.8	1.8	1.8	-	6.0
6 - 8	4.8	1.4	1.2	4.2	50	7.8
8 - 10	2.2	1.2	2.8	1.0	8.0	5.6
10 - 12	2.4	1.6	2.5	1.2	2.0	6.6
12 - 14	6.8	1.9	2.2	1.6	3.0	4.8
14 - 16	2.8	1.8	1.5	1.0	200	5.2
16 - 18	2.8	2.0	2.8	0.6	600	3.8
18 - 20	1.8	1.9	1.8	0.5	180	6.8

Analytical Results

Analyses of the subsurface soil samples collected from the test borings indicated the presence of several volatile organic compounds (refer to Table I-1). Analytical results associated with the soil samples collected from WEC-B5 and WEC-B6 indicated elevated concentration levels of trichloroethene and toluene in excess of NYSDEC Soil Guidance Values.

Several semi-volatile organic compounds were detected in soil samples from WEC-B1, WEC-B4 and WEC-B5 at levels above NYSDEC Soil Guidance Values (refer to Table I-1). No elevated levels of inorganic parameters were detected within any of the test boring soil samples (refer to Table I-2). It should be noted that the levels of calcium and magnesium detected within the soil samples are not viewed as an indication of contamination caused by past site activities, but rather reflect the ambient concentrations of these elements at the site.

Conclusions

Analytical results obtained from the soil sample collected from WEC-B5 indicated the presence of relatively high concentrations of volatile organic compounds. Presumably, the source of subsurface contamination at this location is the former underground storage tanks which were located adjacent to WEC-B5. The presence of contaminants detected in the soils recovered from WEC-B5 present an environmental concern to the area in regard to potential groundwater contamination. In addition, this area may be a source of surface water contamination due to its proximity to a portion of Storm Sewer Line 001.

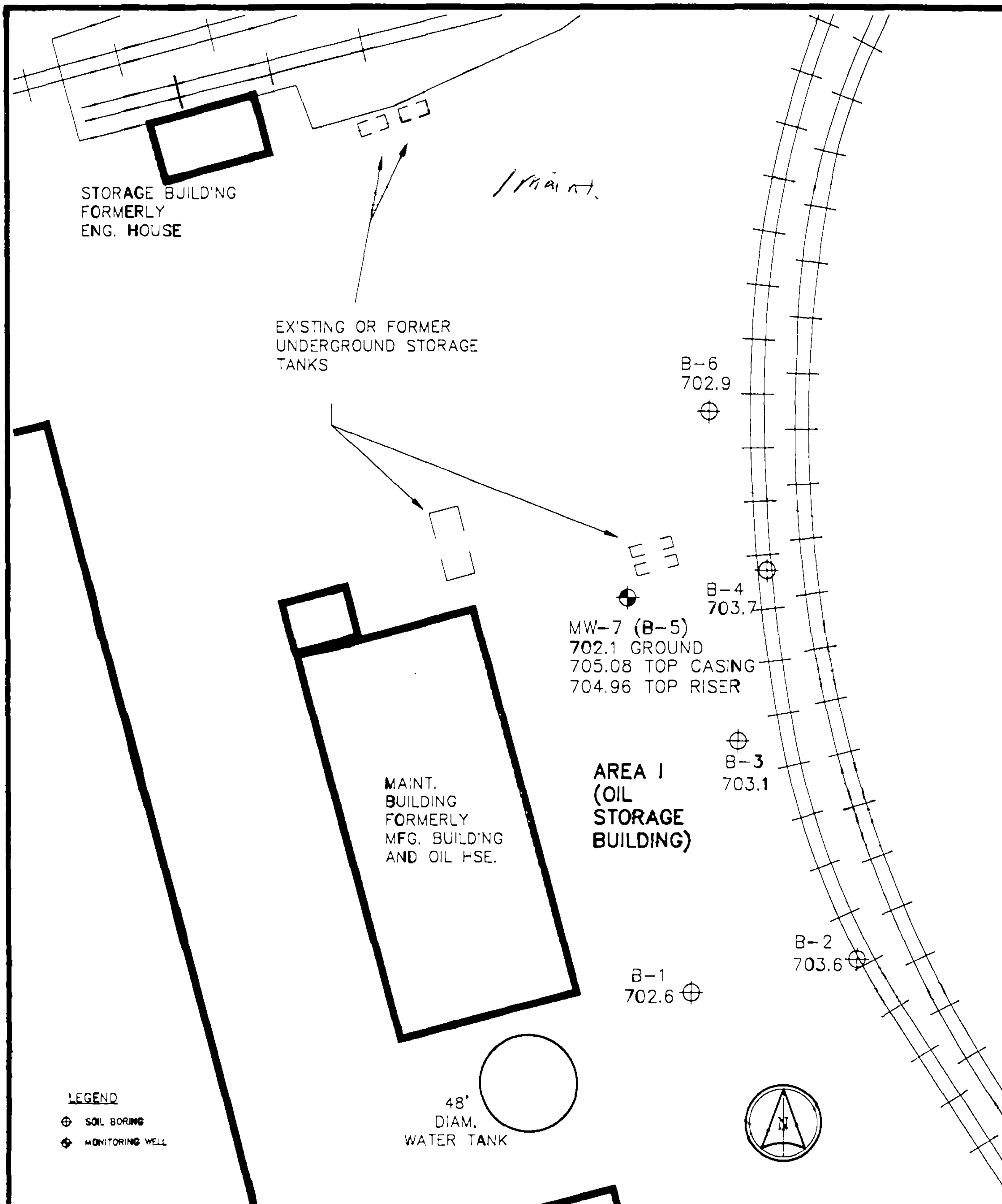

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FIGURE I – OIL STORAGE BUILDING

WESTINGHOUSE ELECTRIC CORP.
BUFFALO AIRPORT CENTER

PROJECT NO. 00296 – 01699	DATE 5/16/91	DWG. NO. 2A08937-1	SCALE 1"=50'	FIGURE NO. 1

TABLE I-1

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS
SOIL BORING SPLIT-SPOON SAMPLES
AREA I - OIL STORAGE BUILDING
(Concentration Values in ug/kg - ppb)

Boring Location	WEC-B1 A55746		WEC-B4 A55747		WEC-B5 A55748		WEC-B6 A55749		NYSDEC Soil Guidance Values
Depth Interval (ft.)	6 - 8	4 - 14	6 - 8	0 - 10	16 - 18	2 - 12	8 - 10	6 - 16	
VOLATILE ORGANIC COMPOUNDS									
Methylene Chloride	9		27		7		53		-
Acetone	24		70		14		33		-
Carbon Disulfide	ND		9		16		9		67.5
1,2 - Dichloroethene (Total)	2 J		ND		16		ND		45
Chloroform	ND		1 J		ND		ND		5.4
2 - Butanone	120		70		30		21		-
1,1,1 - Trichloroethane	3 J		4 J		3 J		11		19
Trichloroethene	3 J		ND		30000 D		29		15.75
Toluene	13		15 V		1900 D		9 V		37.5
Total Volatiles	174		196		31970		165		-
Total Volatile TICs	37 J		120 J		14000 J		60 J		-
SEMI-VOLATILE ORGANIC COMPOUNDS									
2 - Methylphenol		ND		ND		140 J		ND	62.5
4 - Methylphenol		ND		ND		120 J		ND	62.5
Benzoic Acid		97 J		760 J		ND		ND	-
Diethylphthalate		ND		110 J		ND		ND	177.5
Phenanthrene		ND		330 J		ND		ND	10000
Anthracene		ND		81 J		ND		ND	10000
Di-n-Butylphthalate		ND		79 J		ND		ND	-
Fluoranthene		ND		390 J		ND		ND	10000
Pyrene		ND		640 J		ND		ND	10000
Benzo(a)Anthracene		ND		470 J		ND		ND	69
Chrysene		ND		490 J		ND		ND	10000
bis (2-Ethylhexyl) Phthalate		140 J		260 J		440 J		ND	10
Di-n-OctylPhthalate		ND		ND		230 J		ND	-
Benzo (b) Fluoranthene		ND		810		ND		ND	275
Benzo (k) Fluoranthene		ND		620 J		ND		ND	27.5
Benzo (a) Pyrene		ND		710 J		ND		ND	61
Indeno (1,2,3 cd) Pyrene		ND		550 J		ND		ND	80
Total Semi-Volatiles		237		6300		930		ND	-
Total Semi-Volatile TICs		10980 J		6910 J		17270 J		1870 J	-

TABLE I-2

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF INORGANIC PARAMETERS
SOIL BORING SPLIT-SPOON SAMPLES
AREA I - OIL STORAGE BUILDING
(Data Reported in mg/kg - ppm)

Soil Boring Location	WEC-B1 A55746	WEC-B4 A55747	WEC-B5 A55748	WEC-B6 A55749	Avg. Conc. of Element in Uncont. Soils	Conc. Range of Element in Uncont. Soils
Depth Interval (ft.)	4 - 14	0 - 10	2 - 12	6 - 16		
TAL METALS						
Aluminum	6510	6560	6540	5950	33000	10000 - 300000
Antimony	13.2 BNV	12.5 BNV	12.6 BNV	15 NV	0.76	0.2 - 150
Arsenic	1.8 BNV	2.9 N*V	7.6 N*V	2.4 N*V	5.0	3.0 - 12.0
Barium	57.7	66.4	54.2	53.7	290	15 - 600
Beryllium	0.53 B	0.51 B	0.54 B	0.52 B	0.6	0 - 1.75
Cadmium	1.8	5.4	1.7	1.9	0.6	0.1 - 7.0
Calcium	73200	65100	64500	73400	3400	130 - 35000
Chromium	13.6 V	13.5V	13.7 V	13.6 V	33	1.5 - 40
Cobalt	9.1 BV	8.8 BV	8.7 BV	9.3 BV	5.9	2.5 - 60
Copper	25.6	32.5	20.4	17.9	20	2.0 - 100
Iron	12200 E	12700 E	12100 E	11400 E	14000	2000 - 550000
Lead	7.2	13.8 S	11.6 S	12.7 S	14	4.0 - 61
Magnesium	23800	22700	21900	26100	6300	400 - 9000
Manganese	398	381	393	405	850	100 - 4000
Nickel	16.8 V	16.9 V	16.7 V	17.2 V	40	0.5 - 60
Potassium	1670	1610	1690	1480	12000	100 - 37000
Silver	1.2 B	1.2 B	1.5 B	1.4 B	-	0.01 - 8.0
Sodium	226 BE	174 BE	190 BE	190 BE	6300	150 - 15000
Thallium	0.22 B	0.22 B	0.22 B	0.22 B	-	-
Vanadium	18.5	19.8	18.6	17.8	100	1.3 - 300
Zinc	53.3 ENV	59 ENV	66.2 ENV	61.9 ENV	50	10 - 300
MISCELLANEOUS COMPOUNDS						
Total Cyanide	ND	ND	ND	ND	-	-

J

4.11 Area J-Underground Solvent Tank Area

The solvent tank area is located adjacent to the northern side of the main building structure. An abandoned railway traverses the northern boundary of the area, parallel to the existing roadway. Refer to Plate 1, Areas of Investigation. A review of historical site plans indicated the presence of four underground storage tanks. According to a report prepared by Empire Soils Investigations, Inc. (1987), two underground storage tanks were previously removed from the area, the remaining two tanks were filled with sand and abandoned. The removed tankage was utilized for the storage of toluene and trichloroethane. No information could be found pertaining to products stored in the abandoned tankage.

Purpose of Investigation

The purpose of the investigation was to explore the allegations of the former Westinghouse employees regarding "poor housekeeping" in this area, as well as investigate potential contamination associated with the previously discussed tankage.

Scope of Investigation

A geophysical program was initiated in an effort to locate existing underground storage tanks (refer to Section 3.1 for methodologies utilized). Following the geophysical program, a total of five test borings, WEC-B7 through WEC-B11, were advanced. Refer to Figure J for the location of the test borings. Boreholes WEC-B8 and WEC-B10 were converted to groundwater monitoring wells WEC-MW8 and WEC-MW9, respectively. All borings were advanced to a depth of twenty feet below grade via the methodologies described in Section 3.3. A soil sample was collected from each of the five borings and analyzed for Full CLP parameters and total cyanide. The TCL VOA fraction was collected from a discrete interval from each borehole location. Composite soil sampling techniques were utilized for a ten foot section of each borehole for the remaining analytical fractions (i.e., TCL BNA, TCL PEST/PCBs, and TAL Metals). Chemical soil sample selection was based upon HNU readings and sensory observations made in the field in accordance with the criteria presented in Section 3.3.1.

Groundwater samples were collected from WEC-MW-8 and WEC-MW-9 and analyzed for Full CLP parameters and total cyanide. Results of the groundwater sampling as well as the associated hydrogeologic investigation are presented in Section 4.20.

Findings of Investigation

Geophysical Investigation

Data obtained from the Geonics EM-31 instrument was inconclusive due to the presence and significant quantity of metallic objects in the study area (i.e., abandoned railroad tracks, surface debris). However, a rectangular-shaped magnetic anomaly was detected with the Schoenstedt metal detector. The anomaly, approximately twenty feet long by ten feet wide, was located parallel to the building just east of the pump house. Slight surficial mounding observed above the rectangular anomaly further suggests that an underground storage tank may exist in this area. The geophysical data was utilized for the location of the borings.

Subsurface Conditions

Fill material underlain by glacial till was encountered in all five borings advanced in this area. The fill encountered at three borings located along the abandoned railroad tracks, WEC-B7, WEC-B8 and WEC-B9, extended three feet below grade and consisted predominantly of brown to black loose gravelly sand with cinders, coal fragments and wood noted. The fill was wet and exhibited a petroleum odor at all three boring locations. The fill encountered in the two borings located along the building, WEC-B10 and WEC-B11, extended from twelve to fourteen feet below grade and consisted of brown gravelly sand and silt with a seam of black cinders noted at approximately six to seven feet.

The glacial till underlying the fill at all locations consisted predominantly of dense brown clayey silt with embedded coarse sand, gravel and rock fragments. No staining or discoloration of the till unit was observed in any of the test borings, however, a solvent odor was noted in WEC-B8. The geologic logs for these boring locations are contained in Appendix B.

Air Monitoring/Headspace Results

Air monitoring conducted with the HNU during the drilling of WEC-B8 indicated elevated VOC levels in the borehole as high as 50 ppm. No elevated levels above ambient background were detected with the HNU at the remaining borehole locations.

Headspace screening of the soil samples collected from the five boreholes indicated elevated VOC levels in WEC-B8 and to a lesser degree, in WEC-B7. Refer to the table below for a summary of the headspace screening results.

HEADSPACE RESULTS-AREA J

Sample	VOC Concentration (ppm)				
Depth (ft)	WEC-B7	WEC-B8	WEC-B9	WEC-B10	WEC-B11
0 - 2	22	14	4.0	4.1	2.4
2 - 4	36	21	2.6	3.2	-
4 - 6	10.8	134	1.6	11	2.6
6 - 8	2.4	350	1.4	8.9	3.2
8 - 10	3.6	230	0.8	6.2	-
10 - 12	5.6	160	1.2	5.2	3.4
12 - 14	4.2	160	1.2	5.0	5.8
14 - 16	5.2	120	2.2	4.9	5.6
16 - 18	4.8	10	-	5.0	6.8
18 - 20	5.2	5.8	1.4	5.3	1.4

Analytical Results

Analyses of the subsurface soil samples collected from four of the five test borings indicated the presence of volatile organic compounds in excess of NYSDEC Soil Guidance Values. In particular, analytical data associated with samples collected from borings WEC-B7 and WEC-B8 were well in excess of the NYSDEC Soil Guidance Values (refer to Table J-1).

The presence of several semi-volatile organic compounds was detected in all of the soil samples at concentrations above NYSDEC Soil Guidance Values (refer to Table J-2). One inorganic parameter, cadmium, was detected at an elevated level within the soil sample recovered from WEC-B7. It should be noted that the elevated levels of calcium and magnesium are within the expected concentration ranges for the project site (refer to Table J-3).

Conclusions

The elevated concentrations of volatile and semi-volatile organic compounds detected within the subsurface soils recovered from WEC-B7 and WEC-B8 present an environmental concern to the area in regards to potential groundwater contamination. The source of contamination encountered is believed to have originated either from the underground solvent storage tanks and/or from spills/disposal of chemical solvents. The findings of this investigation appear to confirm allegations by former Westinghouse employees of poor housekeeping practices and the spillage of chemical solvents in this area.

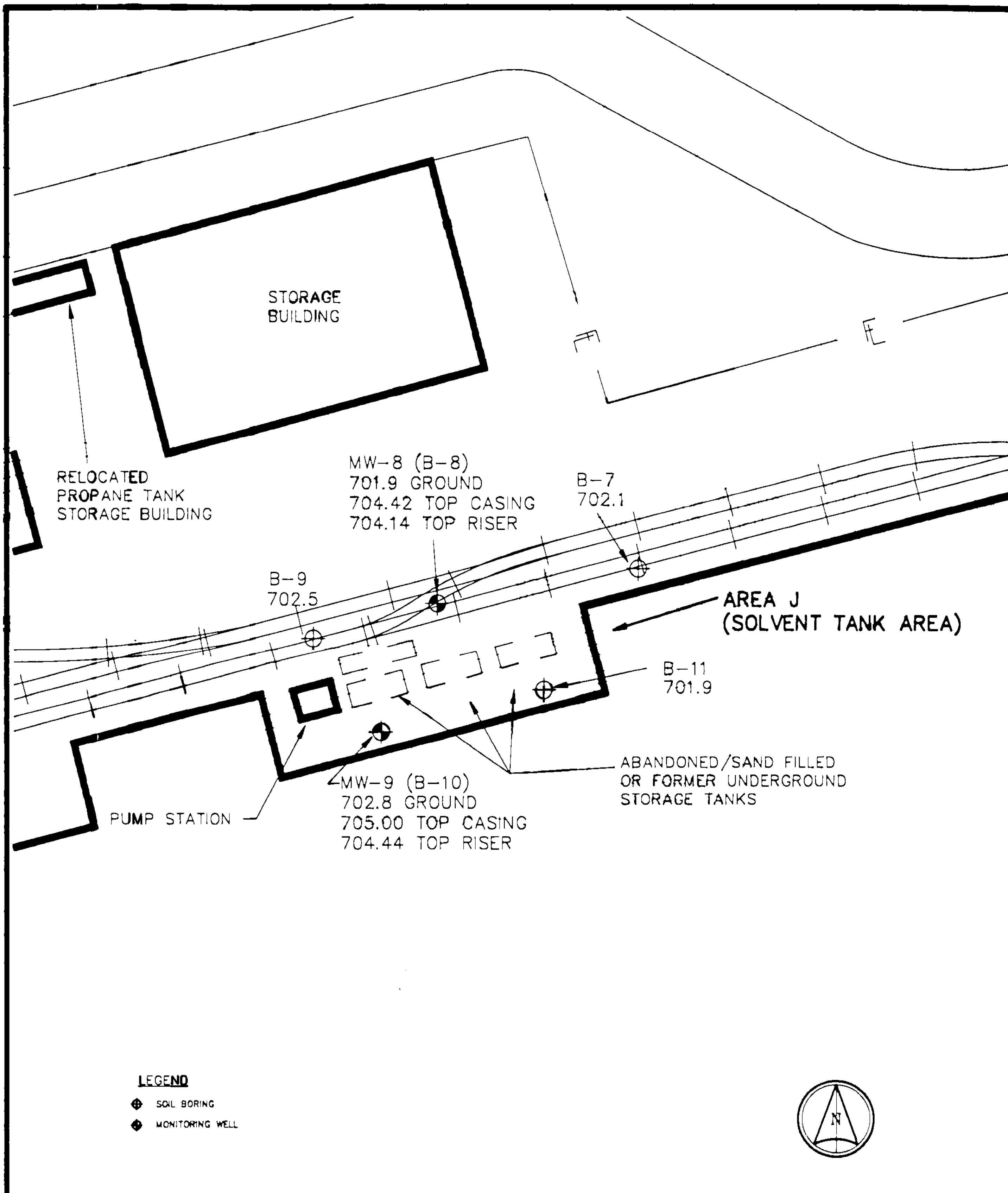

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FIGURE J – SOLVENT TANK AREA

WESTINGHOUSE ELECTRIC CORP.
BUFFALO AIRPORT CENTER

PROJECT NO. 00296 – 01699	DATE 5/16/91	DWG. NO. 2A08937-J	SCALE 1"=50'	FIGURE NO. J

TABLE J-1

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF VOLATILE ORGANIC COMPOUNDS
SOIL BORING SPLIT-SPOON SAMPLES
AREA J - UNDERGROUND SOLVENT TANK AREA
(Concentration Values in ug/kg - ppb)

Boring Location	WEC-B7 A55751		WEC-B8 A55756		WEC-B9 A55757		WEC-B10 A55758		WEC-B11 A55755		NYSDEC Soil Guidance Values
Depth Interval (ft.)	2 - 4	0 - 10	2 - 4	0 - 10	2 - 4	2 - 12	4 - 6	4 - 14	8 - 10	6 - 16	
VOLATILE ORGANIC COMPOUNDS											
Vinyl Chloride	ND		42		ND		ND		ND		-
Methylene Chloride	250		12		37		21		38		-
Acetone	210		19		ND		ND		11		-
Carbon Disulfide	76		8		5 J		6 J		4 J		67.5
1,1 - Dichloroethene	330		ND		ND		ND		ND		8.1
1,1 - Dichloroethane	480		ND		ND		ND		ND		3.75
1,2 - Dichloroethene (Total)	71		160		ND		ND		2 J		45
Chloroform	ND		2 J		2 J		ND		2 J		5.4
2 - Butanone	250		6 J		ND		ND		4 J		-
1,1,1 - Trichloroethane	6000 D		ND		6 J		4 J		ND		19
Trichloroethene	240		2200		ND		ND		3 J		15.75
1,1,2 - Trichloroethane	20 J		ND		ND		ND		ND		7.0
4 - Methyl - 2- Pentanone	ND		2 J		ND		ND		ND		-
Tetrachloroethene	20 J		ND		ND		8		ND		45.5
Toluene	1900 D		74		2 J		ND		2 J		37.5
Chlorobenzene	ND		38		4 J		ND		ND		41.25
Ethylbenzene	490		75		35		42		ND		137.5
Xylene (Total)	4000 E		5000		55		61		ND		30
Total Volatiles	14337		7638		146		142		66		-
Total Volatile TICs	12800 J		22800 J		243 J		1585 J		25 J		-

TABLE J-2

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF SEMI-VOLATILE ORGANIC COMPOUNDS
SOIL BORING SPLIT-SPOON SAMPLES
AREA J - UNDERGROUND SOLVENT TANK AREA
(Concentration Values in ug/kg - ppb)

Boring Location	WEC-B7 A55751		WEC-B8 A55756		WEC-B9 A55757		WEC-B10 A55758		WEC-B11 A55755		NYSDEC Soil Guidance Values
Depth Interval (ft.)	2 - 4	0 - 10	2 - 4	0 - 10	2 - 4	2 - 12	4 - 6	4 - 14	8 - 10	6 - 16	
SEMI-VOLATILE ORGANIC COMPOUNDS											
1,3 - Dichlorobenzene		ND		150 J		ND		ND		ND	212.5
1, 2 - Dichlorobenzene		ND		5600		880		ND		ND	212.5
4 - Methylphenol		ND		150 J		ND		ND		ND	62.5
2,4 - Dimethylphenol		ND		520 J		ND		ND		ND	53.1
Benzoic Acid		460 J		280 J		ND		ND		ND	-
Naphthalene		260 J		700 J		130 J		2600		490 J	325
2 - Methylnaphthalene		130 J		310 J		ND		570 J		190 J	10000
Acenaphthylene		ND		130 J		91 J		ND		ND	3125
Acenaphthene		850		1900		370 J		1200		1100	2300
Dibenzofuran		550 J		1200		190 J		1000		860	-
Fluorene		1000		2000		390 J		1600		1500	9125
Phenanthrene		9500 D		24000 D		1700		13000 D		19000 D	10000
Anthracene		2500		2700		ND		2700		3800	10000
Fluoranthene		16000 D		43000 D		2600		18000 D		26000 D	10000
Pyrene		11000		25000 D		1900		12000 D		25000 D	10000
Butylbenzylphthalate		860		ND		ND		ND		ND	-
Benzo (a) Anthracene		8700		15000 D		1000		7300		12000	69
Chrysene		8000		16000 D		1000		6700		11000	10000
bis (2-Ethylhexyl) Phthalate		530 J		ND		ND		ND		ND	10
Benzo(b)Fluoranthene		5200		11000		860		5400		6900	275
Benzo(k)Fluoranthene		5400		8800		1000		7600		13000 D	27.5
Benzo(a)Pyrene		5400		10000		850		5500		8200	61
Indeno(1,2,3 cd)Pyrene		3000		5800		590 J		2700		3900	80
Dibenz(a,h)Anthracene		1300		2200		240 J		1300		450 J	14
Benzo(g,h,i)Perylene		3000		5400		610 J		2600		3900	80
Total Semi-Volatiles		83640		181840		14401		91770		137290	-
Total Semi-Volatile TICs		35710 J		82700 J		63000 J		41440 J		77270 J	-

TABLE J-3

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF INORGANIC PARAMETERS
SOIL BORING SPLIT-SPOON SAMPLES
AREA J - UNDERGROUND SOLVENT TANK AREA
(Data Reported In mg/kg - ppm)

Soil Boring	WEC-B7	WEC-B8	WEC-B9	WEC-B10	WEC-B11	Avg. Conc. of Element in Uncont. Soils	Conc. Range of Element in Uncont. Soils
Location	A55751	A55756	A55757	A55758	A55755		
Depth Interval (ft.)	0 - 10	0 - 10	2 - 12	4 - 14	6 - 16		
TAL METALS							
Aluminum	4800	5710	6450	5340	6140	33000	10000 - 300000
Antimony	10.1 BNV	16	15.9	16.6	16.8	0.76	0.2 - 150
Arsenic	4.8 N*V	3.9	2.5	2.8	2.4	5.0	3.0 - 12.0
Barium	56	60.9	52.6	58.2	49.7	290	15 - 600
Beryllium	0.41 B	0.53 B	0.52 B	0.54 B	0.56 B	0.6	0 - 1.75
Cadmium	8.1	2.7	1.7	2.1	2.9	0.6	0.1 - 7.0
Calcium	44200	63700	64700	73800	87900	3400	130 - 35000
Chromium	14.2 V	15.4 V	15 V	16.2 V	16.4 V	33	1.5 - 40
Cobalt	7.9 BV	10.1 BV	10.4 BV	9.6 BV	9.7 BV	5.9	2.5 - 60
Copper	30.9	ND	ND	ND	ND	20	2.0 - 100
Iron	15500 E	13200	12800	10700	11400	14000	2000 - 550000
Lead	22.1 S	23.5 V	9.9 S	48.2 V	27.3 V	14	4.0 - 61
Magnesium	14700	22000	21200	23600	23600	6300	400 - 9000
Manganese	282	361	413	408	399	850	100 - 4000
Nickel	15.4 V	22 V	22 V	19.3 V	19 V	40	0.5 - 60
Potassium	1120 B	1310	1540	1180	1490	12000	100 - 37000
Selenium	0.45 BWNV	ND	ND	ND	ND	0.2	0.01 - 12.0
Silver	0.99 B	2.3 V	2.2 BV	2.4 V	2.2 BV	-	0.01 - 8.0
Sodium	126 BE	183 B	190 B	162 B	190 B	6300	150 - 150000
Thallium	ND	0.46 B	ND	ND	ND	-	-
Vanadium	14.9	17.7	19.3	16.3	18	100	1.3 - 300
Zinc	66.3 ENV	108	87	74.3	64.8	50	10 - 300
MISCELLANEOUS COMPOUNDS							
Total Cyanide	ND	ND	ND	ND	ND	-	-

K

4.12 Area K-Hazardous Waste Storage Area

The hazardous waste storage area is located on the northern side of the main building and west of the entrance building. Refer to Plate 1, Areas of Investigation. The area is bounded to the west by the main building, to the south and east by a chain-link fence and to the north by the former Drum Storage Building. The former waste storage buildings and four cement-filled and abandoned 15,000 gallon underground storage tanks (Empire 1987) are located within the fenced area. No information was available pertaining to the material stored in the tankage. Storm Sewer Line 002 is located within the study area.

Purpose of Investigation

Statements made by former Westinghouse employees allege that poor housekeeping practices were employed in regards to the handling and treatment of hazardous waste materials in this area. An inspection of the area revealed visible staining of surficial concrete pads in the area of the underground storage tanks. The purpose of investigating this area was to define the absence or presence of subsurface contamination in the soil and/or groundwater.

Scope of Investigation

Four test borings, WEC-B12 through WEC-B15, were drilled. Boring WEC-B13 was converted to groundwater monitoring well WEC-MW-10. Refer to Figure K for the location of the monitoring well and test borings. Soil samples were obtained from each of the borings and analyzed for Full CLP parameters and total cyanide (refer to Section 3.9). Methodologies utilized to drill the borings and collect soil samples are presented in Section 3.3 and 3.3.1, respectively. A groundwater sample was collected from WEC-MW-10 and analyzed for Full CLP parameters and total cyanide. Results of the groundwater sampling and associated hydrogeologic investigation are presented in Section 4.20.

Findings of Investigation

Subsurface Conditions

Fill material consisting predominantly of brown to reddish-brown, clayey silt with varying amounts of gravel was encountered at test borings WEC-B12, WEC-B13 and WEC-B14. The fill ranged in depth from two to thirteen feet below grade and was overlain by asphalt and/or concrete at each location. Elevated HNU readings were observed in a six inch void between the bottom of concrete and top of fill in WEC-B14.

Glacial till underlies the fill at WEC-B12, WEC-B13 and WEC-B14 and directly underlies the concrete at WEC-B15. The till extended to the terminus of each boring and consisted of dense brown clayey silt containing varied amounts of embedded gravel and rock fragments. No staining or discoloration was observed in any of the recovered soil samples. The geologic logs for these boring locations are contained in Appendix B.

Air Monitoring/Headspace Results

No elevated VOC levels were detected with the HNU above background values in the breathing zone or work area at any of the test boring locations. The table below presents the results of headspace screening performed on the soil samples recovered from the four borings.

HEADSPACE SCREENING RESULTS-AREA K

Sample	VOC Concentration (ppm)			
Depth (ft)	WEC-B12	WEC-B13	WEC-B14	WEC-B15
0 - 2	1.0	2.6	-	0.2
2 - 4	1.2	2.0	240	0.8
4 - 6	0.8	1.4	2.0	1.8
6 - 8	1.0	2.8	3.0	0.2

HEADSPACE SCREENING RESULTS-AREA K

Sample Depth (ft)	WEC-B12	VOC Concentration (ppm) WEC-B13	WEC-B14	WEC-B15
8 - 10	1.2	2.0	180	0.2
10 - 12	1.4	4.0	1.4	0.2
12 - 14	1.6	1.4	N/A	0.2
14 - 16	1.6	1.4	2.4	0.3
16 - 18	1.6	1.6	1.0	0.2
18 - 20	1.4	1.4	1.4	0.2

Analytical Results

Analyses of the subsurface soils collected from the four test borings indicated the presence of several volatile organic compounds. Soil samples collected from WEC-B13 and WEC-B14 contained elevated volatile organic compounds in excess of NYSDEC Soil Guidance Values (refer to Table K-1).

The subsurface soil sample collected from boring WEC-B14 indicated one semi-volatile compound at a concentration above the NYSDEC Soil Guidance Values.

Inorganic parameters were not detected at elevated levels within the recovered soil samples from any of the boring locations. It should be noted that the detected levels of calcium and magnesium are within expected concentration ranges for the project site (refer to Table K-2).

Conclusions

The elevated levels of volatile organic compounds detected in the subsurface soils recovered from WEC-B13 and WEC-B14 pose an environmental concern. Groundwater contamination is also an environmental concern and is discussed in Section 4.20. The close proximity of the storm sewer system in this area poses an additional concern in that it may serve as a potential migration pathway to other areas of the site. Refer to Figure E for the location of the storm sewer system.

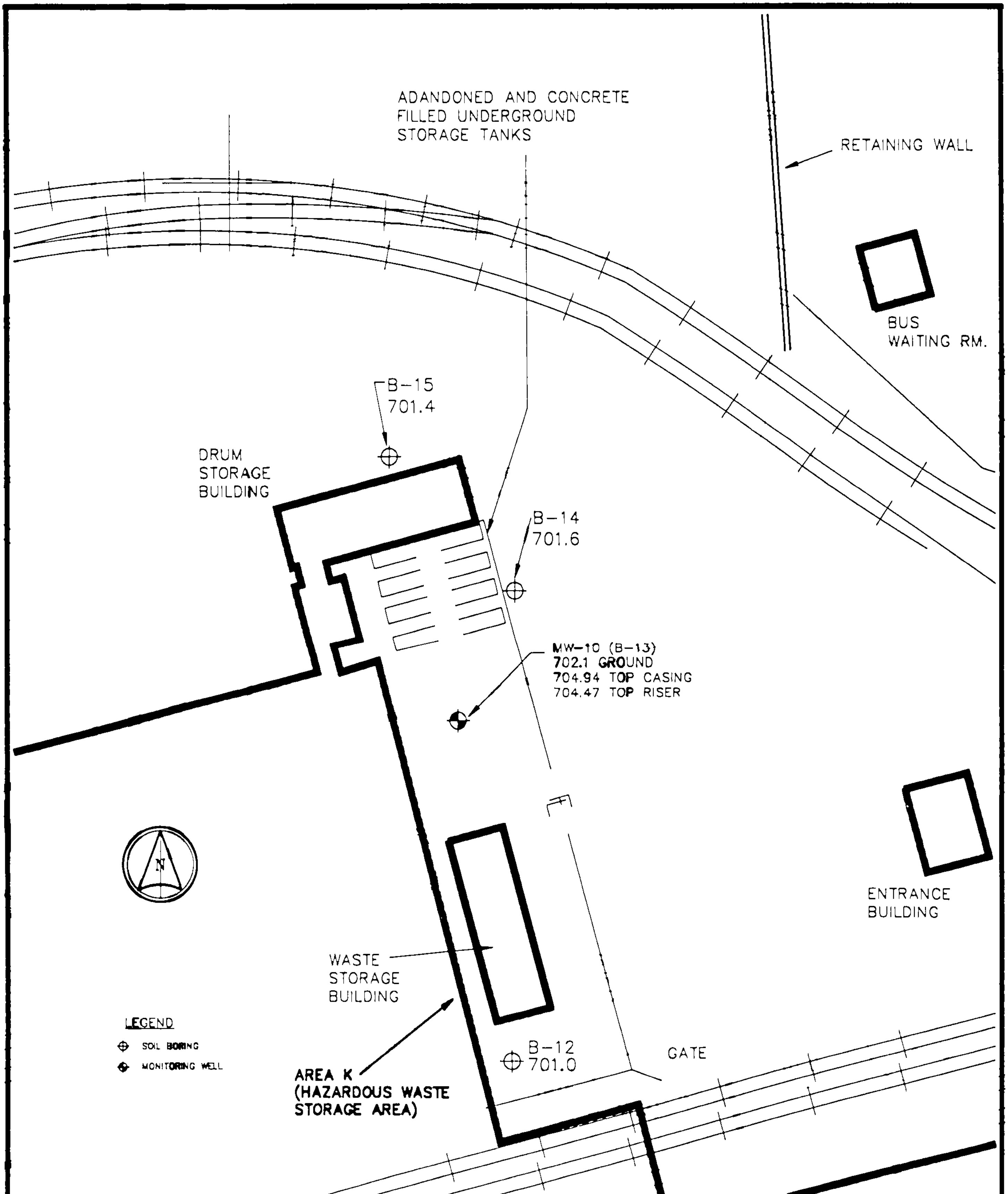

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FIGURE K - HAZARDOUS WASTE STORAGE AREA

WESTINGHOUSE ELECTRIC CORP.
BUFFALO AIRPORT CENTER

PROJECT NO.	DATE	DWG. NO.	SCALE	FIGURE NO.
00296 - 01699	5/16/91	2A08937-K	1"=50'	K

TABLE K-1

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS
SOIL BORING SPLIT-SPOON SAMPLES
AREA K - HAZARDOUS WASTE STORAGE AREA
(Concentration Values in ug/kg - ppb)

Boring Location	WEC-B12 A55760		WEC-B13 A55762		WEC-B14 A55764		WEC-B15 A55768		NYSDEC Soil Guidance Values
Depth Interval (ft.)	10 - 12	6 - 16	6 - 8	0 - 10	10 - 12	2 - 12	8 - 10	0 - 10	
VOLATILE ORGANIC COMPOUNDS									
Methylene Chloride	33		22		22		ND		-
Carbon Disulfide	4 J		10		4 J		ND		67.5
1,1 - Dichloroethene	ND		4 J		ND		ND		8.1
1,1 - Dichloroethane	ND		19		5 J		ND		3.75
1,2 - Dichloroethene (Total)	ND		6 J		ND		ND		45
Chloroform	1 J		ND		ND		ND		5.4
1,1,1 - Trichloroethane	3 J		36		5 J		ND		19
Trichloroethene	ND		4 J		29		ND		15.75
Benzene	1 J		ND		9		ND		1.5
4 - Methyl - 2 - Butanone	2 J		ND		ND		ND		-
Tetrachloroethene	ND		76		ND		ND		45.5
Toluene	3 J		3 J		6		2 J		37.5
Ethylbenzene	ND		28		3 J		ND		137.5
Styrene	ND		ND		ND		ND		-
Xylene (Total)	ND		39		5 J		ND		30
Total Volatiles	47		247		88		2		-
Total Volatile TICs	26 J		47 J		383 J		ND		-
SEMI-VOLATILE ORGANIC COMPOUNDS									
Fluoranthene		ND		ND		85 J		ND	10000
Pyrene		ND		ND		100 J		ND	10000
bis(2-Ethylhexyl)Phthalate		ND		ND		300 J		ND	10
Total Semi-Volatiles		ND		ND		485		ND	-
Total Semi-Volatile TICs		20260 J		5270 J		7520 J		2770 J	-

TABLE K-2

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF INORGANIC PARAMETERS
SOIL BORING SPLIT-SPOON SAMPLES
AREA K - HAZARDOUS WASTE STORAGE AREA
(Data Reported In mg/kg - ppm)

Soil Boring Location	WEC-B12 A55760	WEC-B13 A55762	WEC-B14 A55764	WEC-B15 A55768	Avg. Conc. of Element in Uncont. Soils	Conc. Range of Element in Uncont. Soils
Depth Interval (ft.)	6 - 16	0 - 10	2 - 12	0 - 10		
TAL METALS						
Aluminum	7260	6350	6140	6870	33000	10000 - 300000
Antimony	18.1	15.3	17.2	16.7 N	0.76	0.2 - 150
Arsenic	2.2	2.3	2.3	3.5	5.0	3.0 - 12.0
Barium	58.7	66.3	62.2	52.1	290	15 - 600
Beryllium	0.6 B	0.52 B	0.53 B	0.53 B	0.6	0 - 1.75
Cadmium	2.1	1.6	1.8	2.1	0.6	0.1 - 7.0
Calcium	74500	64900	71400	65800*	3400	130 - 35000
Chromium	16.3 V	15.5 V	14.9 V	15.2 V*	33	1.5 - 40
Cobalt	10.6 BV	10.0 BV	10.7 BV	9.9 BV	5.9	2.5 - 60
Copper	-	-	-	28.3 EV	20	2.0 - 100
Iron	12500	12100	11800	12200 EV	14000	2000 - 550000
Lead	12 V	12.9 V	11.5 V	9.0 N*	14	4.0 - 61
Magnesium	24800	22200	21200	23800*	6300	400 - 9000
Manganese	408	388	426	472 ENV	850	100 - 4000
Nickel	19.7 V	19.4 V	20.7 V	19.3	40	0.5 - 60
Potassium	1850	1370	1310	1450	12000	100 - 37000
Silver	2.3 V	2.2 BV	2.7 V	2.4 V	-	0.01 - 8.0
Sodium	191 B	159 B	179 B	202 B	6300	150 - 15000
Thallium	ND	0.23 B	ND	ND	-	-
Vanadium	20.9	18	18.6	19.2 V	100	1.3 - 300
Zinc	135	76.6	71.4	69.6 ENV	50	10 - 300
MISCELLANEOUS COMPOUNDS						
Total Cyanide	ND	ND	ND	ND	-	-

L

4.13 Area L-Railroad Transfer/Unloading Platform

The Work Plan called for the collection of a sludge/waste sample from the sump structure located in the middle of the former railroad spur line. The inspection of the sump revealed that is was not accessible, therefore, no sampling was performed in this area.

M

4.14 Area M-Underground Mixing Room

Area M is located adjacent to the northern side of the main building, west of the hazardous waste storage area (Area K) and south of the former railroad transfer/unloading platform (Area L). Area M consists of: the underground mixing room; an underground tunnel between the underground mixing room and the main building structure; two sump structures; and two underground storage tanks. Refer to Plate 1, Areas of Investigation Map.

Purpose of Investigation

Statements made by former Westinghouse employees allege that spills and/or improper disposal of hazardous materials may have occurred in this area during its operation. Two abandoned concrete filled 15,000 gallon underground storage tanks are located within Area M (Empire 1987). Background information indicated that at one time the tanks stored "Formax". Two sumps are located within Area M: one outside the main building (Sump No. 4) and one inside the tunnel (Sump No. 6). The purpose for this investigation was to determine presence or absence of contamination in this area.

Scope of Investigation

The Work Plan initally called for the excavation of four test pits within the backfill material contained within the underground mixing room. However, it was not possible to excavate test pits due to the non-cohesive nature of the fill and the presence of impounded water which continually collapsed the excavation.

Due to the inability to excavate test pits, test borings WEC-B17 and WEC-B18 were drilled. WEC-B17 was located within the backfilled mixing room and WEC-B18 was located between the main building structure and the underground mixing room. Refer to Figure M for test boring/sample locations. WEC-B18 was converted to groundwater monitoring well WEC-MW12 to investigate possible groundwater contamination. A soil sample was obtained from each boring and analyzed for Full CLP parameters and total cyanide (refer to Section 3.4). Methodologies utilized to advance the borings and collect soil samples are presented in Section 3.3 and 3.3.1, respectively. Results of chemical analyses performed on the groundwater sample collected from WEC-MW-12 as well as the associated hydrogeologic investigation are presented in Section 4.20 of this report.

Findings of Investigation

Subsurface Conditions

The backfill materials encountered during the advancement of WEC-B17 consisted predominantly of wet, brown sands and gravels with lesser amounts of silt and wood fragments. The depth of the fill extended approximately seventeen feet below grade. A bluish-sheen was observed in the soil samples collected at a depth of approximately ten feet below grade.

Approximately ten inches of concrete was initially encountered in the drilling of WEC-B18 followed by fill material extending five feet below grade. Glacial till was encountered beneath the fill and extended to the terminus of the borehole. The till consisted of brown clayey silt with varying amounts of embedded gravel and rock fragments. No staining, discoloration or odors were observed in the soil samples recovered from WEC-B18. The geologic logs for WEC-B17 and WEC-B18 are contained in Appendix B.

Air Monitoring/Headspace Results

No elevated VOC levels were detected with the HNU during the course of air monitoring activities, soil screening and headspace analyses conducted in this area. Headspace results are presented on the respective geologic logs found in Appendix B.

Field Observations and Measurements (Sump Sampling)

The surface water sample obtained from Sump No. 4, WEC-SP4, was orange-brown in color and exhibited a visible sheen and a strong solvent odor. Headspace screening by the HNU of the recovered waters indicated VOC levels of 90 ppm. No pH, temperature, or specific conductivity measurements were collected due to the suspected high levels of contamination. The sediment/waste sample obtained from WEC-SP4 was black to orange in color and was sticky and stringy in consistency. Headspace screening of the sediment/waste sample indicated a VOC level greater than 200 ppm.

The surface water sample collected from Sump No. 6, WEC-SP6, was clear and odorless. Measurements associated with the recovered water sample included temperature (43.5°F), pH (7.75) and specific conductivity (340 umhos/cm). Sediment obtained from WEC-SP6 consisted of dark brown silty fine sand and gravel. No elevated HNU readings above ambient background values were obtained from either the surface water or sediment from WEC-SP6 (refer to Appendix F).

Analytical Results

Analyses of the surface water obtained from WEC-SP4 indicated concentration levels of two volatile organic compounds, ethylbenzene and total xylenes, in excess of New York State Water Quality Standards for Class C water. The analytical results associated with the surface water sample collected from WEC-SP6 indicated the presence of volatile organic compounds at levels below the New York State Water Quality Standards.

Semi-volatile organics compounds were detected at elevated concentrations in the surface water samples collected from both WEC-SP4 and WEC-SP6 at levels that exceed the New York State Water Quality Standards for Class C waters(refer to Table M-1).

Several inorganic parameters, predominantly heavy metals, were detected in the surface water samples from each sump location at levels in excess of New York State Water Quality Standards (refer to Table M-2).

Analytical results associated with the sediment recovered from WEC-SP4 (refer to Table M-3) indicated concentration levels in excess of the NYSDEC Soil Guidance Values for two volatile organic compounds: ethylbenzene (170,000 ppb) and total xylenes (1,300,000 ppb). Methyl chloride was detected in the sediment from WEC-SP6 at a concentration level in excess of of the NYSDEC Soil Guidance Values.

Semi-volatile organic compounds, predominantly phenolic-based contaminants, were detected within the sediments collected from both WEC-SP4 and WEC-SP6 at levels which exceeded the NYSDEC Soil Guidance Values (refer to Table M-4).

Elevated levels of inorganic parameters, mainly heavy metals, were detected in the sediments collected from both sump locations (refer to Table M-5).

Analyses of the subsurface soil samples collected from borings WEC-B17 and WEC-B18 indicated low levels of volatile organic compounds at concentrations below NYSDEC Soil Guidance Values(refer to Table M-6).

Semi-volatile organic compounds were detected in the soil samples at concentrations in excess of NYSDEC Soil Guidance Values at both boring locations (refer to Table M-6).

Inorganic parameters detected in the subsurface soil samples are presented in Table M-7. In general, inorganic parameter concentrations were low and within the normal concentration range associated with the site.

Conclusions

The analytical results associated with the surface water and sediment contained in the two sump locations, as well as subsurface soils contained within Area M, indicate an environmental concern. This concern stems not only from elevated contaminants present, but from the possibility of the sump structures leaking into the surrounding groundwater and/or storm water system.

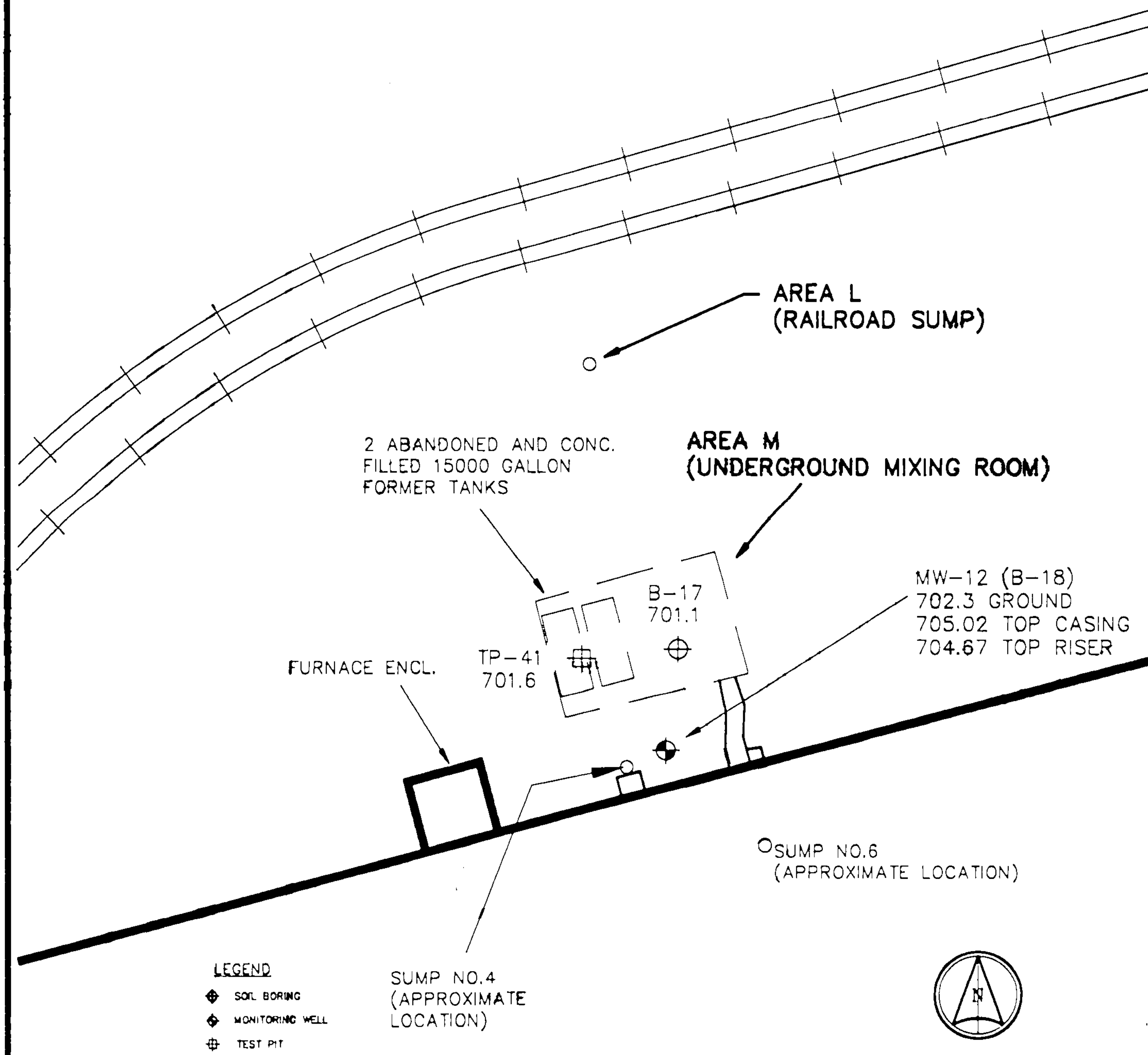

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FIGURE M – UNDERGROUND MIXING AREA

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PROJECT NO. 00296 – 01699	DATE 5/16/91	DWG. NO. 2A08937–M	SCALE 1"=50'	FIGURE NO. M

TABLE M-1

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS
SURFACE WATER SAMPLES
AREA M - UNDERGROUND MIXING ROOM AREA
(Concentration Values in ug/l - ppb)

	SURFACE WATER LOCATION			
	WEC-SP4-L A55800 Outside Sump	WEC-SP6-L A55816 Inside Sump	NYS Water Quality Standards	NYSDEC TOGS (1.1.1)
VOLATILE ORGANIC COMPOUNDS				
Methylene Chloride	4 J	3 J	5.0*	50.0
Acetone	44	ND	NS	50.0
Trichloroethene	6.0	2 J	NS	11.0
Toluene	2 J	ND	5.0*	50.0
Chlorobenzene	2 J	ND	5.0	-
Ethylbenzene	88	ND	5.0*	50.0
Total Xylenes	270 D	ND	5.0*	50.0
Total Volatiles	416	5	NS	100.0
Total Volatile TICs	35	ND	NS	-
SEMI-VOLATILE ORGANIC COMPOUNDS				
Phenol	120000 D	11	5.0	-
2 - Methylphenol	62000 D	5 J	5.0	-
4 - Methylphenol	790000 D	11	5.0	-
2,4 - Dimethylphenol	77000 D	10	5.0	-
Total Semi-Volatiles	1049000	37	NS	-
Total Semi-Volatile TICs	168690 J	11 J	NS	-

* Represents Groundwater Standard (Class GA)

TABLE M-2

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF INORGANIC PARAMETERS
SURFACE WATER SAMPLES
AREA M - UNDERGROUND MIXING ROOM AREA
(Concentration Values in ug/l - ppb)

	SURFACE WATER LOCATION			
	WEC-SP4-L A55800 Outside Sump	WEC-SP6-L A55816 Inside Sump	NYS Water Quality Standards	NYSDEC TOGS (1.1.1)
TAL METALS				
Aluminum	84.6 B	154 B	100	-
Barium	28.6 B	15.7 B	1000	-
Calcium	30300	30700	NS	-
Copper	120	13.7 B	200*	-
Iron	2070	727	300	-
Lead	48.0	3.4	25*	-
Magnesium	3420 B	5850	NS	35000
Manganese	224	23.3	300*	-
Mercury	ND	0.20 NV	NS	0.2
Nickel	49.0	ND	NS	-
Potassium	86700 V	9820 V	NS	-
Selenium	3.0 BNV	ND	1.0	-
Sodium	179000	12800	20000*	-
Zinc	255 EV	67.0 EV	30.0	-
MISCELLANEOUS COMPOUNDS				
Total Cyanide	4.5 B	ND	5.2	-

* Represents Groundwater Standard (Class GA)

TABLE M-3

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF VOLATILE ORGANIC COMPOUNDS
SEDIMENT SAMPLES
AREA M - UNDERGROUND MIXING ROOM AREA
(Concentration Values in ug/kg - ppb)

	SEDIMENT SAMPLE LOCATION		
	WEC-SP4-S A55801 Outside Sump	WEC-SP6-S A55817 Inside Sump	NYSDEC Soil Guidance Values
VOLATILE ORGANIC COMPOUNDS			
Methyl Chloride	ND	13	4.3
Carbon Disulfide	ND	4 J	67.5
Ethylbenzene	170000+	ND	137.5
Total Xylenes	1300000+	ND	30
Total Volatiles	1470000	17	-
Total Volatile TICs	-	ND	-

+Usable data, but out of compliance.

TABLE M-4

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF SEMI-VOLATILE ORGANIC COMPOUNDS
SEDIMENT SAMPLES
AREA M - UNDERGROUND MIXING ROOM AREA
(Concentration Values in ug/kg - ppb)

	SEDIMENT SAMPLE LOCATION		
	WEC-SP4-S A55801 Outside Sump	WEC-SP6-S A55817 Inside Sump	NYSDEC Soil Guidance Values
SEMI-VOLATILE ORGANIC COMPOUNDS			
Phenol	5200000 D	720 J	-
2 - Methylphenol	5000000 D	ND	62.5
4 - Methylphenol	42000000 BD	650 J	62.5
2,4 - Dimethylphenol	15000000 BD	830 J	53.1
Naphthalene	2300000	ND	325
2 - Methylnaphthalene	1600000	ND	10000
4 - Nitrophenol	140000 J	ND	-
Pentachlorophenol	290000 J	ND	530
Phenanthrene	ND	6700	10000
Anthracene	ND	1700 J	10000
Di n-Butylphthalate	ND	220 J	-
Fluoranthene	ND	16000	10000
Pyrene	43000 J	11000	10000
Benzo(a)Anthracene	ND	7600	69.0
Chrysene	ND	8500	10000
bis(2 - Ethylhexyl)Phthalate	ND	2200	10.0
Benzo(b)Fluoranthene	ND	5000	275
Benzo(k)Fluoranthene	ND	7200	27.5
Benzo(a)Pyrene	ND	4000	61.0
Indeno(1,2,3 - cd)Pyrene	ND	2600	80.0
Dibenz(a,h)Anthracene	ND	1300 J	14.0
Benzo(g,h,i)Perylene	ND	2600	80.0
Total Semi-Volatiles	71573000	78820	-
Total Semi-Volatile TICs	97600000 J	30700 J	-

TABLE M-5

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF INORGANIC PARAMETERS
SEDIMENT SAMPLES
AREA M - UNDERGROUND MIXING ROOM AREA
(Concentration Values in mg/kg - ppm)

	SEDIMENT SAMPLE LOCATION			
	WEC-SP4-S A55801 Outside Sump	WEC-SP6-S A55817 Inside Sump	Avg. Conc. of Element in Uncont. Soils	Conc. Range of Element in Uncont. Soils
TAL METALS				
Aluminum	3040	1820	33000	10000 - 300000
Antimony	10.3 B	23.9	0.76	0.2 - 150
Arsenic	3.1 BW	18	5.0	3.0 - 12.0
Barium	131	97.8	290	15 - 600
Beryllium	1.2 B	ND	0.6	0 - 1.75
Cadmium	8.6	36.2	0.6	0.1 - 7.0
Calcium	29900 EV	36200 EV	3400	130 - 35000
Chromium	201 EV	301 EV	33	1.5 - 40
Cobalt	12.0 BV	16.2 V	5.9	2.5 - 60
Copper	300	356	20	2.0 - 100
Iron	44300 EV	168000 EV	14000	2000 - 550000
Lead	124	132 S	14	4.0 - 61
Magnesium	5300 EV	8200 EV	6300	400 - 9000
Manganese	293	1070	850	100 - 4000
Mercury	1.1	0.25	0.06	0.001 - 0.2
Nickel	143	181	40	0.5 - 60
Potassium	740 BV	167 BV	12000	100 - 37000
Selenium	4.9	ND	0.2	0.01 - 12.0
Silver	ND	2.6 B	-	0.01 - 8.0
Sodium	583 B	95.6 B	6300	150 - 15000
Vanadium	10.8 BV	24.8 V	100	1.3 - 300
Zinc	560	1960	50	10 - 300
MISCELLANEOUS COMPOUNDS				
Total Cyanide	ND	ND	-	-

TABLE M-6

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS
SOIL BORING SPLIT-SPOON SAMPLES
AREA M - UNDERGROUND MIXING ROOM AREA
(Concentration Values in ug/kg - ppb)

Boring Location	WEC-B17 A55776	WEC-B18 A55777	NYSDEC Soil Guidance Values
Depth Interval (ft.)	0 - 10	0 - 12	
VOLATILE ORGANIC COMPOUNDS			
Acetone	18	20	-
Toluene	1 J	1 J	37.5
Chlorobenzene	ND	2 J	41.25
Ethylbenzene	3 J	ND	137.5
Total Volatiles	22	23	-
Total Volatile TICs	ND	ND	-
SEMI-VOLATILE ORGANIC COMPOUNDS			
Benzoic Acid	220 J	ND	-
Phenanthrene	130 J	ND	10000
Di-n-Butylphthalate	81 J	ND	-
Fluoranthene	120 J	ND	10000
Pyrene	84 J	ND	10000
Benzo(a)Anthracene	83 J	ND	69.0
bis(2-Ethylhexyl)Phthalate	620 J	280 J	10.0
Total Semi-Volatiles	1338	280	-
Total Semi-Volatile TICs	8100 J	3343 J	-

TABLE M-7

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF INORGANIC PARAMETERS
SOIL BORING/SPLIT-SPOON SAMPLES
AREA M - UNDERGROUND MIXING ROOM AREA
(Concentration Values In mg/kg - ppm)

Test Pit Location	WEC-B17 A55776	WEC-B18 A55777	Avg. Conc. of Element in Uncont. Soils	Conc. Range of Element in Uncont. Soils
Depth Interval (ft.)	0 - 10	0 - 12		
TAL METALS				
Aluminum	2990	7420	33000	10000 - 300000
Antimony	11.9 BN	15.5 N	0.76	0.2 - 150
Arsenic	1.8 B	2.2	5.0	3.0 - 12.0
Barium	12.4 B	59.7	290	15 - 600
Beryllium	0.29 B	0.57 B	0.6	0 - 1.75
Cadmium	1.0 B	1.6	0.6	0.1 - 7.0
Calcium	42900*	70500*	3400	130 - 35000
Chromium	9.3*	15 V*	33	1.5 - 40
Cobalt	5.2 B	10.8 BV	5.9	2.5 - 60
Copper	10.7 EV	21.3 EV	20	2.0 - 100
Iron	6640 EV	13500 EV	14000	2000 - 550000
Lead	6.9 N*	9.7 N*	14	4.0 - 61
Magnesium	18500*	22800*	6300	400 - 9000
Manganese	186 ENV	394 ENV	850	100 - 4000
Nickel	10.7	22.9	40	0.5 - 60
Potassium	788 B	1340	12000	100 - 37000
Silver	1.9 BV	2.1 BV	-	0.01 - 8.0
Sodium	133 B	93.4 B	6300	150 - 15000
Vanadium	13 V	21.4 V	100	1.3 - 300
Zinc	50.8 ENV	68.2ENV	50	10 - 300
MISCELLANEOUS COMPOUNDS				
Total Cyanide	ND	ND	-	-

N

4.15 Area N-Surface Soil Sampling-Parking Lot Areas

Area N is located north of the main building structure and is bounded to the east by Area Q, to the north and northeast by Areas O and Q and to the west by The Greater Buffalo International Airport. Refer to Plate 1, Areas of Investigation.

Purpose of Investigation

Statements made by former Westinghouse employees allege that PCB contaminated oils may have been used in this area for dust control. The purpose for the investigation was to determine the absence or presence of contamination in this area.

Scope of Investigation

To accomplish the objectives stated above, a series of five surface soil samples and one duplicate sample were collected at various locations throughout the paved parking lot area. The designated sampling locations were located to provided systematic areal coverage of the parking lot area. The surface soil samples, WEC-SS2 through WEC-SS6, were obtained as grab samples by stripping the asphalt and gravel base to a depth of approximately one and one half feet via a backhoe and sampling the soil using methodologies described in Section 3.2.3. Refer to Figure N for surface soil sampling locations.

Surface soil samples collected from WEC-SS3 and WEC-SS5 were analyzed for Full CLP parameters and total cyanides. A duplicate surface soil sample was collected from WEC-SS5 in accordance with the Quality Assurance Project Plan (QAPP) and analyzed for Full CLP parameters and total cyanide. The remaining surface soil samples WEC-SS2, WEC-SS4 and WEC-SS6 were analyzed for TCL PCB/Pesticides and total cyanide as specified in the approved Work Plan.

Findings of Investigation

<u>Subsurface Conditions</u>

The soil directly underlying the asphalt and gravel base consisted of native glaciolacustrine strata and till. Dense reddish-brown till with embedded coarse-fine sand and gravel was encountered at WEC-SS2, WEC-SS4 and WEC-SS5. Glaciolacustrine brown-gray clayey silt and light brown to tan oxidized silt layers were encountered in WEC-SS3 and WEC-SS6, respectively. Refer to Appendix F for specific details regarding the surface soil sampling performed in Area N.

Air Monitoring Results

No elevated VOC readings were detected with the HNU above ambient background levels during any phase of the surface soil sampling program.

Analytical Results

Volatile and semi-volatile analytical results from surface soil samples collected in Area N are presented in Table N-1.

The volatile organic compound concentrations detected in the surface soil samples were all below the NYSDEC Soil Guidance Values.

In general, semi-volatile compounds were found in relatively low concentrations. 4-Methylphenol occurred at a concentration of 80 ug/kg in surface soil sample WEC-SS3. Bis (2-ethylhexyl) phthalate was detected at concentrations of 380 ug/kg and 280 ug/kg from surface soil locations WEC-SS3 and WEC-SS5, respectively. All of the above mentioned semi-volatile compounds were detected in concentrations in excess of NYSDEC Soil Guidance Values.

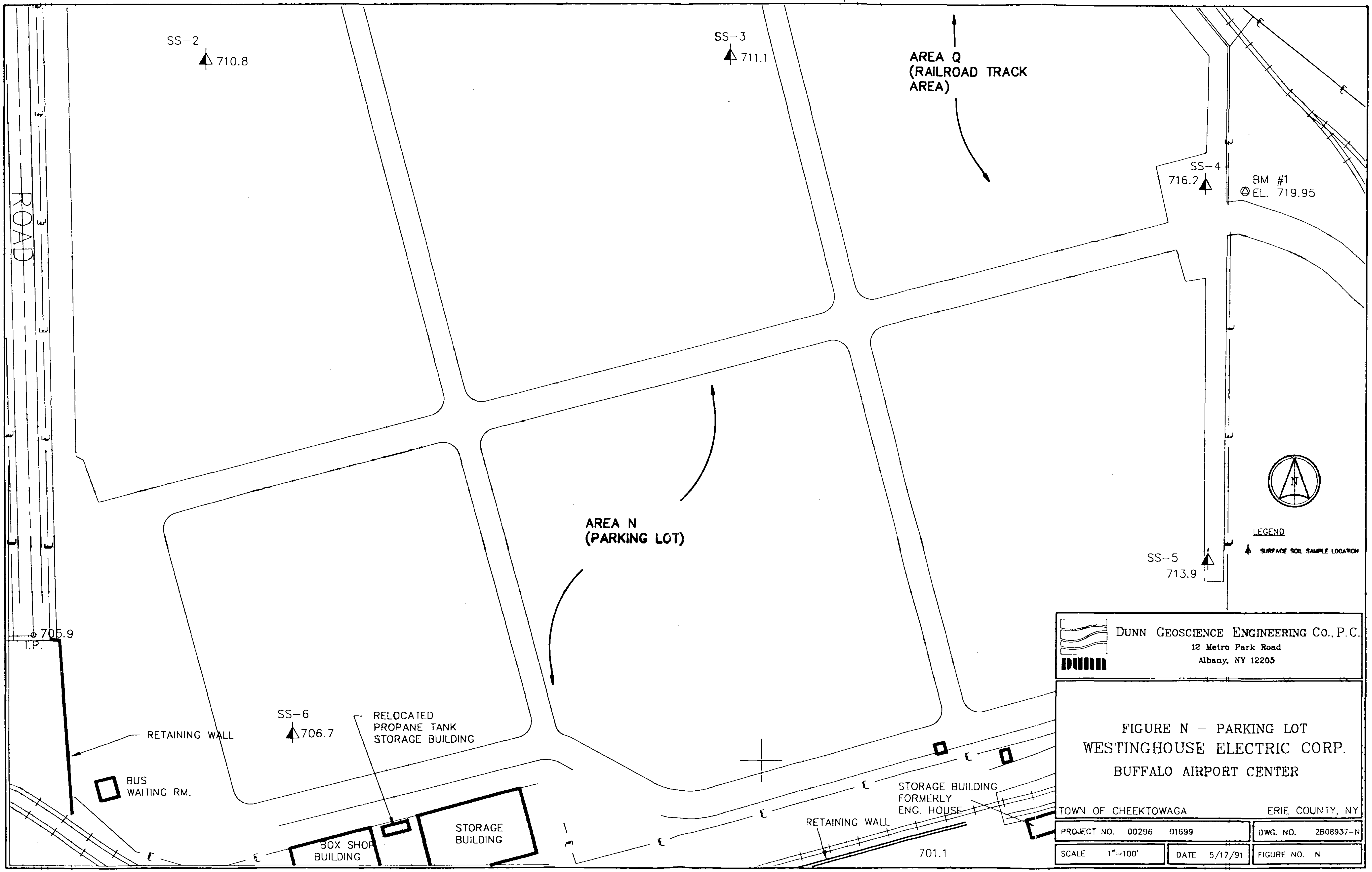
No PCB or pesticide compounds were detected in any of the surface soil samples.

Inorganic parameters detected in the surface soil samples are listed in Table N-1. Virtually no high levels of inorganics were found in the surface soil samples. Elevated levels of calcium and magnesium found in the surface soil samples are not viewed as an indication of contamination, but rather reflect the ambient concentrations of these elements at the site.

Duplicate soil sample WEC-SS5-DUP generally confirmed the presence and concentration levels detected in the associated surface soil sample location of WEC-SS5.

Conclusions

The concentration levels of semi-volatile organic compounds found in surface soil samples obtained from Area N indicates that this area does pose an environmental concern.



SS-2
710.8
SS-3
711.1
AREA Q
(RAILROAD TRACK
AREA)
SS-4
716.2
BM #1
EL. 719.95
ROAD
AREA N
(PARKING LOT)
LEGEND
SURFACE SOIL SAMPLE LOCATION
SS-5
713.9
705.9
I.P.
SS-6
706.7
RELOCATED
PROPANE TANK
STORAGE BUILDING
RETAINING WALL
BUS
WAITING RM.
BOX SHOP
BUILDING
STORAGE
BUILDING
STORAGE BUILDING
FORMERLY
ENG. HOUSE
RETAINING WALL
701.1
DUNN GEOSCIENCE ENGINEERING CO., P.C.
12 Metro Park Road
Albany, NY 12205
dunn
FIGURE N – PARKING LOT
WESTINGHOUSE ELECTRIC CORP.
BUFFALO AIRPORT CENTER
TOWN OF CHEEKTOWAGA
ERIE COUNTY, NY
PROJECT NO. 00296 – 01699
DWG. NO. 2B08937-N
SCALE 1"=100'
DATE 5/17/91
FIGURE NO. N

TABLE N-1

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS
SURFACE SOIL SAMPLES
AREA N - PARKING LOT AREA
(Concentration Values in ug/kg - ppb)

	SURFACE SOIL SAMPLE LOCATION						
	WEC-SS-2 A55779 1.5	WEC-SS-3 A55780 1.5	WEC-SS-4 A55781 1.5	WEC-SS-5 A55782 1.5	WEC-SS-5 DUP A55778 1.5	WEC-SS-6 A55783 1.5	NYSDEC Soil Guidance Values
VOLATILE ORGANIC COMPOUNDS							
Acetone	NA	ND	NA	30	21	NA	-
Trichloroethene	NA	ND	NA	1 J	ND	NA	15.75
Total Volatiles	NA	ND	NA	31	21	NA	-
Total Volatile TICs	NA	7.7 J	NA	ND	ND	NA	-
SEMI-VOLATILE ORGANIC COMPOUNDS							
4 - Methylphenol	NA	80 JV	NA	ND	ND	NA	62.5
Pyrene	NA	ND	NA	88 J	ND	NA	10000
bis(2-Ethylhexyl)Phthalate	NA	380 J	NA	280 J	390 J	NA	10.0
Total Semi-Volatiles	NA	460	NA	368	390	NA	-
Total Semi-Volatile TICs	NA	910 J	NA	310 J	1200 J	NA	-

TABLE N-2

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF INORGANIC PARAMETERS
SURFACE SOIL SAMPLES
AREA N - PARKING LOT AREA
(Concentration Values in mg/kg - ppm)

	SURFACE SOIL SAMPLE LOCATION							
	WEC-SS-2 A55779 1.5	WEC-SS-3 A55780 1.5	WEC-SS-4 A55781 1.5	WEC-SS-5 A55782 1.5	WEC-SS-5 DUP A55778 1.5	WEC-SS-6 A55783 1.5	Avg. Conc. of Element in Uncont. Soils	Conc. Range of Element in Uncont. Soils
TAL METALS								
Aluminum	NA	5290	NA	5920	11900	NA	33000	10000 - 300000
Antimony	NA	3.6 BN	NA	23.5 N	17.9 N	NA	0.76	0.2 - 150
Arsenic	NA	2.0 B	NA	3.6	2.7	NA	5.0	3.0 - 12.0
Barium	NA	47.1	NA	41.5 B	87.7	NA	290	15 - 600
Beryllium	NA	0.30 B	NA	0.58 B	0.69 B	NA	0.6	0 - 1.75
Cadmium	NA	ND	NA	2.5	1.9	NA	0.6	0.1 - 7.0
Calcium	NA	2080*	NA	105000*	33400*	NA	3400	130 - 35000
Chromium	NA	5.2*	NA	16.2 V*	17.5 V*	NA	33	1.5 - 40
Cobalt	NA	4.7 B	NA	11.7 V	10.3 BV	NA	5.9	2.5 - 60
Copper	NA	12.6 EV	NA	16.7 EV	18.3 EV	NA	20	2.0 - 100
Iron	NA	11300 EV	NA	9630 EV	15300 EV	NA	14000	2000 - 550000
Lead	NA	6.5 N*	NA	14.5 NV*	13.1SNV*	NA	14	4.0 - 61
Magnesium	NA	1340*	NA	52400*	18200*	NA	6300	400 - 9000
Manganese	NA	211 ENV	NA	500 ENV	390 ENV	NA	850	100 - 4000
Nickel	NA	10.7 V	NA	21.6 V	21.4 V	NA	40	0.5 - 60
Potassium	NA	346 B	NA	1150	2070	NA	12000	100 - 37000
Silver	NA	ND	NA	2.5 V	2.2 V	NA	-	0.01 - 8.0
Sodium	NA	64.5 B	NA	200 B	132 B	NA	6300	150 - 15000
Vanadium	NA	16.6 V	NA	19.8 V	25.1 V	NA	100	1.3 - 300
Zinc	NA	35.7 ENV	NA	45.3 ENV	79.2 ENV	NA	50	10 - 300
MISCELLANEOUS COMPOUNDS								
Total Cyanide	ND	ND	ND	0.51 B	ND	ND	-	-

O

4.16 Area O-Gunnery Range

Area O is located in the northern portion of the site and is bounded to the north and east by a fenceline located along the abandoned Lehigh Valley Railroad, to the south by Area Q (The Railroad Track Area) and to the west and northwest by Area P-The Flying Tiger's Area. Refer to Plate 1, Areas of Investigation.

Purpose of Investigation

The purpose of investigating the Gunnery Range was to determine the absence or presence of contamination and verify statements and information provided by former Westinghouse employees regarding alleged waste disposal activities in this area.

Scope of Investigation

A series of fourteen test pits were excavated and three soil borings were drilled within Area O. The original Work Plan called for the excavation of ten test pits within the Gunnery Range, however, the area of investigation was expanded to afford additional aerial coverage of lands adjacent to the Gunnery Range. Four additional exploratory test pits were excavated west of the Gunnery Range. All fourteen test pits, WEC-TP25 through WEC-TP38, were located to provide systematic areal coverage such that a representative characterization of the subsurface conditions could be determined. Refer to Figure O for the location of test pits and borings in this area.

Based on field observations made during the excavations, samples were collected and submitted for chemical analysis from six of the fourteen test pits: WEC-TP26, WEC-TP28, WEC-TP29, WEC-TP32, WEC-TP34 and WEC-TP35. Grab soil samples were obtained from a discrete interval in test pits WEC-TP28, WEC-TP29 and WEC-TP35 on the basis of elevated HNU readings or observed visual contamination. Composite samples were obtained from test pits WEC-TP26, WEC-TP32 and WEC-TP34 to provide adequate aerial coverage over a larger depth interval (i.e., one to four or two to six feet) due to the absence of elevated HNU readings or visual contamination. The soil samples were analyzed for Full CLP parameters and total cyanide (refer to Section 3.9).

Soil borings WEC-B21, WEC-B22 and WEC-B23 were drilled to characterize the subsurface conditions and investigate possible groundwater contamination in this area. Borings WEC-B21 and WEC-B23 were converted to monitoring wells WEC-MW14 and WEC-MW15, respectively. Monitoring well WEC-MW14 was installed to assess the groundwater quality within the Gunnery Range. Monitoring well WEC-MW15 was installed in the vicinity of WEC-TP35 based on possible subsurface contamination conditions encountered during excavation of the test pit. Chemical analyses were not performed on soil recovered from the test borings due to the proximity of the previously sampled test pits. Field procedures utilized for the excavation and sampling of test pits, the drilling of soil borings and the installation of monitoring wells were performed in accordance with the methodologies outlined in Section 3.3 and 3.4 of this report.

One groundwater sample was obtained from each monitoring well and analyzed for Full CLP parameters and total cyanide (refer to Section 3.9). Results of the groundwater analyses as well as the associated hydrogeologic investigation are presented in Section 4.20.

The final phase of the investigation consisted of the collection of both an aqueous and non-aqueous sample from a sump located along the southern berm of the Gunnery Range. Refer to Figure O for the location of the sump. The sump was a crudely constructed pit, approximately nine feet deep, which was capped with an open-ended 55 gallon steel drum. The specific nature and construction of the sump are unknown The surface water and sediment samples from the sump were analyzed for Full CLP parameters and total cyanide. Methodologies used to collect samples from the sump are presented in Section 3.2.1.

Findings of Investigation

<u>Subsurface Conditions</u>

Test pit dimensions varied as a result of the subsurface conditions encountered at each location and ranged from five to twelve and one half feet deep, seven to twelve feet long and three feet wide. The subsurface stratigraphy consisted of both fill material and native strata which varied in thickness and areal extent.

In general, the fill material encountered in Area O was limited in thickness. However, WEC-TP29 encountered approximately twelve feet of loose fill material consisting of brown clayey silt with embedded coarse-fine sand and gravel. Underlying the loose fill was a seam consisting of moist-wet, brown-black, fine to coarse sand, slag and cinders. A 0.2 foot concrete slab was encountered at twelve feet and was underlain by dense reddish brown native till. The fill material encountered in the remainder of Area O ranged in thickness from zero to three feet and was comprised of brown, gray-black clayey silt with varying amounts of sand and gravel, organic material and/or construction and demolition debris.

The native strata included glaciolacustrine units and till. The glaciolacustrine layers consisted of a brown-gray clayey silt unit with fine to coarse sand and gravel underlain by a light brown-tan oxidized silt layer. The two layers ranged in thickness from one half to two and one half feet and zero to ten feet, respectively.

Dense reddish-brown till was encountered beneath the fill and/or glaciolacustrine strata. The till unit was comprised of moist-dry clayey silt and embedded coarse to fine sand and gravel. Refer to Appendix B for detailed geologic descriptions of the fill material and native strata encountered in excavations and soil borings advanced in Area O.

Air Monitoring Results/Soil Screening Results

Air monitoring activities were employed in all phases of the subsurface investigation using the methodologies described in Section 3.6. Organic vapor levels as measured by the HNU were detected above ambient background values in four of the fourteen test pit locations: WEC-TP28, WEC-TP29, WEC-TP35 and WEC-TP36. A strong solvent odor was observed during the excavation of WEC-TP35. During the drilling of WEC-B23, the HNU detected VOC levels above ambient background values (refer to the table below for HNU readings).

HNU READINGS OF SOIL IN BACKHOE BUCKET

Depth Interval (ft)	WEC-TP28	WEC-TP29	WEC-TP35	WEC-TP36
0 - 1	0.2	0.2	0.6	0.6
1 - 2	0.2	0.2	0.6	5
2 - 3	0.2	0.2	200	20
4 - 5	5.0	0.2	500 - 750	50+
5 - 6	2.0	0.2	200 - 500	40
6 - 7	20.0	0.2	40	
7 - 8	5.0	0.2	200 - 500	
8 - 9		0.2	200 - 500	
9 - 10		0.2	5	
10 - 11		18.0		
11 - 12		20.0		

BOREHOLE WEC-B23

Depth Interval (ft)	HNU Reading
0 - 5	0.6
5 - 10	0.8
10 - 15	25
15 - 20	110

Analytical Results

Volatile and semi-volatile organic compounds detected in the surface water of sump sample WEC-SP5 are listed on Table O-1. No volatile organic compounds were detected in the surface water sample. One semi-volatile organic compound, pyrene, was detected at a concentration below the New York State Water Quality Standard (Class C).

Inorganic parameters concentrations in the surface water (refer to Table O-2) were relatively low, however, iron (1970 ug/l) and zinc (57.7 ug/l) were found in concentrations in excess of New York State Water Quality Standards (Class C).

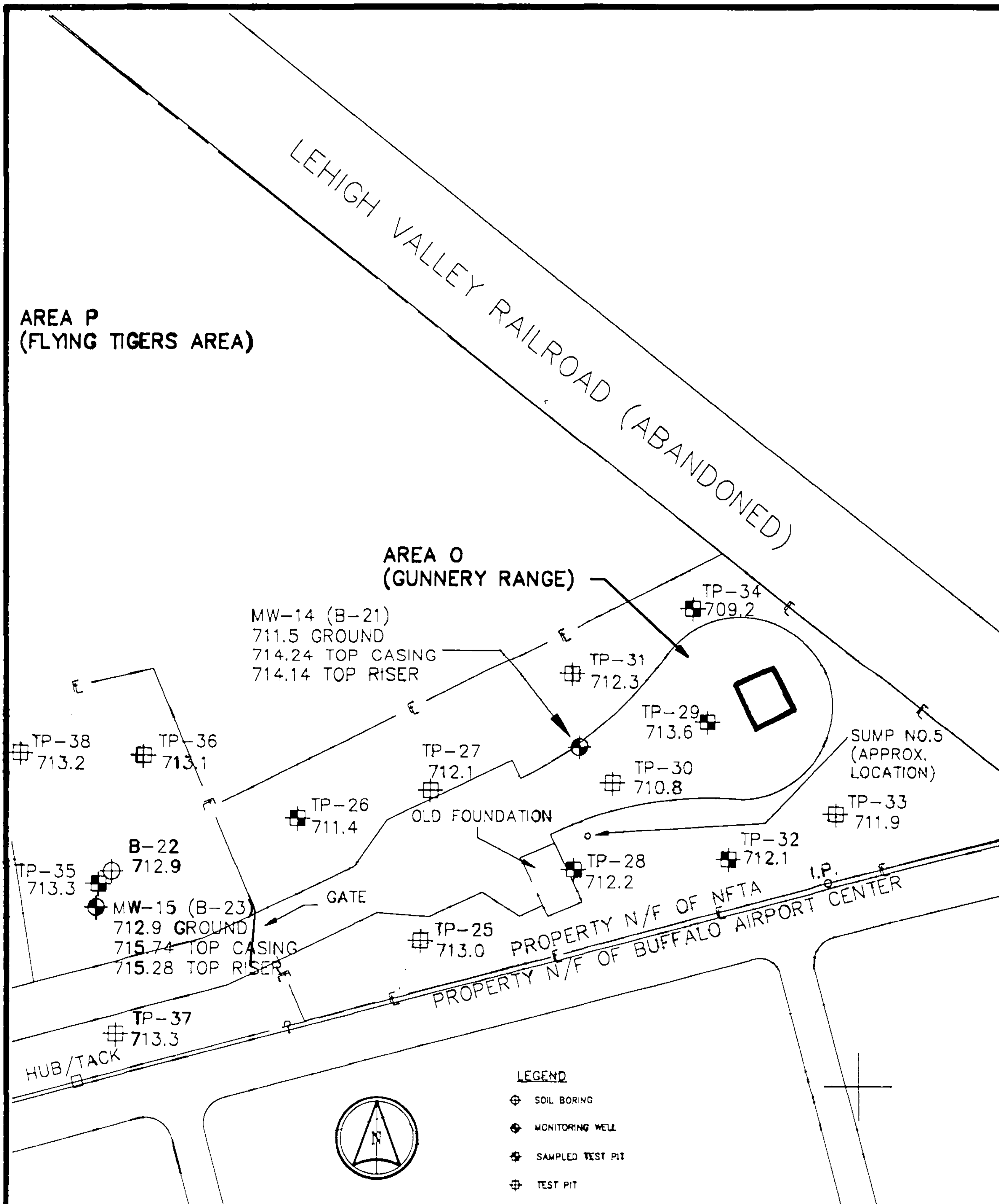
Analytical results associated with sediment sample WEC-SP5 collected from the sump indicated elevated concentrations of both volatile and semi-volatile organic compounds in excess of NYSDEC Soil Guidance Values (refer to Table O-3). Ethylbenzene (11,000 ug/l) and total xylenes (100,000 ug/l) were the volatile organic compounds detected in the sediment with the highest concentrations. The semi-volatile compounds in excess of the NYSDEC Soil Guidance Values were primarily phenolic compounds and PAHs. Elevated concentrations of several inorganic parameters were also detected in the sediment sample (refer to Table O-4).

Volatile and semi-volatile organic compounds detected in the test pit soil samples collected are listed in Table O-5. In general, the test pit soil samples contained relatively low concentrations of volatile and semi-volatile compounds. However, the soil sample collected from WEC-TP35 contained elevated levels of volatile and semi-volatile organic compounds in excess of NYSDEC Soil Guidance Values. The total volatile organic compound level detected in the soil sample from WEC-TP35 was 100,350 ug/kg.

Inorganic parameters detected in the test pit soil samples are presented in Table O-6. In general, the inorganic concentration values detected in the test pit soil samples were low and within the normal concentrations range associated with the site.

Conclusions

The elevated levels of volatile and semi-volatile organic compounds detected in the subsurface soil sample from WEC-TP35 and sump sediment sample WEC-SP5-S appear to confirm allegations of past waste disposal activities in this area. The analytical results as well as the information obtained during the subsurface program indicate that this area does pose an environmental concern.



DUNN GEOSCIENCE ENGINEERING CO., P.C.
12 Metro Park Road
Albany, NY 12205

FIGURE O – GUNNERY RANGE

WESTINGHOUSE ELECTRIC CORP.
BUFFALO AIRPORT CENTER

PROJECT NO. 00296 – 01699	DATE 5/17/91	DWG. NO. 2A08937-O	SCALE 1"=100'	FIGURE NO. O

TABLE O-1

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS
SURFACE WATER SAMPLES
AREA O - GUNNERY RANGE AREA
(Concentration Values in ug/l - ppb)

	SURFACE WATER LOCATION		
	WEC-SP5-L A55802 Sump	NYS Water Quality Standards	NYSDEC TOGS (1.1.1)
VOLATILE ORGANIC COMPOUNDS			
Total Volatiles	ND	NS	100.0
Total Volatile TICs	ND	NS	-
SEMI-VOLATILE ORGANIC COMPOUNDS			
Pyrene	2 J	NS	50
Total Semi-Volatiles	2.0	NS	-
Total Semi-Volatile TICs	ND	NS	-

TABLE O-2

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF INORGANIC PARAMETERS
SURFACE WATER SAMPLES
AREA O - GUNNERY RANGE AREA
(Concentration Values in ug/l - ppb)

	SURFACE WATER LOCATION WEC-SP5-L A55802 Sump	NYS Water Quality Standards	NYSDEC TOGS (1.1.1)
TAL METALS			
Aluminum	1300	100	-
Barium	37.8 B	1000	-
Calcium	63700	NS	-
Copper	6.7 B	200*	-
Iron	1970	300	-
Lead	3.7	25*	-
Magnesium	13000	NS	35000
Manganese	42.3	300*	-
Potassium	1460 BV	NS	-
Sodium	1920 B	20000*	-
Vanadium	3.5 B	14.0	-
Zinc	57.7 EV	30.0	-
MISCELLANEOUS COMPOUNDS			
Total Cyanide	ND	5.2	-

* Represents Groundwater Standard (Class GA)

TABLE O-3

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS
SEDIMENT SAMPLES
AREA O - GUNNERY RANGE AREA
(Concentration Values in ug/kg - ppb)

	SEDIMENT SAMPLE LOCATION	
	WEC-SP5-S A55803 Sump	NYSDEC Soil Guidance Values
VOLATILE ORGANIC COMPOUNDS		
Ethylbenzene	11000	137.5
Total Xylenes	100000 E	30.0
Total Volatiles	111000	-
Total Volatile TICs	ND	-
SEMI-VOLATILE ORGANIC COMPOUNDS		
4 - Methylphenol	500 J	62.5
2,4 - Dimethylphenol	150 J	53.1
Benzoic Acid	1400 J	-
Naphthalene	160 J	325
Acenaphthene	1100	2300
Dibenzofuran	1100	-
Fluorene	1400	9125
Pentachlorophenol	240 J	530
Phenanthrene	4000	10000
Anthracene	1200	10000
Fluoranthene	3500	10000
Pyrene	3900	10000
Benzo(a)Anthracene	890 J	69.0
Chrysene	670 J	10000
Bis(2-Ethylhexyl)Phthalate	890 J	10.0
Benzo(b)Fluoranthene	410 J	275
Benzo(k)Fluoranthene	490 J	27.5
Benzo(a)Pyrene	440 J	61.0
Indeno(1,2,3 - cd)Pyrene	430 J	80.0
Benzo(g,h,i)Perylene	390 J	80.0
Total Semi-Volatiles	23260	-
Total Semi-Volatile TICs	28470 J	-

TABLE O-4

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF INORGANIC PARAMETERS
SEDIMENT SAMPLES
AREA O - GUNNERY RANGE AREA
(Concentration Values in mg/kg - ppm)

	SEDIMENT SAMPLE LOCATION		
	WEC-SP5-S A55803 Sump	Avg. Conc. of Element in Uncont. Soils	Conc. Range of Element in Uncont. Soils
TAL METALS			
Aluminum	2260	33000	10000 - 300000
Antimony	17.6	0.76	0.2 - 150
Arsenic	34.8	5.0	3.0 - 12.0
Barium	114	290	15 - 600
Cadmium	18.8	0.6	0.1 - 7.0
Calcium	49100 EV	3400	130 - 35000
Chromium	32.8 EV	33	1.5 - 40
Cobalt	11.6 BV	5.9	2.5 - 60
Copper	179	20	2.0 - 100
Iron	146000 EV	14000	2000 - 550000
Lead	118	14	4.0 - 61
Magnesium	8100 EV	6300	400 - 9000
Manganese	612	850	100 - 4000
Mercury	0.22	0.06	0.001 - 0.2
Nickel	45.8	40	0.5 - 60
Potassium	325 BV	12000	100 - 37000
Silver	2.0 B	-	0.01 - 8.0
Sodium	80.7 B	6300	150 - 15000
Vanadium	10.0 BV	100	1.3 - 300
Zinc	237	50	10 - 300
MISCELLANEOUS COMPOUNDS			
Total Cyanide	ND	-	-

TABLE O-5

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS
TEST PIT SOIL SAMPLES
AREA O - GUNNERY RANGE AREA
(Concentration Values in ug/kg - ppb)

Test Pit Location	WEC-TP26 A55771	WEC-TP28 A55772	WEC-TP29 A55773		WEC-TP32 A55785	WEC-TP34 A55786	WEC-TP35 A55784	NYSDEC Soil Guidance Values
Depth Interval (ft.)	1 - 4	7.0	11 - 12	1 - 12	2 - 6	1 - 6	3 - 4	
VOLATILE ORGANIC COMPOUNDS								
Acetone	ND	ND	ND		27	25	ND	ND
Carbon Disulfide	ND	ND	8.0		ND	ND	ND	67.5
Benzene	ND	ND	4 J		ND	ND	ND	1.5
Toluene	ND	ND	ND		ND	ND	350 J	37.5
Ethylbenzene	ND	ND	ND		ND	ND	20000	137.5
Xylene (Total)	ND	ND	3 J		ND	ND	80000 E	30
Total Volatiles	ND	ND	15		27	25	100350	-
Total Volatile TICs	ND	ND	396.8 J		ND	ND	ND	-
SEMI-VOLATILE ORGANIC COMPOUNDS								
Phenol	ND	ND		ND	ND	ND	470 J	-
2 - Methylphenol	ND	ND		ND	ND	ND	810	62.5
4 - Methylphenol	ND	ND		ND	ND	ND	21000 V	62.5
2,4 - Dimethylphenol	ND	ND		ND	ND	ND	840	53.1
2 - Methylnaphthalene	ND	ND		ND	ND	ND	830 B	10000
Fluorene	ND	ND		ND	ND	ND	120 J	9125
Phenanthrene	ND	ND		73 J	ND	ND	660 J	10000
Anthracene	ND	ND		73 J	ND	ND	140 J	10000
Fluoranthene	ND	ND		120 J	ND	ND	520 J	10000
Pyrene	ND	ND		88 J	ND	ND	520 J	10000
Benzo(a)Anthracene	ND	ND		ND	ND	ND	230 J	69.0
Chrysene	ND	ND		81 J	ND	ND	230 J	10000
bis(2 - Ethylhexyl)Phthalate	150 J	110 J		120 J	ND	ND	390 J	10.0
Benzo(b)Fluoranthene	ND	ND		ND	ND	ND	160 J	275
Benzo(k)Fluoranthene	ND	ND		ND	ND	ND	190 J	27.5
Benzo(a)Pyrene	ND	ND		ND	ND	ND	180 J	61.0
Total Semi-Volatiles	150	110		555	ND	ND	27290	-
Total Semi-Volatile TICs	1090 J	1000 J		460 J	ND	590 J	231300 J	-

TABLE O-6

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF INORGANIC PARAMETERS
TEST PIT SOIL SAMPLES
AREA O - GUNNERY RANGE AREA
(Concentration Values in mg/kg - ppm)

Test Pit Location	WEC-TP26 A55771	WEC-TP28 A55772	WEC-TP29 A55773	WEC-TP32 A55785	WEC-TP34 A55786	WEC-TP35 A55784	Avg. Conc. of Element in Uncont. Soils	Conc. Range of Element in Uncont. Soils
Depth Interval (ft.)	1 - 4	7	1 - 12	2 - 6	1 - 6	3 - 4		
TAL METALS								
Aluminum	7720	7350	4830	7900	10900	7410	33000	10000 - 300000
Antimony	16.3 N	16.1 N	19.2 N	17.9 N	20.9 N	16.3 N	0.76	0.2 - 150
Arsenic	3.6	3.2	3.0	3.2	5.2	3.3	5.0	3.0 - 12.0
Barium	67.7	75.5	50.3	79.3	96.9	75.1	290	15 - 600
Beryllium	0.58 B	0.54 B	0.4 B	0.56 B	0.74 B	0.55 B	0.6	0 - 1.75
Cadmium	1.9	1.8	1.5	1.8	2.2	1.7	0.6	0.1 - 7.0
Calcium	94400*	68800*	58300*	67700*	83300*	74500*	3400	130 - 35000
Chromium	17 V*	15.7 V*	13.6 V*	16.7 V*	21 V*	15.8 V*	33.0	1.5 - 40.0
Cobalt	10.6 BV	11.0 V	7.9 BV	10.8 BV	13.6 BV	9.6 BV	5.9	2.5 - 60
Copper	25.8 EV	21.2 EV	66 EV	19.6 EV	24.2 EV	17.7 EV	20	2.0 - 100
Iron	13500 EV	13200 EV	10100 EV	13500 EV	18700 EV	11600 EV	14000	2000 - 550000
Lead	17.4 N*	11.1 N*	101 N*	11.9 N*	14.7 NV*	11.8 N*	14	4.0 - 61
Magnesium	21100*	24600*	21000*	24000*	26800*	20200*	6300	400 - 9000
Manganese	443 ENV	439 ENV	362 ENV	424 ENV	501 ENV	565ENV	850	100 - 4000
Nickel	21.3 V	21.3 V	18 V	21.3 V	27.8 V	20 V	40	0.5 - 60
Potassium	1180 B	1800	1040 B	2020	2220	1220	12000	100 - 37000
Silver	2.4 V	2.3 V	2.2 B V	2.6 V	3.3 V	2.2 B V	-	0.01 - 8.0
Sodium	133 B	163 B	134 B	171 B	185 B	153 B	6300	150 - 15000
Thallium	ND	ND	ND	ND	ND	0.22 B	-	-
Vanadium	20.4 V	21.5 V	15.8 V	22.5 V	28.7 V	18.3 V	100	1.3 - 300
Zinc	68.4 ENV	80.7 ENV	65.4 ENV	70.7 ENV	89.6 ENV	70.4 ENV	50	10 - 300
MISCELLANEOUS COMPOUNDS								
Total Cyanide	0.42 B	ND	ND	ND	ND	ND	-	-

P

4.17 Area P-Flying Tiger's Area

The Flying Tiger's Area is located in the northern portion of the project site. It is bounded to the west and north by the Greater Buffalo International Airport and to the south by the Gunnery Range. Refer to Plate 1, Areas of Investigation Map.

Purpose of Investigation

Statements made by former Westinghouse employees allege that waste disposal activities may have occurred in Area P. A subsurface investigation in this area conducted by Empire Soils Investigations, Inc. during 1987 indicated the presence of toluene and several heavy metals in the subsurface soils. The purpose of investigating this area was to determine the presence or absence of subsurface contamination and to verify previous analytical results.

Scope of Investigation

A total of five test borings, WEC-B25 through WEC-B29, were drilled and one test pit, WEC-TP39, was excavated. Refer to Figure P for test pit and boring locations. One soil sample was collected from each test boring and analyzed for Full CLP parameters and total cyanide (refer to Section 3.9). Drilling and sampling of the test borings were performed in accordance with Section 3.3 of this report.

Findings of Investigation

Subsurface Conditions

Fill material was encountered in both the test pit and boring locations and ranged in depth from three and one half to five feet below grade. The fill consisted predominantly of loose brown silty gravel with varying amounts of sand. A layer of black silty sand approximately three feet thick was noted in WEC-B27 and WEC-TP39. A petroleum odor was noted in the fill recovered from WEC-B28. As the boring was advanced into the glacial till, a distinct chemical solvent odor was noted.

A glaciolacustrine layer consisting of brown varved silt and clay was encountered beneath the fill in WEC-B27 and WEC-B29. This layer is characterized by high plasticity and ranged in thickness from three and one half to five and one half feet.

Glacial till was encountered beneath the fill or glaciolacustrine layer at all locations. The till consisted of a brown to reddish-brown dense clayey silt with varying amounts of embedded gravel and rock fragments. No staining or discoloration was observed in any of the recovered till samples, however, a petroleum odor was noted in WEC-B26. Detailed geologic descriptions of the fill and native strata encountered are presented in Appendix B of this report.

Air Monitoring/Headspace Results

Air monitoring with the HNU did not detect any readings above ambient background levels in the breathing zone or work area at any of the test boring or test pit locations. Elevated VOC levels were detected with an HNU during the advancement of WEC-B28. The table below presents the results of headspace screening performed on the soil samples recovered from the five test borings.

HEADSPACE SCREENING RESULTS-AREA P

Sample	VOC Concentration (ppm)				
Depth (ft)	WEC-B25	WEC-B26	WEC-B27	WEC-B28	WEC-B29
0 - 2	0.6	0.4	0.6	160	3.8
2 - 4	N/A	0.6	0.6	200	2.2
4 - 6	0.6	6.0	1.0	170	1.4
6 - 8	1.2	2.6	5.0	250	1.2
8 - 10	0.8	3.0	40	200	1.0
10 - 12	0.4	0.8	25	250	0.6
12 - 14	0.4	0.6	3.5	80	0.6

HEADSPACE SCREENING RESULTS-AREA P (Continued)

Sample Depth (ft)	VOC Concentration (ppm) WEC-B25	WEC-B26	WEC-B27	WEC-B28	WEC-B29
14 - 16	0.4	0.6	6.0	1.0	0.6
16 - 18	0.4	0.6	1.5	1.5	0.6
18 - 20	0.4	0.6	0.4	1.0	0.6

Analytical Results

Analyses of the subsurface soil samples indicates the presence of several volatile organic compounds at concentration levels above the NYSDEC Soil Guidance Values (refer to Table P-1). These locations correspond with areas which exhibited elevated HNU readings during boring/test pit advancement.

Semi-volatile organic compounds were detected within the subsurface soil samples collected from WEC-B26, WEC-B27, WEC-B28 and WEC-TP39 (refer to Table P-2) at concentrations in excess of the NYSDEC Soil Guidance Values.

A PCB compound, Aroclor-1254, was detected within the subsurface soil sample collected from WEC-B28 at a level in excess of NYSDEC Soil Guidance Values (refer to Table P-2).

In general, the inorganic analytical results associated with the subsurface soils were within the normal concentration ranges associated with the project site. However, inorganic results associated with the subsurface soil sampled from WEC-TP39 indicated elevated concentration levels of arsenic, barium, beryllium, copper and mercury.

The analytical results obtained from duplicate sample WEC-B28-DUP generally reflect the compounds and concentration levels detected within the associated soil sample, with the exception of bis (2-ethyhexyl) phthalate, which was detected at a concentration of 1200 ug/kg in soil sample WEC-B28-DUP, but was not detected in soil sample WEC-B28.

Conclusions

Based upon the analytical results obtained from subsurface soil samples collected during this investigation, this area poses an environmental concern. In addition, the presence of these contaminants appear to confirm allegations of waste disposal activities in this area.

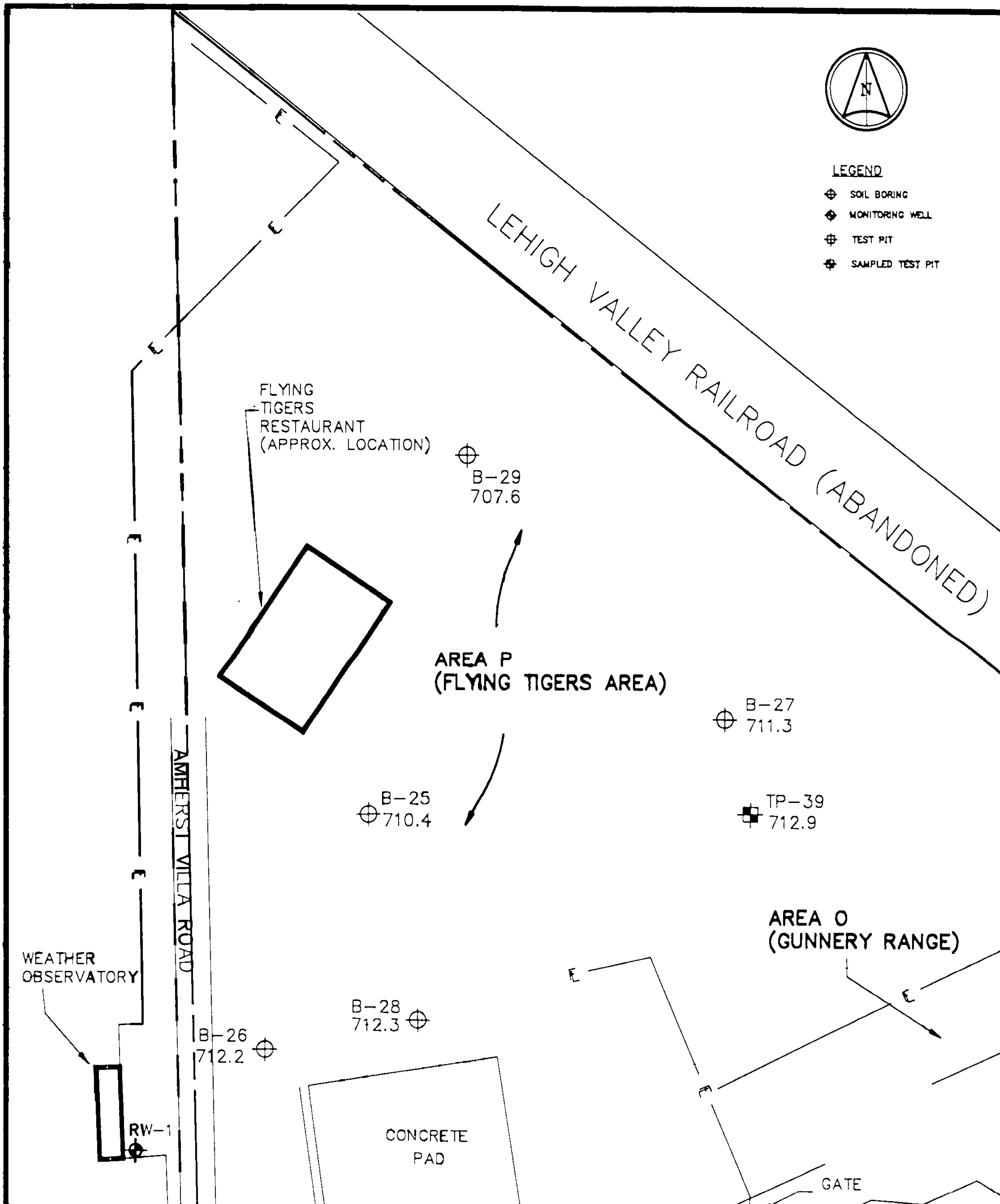


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FIGURE P – FLYING TIGERS AREA

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PROJECT NO. 00296 – 01699	DATE 5/17/91	DWG. NO. 2A08937-P	SCALE 1"=100'	FIGURE NO. P

TABLE P-1

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF VOLATILE ORGANIC COMPOUNDS
SOIL BORING/TEST TRENCH SAMPLES
AREA P - FLYING TIGER'S AREA
(Concentration Values in ug/kg - ppb)

Boring/Test Trench Location	WEC-B25 A55789	WEC-B26 A55790		WEC-B27 A55792		WEC-B28 A55793		WEC-B-28-DUP A55796		WEC-B29 A55794	WEC-TP39 A55787	NYSDEC Soil Guidance Values
Depth Interval (ft.)	0 - 10	4 - 6	0 - 10	4 - 6	0 - 10	4 - 6	0 - 10	4 - 6	0 - 10	0 - 10	4 - 5	
VOLATILE ORGANIC COMPOUNDS												
Vinyl Chloride	ND	ND		ND		29 V		9 JV		ND	ND	-
Methylene Chloride	17	8.0		30 V		9 V		7 V		5 J	25 V	-
Carbon Disulfide	3 J	2 J		5 JV		3 JV		3 JV		2 J	6 JV	67.5
1,2 - Dichloroethene (Total)	ND	ND		26 V		4 JV		3 J		ND	ND	45.0
2 - Butanone	11 J	5 J		ND		13 V		13 V		ND	55 V	-
1,1,1 - Trichloroethane	19	12		23 V		15 V		12 V		4 J	170 V	19.0
Vinyl Acetate	ND	1 J		ND		ND		ND		ND	ND	-
Trichloroethene	3 J	ND		12 V		3 JV		ND		ND	23 V	15.75
Benzene	1 J	ND		ND		3 JV		1 JV		ND	5 JV	1.5
4 - Methyl - 2 - Pentanone	3 J	ND		ND		98 V		ND		ND	45 V	-
2 - Hexanone	ND	ND		ND		490 E		ND		ND	ND	-
Toluene	12	2 J		43 V		6100 D		930 D		19	65 V	37.5
Ethylbenzene	ND	ND		ND		1300 D		140 V		1 J	ND	137.5
Styrene	2 J	ND		ND		ND		ND		ND	ND	-
Xylene (Total)	ND	ND		5 JV		9300 D		740 D		4 J	ND	30.0
Total Volatiles	71	30		144		17367		1846		35	394	-
Total Volatile TICs	70 J	530 J		456 J		1270000 J		2598 J		170 J	5110 J	-

TABLE P-2

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF SEMI-VOLATILE ORGANIC AND PEST/PCB COMPOUNDS
SOIL BORING/TEST TRENCH SAMPLES
AREA P - FLYING TIGER'S AREA
(Concentration Values in ug/kg - ppb)

Boring/Test Trench Location	WEC-B25 A55789	WEC-B26 A55790		WEC-B27 A55792		WEC-B28 A55793		WEC-B28-DUP A55796		WEC-B29 A55794	WEC-TP39 A55787	NYSDEC Soil Guidance Values
Depth Interval (ft.)	0 - 10	4 - 6	0 - 10	4 - 6	0 - 10	4 - 6	0 - 10	4 - 6	0 - 10	0 - 10	4 - 5	
SEMI-VOLATILE ORGANIC COMPOUNDS												
Napthalene	ND		ND		ND		220 J		420 J	ND	ND	325
Dibenzofuran	ND		ND		100 J		ND		ND	ND	ND	-
Phenanthrene	ND		830		1700		ND		ND	ND	ND	10000
Fluoranthene	ND		1700		2100		ND		ND	ND	ND	10000
Pyrene	ND		1800		1400		ND		ND	ND	ND	10000
Benzo(a)anthracene	ND		890		690 J		ND		ND	ND	ND	69.0
Chrysene	ND		1200		830		ND		ND	ND	ND	10000
bis(2-Ethylhexyl)phthalate	ND		ND		330 J		ND		1200	ND	430 J	10.0
Benzo(b)Fluoranthene	ND		1700		1100		ND		ND	ND	ND	275
Benzo(k)Fluoranthene	ND		950		ND		ND		ND	ND	ND	27.5
Benzo(a)Pyrene	ND		990		690 J		ND		ND	ND	ND	61.0
Total Semi-Volatiles	ND		10060		8940		220		1620	ND	430	-
Total Semi-Volatile TICs	1000 J		6700 J		900 J		35000 J		49000 J	700 J	600 J	-
PEST/PCB COMPOUNDS												
Aroclor - 1254	ND		ND		ND		95 J		160 J	ND	ND	13.25

TABLE P-3

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF INORGANIC PARAMETERS
SOIL BORING/TEST TRENCH SAMPLES
AREA P - FLYING TIGER'S AREA
(Data Reported in mg/kg - ppm)

Soil Boring/Test Pit Location	WEC-B25 A55789	WEC-B26 A55790	WEC-B27 A55792	WEC-B28 A55793	WEC-B28-DUP A55796	WEC-B29 A55794	WEC-TP39 A55787	Avg. Conc. of Element in Uncont. Soils	Conc. Range of Element in Uncont. Soils
Depth Interval (ft.)	0 - 10	0 - 10	0 - 10	0 - 10	0 - 10	0 - 10	0 - 10		
TAL METALS									
Aluminum	8050	7270	10200	5920	6360	10500	8610	33000	10000 - 300000
Antimony	12.1 BNV	11.9 BV	13.5 BNV	13.7 NV	17 NV	7.0 BNV	4.5 BNV	0.76	0.2 - 150
Arsenic	2.7	3.8	10.4	1.5 B	2.2	4.6	32.7	5.0	3.0 - 12.0
Barium	62.3	64.3	242	56.7	61.3	89.6	754	290	15 - 600
Beryllium	0.54 B	0.49 B	0.77 B	0.47 B	0.46 B	0.60 B	1.8	0.6	0 - 1.75
Cadmium	0.70 B	ND	2.4	1.1 B	1.4	ND	ND	0.6	0.1 - 7.0
Calcium	68000 EV	60900 EV	51400 EV	70200 EV	43800 EV	21800 EV	3900 EV	3400	130 - 35000
Chromium	13.5	12.6	16.4	12.8	13.1	11.2	10	33	1.5 - 40
Cobalt	10 B	8.6 B	12.2 B	9.0 B	8.4 B	12.1	11 B	5.9	2.5 - 60
Copper	46.5 EV*	33.1 EV*	54.1 EV*	24 EV*	77.8 EV*	26.3 EV*	116 EV*	20	2.0 - 100
Iron	13200	12100	18100	10900	11900	19900	34200	14000	2000 - 550000
Lead	13	23.1 SV	32.7	12.1 SV	17.1 SV	15.4 SV	249	14	4.0 - 61
Magnesium	24200	22000	24200	28800	17400	9590	848 B	6300	400 - 9000
Manganese	482	396	596	450	365	369	223	850	100 - 4000
Mercury	ND	ND	0.18 NV	ND	ND	ND	0.25 NV	0.06	0.001 - 0.2
Nickel	17.7	16.1	21.9	15.6	14.2	23.2	19.7	40	0.5 - 60
Potassium	1920	1630	1460	872 B	777 B	1220	1240 B	12000	100 - 37000
Selenium	ND	ND	0.49 BWNV	ND	ND	ND	2.6 NV	0.2	0.01 - 12.0
Silver	1.2 B	1.3 B	2.3 B	1.3 B	1.2 B	0.90 B	ND	-	0.01 - 8.0
Sodium	168 B	182 B	156 B	160 B	129 B	108 B	181 B	6300	150 - 15000
Thallium	ND	ND	ND	ND	ND	ND	2.2 B	-	-
Vanadium	21.5	19.3	26.8	17.6	18	23.4	36.5	100	1.3 - 300
Zinc	90.6 ENV*	132 ENV*	152 ENV*	87.5 ENV*	96.8 ENV*	68.3 ENV*	177 ENV*	60	10 - 300
MISCELLANEOUS COMPOUNDS									
Total Cyanide	ND	ND	ND	ND	ND	ND	ND	-	-

Q

4.18 Area Q-Railroad Track Area

Area Q is located in the eastern/northeastern portion of the site and is bounded to the north by the Gunnery Range (Area O), to the east and northeast by a former railroad and fence line, and to the west by the Parking Lot Area (Area N). To the south of Area Q is the main building structure. Refer to Plate 1, Areas of Investigation.

Purpose of Investigation

The purpose for the investigation of this area was to verify allegations of former Westinghouse employees regarding the disposal of waste material in this area and to determine the absence or presence of contamination.

Scope of Investigation

A series of eleven test pits were excavated within the Railroad Track Area. The test pits, WEC-TP15 through WEC-TP24 and WEC-TP40, were located to provide systematic areal coverage such that a representative characterization of the subsurface conditions could be determined. Refer to Figure Q for the location of the test pits. The Work Plan initially called for the excavation of ten test pits, however, due to the elevated HNU readings and physical evidence of contamination in WEC-TP15, additional exploratory test pit WEC-TP40 was excavated to further characterize the extent of contamination in the southeastern portion of Area Q. Based on field observations made during the excavations, samples were collected and subjected to chemical analysis from six of the eleven test pit locations: WEC-TP15, WEC-TP18, WEC-TP19, WEC-TP22, WEC-TP24 and WEC-TP40. One grab soil sample was collected from a discrete interval in five of the test pits. A composite sample was collected from WEC-TP24 over the depth of the trench . The six soil samples were analyzed for Full CLP parameters and total cyanide (refer to Section 3.9).

Due to the elevated HNU readings encountered while test pitting in the southeastern portion of Area Q, borings WEC-B16 and WEC-B24 were drilled and converted to monitoring wells WEC-MW11 and WEC-MW16, respectively. The monitoring wells were installed to investigate potential groundwater contamination. Field procedures for the excavation and sampling of test pits, the advancement of soil borings and the installation of monitoring wells followed methodologies outlined in Section 3.3 and 3.4 of this report.

One groundwater sample was collected from each well and analyzed for Full CLP parameters and total cyanide (refer to Section 3.9). Results of the groundwater analyses as well as the associated hydrogeologic investigation are presented in Section 4.20.

A surface waste pile sample WEC-SS7 was collected and analyzed for Full CLP parameters and total cyanide. Refer to Fiqure Q for the location of the surface waste pile.

Subsurface Conditions

Test pit excavation dimensions varied as a result of the subsurface conditions encountered at each location and ranged from six to eight feet deep, six to fourteen feet long, and three to six feet wide. The subsurface stratigraphy consisted of both fill material and native strata.

The fill material encountered throughout the area was relatively thin and uniform in depth, averaging approximately one foot thick. The fill consisted of a veneer of gray-black, coarse (two inch diameter) gravel slag. At some locations, varying amounts of brown-black fine sandy, clayey silt and fine-coarse gravel were encountered with the coarse gravel slag.

The native strata consisted predominantly of glaciolacustrine units and till. The glaciolacustrine units consisted of a brown-gray clayey to fine sandy silt unit with fine to coarse gravel underlain by a light brown-tan oxidized silt layer. The units ranged in thickness from one half to two feet and one half to one foot, respectively. The glaciolacustrine layers were generally overlain by fill material, however, in cases where glaciolacustrine units were not encountered, WEC-TP16 through WEC-TP19, the coarse gravel slag fill was directly underlain by dense, reddish-brown till. The till unit was comprised of moist to dry clayey silt and embedded coarse to fine sand and gravel. Other characteristics of the till included a relatively low plasticity and blocky structure. The till unit persisted to the depths explored in all eleven test pits. However, a thin one half to one foot thick, moist black silt seam was encountered in WEC-TP17, WEC-TP18 and WEC-TP19.

The stratigraphy encountered during the advancement of WEC-TP40 was distinctly different than observed in Area Q and the rest of the study area in that a distinct water bearing zone was encountered. Excavation of WEC-TP40 revealed a moist to wet, light brown-tan oxidized glaciolacustrine layer which was approximately three and one half feet in depth. Underlying this glaciolacustrine layer was a coarse to fine sand and gravel layer approximately one foot thick. This stratigraphic layer was saturated and produced a significant amount of water such that the excavation began to collapse. The till layer was encountered at a depth of six feet.

Subsurface conditions encountered in soil borings WEC-B16 and WEC-B24 were similar to those described above as a result of their proximity to WEC-TP15 and WEC-TP40, respectively. Soil boring WEC-B24 confirmed the occurrence of the anomalous native glaciolacustrine and glaciofluvial strata encountered in this portion of Area Q. Refer to the geologic logs contained in Appendix B for a detailed description of the fill material and native strata encountered.

Air Monitoring/Soil Screening Results

Organic vapor readings as measured by the HNU were detected above ambient background values in test pits WEC-TP15, WEC-TP18, WEC-TP19 and WEC-TP40 and in soil boring WEC-B24. The Table(s) below present the results of direct HNU and headspace screening performed on soil samples collected.

HNU READINGS IN BACKHOE BUCKET

Depth Interval (ft)	WEC-TP15	WEC-TP18	WEC-TP19	WEC-TP40
0 - 1	0.2	6	0.2	0.2
1 - 2	1	0.2	0.2	0.2
2 - 3	2	0.2	3	120
3 - 4	5	0.2	15	600+

HNU READINGS IN BACKHOE BUCKET

Depth Interval (ft)	WEC-TP15	WEC-TP18	WEC-TP19	WEC-TP40
4 - 5	100	0.2	1	800+
5 - 6	150+	0.2	0.2	50
6 - 7	200+	End	End	30
7 - 8	End			300+

HNU READINGS
SPLIT SPOON SAMPLE/HEADSPACE SCREENING RESULTS

Depth Interval (ft)	WEC-B24
0 - 2	0.4/3.1
2 - 4	0.4/2.8
4 - 6	15/200
8 - 10	2/0.4
10 - 12	0.4/0.8
12 - 14	0.4/1.2
14 - 16	0.6/2.4
16 - 18	0.4/5.0

Elevated HNU readings in WEC-TP15 are associated with the till unit, whereas the elevated HNU readings in WEC-TP40 and WEC-B24 are predominantly associated with the glaciolacustrine and glaciofluvial layers located above the till. HNU readings generally decrease rapidly upon encountering the till in both WEC-TP40 and WEC-B24. Elevated HNU readings obtained from the seven to eight foot interval in WEC-TP40 may reflect the intermixing of the upper soil units with the till during excavation.

Elevated HNU readings in WEC-TP18 are associated with a "resin-like" tar (dried varnish appearance) encountered on the surface at the test pit location. The elevated HNU readings in WEC-TP19 are associated with, and confined to, the black silt seam interbedded within the till unit.

Analytical Results

Volatile and semi-volatile organic compounds detected in the test pit soil samples are listed in Table Q-1.

Elevated concentrations of 1,2-dichloroethene, trichloroethene, toluene and total xylenes were detected in some of the test pit soil samples. Levels of VOCs above the NYSDEC Soil Guidance Values were detected in soils sampled from WEC-TP15, WEC-TP19 and WEC-TP40. The highest level of a single volatile compound was found in WEC-TP15 which contained trichloroethene at a concentration of 12,000 ug/kg.

Semi-volatile organic compounds, mainly polynuclear aromatic hydrocarbons (PAHs), were detected in most of the test pit soil samples. The highest total semi-volatile concentration (7,290 ug/kg) was found the soil sample collected from WEC-TP15.

Inorganic parameters detected in the soil samples are listed in Table Q-2. Virtually no high levels of inorganics were found in the soil samples obtained from Area Q. Elevated levels of calcium and magnesium found in the soil samples are not viewed as an indication of contamination, but rather reflect the ambient concentrations of these elements at the site.

A summary table of the volatile and semi-volatile organic compounds detected in the surface waste sample collected from Area Q are presented in Table Q-3.

Relatively low concentrations of VOCs were found in the surface waste sample. Toluene was the only volatile organic compound detected at a concentration level (38 ug/kg) in excess of the New York State Soil Guidance Values.

Several semi-volatile organic compounds, mainly PAHs, were detected in the surface waste sample at concentrations exceeding the NYSDEC Soil Guidance Values.

Two PCB compounds, Aroclor-1254 and Aroclor-1260, were detected in the waste sample at concentration values of 4,400 ug/kg and 3,900 ug/kg, respectively.

Table Q-4 summarizes the inorganic parameters detected in the surface waste sample. Elevated concentrations of several heavy metals were found in the waste sample. In particular, cadmium (45.4 mg/kg), chromium (249 mg/kg), copper (50,900 mg/kg) and lead (4,250 mg/kg) were detected at elevated concentrations.

Conclusions

The elevated concentrations of VOCs detected in the test pit soil samples, the presence of PCBs and elevated concentrations of heavy metals in the waste sample appear to confirm allegations of waste disposal activities in this area. The analytical results as well as the information obtained from the subsurface investigation indicates that this area poses an environmental concern. An additional environmental concern associated with this area pertains to the possibility of potential groundwater contamination. Refer to Section 4.20 for a detailed description of groundwater quality associated with Area Q.

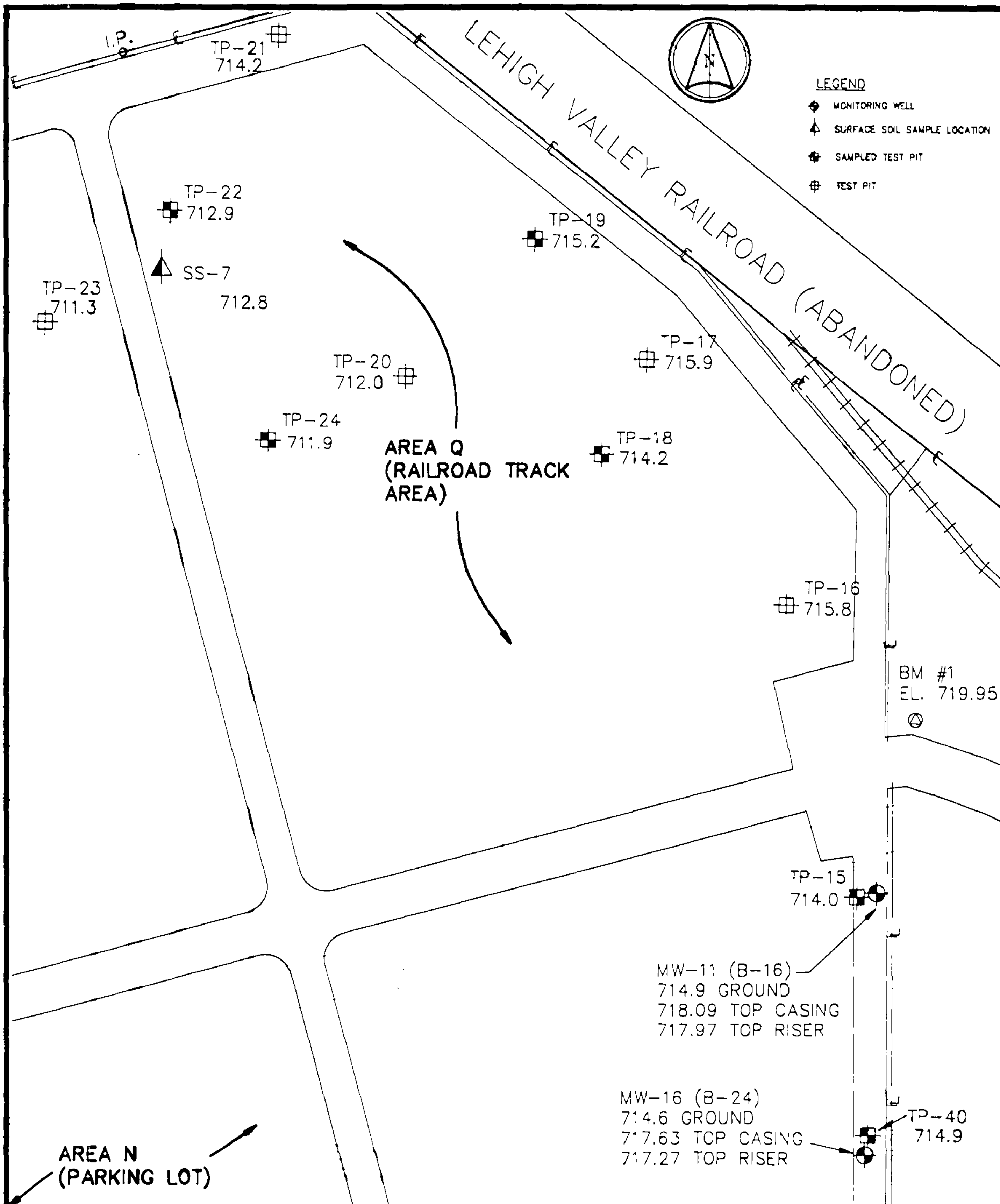

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FIGURE Q – RAILROAD TRACK AREA

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PROJECT NO. 00296 – 01699	DATE 5/17/91	DWG. NO. 2A08937-Q	SCALE 1"=100'	FIGURE NO. Q

TABLE Q-1

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS
TEST PIT SOIL SAMPLES
AREA Q - RAILROAD TRACK AREA
(Concentration Values In ug/kg - ppb)

Test Pit Location	WEC-TP15 A55763	WEC-TP18 A55765	WEC-TP19 A55766	WEC-TP22 A55767	WEC-TP24 A55770	WEC-TP40 A55788	NYSDEC Soil Guidance Values
Depth Interval (ft.)	7	1 - 2	3 - 4	1 - 2	1 - 4	4 - 5	
VOLATILE ORGANIC COMPOUNDS							
Vinyl Chloride	ND	ND	100 V	ND	ND	ND	-
Chloroethane	ND	ND	38 V	ND	ND	ND	-
Methylene Chloride	21	22	48 V	17 B	ND	10	-
Acetone	ND	ND	150 BV	ND	ND	ND	-
Carbon Disulfide	4 J	4 J	4 JV	2 J	ND	2 J	67.5
1,1 - Dichloroethene	ND	ND	5 JV	ND	ND	ND	8.1
1,2 - Dichloroethene (Total)	2 J	ND	180 D	6 J	ND	11	45.0
Chloroform	ND	ND	1 JV	ND	ND	ND	5.4
2 - Butanone	ND	ND	ND	ND	ND	7 J	-
1,1,1 - Trichloroethane	4 J	5 J	4 JV	1 J	ND	13	19.0
Trichloroethene	12000 D	12	700 D	5 J	ND	840 D	15.75
Tetrachloroethene	36	ND	ND	ND	ND	7.0	45.5
Toluene	110	6.0	5 JV	2 J	ND	46	37.5
Ethylbenzene	51	ND	ND	ND	ND	ND	137.5
Xylene (Total)	190	ND	ND	ND	2 J	ND	30.0
Total Volatiles	12418	49	1235	33	2	936	-
Total Volatile TICs	4000 J	46 J	120 J	ND	ND	600 J	-
SEMI-VOLATILE ORGANIC COMPOUNDS							
Benzoic Acid	ND	ND	ND	250 J	ND	ND	-
Phenanthrene	580 J	ND	ND	110 J	ND	ND	10000
Anthracene	130 J	ND	ND	ND	ND	ND	10000
Di-n-Butylphthalate	ND	ND	ND	99 J	ND	ND	-
Fluoranthene	1400	ND	ND	190 J	ND	ND	10000
Pyrene	1400	ND	ND	150 J	ND	ND	10000
Benzo(a)Anthracene	690 J	ND	ND	100 J	ND	ND	69.0
Chrysene	690 J	ND	ND	120 J	ND	ND	10000
bis(2-Ethylhexyl)Phthalate	360 J	340 J	ND	220 J	120 J	660 J	10.0
Benzo(b)Fluoranthene	690 J	ND	ND	100 J	ND	ND	275
Benzo(k)Fluoranthene	720 J	ND	ND	100 J	ND	ND	27.5
Benzo(a)Pyrene	630 J	ND	ND	99 J	ND	ND	61.0
Total Semi-Volatiles	7290	340	ND	1538	120	660	-
Total Semi-Volatile TICs	4360 J	2480 J	3450 J	10470 J	1120 J	ND	-

TABLE Q-2

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF INORGANIC PARAMETERS
TEST PIT SOIL SAMPLES
AREA Q - RAILROAD TRACK AREA
(Data Reported in mg/kg - ppm)

Soil Boring Location	WEC-TP15 A55763	WEC-TP18 A55765	WEC-TP19 A55766	WEC-TP22 A55767	WEC-TP24 A55770	WEC-TP40 A55788	Avg. Conc. of Element in Uncont. Soils	Conc. Range of Element in Uncont. Soils
Depth Interval (ft.)	7	1 - 2	3 - 4	1 - 2	1 - 4	4 - 5		
TAL METALS								
Aluminum	8400	8360	9420	9890	6880	2630	33000	10000 - 300000
Antimony	16.1	17	13.5 B	16.8	11.6 BN	6.1 BNV	0.76	0.2 - 150
Arsenic	2.7	2.0 B	3.2	4.8	3.5	1.2 B	5.0	3.0 - 12.0
Barium	74.6	74.1	70.1	107	60.6	19.1 B	290	15 - 600
Beryllium	0.65 B	0.59 B	0.64 B	1.5	0.46 B	ND	0.6	0 - 1.75
Cadmium	3.1	1.7	1.4	6.4	1.6	ND	0.6	0.1 - 7.0
Calcium	58600	63500	37000	93600	36500*	31800 EV	3400	130 - 35000
Chromium	14.9 V	16.7 V	13.7 V	20.6 V	12.4 V*	5.3	33.0	1.5 - 40
Cobalt	10.7 BV	10.9 BV	11.7 V	8.3 BV	8.2 BV	3.4 B	5.9	2.5 - 60
Copper	-	-	-	-	25.8 VE	16.5 EV*	20.0	2.0 - 100
Iron	13200	13700	17300	10300	11400 VE	5290	14000	2000 - 550000
Lead	20.6 V	14.3 S	14.7 V	29.2 S	16.1 SNV*	4.3	14.0	4.0 - 61
Magnesium	18000	20000	13000	14400	11700*	13500	6300	400 - 9000
Manganese	490	454	680	1070	413 ENV	174	850	100 - 4000
Nickel	20.6 V	24.9 V	21.3 V	16.9 V	16.2 V	6.3 B	40.0	0.5 - 60
Potassium	1600	1690	1000 B	1110 B	935 B	295 B	12000	100 - 37000
Selenium	ND	ND	ND	0.45 BW	ND	ND	0.2	0.01 - 12.0
Silver	2.6 V	2.7 V	2.3 V	2.6 V	2.2 BV	ND	-	0.01 - 8.0
Sodium	254 B	152 B	108 B	268 B	103 B	83.1 B	6300	150 - 15000
Thallium	0.22 B	ND	0.23 B	ND	ND	ND	-	-
Vanadium	19.6	22.4	24.3	16	18.5 V	8.5 B	100	1.3 - 300
Zinc	84.7	86.7	74.6	87.2	55.5 ENV	36.1 ENV*	50	10 - 300
MISCELLANEOUS COMPOUNDS								
Total Cyanide	ND	ND	ND	ND	ND	ND	-	-

TABLE Q-3

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUND
SURFACE WASTE SAMPLE
AREA Q - RAILROAD TRACK AREA
(Concentration Values in ug/kg - ppb)

Location	WEC-SS7 A55795	NYSDEC Soil Guidance Values
VOLATILE ORGANIC COMPOUNDS		
Methylene Chloride	9 V	-
Carbon Disulfide	3 JV	67.5
1,1,1 - Trichloethane	7 V	19.0
Trichloroethene	2 JV	15.75
Tetrachloroethene	3 JV	45.5
Toluene	38 V	37.5
Ethylbenzene	1 JV	137.5
Xylene (Total)	5 JV	30.0
Total Volatiles	68	-
Total Volatile TICs	-	-
SEMI-VOLATILE ORGANIC COMPOUNDS		
Phenanthrene	770	10000
Fluoranthene	1700	10000
Pyrene	1700	10000
Benzo(a)Anthracene	960	69.0
Chrysene	800	10000
Benzo(b)Fluoranthene	1800	275
Benzo(k)Fluoranthene	840	27.5
Benzo(a)Pyrene	650 J	61.0
Total Semi-Volatiles	9220	-
Total Semi-Volatile TICs	3200 J	-
PEST/PCB COMPOUNDS		
Aroclor - 1254	4400	13.25
Aroclor - 1260	3900	13.25

TABLE Q-4

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF INORGANIC PARAMETERS
SURFACE WASTE SAMPLE
AREA Q - RAILROAD TRACK AREA
(Data Reported in mg/kg - ppm)

Location	WEC-SS7 A55795	Avg. Conc. of Element in Uncont. Soils	Conc. Range of Element in Uncont. Soils
TAL METALS			
Aluminum	10400	33000	10000 - 300000
Antimony	44.4 NV	0.76	0.2 - 150
Arsenic	12.8	5.0	3.0 - 12.0
Barium	84.5	290	15 - 600
Beryllium	0.35 B	0.6	0 - 1.75
Cadmium	45.4	0.6	0.1 - 7.0
Calcium	47600 EV	3400	130 - 35000
Chromium	249	33.0	1.5 - 40
Cobalt	47.6	5.9	2.5 - 60
Copper	50900 EV*	20	2.0 - 100
Iron	106000	14000	2000 - 550000
Lead	4250	14.0	4.0 - 61
Magnesium	27200	6300	400 - 9000
Manganese	787	850	100 - 4000
Mercury	0.88 NV	0.06	0.001 - 0.2
Nickel	159	40.0	0.5 - 60
Potassium	384 B	12000	100 - 37000
Selenium	0.68 BWNV	0.2	0.01 - 12.0
Silver	52.4	-	0.01 - 8.0
Sodium	134 B	6300	150 - 15000
Vanadium	35.3	100	1.3 - 300
Zinc	257 ENV*	50	10 - 300
MISCELLANEOUS COMPOUNDS			
Total Cyanide	0.57	-	-

4.19 Area R-Southwest Corner/Storage Tank Area

Area R is located off the southwest corner of the main building structure and west of Area D. Refer to Plate 1, Areas of Investigation Map. This area was not initially targeted for investigation under the approved Work Plan, however, it was added to the PSA Study at the request of the NYSDEC. Three 15,000 gallon underground storage tanks were located in this area. This tankage was reported to have been removed in 1985 (Empire 1987). No information is available concerning the products stored in this tankage.

Purpose of Investigation

The purpose of the investigation of Area R was twofold: to determine the absence or presence of subsurface contamination of soil and/or groundwater in close proximity to the former underground storage tank and to provide additional information to address groundwater quality concerns identified in ERM-Northeast's report of 1991. The ERM-Northeast report was prepared under a Consent Order between Westinghouse Electric Corporation and the NYSDEC Region 9 Division of Water to investigate groundwater contamination problems associated with Storm Sewer Line 003.

Scope of Investigation

Test boring WEC-B30 was drilled to a depth of twenty feet. The boring was converted to groundwater monitoring well WEC-MW17 upon its completion. One soil sample was collected from the boring and analyzed for Full CLP parameters and total cyanide (refer to Section 3.9). Methodologies utilized to drill the boring and collect the soil sample are discussed in Section 3.3. One groundwater sample was collected from WEC-MW17 and analyzed for Full CLP parameters and total cyanide. Results of the groundwater analyses as well as the associated hydrogeologic investigation are presented in Section 4.20.

Findings of Investigation

<u>Subsurface Conditions</u>

Fill material was encountered in WEC-B30 to a depth of eight and one half feet below grade. The fill consisted predominantly of brown to black to gray sands and gravels with varying amounts of silt.

Glacial till was encountered beneath the fill and extended to the terminus of the borehole. The till consisted of brown silts and clays with varying amounts of embedded gravel and coarse sand. No staining, discoloration or odors were observed in the subsurface soils recovered from WEC-B30. Refer to Appendix B for a more detailed geologic description of the subsurface strata.

Air Monitoring/Headspace Screening

No elevated VOC levels were detected with the HNU during the course of air monitoring activities. Presented below are the results of headspace screening performed on the soil samples recovered from WEC-B30.

HEADSPACE SCREENING RESULTS

Depth (ft)	VOC Level (ppm) WEC-B30
0 - 2	0.8
2 - 4	20
4 - 6	100
6 - 8	2.0
8 - 10	1.6
10 - 12	1.6
12 - 14	2.5
14 - 16	N/A
16 - 18	1.0
18 - 20	0.8

Analytical Results

Volatile organic compounds were not detected in the subsurface soil sample. However, several semi-volatile organic compounds, primarily polynuclear aromatic hydrocarbons (PAHs), were detected in excess of NYSDEC Soil Guidance Levels. In addition, a PCB compound, Aroclor-1260, was detected at a level above the NYSDEC Soil Guidance Value (refer to Table R-1).

Inorganic results associated with the subsurface soil sample were generally low and within the normal concentration levels associated with the site (refer to Table R-2). It should be noted that the levels of calcium and magnesium detected within the soil sample are not viewed as an indication of contamination caused by past site activities, but reflect the ambient concentrations of these elements at the site.

Conclusions

The elevated levels of semi-volatile organic compounds detected in the subsurface soil sample pose an environmental concern.

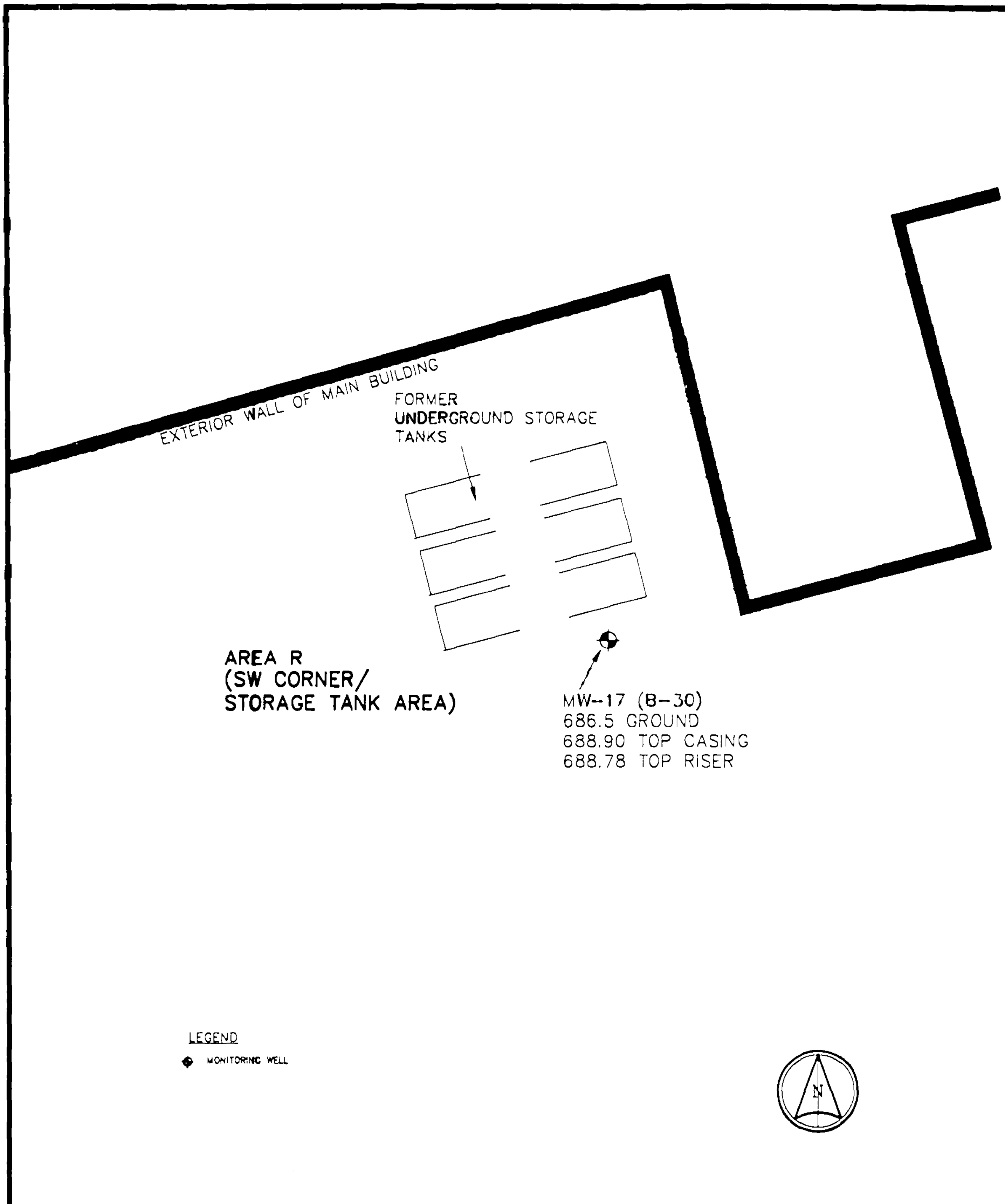

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FIGURE R – SW CORNER/STORAGE TANK AREA

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PROJECT NO. 00296 – 01699	DATE 5/16/91	DWG. NO. 2A08937-R	SCALE 1"=25'	FIGURE NO. R

TABLE R-1

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS
SOIL BORING SPLIT-SPOON SAMPLES
AREA R - SW TANK AREA
(Concentration Values in ug/kg - ppb)

Soil Boring	WEC-B30	NYSDEC
Location	A55797	Soil Guidance
Depth Interval (ft.)	0 - 10	Values
VOLATILE ORGANIC COMPOUNDS		
Total Volatiles	0	-
Total Volatile TICs	ND	-
SEMI-VOLATILE ORGANIC COMPOUNDS		
Acenaphthene	99 J	2300
Fluorene	89 J	9125
Pentachlorophenol	220 J	530
Phenanthrene	1200	10000
Anthracene	210 J	10000
Di-n-Butylphthalate	120 J	-
Fluoranthene	1700	10000
Pyrene	1900	10000
Butylbenzylphthalate	110 J	-
Benzo(a)Anthrancene	790	69.0
Chrysene	930 B	10000
Bis(2-Ethylhexyl)Phthalate	160 J	10.0
Benzo(b)Fluoranthene	730 J	275
Benzo(k)Fluoranthene	1100	27.5
Total Semi-Volatiles	9358	-
Total Semi-Volatile TICs	6320 J	-
PEST/PCB COMPOUNDS		
Aroclor - 1260	1500 X	13.25

X Sample result based on manually integrated peak area due to chromatographic interference.

TABLE R-2

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF INORGANIC PARAMETERS
SOIL BORING SPLIT-SPOON SAMPLES
AREA R - SW TANK AREA
(Data Reported in mg/kg - ppm)

Soil Boring Location	WEC-B30 A55797	Avg. Conc. of Element in Uncont. Soils	Conc. Range of Element in Uncont. Soils
Depth Interval (ft.)	0 - 10		
TAL METALS			
Aluminum	7480	33000	10000 - 300000
Antimony	9.3 B	0.76	0.2 - 150
Barium	49.8	290	15 - 600
Beryllium	0.52 B	0.6	0 - 1.75
Cadmium	4.2 V	0.6	0.1 - 7.0
Calcium	73400	3400	130 - 35000
Chromium	17.1	33.0	1.5 - 40
Cobalt	7.5 B	5.9	2.5 - 60
Copper	52.5 E	20.0	2.0 - 100
Iron	11800	14000	2000 - 550000
Lead	51.7	14.0	4.0 - 61
Magnesium	26200	6300	400 - 9000
Manganese	374	850	100 - 4000
Nickel	15.2	40	0.5 - 60
Potassium	1890 E	12000	100 - 37000
Silver	0.81 B	-	0.01 - 8.0
Sodium	205 B	6300	150 - 15000
Thallium	0.22 B	-	-
Vanadium	19.4	100	1.3 - 300
MISCELLANEOUS COMPOUNDS			
Total Cyanide	ND	-	-

S

4.20 Area S-Groundwater

The investigation of Area S encompasses a majority of the project site. The groundwater investigation incorporated hydrologic data and analytical results from eight individual areas and focused primarily on the groundwater quality and hydrogeologic parameters, including the overall flow conditions across the site. Refer to Plate 1, Areas of Investigation.

Purpose of Investigation

The purpose of this investigation was to:

- Determine the absence or presence of contamination in each area;
- Provide additional information on groundwater quality and flow conditions;
- Provide data for comparison with analytical results obtained from previous investigations (i.e., ERM-Northeast and Malcolm Pirnie); and
- Determine the in-situ permeability of the overburden deposits over the interval in which the monitoring wells were screened.

Scope of Investigation

The investigation of Area S was carried out in four phases. The initial phase of the investigation consisted of the sampling of the six existing monitoring wells, MW1 through MW6, installed during an earlier investigation conducted at the project site. One groundwater sample was collected from each well and analyzed for Full CLP parameters and total cyanide.

The second phase of the investigation consisted of the installation of twelve additional groundwater monitoring wells, WEC-MW7 through WEC-MW18, at the project site. One groundwater sample was collected from each well according to methodologies described in Section 3.3.5 of this report and analyzed for Full CLP parameters and total cyanide (refer to Section 3.9). As part of this phase of the investigation, geotechnical samples were collected and analyzed from ten of the boring/monitoring well locations.

The third phase of the investigation involved the calculation of hydraulic conductivities associated with the twelve newly installed monitoring wells. In-situ permeabilities of the wells were determined by means of a slug injection and/or slug withdrawal tests. The data obtained from the field tests was subsequently analyzed to obtain representative saturated horizontal hydraulic conductivities for the screened interval at each well location. Hydraulic conductivities associated with the six existing monitoring wells had been calculated previously as part of Malcolm Pirnie's investigation of the site.

The final phase of the investigation was the determination of groundwater flow patterns at the site through development of a groundwater contour map. Water level data was obtained from each of the eighteen monitoring wells at the site and compiled into a groundwater contour map showing groundwater flow direction and hydraulic gradients in each area.

Findings of Investigation

Field Observation and Measurements

Geotechnical samples were collected from ten of the twelve boring/monitoring well locations and analyzed for percent moisture, grain size analysis and Atterburg Limits. In general, a majority of the soil samples submitted for geotechnical analysis exhibited similar physical characteristic. Refer to Appendix I for geotechnical results. Grain size distribution results obtained from the soil samples generally indicated a cumulative average of approximately 68% (by weight) of soil passing through the U.S. Standard 200 sieve. However, the geotechnical results associated with WEC-B24 indicated that 49% (by weight) of the soil passed through the U.S. Standard 200 sieve. The grain size distribution results indicate that a majority of monitoring wells were screened in a predominantly silt and clay strata. In addition, the geotechnical laboratory results generally confirm the field observations and descriptions recorded on the geologic logs.

Horizontal saturated hydraulic conductivities as determined by in-situ permeability testing of the twelve newly installed monitoring wells wells are presented below. The field permeability testing of the monitoring wells (i.e., slug test) and the calculation of saturated hydraulic conductivities were performed according to methodologies described in Section 3.7 of this report.

HORIZONTAL SATURATED HYDRAULIC CONDUCTIVITIES

Monitoring Well	Unit Screened	Method	Horizontal Saturated Hydraulic Conductivity
WEC-MW7	Till	Hvorslev	2.15×10^{-7} cm/sec
WEC-MW8	Till	Hvorslev	1.41×10^{-6} cm/sec
WEC-MW9	Fill/Till	Hvorslev	2.89×10^{-4} cm/sec
WEC-MW10	Fill/Till	Hvorslev	1.71×10^{-5} cm/sec
WEC-MW11	Till	Hvorslev	1.18×10^{-6} cm/sec
WEC-MW12	Till	Hvorslev	8.20×10^{-6} cm/sec
WEC-MW13	Till	Hvorslev	2.69×10^{-7} cm/sec
WEC-MW14	Till	Hvorslev	7.57×10^{-5} cm/sec
WEC-MW15	Till	Hvorslev	2.05×10^{-6} cm/sec
WEC-MW16	Till/Glaciolac. Sand	Hvorslev	1.28×10^{-3} cm/sec
WEC-MW17	Till	Hvorslev	3.35×10^{-4} cm/sec
WEC-MW18	Till	Hvorslev	4.43×10^{-7} cm/sec

Horizontal hydraulic conductivities of wells screened in till ranged from 2.15×10^{-7} cm/sec (WEC-MW-7), to 3.35×10^{-4} cm/sec (WEC-MW-17). Hydraulic conductivities of wells partially screened in till ranged from 2.89×10^{-4} cm/sec to 1.71×10^{-5} cm/sec. These hydraulic conductivities compare favorably with those calculated by Malcolm Pirnie, Inc. for the six previously installed monitoring wells. Conductivities calculated for the existing monitoring wells which were screened in glaciolacustrine strata ranged from 1×10^{-5} cm/sec to 2×10^{-5} cm/sec. A value of 2×10^{-3} cm/sec was calculated for MW1 which was screened across fill and glaciolacustrine strata.

The greatest horizontal saturated hydraulic conductivity calculated at the site was in WEC-MW16 (1.28×10^{-3} cm/sec). This monitoring well was screened across a coarse to fine glaciolacustrine sand layer and till. The anomalously high hydraulic conductivity found at this location substantiates field observations and geotechnical results. This data confirms the uniqueness of the geologic and hydrogeologic conditions found in the southeast corner of Area Q in comparison with the subsurface conditions found on the remainder of the site.

Figure S depicts the groundwater contour map generated from water level measurements obtained on April 12, 1991. The map incorporates water level data from the twelve newly installed monitoring wells and the six existing monitoring wells. The contoured water level elevations revealed three distinct flow patterns.

The groundwater flow pattern in Areas F and G correspond to the elevations of the topographic mound found in that area. Shallow groundwater flow within the mound area discharges as seeps along the periphery of the mounded feature or is intercepted by a storm sewer and drainage ditch along the western and eastern sides of the mound, respectively.

An apparent groundwater divide is inferred in the north-central portion of the site in the vicinity of Area N. Based on the data available at this time, the direction of groundwater flow in the north-central/northern portions of the site is to the northeast; whereas, the direction of groundwater flow in the southern portion of the site (south of the topographic depression and Area N) is to the southwest.

More conclusive, detailed groundwater flow patterns can not be made at this time due to the limited amount of groundwater data and the possible effect of subsurface structures (i.e., sewer lines and building foundations) on the local groundwater flow system.

Based on the groundwater contours depicted in Figure S, the horizontal hydraulic gradient in the northeastern portion of the site is approximately 0.0067 (0.67%). The hydraulic gradient ranges between approximately 0.025 (2.5%) and 0.011 (1.1%)in the south/southwestern portion of the site.

The average groundwater flow velocity (horizontal steepage velocity) was calculated using Darcy's Law. Refer to Appendix F for calculations. Flow velocities were calculated using a horizontal hydraulic conductivity of 1 x 10^{-5} cm/sec for the northern and southwestern portions of the site. A conservative estimate of 0.2 was utilized for the effective porosity of the till. The groundwater flow velocity was determined to be approximately 0.00095 feet/day (0.35 feet/year) in the northeast portion of the site, whereas, the groundwater flow velocity in the southern portion of the site was calculated to range between approximately 0.0035 feet/day (1.29 feet/year) to 0.0016 (0.57 feet/year).

Analytical Results

Contamination detected in the groundwater primarily consisted of volatile organic compounds (VOCs) and inorganic parameters. Tables WEC-S1 to WEC-S3 summarize the results of all compounds/ analytes detected in the groundwater samples.

The highest levels of total VOCs in the groundwater were detected in the following monitoring well locations: WEC-MW2, WEC-MW3, WEC-MW7, WEC-MW8, WEC-MW10 and WEC-MW16. These monitoring wells had total VOCs concentration values of between 118 and 58,000 ug/l. Groundwater standards and/or guidance values were exceeded for the following volatile organic compounds:

- Vinyl Chloride (WEC-MW7, WEC-MW8 and WEC-MW10);
- Methylene Chloride (WEC-MW7 and WEC-MW13);
- Acetone (WEC-MW7 and WEC-MW8);
- 1,1-Dichloroethene (WEC-MW2, WEC-MW7, WEC-MW8 and WEC-MW10);
- 1,1-Dichloroethane (WEC-MW7 and WEC-MW10);
- 1,2-Dichloroethene-Total (WEC-MW3, WEC-MW7, WEC-MW8 and WEC-MW10);
- 2 - Butanone (WEC-MW7 and WEC-MW8);
- 1,1,1-Trichloroethane (WEC-MW7 and WEC-MW10);
- Trichloroethene (WEC-MW3, WEC-MW7, WEC-MW8, WEC-MW10, WEC-MW11 and WEC-MW16);
- Benzene (WEC-MW1);
- Toluene (WEC-MW7);

- Chlorobenzene (WEC-MW9);
- Ethylbenzene (WEC-MW9);
- Styrene (WEC-MW8); and
- Total xylenes (WEC-MW8 and WEC-MW9).

In general, the highest concentration values detected in the groundwater samples consisted of the following compounds:

- Vinyl Chloride;
- 1,1-Dichloroethene;
- 1,1-Dichloroethane;
- 1,2-Dichloroethene (total);
- 1,1,1-Trichloroethane;
- Trichloroethene; and
- Toluene.

Semi-volatile organic compounds were detected in relatively low concentrations in most of the groundwater samples. Groundwater Standards and/or Guidance Values were exceeded for the following semi-volatile organic compounds:

- Pentachlorophenol (WEC-MW6 and WEC-MW9);
- Benzo (a) Anthracene (WEC-MW2); and
- Chysene (WEC-MW2).

Inorganic analytical data from the groundwater samples indicates that a majority of the monitoring wells locations, except WEC-MW12, contain concentration levels in excess of New York State Standards and/or Guidance Values. In general, the following inorganic parameters were found in elevated concentrations in the groundwater:

- Antimony;
- Barium;
- Beryllium;
- Cadmium;
- Chromium;

- Iron;
- Lead;
- Magnesium;
- Manganese;
- Selenium;
- Sodium; and
- Zinc.

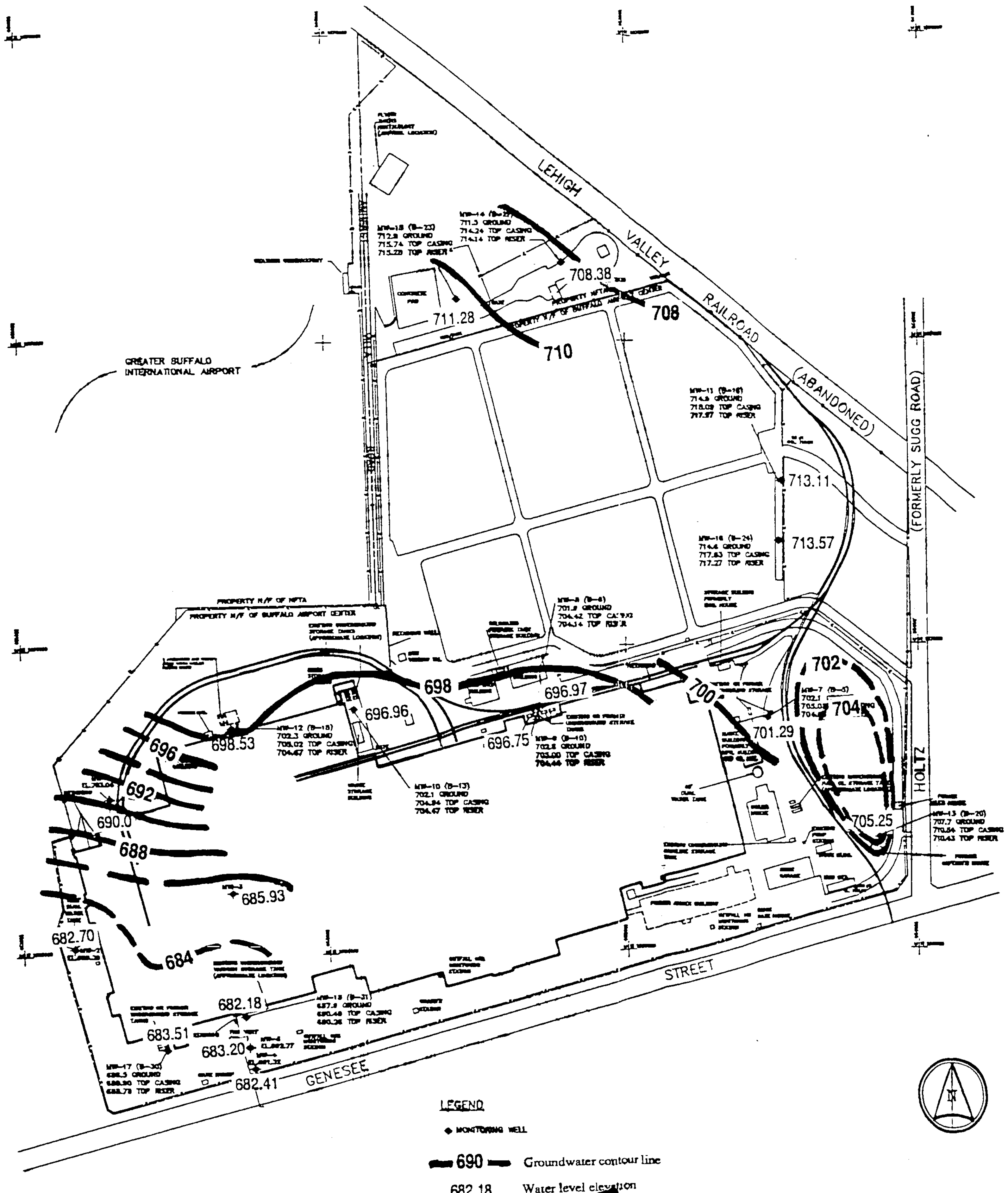
Analytical results associated with the two duplicate samples, WEC-MW2-DUP and WEC-MW17-DUP, generally confirm the presence and concentration levels of the various compounds/analytes detected in the associated monitoring well.

Conclusions

The elevated concentration of volatile organic compounds and inorganic parameters detected in the following monitoring well locations indicate potential environmental concerns:

WEC-MW2;
WEC-MW3;
WEC-MW7 (Oil Storage Area-Area I);
WEC-MW8 (Underground Solvent Tank Storage Area-Area J);
WEC-MW10 (Hazard Storage Facility-Area K); and
WEC-MW16 (Railroad Track Area-Area Q).

The concentration levels found in the above monitoring well locations indicate the presence of subsurface contamination and confirm the allegations of former Westinghouse employees related to disposal activities and/or spills in these various areas of interest.



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GROUNDWATER CONTOUR MAP
WESTINGHOUSE ELECTRIC CORP.
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TOWN OF CHEEKTOWAGA | ERIE COUNTY, NY

PROJECT NO. 00296 – 01699		DWG. NO. 2B08937
SCALE 1"=400'	DATE 5/9/91	FIGURE NO. 5

TABLE S-1

Well Results

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF VOLATILE ORGANIC COMPOUNDS
FOR GROUND WATER: AREA S
(Concentration Values in ug/l - ppb)

	MONITORING WELL LOCATIONS										Weather	6NYCRR	NY TOGS	10NYCRR	10NYCRR
	MW-1 A55733	MW-2 A55739	MW-2 DUP A55742	MW-3 A55738	MW-4 A55734	MW-5 A55735	MW-6 A55740	MW-7 A55818	MW-8 A55819	MW-9 A55813	Station A55741	Part 703 Standard	(1.1.1) Guidance	Part 5 Standard	Part 170 Standard
VOLATILE ORGANIC COMPOUNDS															
Vinyl Chloride	ND	ND	ND	ND	ND	ND	ND	350	2500	ND	ND	2.0	-	2.0	-
Methylene Chloride	ND	4.0 JV	4.0 JV	4 J	ND	ND	ND	12 J	ND	ND	ND	5.0	-	5.0	-
Acetone	ND	ND	3 JV	19.0 DJ	ND	ND	ND	180 B	390 B	ND	ND	-	-	50	-
1,1 - Dichloroethene	ND	110 V	100 V	ND	ND	ND	ND	41 J	54 J	ND	ND	5.0	-	5.0	-
1,1 - Dichloroethane	ND	ND	ND	ND	ND	ND	ND	1800	ND	ND	ND	5.0	-	5.0	-
1,2 - Dichloroethene (Total)	ND	ND	ND	100	ND	ND	ND	6300 D	15000 BD	ND	ND	5.0	-	5.0	-
2 - Butanone	ND	ND	ND	ND	ND	ND	ND	150 B	490	ND	ND	-	50	-	-
1,1,1 - Trichloroethane	ND	4 JV	3 J	ND	ND	ND	ND	100	ND	ND	ND	5.0	-	5.0	-
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND	40 BJ	ND	ND	-	-	50	-
Trichloroethene	ND	ND	ND	600 DV	ND	ND	ND	28000 BD	1700	ND	ND	5.0	-	5.0	-
Benzene	11	ND	ND	5.0	ND	ND	ND	ND	ND	ND	ND	ND	-	5.0	-
4 - Methyl - 2 - Pentanone	1 J	ND	ND	ND	ND	ND	ND	27 J	ND	ND	ND	-	50	-	-
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.0	-	5.0	-
1,1,2,2 - Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	33 BJ	ND	ND	5.0	-	5.0	-
Toluene	ND	ND	ND	ND	ND	ND	ND	1200	ND	ND	ND	5.0	-	5.0	-
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	27	ND	5.0	-	5.0	-
Ethylbenzene	2 J	ND	ND	ND	ND	ND	ND	ND	ND	44	ND	5.0	-	5.0	-
Styrene	2 J	ND	ND	ND	ND	ND	ND	ND	31 BJ	ND	ND	5.0	-	5.0	-
Total Xylenes	ND	ND	ND	ND	ND	ND	ND	ND	66 BJ	15	ND	5.0	-	5.0	-
Total Volatiles	16	123	118	869	ND	ND	ND	38160	20304	86	ND	-	100	-	-
Total Volatile TICs	10 J	5.7 JV	5.1 JV	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	-

TABLE S-1 (CONTINUED)

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF VOLATILE ORGANIC COMPOUNDS
FOR GROUND WATER: AREA S
(Concentration Values in ug/l - ppb)

	MONITORING WELL LOCATIONS										6NYCRR	NY TOGS	10NYCRR	10NYCRR
	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-17 DUP	MW-18	Part 703	(1.1.1)	Part 5	Part 170
	A55815	A55820	A55810	A55821	A55814	A55809	A55806	A55808	A55811	A55823	Standard	Guidance	Standard	Standard
VOLATILE ORGANIC COMPOUNDS														
Vinyl Chloride	4 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.0	-	2.0	-
Methylene Chloride	4 J	5	ND	6	ND	ND	ND	ND	ND	ND	5.0	-	5.0	-
Acetone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	50	-
1,1 - Dichloroethene	200 D	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.0	-	5.0	-
1,1 - Dichloroethane	680 D	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.0	-	5.0	-
1,2 - Dichloroethene (Total)	19	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.0	-	5.0	-
2 - Butanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	50	-	-
1,1,1 - Trichloroethane	1400 D	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.0	-	5.0	-
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	50	-
Trichloroethene	7	8	ND	ND	ND	ND	58000	ND	ND	1 J	5.0	-	5.0	-
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	5.0	-
4 - Methyl - 2 - Pentanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	50	-	-
Tetrachloroethene	160	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.0	-	5.0	-
1,1,2,2 - Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.0	-	5.0	-
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.0	-	5.0	-
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.0	-	5.0	-
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.0	-	5.0	-
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.0	-	5.0	-
Total Xylenes	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.0	-	5.0	-
Total Volatiles	2498	13	ND	6	ND	ND	58000	ND	ND	1	-	100	-	-
Total Volatile TICs	ND	6.1 J	ND	5.4 J	ND	ND	ND	ND	ND	ND	-	-	-	-

TABLE S-2

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF SEMI-VOLATILE ORGANIC COMPOUNDS
FOR GROUND WATER: AREA S
(Concentration Values in ug/l - ppb)

	MONITORING WELL LOCATIONS										Weather Station	6NYCRR Part 703	NY TOGS (1.1.1)	10NYCRR Part 5	10NYCRR Part 170
	MW-1 A55733	MW-2 A55739	MW-2 DUP A55742	MW-3 A55738	MW-4 A55734	MW-5 A55735	MW-6 A55740	MW-7 A55818	MW-8 A55819	MW-9 A55813	A55741	Standard	Guidance	Standard	Standard
SEMI-VOLATILE ORGANIC COMPOUNDS															
1,2 - Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	2 J	ND	4.7	-	5.0	-
2 - Methylphenol	ND	ND	ND	ND	ND	ND	ND	6 J	ND	ND	ND	-	-	-	-
4 - Methylphenol	ND	ND	ND	ND	ND	ND	ND	5 J	ND	ND	ND	-	-	-	-
Naphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	2 J	ND	-	10	50	-
2 - Methylnaphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	2 J	ND	-	-	50	-
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	4 J	ND	-	20	50	-
Dibenzofuran	ND	ND	ND	ND	ND	ND	ND	ND	ND	4 J	ND	-	-	50	-
Diethylphthalate	ND	ND	ND	ND	ND	2 J	ND	ND	ND	ND	ND	-	50	50	-
Fluorene	ND	ND	ND	ND	ND	ND	ND	ND	ND	4 J	ND	-	50	50	-
Pentachlorophenol	ND	ND	ND	ND	ND	ND	11 J	ND	ND	8 J	ND	1.0	-	5.0	-
Phenanthrene	ND	2 J	3 J	ND	ND	ND	ND	ND	ND	ND	ND	-	50	50	-
Di - n - Butylphthalate	ND	ND	ND	ND	2 J	ND	ND	ND	ND	4 J	ND	50	-	50	-
Fluoranthene	ND	3 J	3 J	ND	ND	ND	ND	ND	ND	2 J	ND	-	50	50	-
Pyrene	ND	3 J	4 J	ND	ND	ND	ND	ND	ND	2 J	ND	-	50	50	-
Benzo (a) Anthracene	ND	2 J	3 J	ND	ND	ND	ND	ND	ND	ND	ND	-	0.002	50	-
Chysene	ND	2 J	3 J	ND	ND	ND	ND	ND	ND	ND	ND	-	0.002	50	-
bis (2-ethylhexyl) phthalate	6 J	4 J	5 J	2 J	40	35	8 J	ND	ND	ND	ND	50	-	50	-
Total Semi-Volatile Organics	6	16	21	2	42	37	19	11	ND	34	ND	-	-	-	-
Total Semi-Volatile TICs	ND	34 J	143 J	74 J	9 J	27 J	ND	53.3 J	167 J	531 J	ND	-	-	-	-

TABLE S-3

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF INORGANIC PARAMETERS
FOR GROUND WATER: AREA S
(Concentration Values In ug/l - ppb)

	MONITORING WELL LOCATIONS										Weather Station	6NYCRR Part 703	NY TOGS (1.1.1)	10NYCRR Part 5	10NYCRR Part 170
	MW-1	MW-2	MW-2 DUP	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9					
	A55733	A55739	A55742	A55738	A55734	A55735	A55740	A55818	A55819	A55813	A55741	Standard	Guidance	Standard	Standard
TAL METALS															
Aluminum	27800 E	63700 E	217000 E	288000 E	39100 E	11000 E	195 BE	120 BV	155 BV	774	4660 E	-	-	-	-
Antimony	83.9 NV	176 NV	348 NV	459 NV	128 NV	43.1 BNV	35.8 BNV	35.1 B	36.4 B	ND	37.3 BNV	-	3.0	-	-
Arsenic	9.0 B	16	37.4 SV	20	27	14	3 B	2.0 B	7.0 B	ND	4.0 B	25	-	50	50
Barium	544	755	2190	2580	365	148 B	227	45.2 B	306	130 B	185 B	1000	-	1000	1000
Beryllium	2.4 B	4.5 B	13.3	17.3	2.7 B	ND	ND	ND	ND	ND	ND	-	3.0	-	-
Cadmium	10.8	28.5	96.5	151	13.1	3.6 B	2.7 B	2.2 BV	2.6 BV	ND	3.6 B	10	-	10	10
Calcium	274000	520000	2470000	3560000	267000	88400	65200	14900	71200	39700	68900	-	-	-	-
Chromium	66.7*V	138*V	376*V	516*V	107*V	51.5*V	16.7*V	ND	ND	ND	77*V	50	-	50	-
Cobalt	36.2 B	94.9	301	413	50.3	15.7 B	6.3 B	ND	3.4 B	ND	13.8 B	-	-	-	-
Copper	102 V	164 V	562 V	821 V	85.2 V	44.3 V	12.1 B	10.7 B	9.0 B	ND	426 V	200	-	1000	<200
Iron	46500	100000	527000	536000	59000	16700	727	7.9 B	112 V	1220	17500	300	-	300	-
Lead	43.5 NV	90.2 SNV	300 NV	332 SNV	94.2 NV	27.6 NV	1.8 BNV	ND	ND	1.2 B	173 NV	25	-	50	50
Magnesium	64500	208000	504000	854000	101000	54400	52600	94600	113000	19300	42800	-	35000	-	-
Manganese	1520	3310	10800	16700	1600	427	34.4	68.1	48.8	60.2	209	300	-	300	-
Mercury	ND	ND	ND	ND	ND	ND	ND	ND	0.2	ND	ND	2.0	-	2.0	5.0
Nickel	68.1	174	545	736	134	49.1	11.8 B	6.1 B	6.9 B	ND	53.6	-	-	-	-
Potassium	10800	22500	41300	60200	10000	4750 B	2580 B	4040 BEV	6670 EV	6370 V	2470 B	-	-	-	-
Selenium	2.9 BNWV	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10	-	10	10
Silver	7.8 B	13.4	37.2	61.6	7.5 B	ND	ND	7.4 BV	5.9 BV	ND	ND	50	-	50	50
Sodium	39000	56100	54500	193000	67600	64300	20800	83700	48700	27400	32700	20000	-	-	<20000
Vanadium	66.5 V	150 V	443	565 V	91.3 V	32.6 BV	11.9 B	12.7 B	13.9 B	3.0 B	20.1 BV	-	-	-	-
Zinc	301 V	422 V	1440 V	2340 V	21400 V	3330 V	23.3V	29.1V	21.1 V	29.4 EV	127 V	300	-	5000	<300
MISCELLANEOUS COMPOUNDS															
Total Cyanide	ND	6 BNV	15 NV	27.5 NV	ND	ND	ND	ND	ND	ND	ND	100	-	-	<100

TABLE S-3 (CONTINUED)

WESTINGHOUSE ELECTRIC CORPORATION SITE
SUMMARY TABLE OF INORGANIC PARAMETERS
FOR GROUND WATER: AREA S
(Concentration Values in ug/l - ppb)

	MONITORING WELL LOCATIONS										6NYCRR	NY TOGS	10NYCRR	10NYCRR
	MW-10 A55815	MW-11 A55820	MW-12 A55810	MW-13 A55821	MW-14 A55814	MW-15 A55809	MW-16 A55806	MW-17 A55808	MW-17 DUP A55811	MW-18 A55823	Part 703 Standard	(1.1.1) Guidance	Part 5 Standard	Part 170 Standard
TAL METALS														
Aluminum	1210	1300 V	144 B	82.1 B	179 B	156 B	3950	3090	3790	2810	-	-	-	-
Antimony	ND	26.8 B	ND	26.7 B	12.6 B	15.6 B	26.1 B	ND	ND	30.0 B	-	3.0	-	-
Arsenic	ND	2.0 B	ND	ND	7.0 B	2.0 B	ND	5.0 B	5.0 B	2.0 B	25	-	50	50
Barium	191 B	108 B	111 B	60.2 B	178 B	105 B	100 B	66.2 B	71.5 B	117 BEV	1000	-	1000	1000
Beryllium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	3.0	-	-
Cadmium	ND	2.4 BV	ND	2.0 BV	ND	ND	ND	ND	ND	2.0 BV	10	-	10	10
Calcium	54600	64600	38400	79100	65500	77800	182000	95100	97100	103000	-	-	-	-
Chromium	ND	7.7 B	ND	5.0 B	ND	ND	12.4 V	ND	ND	16.3 V	50	-	50	-
Cobalt	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.3 B	-	-	-	-
Copper	ND	11.5 B	ND	6.8 B	ND	ND	13.0 B	4.0 B	6.6 B	12.1 B	200	-	1000	<200
Iron	1930	2400 V	244	84.6 BV	331	274	6310	4580	5420	4590	300	-	300	-
Lead	1.8 B	1.9 B	1.2 B	ND	ND	ND	7.1	8.3	8.8	3.7 SV	25	-	50	50
Magnesium	39300	60000	26400	66800	60900	61600	87700	9410	10800	75500	-	35000	-	-
Manganese	91.1	92.3	31.4	38.3	41.2	61.4	584	138	155	167	300	-	300	-
Mercury	ND	0.2	ND	ND	ND	ND	ND	ND	ND	ND	2.0	-	2.0	5.0
Nickel	ND	8.2 B	ND	5.8 B	ND	ND	6.8 B	ND	ND	7.8 BV	-	-	-	-
Potassium	4300 BV	15000 EV	3090 BV	13500 EV	2610 BV	4780 BV	2250 BV	5400 V	5650 V	9660	-	-	-	-
Selenium	ND	3.0 BW	ND	ND	ND	ND	ND	ND	ND	8	10	-	10	10
Silver	ND	4.8 BV	ND	5.1 BV	ND	ND	4.0 B	ND	ND	ND	50	-	50	50
Sodium	30800	47500	13000	42900	14300	10700	16100	38700	38700	64000	20000	-	-	<20000
Vanadium	5.0 B	12.1 B	2.7 B	10.5 B	5.0 B	5.4 B	14.5 B	8.4 B	9.2 B	13.5 B	-	-	-	-
Zinc	33.5 EV	44.9V	18.7 BEV	21.7 V	18.6 BEV	19.5 BEV	57.2EV	41.6 EV	43.4 EV	48 V	300	-	5000	<300
MISCELLANEOUS COMPOUNDS														
Total Cyanide	3.5 B	ND	ND	ND	ND	ND	ND	ND	3.5 B	ND	100	-	-	<100

5.0 SUMMARY OF CONCLUSIONS

Based on the analytical results presented in Section 4.0 of this report, it can be concluded that hazardous waste materials have been improperly disposed on various portions of the project site over an extended period of time. This conclusion is further supported by historic documentation and statements made by former Westinghouse Electric employees.

Volatile organic compounds (VOCs) in excess of New York State Water Quality Standards and/or Guidance Values were detected in groundwater samples collected from the following areas:

- Area I-Oil Storage Building (WEC-MW7);
- Area J-Underground Solvent Tank Storage Area (WEC-MW8);
- Area K-Hazardous Storage Facility (WEC-MW10);
- Area Q-Railroad Track Area (WEC-MW16); and
- Existing Monitoring Well Locations (WEC-MW2 and WEC-MW3).

In general, the highest VOCs concentration levels detected in the groundwater consisted of:

- Vinyl chloride (2500 ug/l);
- 1,1-Dichloroethane (1800 ug/l);
- 1,1-Dichloroethene (200 ug/l);
- 1,2-Dichloroethene (15000 ug/l);
- 1,1,1-Trichloroethane (1400 ug/l);
- Trichloroethene (58000 ug/l);
- Toluene (1200 ug/l); and
- Tetrachloroethene (160 ug/l).

Vinyl chloride, 1,2-dichloroethene, 1,1,1-trichloroethane, trichloroethene, toluene and tetrachloroethene are listed hazardous wastes as established in New York State Regulations-6NYCRR Part 371 (Section 371.4). Past records indicate that both 1,1,1-trichloroethane and trichloroethene were routinely utilized and stored at the facility.

The presence of 1,2-dichloroethene, 1,1-dichloroethene and vinyl chloride in the groundwater maybe the result of anaerobic biodegradation of tetrachloroethene and trichloroethene. In addition, the presence of 1,1-dichloroethane may be associated with the biodegradation of 1,1,1-trichloroethane.

Contamination of subsurface soil was detected in the following areas:

- Area B-Storm Sewer Line 003;
- Area D-Storm Sewer Line 003;
- Area F-Captain's Pool Area;
- Area I-Oil Storage Building;
- Area J-Underground Solvent Tank Storage Area;
- Area O-Gunnery Range;
- Area P-"Flying Tiger's" Area; and
- Area Q-Railroad Track Area.

Samples collected from these areas exhibited elevated concentrations of various compounds and/or analytes in excess of NYSDEC Soil Guidance Values.

Surface water contamination was detected in the following areas:

- Area A-Fan Room;
- Area C-Heat Treatment/Plating Area;
- Area E-Storm Sewer System; and
- Area M-Underground Mixing Room.

Samples collected from these areas exhibited elevated concentration levels of various compounds and/or inorganic analytes in excess of New York State Water Quality Standards and/or Guidance Values.

Elevated concentrations of several compounds and/or analytes in excess of NYSDEC Soil Guidance Values were detected in sediment samples collected form the following areas:

- Area A-Fan Room;
- Area C-Heat Treatment/Plating Area;
- Area E-Storm Sewer System;
- Area H-Boiler House Facility;

- Area M-Underground Mixing Room; and
- Area O-Gunnery Range.

Elevated concentrations of total cyanide in excess of New York State Water Quality Standards and/or Guidance Values was detected in a surface water sample collected from Area C-Heat Treatment/Plating Area. Total cyanide was detected in sediment and/or soil samples collected from the following areas:

- Area A-Fan Room;
- Area C-Heat Treatment/Plating Area;
- Area E-Storm Sewer System;
- Area H-Boiler House Facility;
- Area N-Parking Lot Area; and
- Area O-Gunnery Range.

The presence of total cyanide detected in the soil and/or sediment samples supports the allegations of on-site disposal since cyanide does not naturally occur in soils. In addition, it supports the initial listing of the site in the Registry of Inactive Hazardous Waste Disposal Sites in New York State.

6.0 PRELIMINARY ASSESSMENT DETERMINATION

The preliminary assessment score calculated for this site was:

Ground Water Pathway Score	(Sgw)	=	5.33
Surface Water Pathway Score	(Ssw)	=	6.61
Soil Exposure Pathway Score	(Sso)	=	15.87
Air Pathway Score	(Sa)	=	21.70

SITE SCORE = 14.09

The preliminary assessment (PA) was scored using the USEPA PA scoresheets (Draft 1990). A copy of the PA scoresheet document has been incorporated within this section.

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PA Scoresheets

PRELIMINARY ASSESSMENT

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CERCLIS IDENTIFICATION NUMBER	
STATE	SITE NUMBER
NEW YORK	NYD092474592

SITE LOCATION

SITE NAME: Legal, common or descriptive name of site
Westinghouse Electric Corporation

STREET ADDRESS, ROUTE or SPECIFIC LOCATION IDENTIFIER
4454 Genesee Street

CITY	STATE	ZIP CODE	TELEPHONE
Cheektowaga	N.Y.	14225	(716) 631-1000

COORDINATES: LATITUDE and LONGITUDE	TOWNSHIP, RANGE, and SECTION
42° 56' 04" N 78° 43' 24" W	

OWNER/OPERATOR IDENTIFICATION

OWNER	OPERATOR
Multi - Owners	Buffalo Airport Center Associates
OWNER ADDRESS: See Page 1A	OPERATOR ADDRESS: 4454 Genesee Street
CITY:	CITY: Cheektowaga

STATE	ZIP CODE	TELEPHONE	STATE	ZIP CODE	TELEPHONE
		( )	N.Y.	14225	(716) 631-1000

TYPE OF OWNERSHIP

- ☐ PRIVATE
- ☐ FEDERAL: Agency name ______
- ☐ STATE
- ☐ COUNTY
- ☐ MUNICIPAL
- ☐ OTHER: ______
- ☐ NOT SPECIFIED

OWNER/OPERATOR NOTIFICATION ON FILE

- ☒ NONE
- ☐ CERCLA 103 C, UNCONTROLLED WASTE SITE DATE: ______
- ☐ RCRA 3001 DATE: ______

SITE STATUS	YEARS OF OPERATION	APPROXIMATE SIZE OF SITE
☐ ACTIVE ☒ INACTIVE ☐ UNKNOWN	BEGINNING YEAR: 1940 ENDING YEAR: 1984 ☐ UNKNOWN	143 Acres

SITE EVALUATION

AGENCY / ORGANIZATION
New York State Department of Environmental Conservation

INVESTIGATOR
Dunn Geoscience Engineering Company

CONTACT
Mark P. Mateunas, P.E. - NYSDEC

ADDRESS NYSDEC - Division of Hazardous Waste Remediation
50 Wolf Road Albany, New York 12233-7010

TELEPHONE
(518) 457-0639

DATE August 1991

Site Name Westinghouse Electric Corporation

Date: August 1991

OWNER IDENTIFICATION

Erie County Industrial Development Agency

Suite 300 - Liberty Building
424 Main Street
Buffalo, New York 14202
(716) 856-6525
Type of Ownership: County

Niagara Frontier Transportation Authority

181 Ellicott Street
Buffalo, New York 14203
(716) 855-7300
Type of Ownership: State Authority

GENERAL INFORMATION

Site Description and Operational History:

The Westinghouse Electric Corporation Site is located in the western portion of Erie County, New York, at 4454 Genesee Street in the Town of Cheektowaga. The site is bordered to the north and west by the Greater Buffalo International Airport, to the east by Holtz Drive, and to the south by Genesee Street. Refer to Page 2A for Site Location Map.

Between 1940 to 1946, Curtis-Wright Corporation utilized the facility for the manufacture and production of aircraft for World War II. In 1946, the 143 acre plant site was sold to the Westinghouse Electric Corporation. During 1946 to 1984, Westinghouse utilized the facility to manufacture electric motors and controls.

In 1964, Westinghouse sold approximately 0.7 acres of the northern tip portion of the property to the Niagara Frontier Transportation Authority (NFTA).

In 1979, the Interagency Task Force on Hazardous Wastes in Erie and Niagara Counties (a coalition of the NYSDEC, New York Department of Health (NYSDOH) and Region II USEPA personnel) identified Westinghouse as a significant generator of hazardous waste. However, it could not identify where wastes generated at the facility were disposed prior to 1971. According to the Task Force Report, the following waste materials were generated in varying quantities by Westinghouse's manufacturing processes:

- General refuse;
- Non-ferrous scrap;
- Waste mineral oil;
- Iron phosphate solution;
- Chemical wastes.
- Waste oil;
- Ferrous scrap;
- Ultra filter rinse oil;
- Deionized resin solution; and

No information could be found pertaining to waste generation and disposal practices associated with Curtis-Wright's manufacturing activities at the plant site.

In June 1980, Westinghouse was listed in the registry of Inactive Hazardous Waste Disposal Sites as "suspected" of disposing cyanide salts on-site at an unknown location. The issue of suspected disposal of cyanide salts was raised as a result of a Westinghouse memorandum concerning a conference between Westinghouse and D. B. Stevens of the New York State Water Pollution Control Board. This January 10, 1955 memorandum makes reference to cyanide waste from the heat treating room: *"The spent solid cyanide is collected and disposed of by burial on the property."* In that same memorandum are references to off-site disposal of sludges, as well as plating solutions, that are *"...diluted and flushed down the drain."*

Westinghouse ceased a majority of their manufacturing/production operations at the facility in 1984. During 1984, Westinghouse sold an additional 11.4 acres of the northern tip of the subject property to the NFTA. In December of 1984, Westinghouse entered into an agreement to sell the plant building and remaining property to Mr. Barry M. Weinstein.

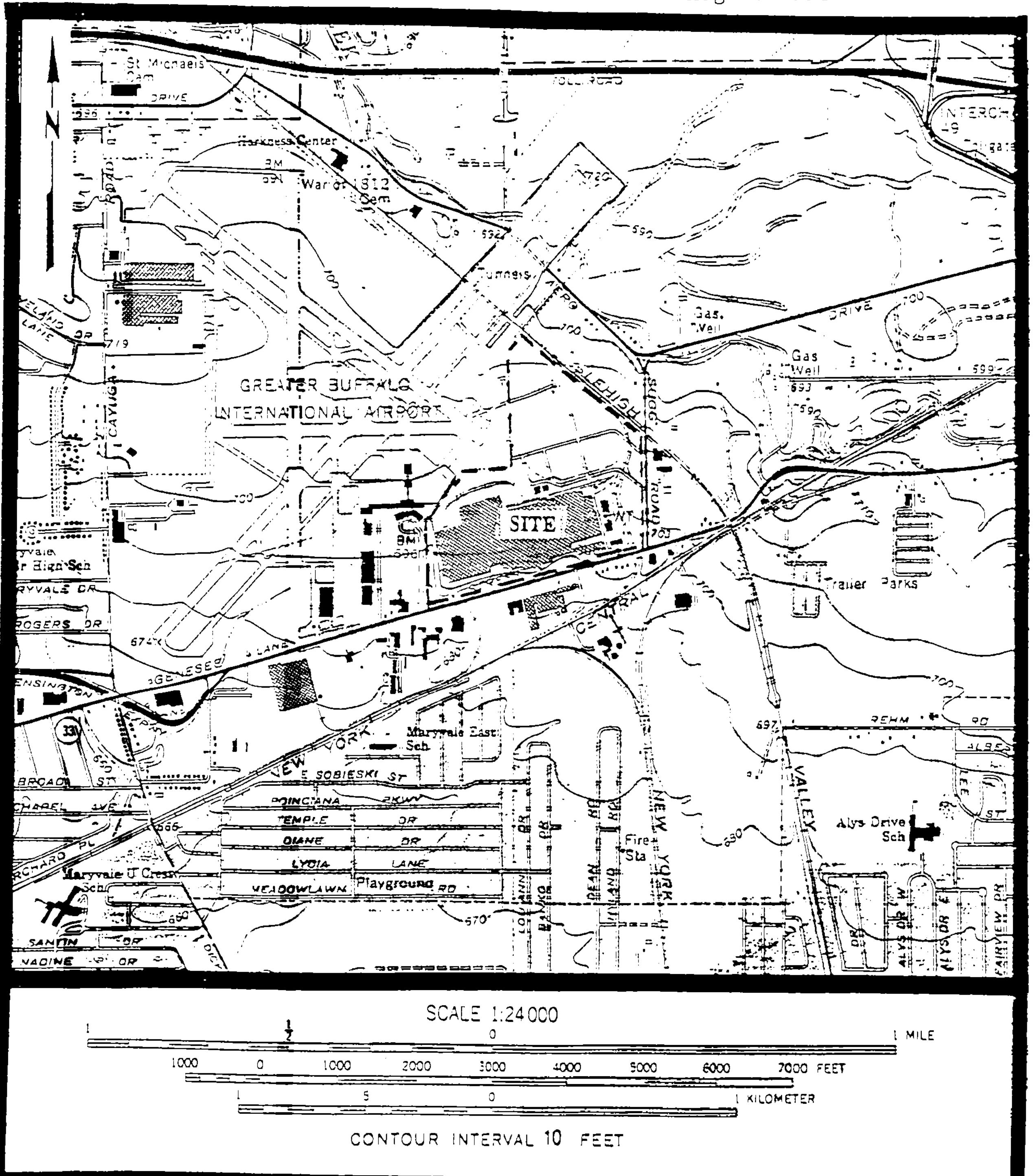
In 1985, Mr. Weinstein assigned all his rights and interest in the facility to the Erie County Industrial Development Agency (ECIDA), who in turn, amended and signed the purchase agreement. In August of the same year, the ECIDA entered into a lease with an option to purchase the facility with the Buffalo Airport Center Associates (BACA).

Presently, the BACA manages the site and subleases portions of the property for a variety of uses, including general office and warehousing and distribution operations.

Probable Contaminants of Concern:

(Previous investigations; analytical data)

Historic information and analytical data obtained from various environmental investigations indicates that the following hazardous substances were either stored, handled, or disposed at the site: 1,1,1-trichloroethane, trichloroethene, tetrachloroethene, xylenes, toluene, PCBs, phenol, 4-methylphenol, 2-methylphenol, pentachlorophenol, 2,4-dimethylphenol, 1,1 dichloroethene, vinyl chloride, cyanide, and heavy metals (cadmium, chromium, selenium, lead, mercury, zinc).



SITE LOCATION MAP

WESTINGHOUSE ELECTRIC CORPORATION
CHEEKTOWAGA, NEW YORK
(78° 43' 24" W. Long; 42° 56' 04" N. Lat)

U.S.G.S 7.5 Min Quad. Lancaster, New York

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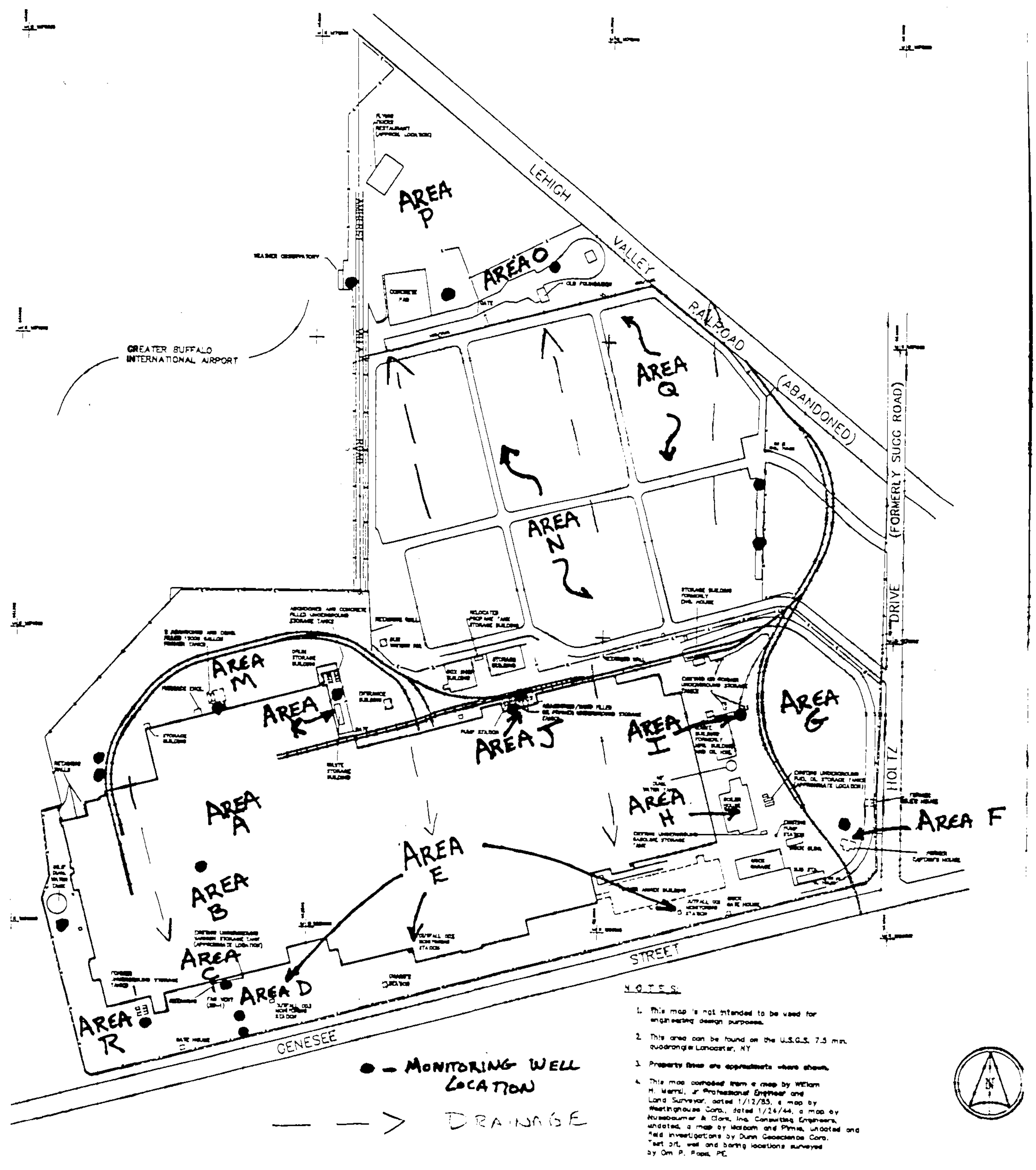
NOV 06 1990

Site Name: Westinghouse Electric Corporation
Date: August 1991

GENERAL INFORMATION (continued)

Site Sketch:

(Show all pertinent features; indicate sources and closest targets) : Refer to Page 3A ·for Description of Areas



Site Name: Westinghouse Electric Corporation

Date: August 1991

Area	Description
A	Fan Room
B	Storm Sewer Line 003-Test Borings
C	Heat Treatment/Plating Area
D	Storm Sewer Line 003-Test Pits
E	Storm Sewer System
F	Captain's Pool Area
G	East Fill/Mound Area
H	Boiler House Facility
I	Oil Storage Building Area
J	Underground Solvent Tank Area
K	Hazardous Storage Area
M	Underground Mixing Room
N	Parking Lot Area
O	Gunnery Range
P	"Flying Tiger's" Area
Q	Railroad Track Area
R	Southwest Corner/Storage Tank Area

GENERAL INFORMATION (continued)

Source Descriptions:

Contaminated Soil: Contaminated soil has been found in the various areas throughout the total site. The total area of contaminated soil is approximately 2.78 acres. No contaminant structures are present.

Former/Existing Storage Tanks: Potential subsurface contamination of soil and/or groundwater has been documented. In addition, the tank areas are situated near numerous underground service lines and storm water drainage lines. No contaminant structures are present.

Waste Trash Piles: A series of waste piles are evident in the back portion of the main parking lot area north of the Westinghouse facility. The area is approximately 1.43 acres. No containment structures were evident.

Waste Characteristics (WC) Calculations:

(See PA Table 1, page 5)

Contaminated Soil:

Total Area - 2.78 Acres
2.78 Acres - 0.78 Conversion Factor = 3.56
$WQ_{(1)}$ = 3.56

Waste Piles: (Trash)

Total Area - 1.43 Acres
1.43 Acres - 0.00029 = 4,931
$WQ_{(2)}$ = 4,931

$WQ_{(1)} + WQ_{(2)}$ = WQ Total
3.56 + 4,931 = 4,934.56 - WQ Total

<u>WQ Total</u>
>100 to 10,000 = WC Score of 32

WC = 32

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NOV 06 1990

PA TABLE 1: WASTE CHARACTERISTICS (WC) SCORES

PA Table 1a: WC Scores for Single Source Sites and Formulas for Multiple Source Sites

TIER	SOURCE TYPE	SINGLE SOURCE SITES (assigned WC scores) WC = 18	WC = 32	WC = 100	MULTIPLE SOURCE SITES Formula for Assigning Source WQ Values
CONSTITUENT	N/A	≤100 lbs	>100 to 10,000 lbs	>10,000 lbs	lbs ÷ 1
WASTESTREAM	N/A	≤500,000 lbs	>500,000 to 50 million lbs	>50 million lbs	lbs ÷ 5,000
VOLUME	Landfill	≤6.75 million ft^3 ≤250,000 yd^3	>6.75 million ft^3 to 675 million ft^3 >250,000 to 25 million yd^3	>675 million ft^3 >25 million yd^3	ft^3 ÷ 67,500 yd^3 ÷ 2,500
	Surface impoundment	≤6,750 ft^3 ≤250 yd^3	>6,750 ft^3 to 675,000 ft^3 >250 to 25,000 yd^3	>675,000 ft^3 >25,000 yd^3	ft^3 ÷ 67.5 yd^3 ÷ 2.5
	Drums	≤1,000 drums	>1,000 to 100,000 drums	>100,000 drums	drums ÷ 10
	Tanks and non-drum containers	≤50,000 gallons	>50,000 to 5 million gallons	>5 million gallons	gallons ÷ 500
	Contaminated soil	≤6.75 million ft^3 ≤250,000 yd^3	>6.75 million ft^3 to 675 million ft^3 >250,000 to 25 million yd^3	>675 million ft^3 >25 million yd^3	ft^3 ÷ 67,500 yd^3 ÷ 2,500
	Pile	≤6,750 ft^3 ≤250 yd^3	>6,750 ft^3 to 675,000 ft^3 >250 to 25,000 yd^3	>675,000 ft^3 >25,000 yd^3	ft^3 ÷ 67.5 yd^3 ÷ 2.5
AREA	Landfill	≤340,000 ft^2 ≤7.8 acres	>340,000 to 34 million ft^2 >7.8 to 780 acres	>34 million ft^2 >780 acres	ft^2 ÷ 3,400 acres ÷ 0.078
	Surface impoundment	≤1,300 ft^2 ≤0.029 acres	>1,300 to 130,000 ft^2 >0.029 to 2.9 acres	>130,000 ft^2 >2.9 acres	ft^2 ÷ 13 acres ÷ 0.00029
	Contaminated soil	≤3.4 million ft^2 ≤78 acres	>3.4 million to 340 million ft^2 >78 to 7,800 acres	>340 million ft^2 >7,800 acres	ft^2 ÷ 34,000 acres ÷ 0.78
	Pile*	≤1,300 ft^2 ≤0.029 acres	>1,300 to 130,000 ft^2 >0.029 to 2.9 acres	>130,000 ft^2 >2.9 acres	ft^2 ÷ 13 acres ÷ 0.00029
	Land treatment	≤27,000 ft^2 ≤0.62 acres	>27,000 to 2.7 million ft^2 >0.62 to 62 acres	>2.7 million ft^2 >62 acres	ft^2 ÷ 270 acres ÷ 0.0062

1 ton = 2,000 lbs = 1 yd^3 = 4 drums = 200 gallons

* Use area of land surface under pile, not surface area of pile.

PA Table 1b: WC Scores for Multiple Source Sites

WQ Total	WC Score
>0 to 100	18
>100 to 10,000	32
>10,000	100

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NOV 06 1990

GROUND WATER PATHWAY
GROUND WATER USE DESCRIPTION

Describe Ground Water Use Within 4-miles of the Site:

(Provide generalized stratigraphy; information on aquifers, municipal, and or private wells)

Within a four mile radius of the site, groundwater is utilized as a source of potable water for a very limited population. Information provided by the NYSDOH indicates that a total of seven residential dwellings utilize groundwater for potable water within a one mile radius of the site. A vast majority of the area is served by municipal water companies.

The aquifer of concern is situated within the unconsolidated overburden strata. The strata is composed of relatively impermeable till and lacustrine units. In general, these units are not important sources of water due to low yield potential.

A bedrock well is located on the site and is utilized for non-potable water uses. In addition, three supply water wells utilized for industrial cooling are located within a three mile radius of the site. The supply wells are no longer in use.

Show calculations of ground water drinking water populations:

Secondary Target Population:

A vast majority of the area is served by municipal water supplies. Information obtained from the NYSDOH indicates a total of seven residential wells within a one-mile radius of the site.

7 Residental Wells x 2.5 people/household * = 17.5 people

* Based on 1980 Census Information

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GROUND WATER PATHWAY CRITERIA LIST

Site Name: Westinghouse Electric Corporation
Date: August 1991

This chart provides guidelines to assist you in hypothesizing the presence of a suspected release and identifying primary targets. It is expected that not all of this information will be available during the PA. Also, these criteria are not all-inclusive; list any other criteria you use to hypothesize a suspected release or to identify primary targets. This chart will record your professional judgment in evaluating these factors.

The "Suspected Release" section of the chart guides you through evaluation of some site, source, and pathway conditions to help hypothesize whether a release from the site is likely. If a release is suspected, use the "Primary Targets" section to guide you through evaluation of some conditions that will help identify targets likely to be exposed to hazardous substances. You may use this section of the chart more than once, depending on the number of targets you feel may be considered "primary." In the "Primary Targets" section on this sheet, record the responses for the well that you feel has the highest probability of being exposed to hazardous substances.

Check the boxes to indicate a "yes", "no", or "unknown" answer to each question. If you check the "Suspected Release" box as "yes", make sure that you assign a Likelihood of Release value of 550 for the pathway.

GROUND WATER PATHWAY

SUSPECTED RELEASE

Yes	No	Unknown	
X			Are sources poorly contained?
X			Is the source a type likely to contribute to ground water contamination (e.g., wet lagoon)?
		X	Is waste quantity particularly large?
	X		Is precipitation heavy and infiltration rate high?
	X		Is the site located in an area of karst terrain?
	X		Is the subsurface highly permeable or conductive?
	X		Is drinking water drawn from a shallow aquifer?
X			Are suspected contaminants highly mobile in ground water?
X			Does any circumstantial evidence of ground water or drinking water contamination exist?
X			Other criteria? Analytical Data
X			**SUSPECTED RELEASE?**

PRIMARY TARGETS

Yes	No	Unknown	
X			Is any drinking-water well nearby?
	X		Is any nearby drinking-water well closed?
	X		Has foul-tasting or foul-smelling water been reported by any nearby drinking-water users?
	X		Do any nearby wells have a large drawdown or high production rate?
	X		Are drinking-water wells located between the site and other wells that are suspected to be exposed to hazardous substances?
X			Does any circumstantial evidence of ground water or drinking water contamination exist?
X			Does any drinking-water well warrant sampling?
	X		Other criteria? ______
	X		**PRIMARY TARGET(S) IDENTIFIED?**

Summarize the rationale for suspected release (attach an additional page if necessary):

The following compounds/parameters have been detected in excess of groundwater standards: tetrachloroethene, trichloroethene, 1,2- dichloroethene, vinyl chloride, 1,1,1- trichloroethane.

Summarize the rationale for Primary Targets (attach an additional page if necessary):

There are seven residential wells within a one mile radius of the site. Contaminants are detected in the on-site monitoring wells. Therefore, the drinking water wells should be sampled.

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NOV 06 1990

Site Name: Westinghouse Electric Corporation
Date: August 1991

GROUND WATER PATHWAY SCORESHEET

Pathway Characteristics	
Do you suspect a release (see Ground Water Pathway Criteria List, page 7)?	Yes x No ___
Is the site located in karst terrain?	Yes ___ No x
Depth to aquifer:	6 ft
Distance to the nearest drinking-water well:	2000 ft

LIKELIHOOD OF RELEASE

	A Suspected Release	B No Suspected Release	References
1. SUSPECTED RELEASE: If you suspect a release to ground water (see page 7), assign a score of 550, and use only column A for this pathway.	(550) 550		24,27,28 PSA
2. NO SUSPECTED RELEASE: If you do not suspect a release to ground water, and the site is in karst terrain or the depth to aquifer is 70 feet or less, assign a score of 500; otherwise, assign a score of 340. Use only column B for this pathway.		(500 or 340)	–
LR =	550		

TARGETS

	A	B	References
3. PRIMARY TARGET POPULATION: Determine the number of people served by drinking water from wells that you suspect have been exposed to hazardous substances from the site (see Ground Water Pathway Criteria List, page 7). 0 people x 10 =	0		PSA
4. SECONDARY TARGET POPULATION: Determine the number of people served by drinking water from wells that you do NOT suspect have been exposed to hazardous substances from the site, and assign the total population score from PA Table 2. Are any wells part of a blended system? Yes ___ No X If yes, attach a page to show apportionment calculations.	2		PSA
5. NEAREST WELL: If you have identified any Primary Targets for ground water, assign a score of 50; otherwise, assign the highest Nearest Well score from PA Table 2. If no drinking-water wells exist within 4 miles, assign a score of zero.	(50, 20, 18, 9, 5, 3, 2, or 0) 18	(20, 18, 9, 5, 3, 2, or 0)	PSA
6. WELLHEAD PROTECTION AREA (WHPA): Assign a score of 20 if any portion of a designated WHPA is within ¼ mile of the site; assign 5 if from ¼ to 4 miles.	(20, 5, or 0) 0	(20, 5, or 0)	27
7. RESOURCES: A score of 5 is assigned.	(5) 5	(5) 5	
T =	25		

WASTE CHARACTERISTICS

	A	B
8. A. If you have identified any Primary Targets for ground water, assign the waste characteristics score calculated on page 4, or a score of 32, whichever is GREATER; do not evaluate part B of this factor.	(100 or 32) 32	
B. If you have NOT identified any Primary Targets for ground water, assign the waste characteristics score calculated on page 4.	(100, 32, or 18) –	(100, 32, or 18)
WC =	32	

GROUND WATER PATHWAY SCORE: $\frac{LR \times T \times WC}{82{,}500}$ (subject to a maximum of 100) 5.33

Site Name: Westinghouse Electric Corporation
Date: August 1991

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PA TABLE 2: VALUES FOR SECONDARY GROUND WATER TARGET POPULATIONS

PA Table 2a: Non-Karst Aquifers

Distance from Site	Population	Nearest Well (choose highest)	Population Served by Wells Within Distance Category										Population Value
			1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	
0 to ¼ mile	0	20	1	2	5	16	52	163	521	1,633	5,214	16,325	–
> ¼ to ½ mile		18	1	1	3	10	32	101	323	1,012	3,233	10,121	1
> ½ to 1 mile	18	9	1	1	2	5	17	52	167	522	1,668	5,224	1
> 1 to 2 miles	0	5	1	1	1	3	9	29	94	294	939	2,938	–
> 2 to 3 miles	0	3	1	1	1	2	7	21	68	212	678	2,122	–
> 3 to 4 miles	0	2	1	1	1	1	4	13	42	131	417	1,306	–

Nearest Well = 18

Score = 2

PA Table 2b: Karst Aquifers

Distance from Site	Population	Nearest Well (use 20 for karst)	Population Served by Wells Within Distance Category										Population Value
			1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	
0 to ¼ mile		20	1	2	5	16	52	163	521	1,633	5,214	16,325	
> ¼ to ½ mile		20	1	1	3	10	32	101	323	1,012	3,233	10,121	
> ½ to 1 mile		20	1	1	3	8	26	82	261	816	2,607	8,162	
> 1 to 2 miles		20	1	1	3	8	26	82	261	816	2,607	8,162	
> 2 to 3 miles		20	1	1	3	8	26	82	261	816	2,607	8,162	
> 3 to 4 miles		20	1	1	3	8	26	82	261	816	2,607	8,162	

Nearest Well =

Score =

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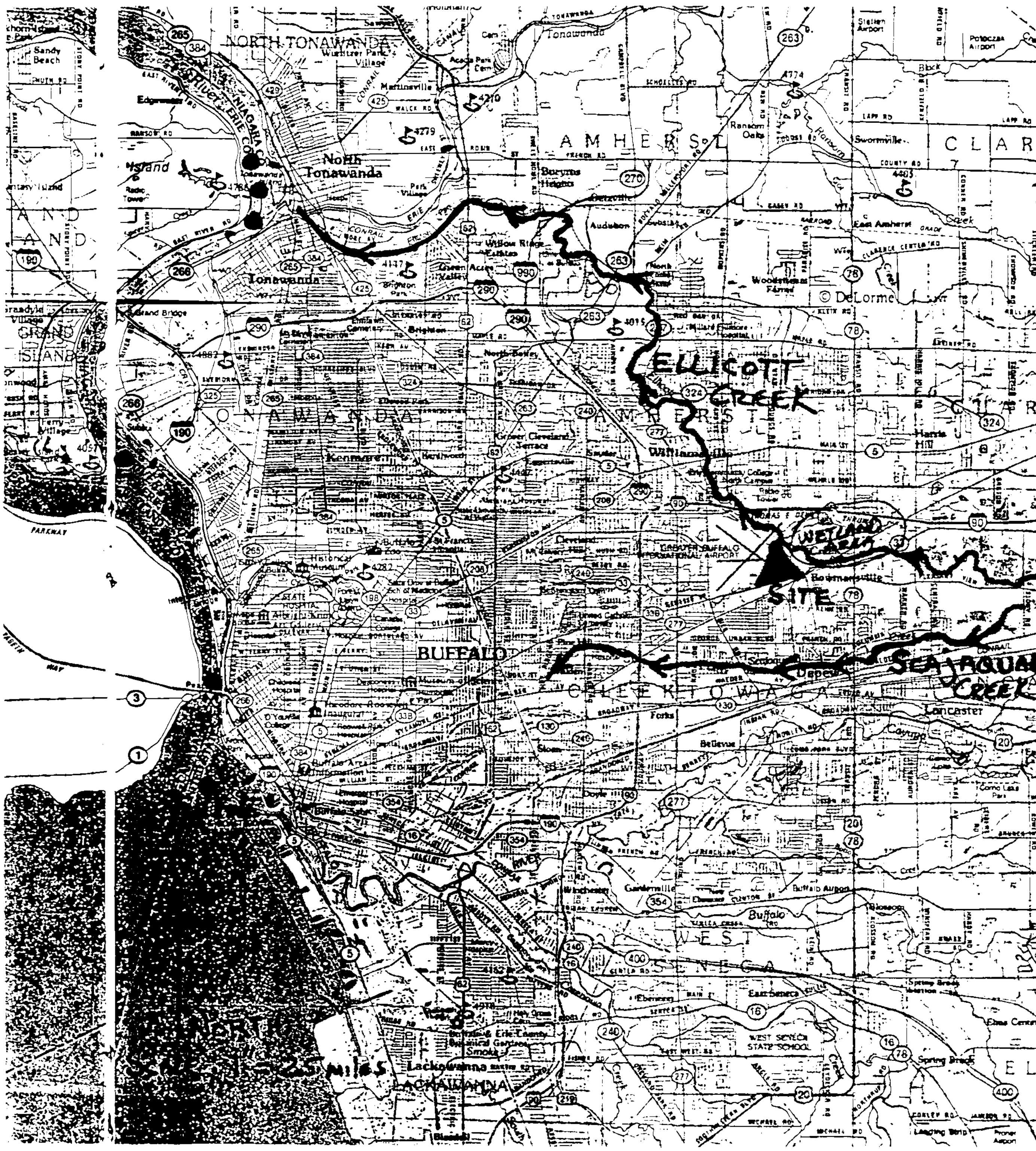
NOV 08 1990

Site Name: Westinghouse Electric Corporation
Date: August 1991

SURFACE WATER PATHWAY
MIGRATION ROUTE SKETCH

Provide a Sketch of the Surface Water Migration Route:
(include runoff route, probable point of entry, 15-mile target distance limit, intakes, fisheries, and sensitive environments)



● - WATER INTAKE

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SURFACE WATER PATHWAY CRITERIA LIST

Site Name: Westinghouse Electric Corporation
Date: August 1991

This chart provides guidelines to assist you in hypothesizing the presence of a suspected release and identifying primary targets. It is expected that not all of this information will be available during the PA. Also, these criteria are not all-inclusive; list any other criteria you use to hypothesize a suspected release or to identify primary targets. This chart will record your professional judgment in evaluating these factors.

The "Suspected Release" section of the chart guides you through evaluation of some site, source, and pathway conditions to help hypothesize whether a release from the site is likely. If a release is suspected, use the "Primary Targets" section to guide you through evaluation of some conditions that will help identify targets likely to be exposed to hazardous substances. You may use this section of the chart more than once, depending on the number of targets you feel may be considered "primary." In the "Primary Targets" section on this sheet, record the responses for the target that you feel has the highest probability of being exposed to hazardous substances.

Check the boxes to indicate a "yes", "no", or "unknown" answer to each question. If you check the "Suspected Release" box as "yes", make sure that you assign a Likelihood of Release value of 550 for the pathway.

SURFACE WATER PATHWAY

SUSPECTED RELEASE

Yes	No	Unknown	
☒	☐	☐	Is surface water nearby?
☐	☐	☒	Is waste quantity particularly large?
☐	☒	☐	Is the drainage area large?
☒	☐	☐	Is precipitation heavy or infiltration rate low?
☐	☒	☐	Are sources poorly contained or prone to runoff or flooding?
☒	☐	☐	Is a runoff route well defined (e.g., ditch or channel leading to surface water)?
☐	☒	☐	Is vegetation stressed along the probable runoff path?
☒	☐	☐	Are suspected contaminants highly persistent in surface water?
☐	☒	☐	Are sediments/water unnaturally discolored?
☐	☒	☐	Is wildlife unnaturally absent?
☒	☐	☐	Has deposition of waste into surface water been observed?
☒	☐	☐	Is ground water discharge to surface water likely?
☒	☐	☐	Is there any circumstantial evidence of surface water contamination?
☒	☐		Other criteria? Analytical Data
☒	☐		**SUSPECTED RELEASE?**

PRIMARY TARGETS

Yes	No	Unknown	
☐	☒	☐	Is any target nearby? If yes: ☐ Drinking-water intake ☐ Fishery ☐ Sensitive environment
☐	☒	☐	Has an intake, fishery, or recreational area been closed?
☐	☐	☒	Is there any circumstantial evidence of surface water contamination at or downstream of a target?
☐	☒	☐	Does any target warrant sampling? If yes: ☐ Drinking-water intake ☐ Fishery ☐ Sensitive environment
☐	☒		Other criteria? ______
☐	☒		**PRIMARY INTAKE(S) IDENTIFIED?**
☐	☒		**PRIMARY FISHERY IDENTIFIED?**
☐	☒		**PRIMARY SENSITIVE ENVIRONMENT(S) IDENTIFIED?**

Summarize the rationale for suspected release (attach an additional page if necessary):

Analytical results indicate surface water contamination within the on-site storm sewer system. Contaminants found in the surface water included: trichloroethene, 1,1,1- trichloroethane, 1,2- dichloroethene, vinyl chloride, cadmium, selenium, silver and zinc.

Summarize the rationale for Primary Targets (attach an additional page if necessary):

None

SURFACE WATER PATHWAY
LIKELIHOOD OF RELEASE AND DRINKING WATER THREAT SCORESHEET

Pathway Characteristics	
Do you suspect a release (see Surface Water Pathway Criteria List, page 11)?	Yes X No ___
Distance to surface water:	1500 ft
Flood Frequency:	over 500 yrs
What is the downstream distance to the nearest drinking-water intake? 12 miles	
nearest fishery? NA miles nearest sensitive environment? 0.3 miles	

LIKELIHOOD OF RELEASE	A Suspected Release	B No Suspected Release	References
1. SUSPECTED RELEASE: If you suspect a release to surface water (see page 11), assign a score of 550, and use only column A for this pathway.	(550) 550		24,28,26 PSA
2. NO SUSPECTED RELEASE: If you do not suspect a release to surface water, and the distance to surface water is 2,500 feet or less, assign a score of 500; otherwise, assign a score from the table below. Use only column B for this pathway.		(500,400,300 or 100)	–
LR =	(550) 550	(500,400,300 or 100)	

Floodplain	Score
Site in annual or 10-yr floodplain	500
Site in 100-yr floodplain	400
Site in 500-yr floodplain	300
Site outside 500-yr floodplain	100

DRINKING WATER THREAT TARGETS

3. Determine the water body types, flows (if applicable), and number of people served by all drinking-water intakes within the 15-mile target distance limit. If there are no drinking-water intakes within the target distance limit, assign a total Targets score of 5 at the bottom of this page (Resources only) and proceed to page 14.

Intake Name	Water Body Type	Flow	People Served
City of Tonawanda Intake	large River	10,000+ cfs	18,000
Erie Co./Motor Island Intake	Large River	10,000+ cfs	100,000
City of Buffalo Intake	Great Lakes	N/A cfs	350,000

References: PSA

4. PRIMARY TARGET POPULATION: If you suspect any drinking-water intake listed above has been exposed to hazardous substances from the site (see Surface Water Pathway Criteria List, page 11), list the intake name(s) and calculate the factor score based on the number of people served.

_____________, _____________,

0 people x 10 =

	A	B	References
4. Primary Target Population	0		–
5. Secondary Target Population	4		PSA
6. Nearest Intake	(50,20,10,2,1, or 0) 0	(20,10,2,1, or 0)	–
7. Resources	(5) 5	(5) 5	
T =	9		

5. SECONDARY TARGET POPULATION: Determine the Secondary Target Population score from PA Table 3 based on the populations using drinking-water from intakes that you do NOT suspect have been exposed to hazardous substances from the site.

Are any intakes part of a blended system? Yes ___ No X
If yes, attach a page to show apportionment calculations.

6. NEAREST INTAKE: If you have identified any Primary Targets for the drinking water threat (Factor 4), assign a score of 50; otherwise, assign the Nearest Intake score from PA Table 3. If no drinking-water intake exists within the 15-mile target distance limit, assign a score of zero.

7. RESOURCES: A score of 5 is assigned.

Westinghouse Electric
Site Name: Corporation
Date: August 1991

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NOV 06 1990

PA TABLE 3: VALUES FOR SECONDARY SURFACE WATER TARGET POPULATIONS

Surface Water Body Flow Characteristics (see PA Table 4)	*Population*	*Nearest Intake (choose highest)*	*Population Served by Intakes Within Flow Category*											*Population Value*
			1 to 30	*31 to 100*	*101 to 300*	*301 to 1,000*	*1,001 to 3,000*	*3,001 to 10,000*	*10,001 to 30,000*	*30,001 to 100,000*	*100,001 to 300,000*	*300,001 to 1,000,000*	*1,000,001 to 3,000,000*	
< 10 cfs	–	20	2	5	16	52	163	521	1,633	5,214	16,325	52,136	163,246	–
10 to 100 cfs	–	2	1	1	2	5	16	52	163	521	1,633	5,214	16,325	–
> 100 to 1,000 cfs	–	1	0	0	1	1	2	5	16	52	163	521	1,633	–
> 1,000 to 10,000 cfs	–	0	0	0	0	0	1	1	2	5	16	52	163	–
> 10,000 cfs or Great Lakes	18,000 100,000 350,000	0	0	0	0	0	0	0	1	1	2	5	16	4
3-mile Mixing Zone	–	10	1	3	8	26	82	261	816	2,607	8,162	26,068	81,663	–

Nearest Intake = 0

Score = 4

PA TABLE 4: SURFACE WATER TYPE / FLOW CHARACTERISTICS WITH DILUTION WEIGHTS FOR SECONDARY SURFACE WATER SENSITIVE ENVIRONMENTS

Type of Surface Water Body		*Dilution Weight*
Water Body Type OR	*Flow Characteristics*	
minimal stream	flow less than 10 cfs	*1*
small to moderate stream	flow 10 to 100 cfs	*0.1*
moderate to large stream	flow greater than 100 to 1,000 cfs	*N/A*
large stream to river	flow greater than 1,000 to 10,000 cfs	*N/A*
large river	flow greater than 10,000 cfs	*N/A*
3-mile mixing zone of quiet flowing streams or rivers	flow 10 cfs or greater	*N/A*
coastal tidal water (harbors, sounds, bays, etc.), ocean, or Great Lakes	N/A	*N/A*

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NOV 06 1990

SURFACE WATER PATHWAY (continued)
HUMAN FOOD CHAIN THREAT SCORESHEET

LIKELIHOOD OF RELEASE	A Suspected Release	B No Suspected Release	References
Enter the Surface Water Likelihood of Release score from page 12. LR =	(550) 550	(500, 400, 300 or 100)	

HUMAN FOOD CHAIN THREAT TARGETS

8. Determine the water body types and flows (if applicable) for all fisheries within the 15-mile target distance limit. If there are no fisheries within the target distance limit, assign a Targets score of 0 at the bottom of this page and proceed to page 15.

Fishery Name	Water Body Type	Flow
Ellicott Creek (class B)	moderate to large stream	100-1000 cfs
Scajaquada Creek (class C)	small to mod. stream	10-100 cfs
Niagara River	large River	∠10,000 cfs
Lake Erie	Great Lakes	>100 cfs
		cfs

References: 23,24, 27,28

9. PRIMARY FISHERIES: If you suspect any fishery listed above has been exposed to hazardous substances from the site (see Surface Water Criteria List, page 11), assign a score of 300 and do not evaluate Factor 10. List the Primary Fisheries:

__________, __________,
__________, __________.

A (300 or 0): 0 — References: -

10. SECONDARY FISHERIES: If you have not identified any Primary Fisheries, assign a Secondary Fisheries score from the table below using the LOWEST flow at any fishery within the 15-mile target distance limit.

Lowest Flow	Secondary Fisheries Score
< 10 cfs	210
10 to 100 cfs	30
>100 cfs, coastal tidal waters, oceans, or Great Lakes	12

A (210, 30, 12 or 0): 12 — B (210, 30, 12, or 0): — References: 27, PSA

T = A (300, 210, 30, 12 or 0): 12 — B (210, 30, 12 or 0):

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NOV 06 1990

Site Name: Westinghouse Electric Corporation
Date: August 1991

SURFACE WATER PATHWAY (continued)
ENVIRONMENTAL THREAT SCORESHEET

LIKELIHOOD OF RELEASE		A Suspected Release	B No Suspected Release	References
Enter the Surface Water Likelihood of Release score from page 12.	LR =	(550) 550	(500,400,300 or 100)	

ENVIRONMENTAL THREAT TARGETS

11. Determine the water body types and flows (if applicable) for all surface water sensitive environments within the 15-mile target distance limit (see PA Tables 4 and 5). If there are no sensitive environments within the 15-mile target distance limit, assign a Targets score of 0 at the bottom of this page, and proceed to page 17.

Environment Name	Water Body Type	Flow
Wetland Area- Approx.	moderate to large stream	130 cfs
0.3 miles northeast of		cfs
site - wetland drains		cfs
into Ellicott Creek		cfs
		cfs

References: 23,27

12. PRIMARY SENSITIVE ENVIRONMENTS: If you suspect any sensitive environment listed above has been exposed to hazardous substances from the site (see Surface Water Criteria List, page 11), assign a score of 300 and do not evaluate Factor 13. List the Primary Sensitive Environments:

(300 or 0) A: 0 — References: -

13. SECONDARY SENSITIVE ENVIRONMENTS:

A. For Secondary Sensitive Environments on surface water bodies with flows of 100 cfs or less, assign scores as follows, and do not evaluate part B of this factor:

Flow	Dilution Weight (PA Table 4)	Environment Type and Value (PA Tables 5 and 6)	Total
cfs	x	=	
cfs	x	=	
cfs	x	=	
cfs	x	=	
cfs	x	=	

Sum = 0

B. If NO Secondary Sensitive Environments are located on surface water bodies with flows of 100 cfs or less, assign a score of 10.

(10 or 0) A: 10 — (10 or 0) B: — References: -

T = 10

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NOV 06 1990

Site Name: Westinghouse Electric Corporation
Date: August 1991

PA TABLE 5: SURFACE WATER AND AIR SENSITIVE ENVIRONMENTS VALUES

Sensitive Environment	*Assigned Value*
Critical habitat for Federally designated endangered or threatened species Marine Sanctuary National Park Designated Federal Wilderness Area Ecologically important areas identified under the Coastal Zone Wilderness Act Sensitive Areas identified under the National Estuary Program or Near Coastal Water Program of the Clean Water Act Critical Areas Identified under the Clean Lakes Program of the Clean Water Act (subareas in lakes or entire small lakes) National Monument National Seashore Recreation Area National Lakeshore Recreation Area	100
Habitat known to be used by Federally designated or proposed endangered or threatened species National Preserve National or State Wildlife Refuge Unit of Coastal Barrier Resources System Federal land designated for the protection of natural ecosystems Administratively Proposed Federal Wilderness Area Spawning areas critical for the maintenance of fish/shellfish species within a river system, bay or estuary Migratory pathways and feeding areas critical for the maintenance of anadromous fish species in a river system Terrestrial areas utilized by large or dense aggregations of vertebrate animals (semi-aquatic foragers) for breeding National river reach designated as recreational	75
Habitat known to be used by State designated endangered or threatened species Habitat known to be used by a species under review as to its Federal endangered or threatened status Coastal Barrier (partially developed) Federally designated Scenic or Wild River	50
State land designated for wildlife or game management State designated Scenic or Wild River State designated Natural Area Particular areas, relatively small in size, important to maintenance of unique biotic communities	25
State designated areas for the protection/maintenance of aquatic life under the Clean Water Act	5
Wetlands	See PA Table 6 (Surface Water Pathway) or PA Table 9 (Air Pathway)

PA TABLE 6: SURFACE WATER WETLANDS FRONTAGE VALUES

Total Length of Wetlands	*Assigned Value*
Less than 0.1 mile	0
0.1 to 1 mile	25
Greater than 1 to 2 miles	50
Greater than 2 to 3 miles	75
Greater than 3 to 4 miles	100
Greater than 4 to 8 miles	150
Greater than 8 to 12 miles	250
Greater than 12 to 16 miles	350
Greater than 16 to 20 miles	450
Greater than 20 miles	500

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NOV 06 1990

Site Name: Westinghouse Electric Corporation
Date: August 1991

SURFACE WATER PATHWAY (concluded)
WASTE CHARACTERISTICS, THREAT, AND PATHWAY SCORE SUMMARY

WASTE CHARACTERISTICS	A Suspected Release	B No Suspected Release
14. A. If you have identified ANY Primary Targets for surface water (pages 12, 14, or 15), assign the waste characteristics score calculated on page 4, or a score of 32, whichever is GREATER; do not evaluate part B of this factor.	(100 or 32) –	
B. If you have NOT identified any Primary Targets for surface water, assign the waste characteristics score calculated on page 4.	(100,32, or 18) 32	(100,32, or 18)
WC =	32	

SURFACE WATER PATHWAY THREAT SCORES

Threat	Likelihood of Release (LR) Score (from page 12)	Targets (T) Score	Pathway Waste Characteristics (WC) Score (determined above)	Threat Score LR x T x WC / 82,500
Drinking Water	550	9	32	(subject to a maximum of 100) 1.92
Human Food Chain	550	12	32	(subject to a maximum of 100) 2.56
Environmental	550	10	32	(subject to a maximum of 60) 2.13

SURFACE WATER PATHWAY SCORE (Drinking Water Threat + Human Food Chain Threat + Environmental Threat)	(subject to a maximum of 100) 6.61

DRAFT NOV 06 1990

SOIL EXPOSURE PATHWAY CRITERIA LIST

Site Name: Westinghouse Electric Corporation
Date: August 1991

This chart provides guidelines to assist you in hypothesizing the presence of a resident population. It is expected that not all of this information will be available during the PA. Also, these criteria are not all-inclusive; list any other criteria you use to hypothesize resident populations. This chart will record your professional judgment in evaluating this factor.

Use the resident population section to guide you through evaluation of some site and source conditions that will help identify targets likely to be exposed to hazardous substances. You may use this section of the chart more than once, depending on the number of nearby people you feel may be considered part of a resident population. Record the responses for the resident population target that you feel has the highest probability of being exposed to hazardous substances.

Check the boxes to indicate a "yes", "no", or "unknown" answer to each question.

SOIL EXPOSURE PATHWAY

SUSPECTED CONTAMINATION	Yes	No	Unknown	*RESIDENT POPULATION*
Surficial contamination is assumed.	☐	☒	☐	Are there residences, schools, or day care facilities on or within 200 feet of areas of suspected contamination?
	☐	☒	☐	Are residences, schools, or day care facilities located on adjacent land previously owned or leased by the site owner/operator?
	☐	☐	☒	Is there an overland migration route that might spread hazardous substances near residences, schools, or day care facilities?
	☐	☐	☒	Are there any reports of adverse health effects from onsite or adjacent residents or students, exclusive of apparent drinking water or air contamination problems?
	☐	☒	☐	Does any offsite property warrant sampling?
	☒	☐		Other criteria? Restaurant and other utilized buildings on-site
	☐	☒		**RESIDENT POPULATION IDENTIFIED?**

Summarize the rationale for resident population (attach an additional page if necessary):

Approximate Number of Employees at Restaurant - 100

Approximate Number of Employees at Buffalo Airport Center - 500

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NOV 0 3 1990

Site Name: Westinghouse Electric Corporation
Date: August 1991

SOIL EXPOSURE PATHWAY SCORESHEET

Pathway Characteristics

Do any people live on or within 200 ft of areas of suspected contamination? Yes ___ No x

Do any people attend school or day care on or within 200 ft of areas of suspected contamination? Yes ___ No x

Is the facility active? Yes x No ___ If yes, estimate the number of workers: 600

	A Suspected Contamination	B No Suspected Contamination	References
LIKELIHOOD OF EXPOSURE			
1. SUSPECTED CONTAMINATION: Surficial contamination is assumed. A score of 550 is assigned. LE =	(550) 550		PSA
RESIDENT POPULATION THREAT TARGETS			
2. RESIDENT POPULATION: Determine the number of people occupying residences or attending school or day care on or within 200 feet of areas of suspected contamination (see Soil Exposure Pathway Criteria List, page 18). 0 people x 10 =	0		24,27
3. RESIDENT INDIVIDUAL: If you have identified any Resident Population (Factor 2), assign a score of 50; otherwise, assign a score of 0.	(50 or 0) 0		-
4. WORKERS: Assign a score from the following table based on the total number of workers at the facility and nearby facilities with suspected contamination:	(15, 10, 5, or 0) 10		PSA
5. TERRESTRIAL SENSITIVE ENVIRONMENTS: Assign a value from PA Table 7 for each terrestrial sensitive environment that is located on an area of suspected contamination: Sum =	50		PSA
6. RESOURCES: A score of 5 is assigned.	(5) 5		
T =	65		
WASTE CHARACTERISTICS			
7. Assign the waste characteristics score calculated on page 4. WC =	(100, 32, or 18) 32		

Workers table (Factor 4):

Number of Workers	Score
0	0
1 to 100	5
101 to 1,000	10
>1,000	15

Terrestrial sensitive environments table (Factor 5):

Terrestrial Sensitive Environment Type	Value
Possible Terrestrial Habitat for Threatend Species	50

RESIDENT POPULATION THREAT SCORE: $\frac{LE \times T \times WC}{82,500}$ = 13.87 (subject to a maximum of [illegible])

NEARBY POPULATION THREAT SCORE: 2

Assign a score of 2

SOIL EXPOSURE PATHWAY SCORE: 15.87 (subject to a maximum of [illegible])

Resident Population Threat + Nearby Population Threat

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NOV 06 1990

PA TABLE 7: SOIL EXPOSURE PATHWAY TERRESTRIAL SENSITIVE ENVIRONMENT VALUES

Terrestrial Sensitive Environment	*Assigned Value*
Terrestrial critical habitat for Federally designated endangered or threatened species National Park Designated Federal Wilderness Area National Monument	100
Terrestrial habitat known to be used by Federally designated or proposed threatened or endangered species National Preserve (terrestrial) National or State terrestrial Wildlife Refuge Federal land designated for protection of natural ecosystems Administratively proposed Federal Wilderness Area Terrestrial areas utilized by large or dense aggregations of animals (vertebrate species) for breeding	75
Terrestrial habitat used by State designated endangered or threatened species Terrestrial habitat used by species under review for Federally designated endangered or threatened status	50
State lands designated for wildlife or game management State designated Natural Areas Particular areas, relatively small in size, important to maintenance of unique biotic communities	25

DRAFT NOV 06 1990

AIR PATHWAY CRITERIA LIST

Site Name: Westinghouse Electric Corporation
Date: August 1991

This chart provides guidelines to assist you in hypothesizing the presence of a suspected release. It is expected that not all of this information will be available during the PA. Also, these criteria are not all-inclusive; list any other criteria you use to hypothesize a suspected release. This chart will record your professional judgment in evaluating this factor.

The "Suspected Release" section of the chart guides you through evaluation of some conditions to help hypothesize whether a release from the site is likely. For the Air Pathway, if a release is suspected, "Primary Targets" are any residents, workers, students, or sensitive environments within ¼ mile of the site.

Check the boxes to indicate a "yes", "no", or "unknown" answer to each question. If you check the "Suspected Release" box as "yes", make sure that you assign a Likelihood of Release value of 550 for the pathway.

AIR PATHWAY

SUSPECTED RELEASE				PRIMARY TARGETS
Yes	No	Unknown		
☐	☒	☐	Have odors been reported?	*If you suspect a release to air, evaluate all populations and sensitive environments within ¼ mile (including those onsite) as Primary Targets.*
☐	☒	☐	Has a release of hazardous substances to the air been directly observed?	
☐	☒	☐	Are there any reports of adverse health effects (e.g., headaches, nausea, dizziness) potentially resulting from migration of hazardous substances through the air?	
☐	☒	☐	Is there any circumstantial evidence of an air release?	
☐	☒		Other criteria? ____________	
☐	☒		**SUSPECTED RELEASE?**	

Summarize the rationale for suspected release (attach an additional page if necessary):

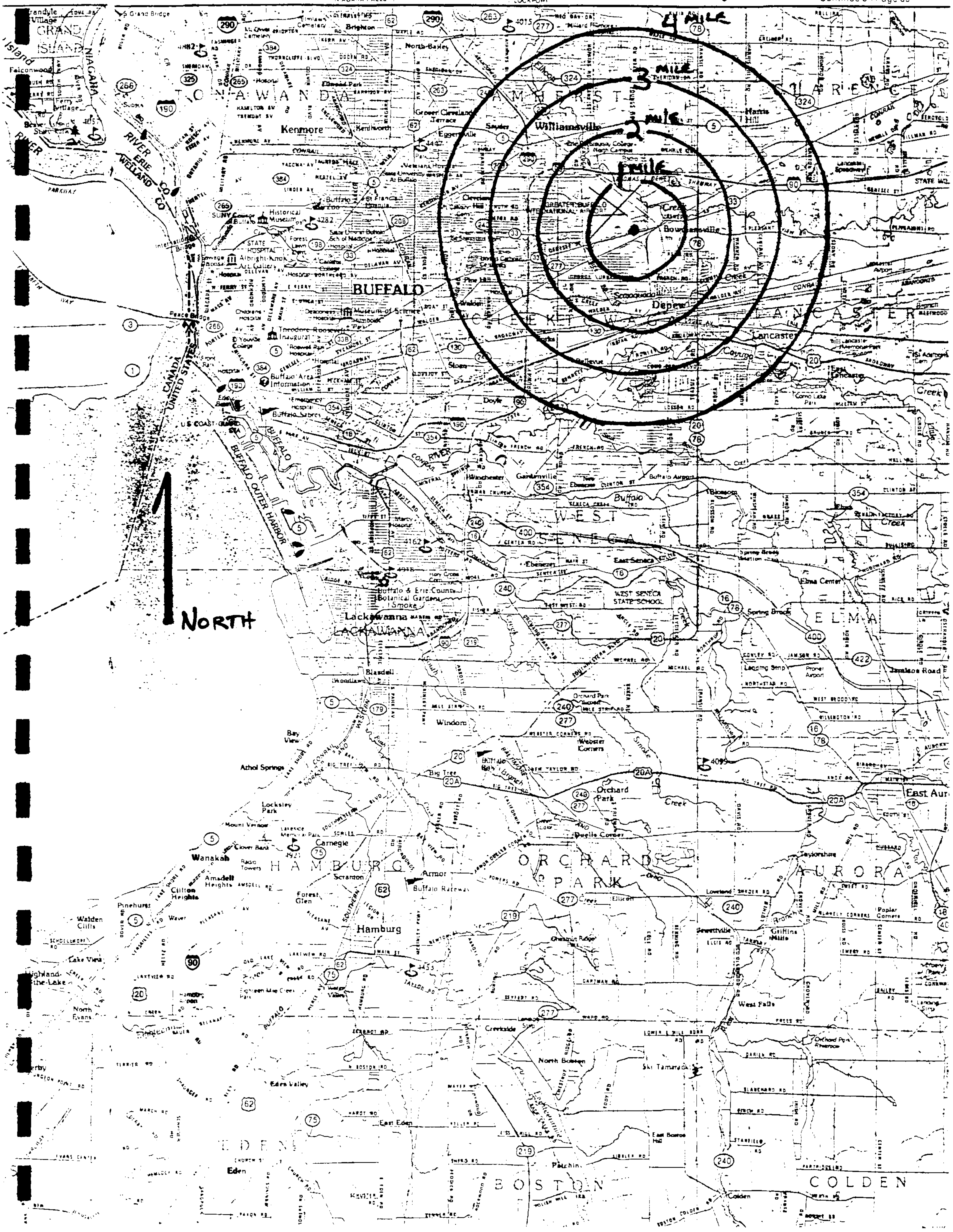
No Suspected Release - No Primary Target Population

Secondary Target Population Calculations:

Distance From Site	No. of Houses * Per Area	Ave. Persons + Per Household	Estimated Population
> 0 to 1/4 mile	-	-	600
> 1/4 to 1/2 mile	30	2.5	75
> 1/2 to 1 mile	1,300	2.5	3,250
> 1 to 2 miles	4,300	2.5	10,750
> 2 to 3 miles	6,500	2.5	16,250
> 3 to 4 miles	~~33,750~~ 13,500	2.5	33,750

* Number of houses per area based on 1985 air photograph
\+ Based on 1980 Census Information

Continue on Page 69



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NOV 06 1990

Site Name: Westinghouse Electric Corporation
Date: August 1991

AIR PATHWAY SCORESHEET

Pathway Characteristics	
Do you suspect a release (see Air Pathway Criteria List, page 21)?	Yes ___ No X
Distance to the nearest individual:	1500 ft

LIKELIHOOD OF RELEASE	A *Suspected Release*	B *No Suspected Release*	*References*
1. SUSPECTED RELEASE: If you suspect a release to air (see page 21), assign a score of 550, and use only column A for this pathway.	(550)		-
2. NO SUSPECTED RELEASE: If you do not suspect a release to air, assign a score of 500, and use only column B for this pathway.		(500) 500	27,PSA
LR =		500	

TARGETS	A	B	References
3. PRIMARY TARGET POPULATION: Determine the number of people subject to exposure from a release of hazardous substances through the air (see Air Pathway Criteria List, page 21). ______ people x 10 =			-
4. SECONDARY TARGET POPULATION: Determine the number of people within the 4-mile target distance limit, and assign the total population score from PA Table 8.		80	16,23,27 PSA
5. NEAREST INDIVIDUAL: If you have identified any Primary Targets for the air pathway, assign a score of 50; otherwise, assign the highest Nearest Individual score from PA Table 8.	(50,20,7,2,1, or 0)	(20,7,2,1, or 0) 20	27,PSA
6. PRIMARY SENSITIVE ENVIRONMENTS: Sum the sensitive environment values (PA Table 5) and wetland acreage values (PA Table 9) for environments subject to exposure from air hazardous substances (see Air Pathway Criteria List, page 21). *Sum =*			-
7. SECONDARY SENSITIVE ENVIRONMENTS: Use PA Table 10 to determine the score for secondary sensitive environments.		6.87	15,23,27
8. RESOURCES: A score of 5 is assigned.	(5) 5	(5) 5	
T =		111.87	

Sensitive Environment Type	*Value*

WASTE CHARACTERISTICS	A	B
9. A. If you have identified any Primary Targets for the air pathway, assign the waste characteristics score calculated on page 4, or a score of 32, whichever is GREATER; do not evaluate part B of this factor.	(100 or 32)	
B. If you have NOT identified any Primary Targets for the air pathway, assign the waste characteristics score calculated on page 4.	(100,32, or 18)	(100,32, or 18) 32
WC =		32

AIR PATHWAY SCORE:

$$\frac{LR \times T \times WC}{82{,}500}$$

(subject to a maximum of 100)

21.70

Site Name: Westinghouse Electric Corporation
Date: August 1991

DRAFT NOV 06 1990

PA TABLE 8: VALUES FOR SECONDARY AIR TARGET POPULATIONS

Distance from Site	Population	Nearest Individual (choose highest)	Population Within Distance Category: 1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	1,000,001 to 3,000,000	Population Value
Onsite	600	20	1	2	5	16	52	163	521	1,633	5,214	16,325	52,136	163,246	52
>0 to ¼ mile	0	20	1	1	1	4	13	41	130	408	1,303	4,081	13,034	40,811	–
> ¼ to ½ mile	75	2	0	0	1	1	3	9	28	88	282	882	2,815	8,815	1
> ½ to 1 mile	3250	1	0	0	0	1	1	3	8	26	83	261	834	2,612	8
> 1 to 2 miles	10,750	0	0	0	0	0	1	1	3	8	27	83	266	833	8
> 2 to 3 miles	16,250	0	0	0	0	0	1	1	1	4	12	38	120	376	4
> 3 to 4 miles	33,750	0	0	0	0	0	0	1	1	2	7	23	73	229	7

Nearest Individual = 20

Score = 80

PA TABLE 9: AIR PATHWAY VALUES FOR WETLAND AREA

Wetland Area	Assigned Value
Less than 1 acre	0
1 to 50 acres	25
Greater than 50 to 100 acres	75
Greater than 100 to 150 acres	125
Greater than 150 to 200 acres	175
Greater than 200 to 300 acres	250
Greater than 300 to 400 acres	350
Greater than 400 to 500 acres	450
Greater than 500 acres	500

PA TABLE 10: DISTANCE WEIGHTS AND CALCULATIONS FOR AIR PATHWAY SECONDARY SENSITIVE ENVIRONMENTS

Distance	Distance Weight	Sensitive Environment Type and Value (from PA Table 5 or 9)	Product
Onsite	0.10	x Possible Significant Habitat- 50 score	5
		x	
0-1/4 mi	0.025	x Wetland Area - 59 Acres in size	1.87
		x 75 score	
		x	
1/4-1/2mi	0.0054	x	
		x	
		x	
		x	

Total Environments Score = 6.87

SITE SCORE CALCULATION

	S	S^2
GROUND WATER PATHWAY SCORE (S_{gw}):	5.33	28.41
SURFACE WATER PATHWAY SCORE (S_{sw}):	6.61	43.69
SOIL EXPOSURE PATHWAY SCORE (S_{se}):	15.87	251.86
AIR PATHWAY SCORE (S_a):	21.70	470.89
SITE SCORE:	$\sqrt{\dfrac{S_{gw}^2+S_{sw}^2+S_{se}^2+S_a^2}{4}}$ =	14.09

RECOMMENDATION

Although there is suspected release to both groundwater and surface water, there are no primary targets identified for either pathway. There is no resident population threat identified for the soil exposure pathway. There is no suspected release for the air pathway. Using this information together with the analytical data available, the Preliminary Assessment site score calculated was much lower than the 28.5 required to score the site using the Hazard Ranking System (HRS). Therefore, it is recommended that no further scoring of this site be done unless new information is detected during the RI/FS.

SUMMARY

	YES	NO
1. Is there a high possibility of a threat to nearby drinking water wells by migration of hazardous substances in ground water?	☐	■
A. If yes, identify the wells recommended for sampling during the SI. ______		
B. If yes, how many people are served by these threatened wells? ______		
2. Are any of the following suspected to have been exposed to hazardous substances through surface water migration from the site?		
A. Drinking water intake	☐	■
B. Fishery	☐	■
C. Sensitive environment: wetland, critical habitat, others	☐	■
D. If yes, identify the targets recommended for sampling during the SI. ______		
3. Do people reside or attend school or day care on or within 200 ft of any area of suspected contamination?	☐	■
4. Are there public health concerns at this site that are not addressed by PA scoring considerations? If yes, explain: ______	☐	■

7.0 RECOMMENDATIONS

Based on the findings and conclusions presented in this report, Dunn Geoscience Engineering Company, P.C. (DUNN) recommends that the entire Westinghouse Electric Corporation Site, approximately 143± acres in size, be classified to a Class 2 site by the NYSDEC and that a more extensive investigation be undertaken to define the extent of contamination and provide the necessary information required to evaluate possible alternatives for remediating the project site.

Section 8.0

8.0 GLOSSARY OF TERMS

ASTM -	American Society for Testing and Materials
B -	Designation for Soil Boring Locations
BACA -	Buffalo Airport Center Associates
Cd -	Cadmium
DCA -	Dichloroethane
DCE -	Dichloroethene
D&M -	Dames & Moore
DUNN -	Dunn Geoscience Engineering Co., P.C.
ECDEP -	Erie County Department of Environment and Planning
ECIDA -	Erie County Industrial Development Agency
ERM -	Environmental Resources Management-Northeast
Full CLP Parameters	Target Compound List Volatile Organic Analyses (TCL VOA); TCL Base Neutral Acid Extractables (TCL BNA); TCL PCBs/Pesticides; Target Analyte List Metals (TAL Metals).
HASP -	Health and Safety Plan
HNU -	Brandname of Photoionization Organic Vapor Meter
MCL -	Maximum Contaminant Level
MS/MSD -	Matrix Spike/Matrix Spike Duplicate
MW -	Designation for Monitoring Well Locations
NFTA -	Niagara Frontier Transportation Authority
NYCRR -	New York Codes, Rules and Regulations
NYSDEC -	New York State Department of Environmental Conservation
NYSDEC-ASP-CLP	New York State Department of Environmental Conservation-Analytical Services Protocol-Contract Laboratory Protocol
NYSDOH -	New York State Department of Health
NYS TOGS -	New York State Technical Operations Guidance Series
NTU -	Nephelometric Turbidity Units

NUS -	Nuclear Utility Service Corporation
PAHs -	Polynuclear Aromatic Hydrocarbons
PCBs -	Polychlorinated Biphenols
pH -	Unit of Hydrogen Ion Concentration
ppm -	Parts per Million (also ug/g; mg/l; mg/kg)
ppb -	Parts per Billion (also ug/l; ug/kg)
PSA -	Preliminary Site Assessment
PVC -	Polyvinyl Chloride
QAPP -	Quality Assurance Project Plan
QA/QC -	Quality Assurane/Quality Control
SP -	Designation for Sump Locations
SS -	Designation for Surface Sample Locations
TAL -	Target Analyte List
TCA -	Trichloroethane
TCE -	Trichloroethene
TCL -	Target Compound List
TICs -	Tentatively Identified Compounds
TP -	Designation for Test Pit Locations
USEPA -	United States Environmental Protection Agency
VC -	Vinyl Chloride
VOA -	Volatile Organic Analyses
VOC -	Volatile Organic Compounds
WEC -	Westinghouse Electric Corporation Designation for Site Location on All Samples

9.0 REFERENCES

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10. *Bedrock Geology Map,* Map and Chart Series, No. 15 (Compiled by Rickard, L. V., and Fisher, D. W.) NYS Museum and Science Service.

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12. NY TOGS (1.1.1) Guidance - Guidance values obtained from the New York State Division of Water Technical Operations Guidance Series (1.1.1.) September 25, 1990.

13. 10NYCRR Part 5 Standards - obtained from the New York State Official Compilation of Codes, Rules and Regulations Title 10, Part 5 - NYSDOH Maximum Contaminant Levels for Public Water Supplies.

14. 10NYCRR Part 170 Standards - obtained from the New York State Official Compilation of Codes, Rules and Regulations, Title 10, Part 170 - NYSDOH Standard for Sources of Water Supply.

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21. *"Draft Report of Hazardous Waste Disposal in Erie and Niagara Counties"*, New York, Interagency Task Force on Hazardous Waste, Draft, March, 1979.

22. *"Hazardous Waste Disposal Questionnaire"*, Interagency Task Force, October, 1984.

23. *"Phase I Investigation Report on Westinghouse Electric Corporation, Cheektowaga, New York"*, Engineering Science and Dames & Moore for NYSDEC, January, 1986.

24. *"Field Investigation Report"*, Malcolm-Pirnie for Westinghouse Electric Corporation, April, 1987.

25. *"Report for Tank Removal Operations and Related Work"*, O.H. Materials for Westinghouse Electric Corporation, August 13, 1987.

26. *NFTA Acquisition of the Westinghouse Site - Phase II Reconnaissance"*, (a letter report) Empire Soils Investigation for NFTA, December 22, 1987.

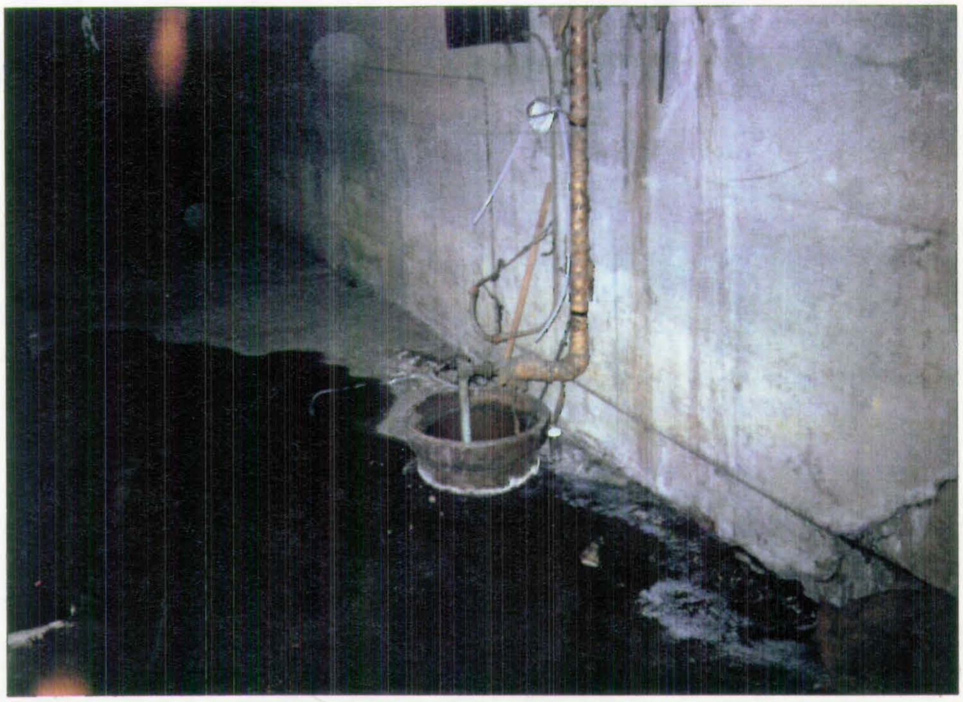
27. *"Site Inspection Report - Westinghouse Electric Corporation, Cheektowaga, New York"*, NUS Corporation for USEPA, (Final Draft) August 4, 1989.

28. *"Summary Report: Site Characterization and Recommended Remedial Measure Outfalls 001, 002 and 003 - Former Westinghouse Facility, 4454 Genesee Street, Cheektowaga, Erie County, New York"*, ERM - Northeast, January 1991.

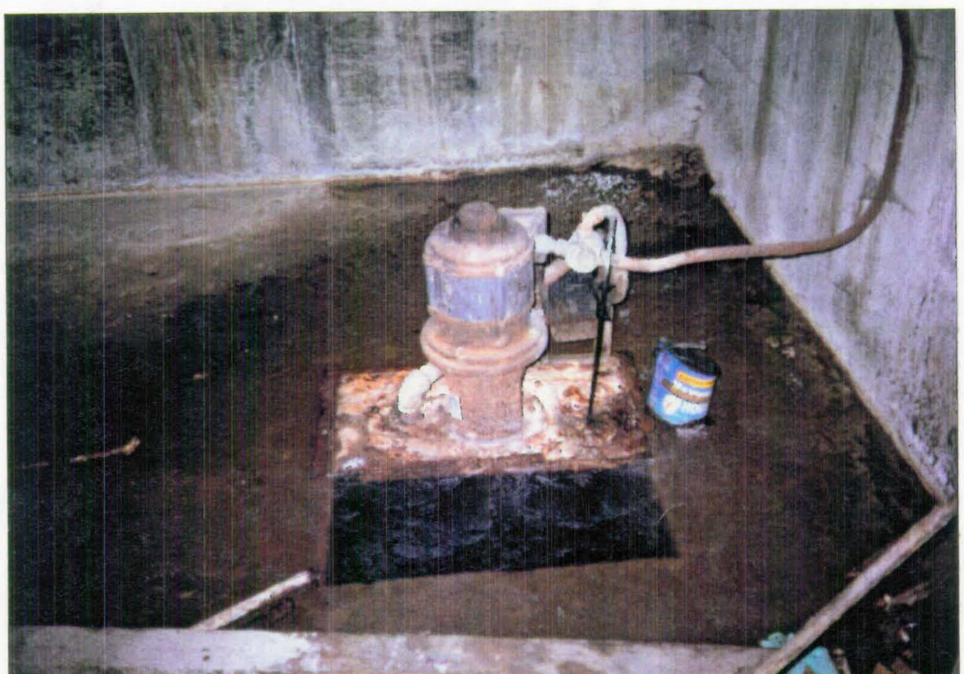
29. Federal Emergency Management Agency (FEMA) - Flood Insurance Rate Map, Town of Cheektowaga, New York, Pages 4, 5, 83.

30. Telecom between Ron Koczaja (Engineer) of Erie County Health Department and Roberta Riccio, NUS Corporation (from Reference 15 above), June 4, 1987.

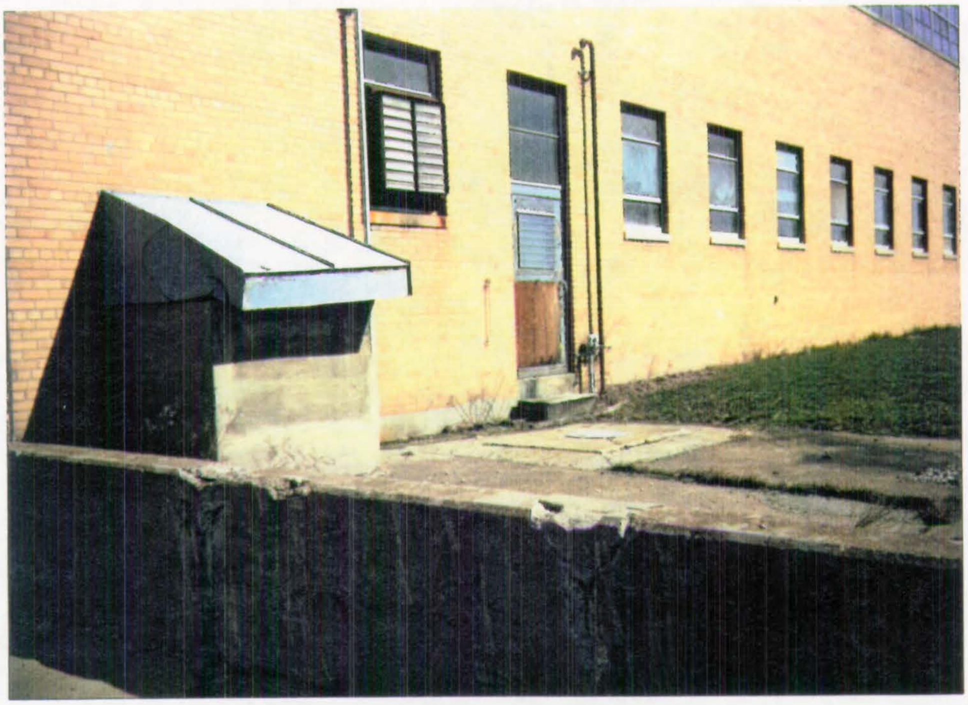
10.0 PHOTO DOCUMENTATION



Area A - Fan Room
Sump No. 1



Area C - Heat Treatment/Plating Room
Sump No. 2



Area C - Outside Heat Treatment/Plating Room
Fan Vent Structure on Left
Varnish Tank Manhole on Right

Area F - Captain's Pool
MW-13

Area F - Excavation of Captain's Pool

Area F - Former Steps into Captain's Pool

Area G - East Fill/Mound Area

Advancement of Test Pit in Area G

Area H - Boiler Room
Sump No. 3

Area J - Solvent Tank Area

Area I - Oil Storage Building

Advancement of B-5 in Area I

Area I - Oil Storage Building
Installation of MW-7

Area Q - Railroad Track Area
Excavation of TP-15

Decontamination Pad

Weather Observatory

Area K - Hazardous Waste Storage Area

Area R - Southwest Corner/Storage Tank Area

Area M - Underground Mixing Room

Area M - Underground Mixing Room
Sump No. 4

Area Q - Railroad Track Area

Area N - Parking Lot

Area Q - Railroad Track Area
Waste Pile in Foreground

Area Q - Railroad Track Area
MW-16

Area O - Gate to Gunnery Range

Area O - Gunnery Range
MW-14

Area O - Gunnery Range
Sump No. 5

Foreground - Area O (MW-15)
Background - Area P - Flying Tigers Area

Area P - Flying Tigers Area

Area P - Flying Tigers Area

Appendix A

New York State
Department of Environmental Conservation
Inactive Hazardous Waste Disposal Report

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS WASTE REMEDIATION
INACTIVE HAZARDOUS WASTE DISPOSAL REPORT

CLASSIFICATION CODE: 2 REGION: 9 SITE CODE: 915066
EPA ID: NYD092474592

NAME OF SITE : Westinghouse Electric Corp.
STREET ADDRESS: 4454 Genesee Street
TOWN/CITY: Cheektowaga
COUNTY: Erie
ZIP: 14225

SITE TYPE: Open Dump-X Structure- Lagoon- Landfill- Treatment Pond-
ESTIMATED SIZE: 143 Acres

SITE OWNER/OPERATOR INFORMATION:
CURRENT OWNER NAME....: ** Multi - Owner Site **
CURRENT OWNER ADDRESS.: * * * * *
OWNER(S) DURING USE...: Westinghouse Elec. Corp., Curtis-Wright
OPERATOR DURING USE...: Westinghouse Elec.; Curtis-Wright
OPERATOR ADDRESS......: 4454 Genesee Street, Cheektowaga, NY
PERIOD ASSOCIATED WITH HAZARDOUS WASTE: From Unknown To 1950's

SITE DESCRIPTION:
The existing facility was constructed in 1940 for aircraft production by the Curtis-Wright Corp. In 1946, the site was sold to Westinghouse Electric Corp. where they manufactured AC and DC industrial motor controls; electric motors and generators; metal machining, fabrication, plating and finishing, etc. until 1984. Although Westinghouse stated that on-site disposal did not occur, reference is made in a 1955 memo to an unknown, on-site disposal area for cyanide waste from a heating room. Through aerial photographs, it was determined that disposal took place at the northern end of the site.

In June 1980, this site was listed in the Registry as "suspected" of disposing cyanide salts on site at the northern end of the site. A Phase I investigation, completed in January 1986, did not have enough information to classify the site and recommended additional work be done. Based upon interviews with former Westinghouse employees and site visits, the study area for a Preliminary Site Assessment (PSA) to be perfomed on this property was broadened to cover the whole site. The PSA was completed in 1991 with analytical data showing the following contravened groundwater parameters and values: tetrachloroethene - 160 ppb (5 ppb); trichloroethene - 58,000 ppb (5 ppb); 1,2-dichloroethene - 15,000 ppb (5 ppb); vinyl chloride - 2,500 ppb (2 ppb); 1,1,1-trichloroethane - 1,400 ppb (5 ppb).

HAZARDOUS WASTE DISPOSED: Confirmed-X Suspected-

TYPE	QUANTITY (units)
tetrachloroethene	Unknown
trichloroethene	Unknown
1,1,1-trichloroethane	Unknown

ANALYTICAL DATA AVAILABLE:
Air- Surface Water- Groundwater-X Soil-X Sediment-X

CONTRAVENTION OF STANDARDS:
Groundwater-X Drinking Water- Surface Water-X Air-

LEGAL ACTION:

TYPE..:	State-	Federal-
STATUS:	Negotiation in Progress-	Order Signed-

REMEDIAL ACTION:

Proposed- Under design- In Progress- Completed-
NATURE OF ACTION:

GEOTECHNICAL INFORMATION:
SOIL TYPE: glacial till-clayey silt matrix,varying amount of fine to coarse sand,gravel
GROUNDWATER DEPTH: 5-1/2 ft.

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

Findings from the PSA show that organic solvents have been disposed on site, contaminating groundwater, thereby posing a significant threat to the environment. No cyanide was found.

ASSESSMENT OF HEALTH PROBLEMS:

There was a concern about alleged on-site disposal of cyanide, waste oil, and lubricants. Soil samples detected low concentrations of lead and zinc and surface water drainage sample showed concentrations of halogenated organics. However no cyanide was found in either analysis and site inspections have found no evidence of on-site burial of hazardous waste. The site has 24 hr. surveillance with security personnel. Additional investigation and sampling is being conducted inside and outside plant buildings to properly assess health concerns and possible routes of exposure.

Appendix B

Geologic Logs

Appendix B-1

Test Pit Logs

DUNN GEOSCIENCE CORPORATION 495 Commerce Drive Amherst, New York 14150	TEST PIT / TRENCH LOG	Test Pit No.: TP-1 Sheet 1 of 1	Job No: 00296-01699 Date Started: 2/4/91

Project:	Westinghouse Electric Corp.	Excavation Contractor: ADF Construction	Date Finished: 2/4/91
Client:	NYSDEC	Operator Name: Don Phillips	Total Depth: 7.0'
Purpose:	Subsurface Investigation	Inspector: Paul Steck	Ground Elev.: 707.0'
Site Location:	Genessee St. Cheektowaga, NY	General Description: John Deere Rubber Tire Backhoe	S.W.L.:
Sampling Point Location:	Captain's Pool Area - Area F	Sample Equipment Used: NA / No. of Samples 0	Container Size: NA

Graphic Log	Depth Scale	Material Description (include in order: MATERIAL TYPE, color, grain size, texture, bedding, moisture & minerals)	Remarks	Sample Number	Analysis Request
		Topsoil: Dark brown Clayey SILT, moist - organic debris 1.5'	HNU = BKG = 0.2		- No samples obtained
	2	Brown gray fine Sandy SILT, embedded subrounded gravel, moist, non-plastic - glass fragments (FILL)	HNU = 0.2		
	4	Dark brown - gray black fine Sandy SILT, embedded subrounded gravel, moist - wet (FILL) 5.0'	HNU = 0.2 Water entering hole @ 4.5' encouter (2) elec. conduits		
	6	Brown gray SILT, clayey, embedded coarse, medium fine subrounded gravel and coarse, medium fine sand, dry - moist, non plastic, dense, blocky (TILL) 7.0	HNU = 0.2		
	8	- TEST TRENCH TERMINATED @ 7.0' - No samples obtained - Did not encounter Pool foundation after excavating trench 38' long, 7' deep, and 3' wide.			

DUNN GEOSCIENCE CORPORATION
495 Commerce Drive Amherst, New York 14150

TEST PIT / TRENCH LOG

Test Pit No.: TP 2
Sheet 1 of 1

Job No: 00296-01699
Date Started: 2/4/91
Date Finished: 2/4/91
Total Depth: 7.0'
Ground Elev.: 707.0'
S.W.L.:
Container Size: NA

Project: Westinghouse Electric Corp.
Client: NYSDEC
Purpose: Subsurface Investigation
Site Location: Genessee St. Cheektowaga, NY
Sampling Point Location: Captain's Pool Area, Area F

Excavation Contractor: ADF Construction
Operator Name: Don Phillips
Inspector: Paul Steck
General Description: John Deere Rubber Tire Backhoe
Sample Equipment Used: NA
No. of Samples: 0

Graphic Log	Depth Scale	Material Description (include in order: MATERIAL TYPE, color, grain size, texture, bedding, moisture & minerals)	Remarks	Sample Number	Analysis Request
		TOPSOIL: Brown fine Sandy SILT, clayey, dry-moist - organics, nonplastic 0.5'	HNU= BKG = 0.2		
	2 4	FILL: Brown fine Sandy SILT, clayey, embedded Coarse, medium, fine subrounded Gravel, moist, plastic - brick fragments - broken concrete fragments - grades to Brown fine Sandy, clayey SILT - brick, concrete fragments - pipe and metal debris 4.5'	HNU= 0.2 Encountered house foundation @ 3.0' - North of House foundation, no fill encountered HNU= 0.2		
	6	TILL: Brown red clayey SILT, embedded coarse, medium, fine subrounded Gravel and coarse, medium, fine sand, moist, non plastic, dense, blocky 7.0'	HNU= 0.2		
	8	- Test Trench terminated @ 7.0' - No samples obtained - Test trench TP-2 which includes TP-2A excavated 7.0' deep, 57' long and 3' wide. - Encounted southern wall of pool foundation @ 36' N of starting pt. Refer to log TP-2A for details pertaining to Captain's pool			

DUNN GEOSCIENCE CORPORATION 495 Commerce Drive Amherst, New York 14150	TEST PIT / TRENCH LOG	Test Pit No.: TP-2A Sheet 1 of 1	Job No: 00296-01699 Date Started: 2/4/91

Project:	Westinghouse Electric Corp.	Excavation Contractor: ADF Construction	Date Finished: 2/4/91
Client:	NYS DEC	Operator Name: Don Phillips	Total Depth: 4.5'
Purpose:	Subsurface Investigation	Inspector: Paul Steck	Ground Elev.: 707.0'
Site Location:	Genessee St. Cheektowaga, NY	General Description: John Deere Rubber Tire Backhoe	S.W.L.:
Sampling Point Location:	Captain's Pool Area - Area F	Sample Equipment Used: NA; No. of Samples 0	Container Size: NA

Graphic Log	Depth Scale	Material Description (include in order: MATERIAL TYPE, color, grain size, texture, bedding, moisture & mineral)	Remarks	Sample Number	Analysis Request
		TOPSOIL: Brown fine sandy SILT, clayey, dry-moist - organics 0.5'	HNU = BKG = 0.2		
	2	FILL: Dark brown, gray black Clayey SILT, moist-wet - large concrete fragments (pool wall) - brick fragments - rebar and metal debris	@ 1.5' encountered southern pool wall - South of wall = native - north of wall - in pool. Structure filled w/ C&D material		
	4	same as above - wet 4.5'	HNU = 0.2 - no visual signs of Chemistry - no sheen on water		
	6	- Test Trench terminated @ 4.5' upon encountering bottom of pool. Pool Structure intact - holding water - Test Trench 21' long, 4.5' deep and 3' wide - Northern pool wall also encountered @ 1.5' deep and 18' N. of southern pool wall. Therefore, width of pool ≈ 18', depth of pool ≈ 4.5', depth of water ≈ 3.0' - No samples obtained. TP-1 and TP-2 (TP-2A) were used to locate pool boundaries. TP-3 and TP-4 are located w/in pool itself and will be sampled.			

DUNN GEOSCIENCE CORPORATION
495 Commerce Drive, Amherst, New York 14150

TEST PIT / TRENCH LOG

Test Pit No.: TP-3	Sheet 1 of 1
Job No: 00296-01699	Date Started: 2/5/91
Project: Westinghouse Electric Corp.	Excavation Contractor: ADF Construction
Date Finished: 2/5/91	
Client: NYS DEC	Operator Name: Don Phillips
Total Depth: 4.5'	
Purpose: Subsurface Investigation	Inspector: Paul Steck
Ground Elev.: 707.3'	
Site Location: Genessee St. Cheektowaga, NY	General Description: John Deere Rubber Tire Backhoe
S.W.L.:	
Sampling Point Location: Captain's Pool Area - Area F	Sample Equipment Used: Stainless steel spoon
No. of Samples: 1 (Grab)	Container Size: (3) 60 ml, (2) 250 ml

Graphic Log	Depth Scale	Material Description (Include in order: MATERIAL TYPE, color, grain size, texture, bedding, moisture & minerals)	Remarks	Sample Number	Analysis Request
		TOPSOIL: Brown fine Sandy SILT, clayey, dry-moist - organics 0.5'	HNU = BKG = 0.2		
	2	FILL: Dark brown clayey SILT, moist-wet - large (1-4') concrete fragments (pool wall) - brick fragments - rebar & metal debris	HNU = BKG = 0.2 - Encountered Steps into pool (shallow end) East end of pool		
	4	Same as above, wet 4.5'	HNU = 0.2	A55752 GRAB 11:00 a.	WEC-TP-3-4-5' Full CLP-ASP
	6	- Test Trench terminated @ 4.5 upon encountering pool bottom. Approx 3' of water in pool. - Test Trench exposed ≈ 1/4 of pool and the two eastern corners. - Sample WEC-TP-3-4-5' (A55752) obtained @ 11:00 a.m. @ 4.5'			

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495 Commerce Drive Amherst, New York 14150

DUNN

TEST PIT / TRENCH LOG

Test Pit No.: TP-4
Sheet 1 of 1

Job No: 00296-01699
Date Started: 2/5/91
Date Finished: 2/5/91
Total Depth: 4.5'
Ground Elev.: 706.6'
S.W.L.:
Container Size: (6) 60 ml (4) 250 ml

Project: Westinghouse Electric Corp.
Client: NYSDEC
Purpose: Subsurface Investigation
Site Location: Genessee St. Cheektowaga, NY
Sampling Point Location: Captain's Pool Area - Area F

Excavation Contractor: ADF Construction
Operator Name: Don Phillips
Inspector: Paul Steck
General Description: John Deere Rubber Tire Backhoe
Sample Equipment Used: S.S. Spoon & mixing bowl
No. of Samples: 2 (GRAB)

Graphic Log	Depth Scale	Material Description (Include in order: MATERIAL TYPE, color, grain size, texture, bedding, moisture & minerals)	Remarks	Sample Number	Analysis Request
		TOPSOIL: Brown fine Sandy SILT, clayey, dry-moist - organics 0.5'	HNU = BKG = 0.2		
	2	FILL: Dark brown clayey SILT, Gravelly, moist-wet - large (1-5') concrete fragments (pool wall) - brick fragments - rebar & metal debris	HNU = 0.2		
	4	4.5'	HNU = 0.2 Slight hydrocarbon odor	(A55753) GRAB	WEC-TP4-4-5' Full CLP-ASP
	6	- Test Trench terminated @ 4.5' upon encountering pool bottom. Approx. 3' of water in pool. - Test trench exposed S.W. corner pool foundation walls. - Grab sample WEC-TP4-4-5' (A55753) and duplicate WEC-Dup1-TP (A55754) obtained @ 11:05 & 11:10 a.m respectively @ 4.5'		(A55754 GRAB)	WED-DUP1-TP Full CLP-ASP

DUNN GEOSCIENCE CORPORATION 495 Commerce Drive Amherst, New York 14150	TEST PIT / TRENCH LOG	Test Pit No.: TP-5 Sheet 1 of 1	Job No: 00296-01699 Date Started: 2/13/91
Project: Westinghouse Electric Corp.	Excavation Contractor: ADF Construction		Date Finished: 2/13/91
Client: NYS DEC	Operator Name: Don Phillips		Total Depth: 6.0'
Purpose: Subsurface Investigation	Inspector: Paul Steck		Ground Elev.: 709.1'
Site Location: Genessee St. Cheektowaga, NY	General Description: John Deere Rubber Tire Backhoe		S.W.L.:
Sampling Point Location: WEC - TP5 - 0 - 6' Area G	Sample Equipment Used: S.S. Spoon & mixing bowl	No. of Samples 1 Comp.	Container Size: (3) 60 ml. (2) 250 ml.

Graphic Log	Depth Scale	Material Description (Include in order: MATERIAL TYPE, color, grain size, texture, bedding, moisture & minerals)	Remarks	Sample Number	Analysis Request
		TOPSOIL: Brown gray clayey SILT, sandy, moist - organics 1.0'	HNU = BKG = 0.2		
		Black fine Sandy SILT, moist, non plastic 1.3'			
		Brown, black, gray Clayey SILT, moist, plastic - organics 2.0'	HNU = 0.2		
	2	Light brown, tan, orange SILT, clayey, sandy, moist, non plastic, oxidized 2.5'			
		TILL: Brown red Clayey SILT, embedded coarse, medium, fine subrounded Gravel, and coarse medium, fine Sand, moist - dry, blocky dense, fractured, low plasticity	HNU = 0.2	A55775	COMPOSITE (0-6') WEC - TP5 - 0 - 6' Full CLP - ASP
	4				
		Same as above 6.0	HNU = 0.2		
	6	- Test Trench terminated @ 6.0' - Trench 6' deep, 7' long, 3' wide			

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495 Commerce Drive Amherst, New York 14150

TEST PIT / TRENCH LOG

Project: Westinghouse Electric Corp.	Excavation Contractor: ADF Construction	Test Pit No.: TP-6	Job No: 00296-01699
Client: NYSDEC	Operator Name: Don Phillips	Sheet 1 of 1	Date Started: 2/5/91
Purpose: Subsurface Investigation	Inspector: Paul Steck		Date Finished: 2/5/91
Site Location: Genessee St. Cheektowaga, NY	General Description: John Deere Rubber Tire Backhoe		Total Depth: 6.0'
Sampling Point Location: WEC-TP-6 Area G	Sample Equipment Used: NA	No. of Samples 0	Ground Elev.: 709.4'
			S.W.L.:
			Container Size: NA

Graphic Log	Depth Scale	Material Description (include in order: MATERIAL TYPE, color, grain size, texture, bedding, moisture & minerals)	Remarks	Sample Number	Analysis Request
		TOPSOIL 0.5'			
		Dark brown Clayey SILT, sandy, moist, low plasticity - organic debris 2.0'	HNU = BKG = 0.2		
	2		HNU = 0.2		
		Brown black fine subrounded Gravel, moist-wet, non plastic 2.5'	Encountered clay drainage pipe		
		Brown, tan, red Clayey SILT, coarse-fine Sand, moist 3.0'	@ 2.5' wet around gravel and clay pipe		
	4	TILL: Brown red Clayey SILT, embedded coarse, medium, fine subrounded Gravel, and coarse, medium, fine Sand, moist, low plasticity, blocky, dense, fractured	HNU = 0.2		
	6	Same as above 6.0'	HNU = 0.2		
		- Test Trench terminated @ 6.0'			
		- Test trench 6' deep, 12' long and 3' wide			
		- No samples obtained			

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495 Commerce Drive | Amherst, New York 14150

TEST PIT / TRENCH LOG

Test Pit No.: TP-7	Sheet 1 of 1	Job No: 00296-01699	
Project: Westinghouse Electric Corp.	Excavation Contractor: ADF Construction	Date Started: 2/6/91	
Client: NYS DEC	Operator Name: Don Phillips	Date Finished: 2/6/91	
Purpose: Subsurface Investigation	Inspector: Paul Steck	Total Depth: 5.0'	
Site Location: Genessee St. Cheektowaga, NY	General Description: John Deere Rubber Tire Backhoe	Ground Elev.: 708.9'	
Sampling Point Location: WEC-TP-7, Area G	Sample Equipment Used: NA	No. of Samples: 0	Container Size: NA

S.W.L.:

Graphic Log	Depth Scale	Material Description (include in order: MATERIAL TYPE, color, grain size, texture, bedding, moisture & mineral)	Remarks	Sample Number	Analysis Request
		TILL: Brown red Clayey SILT, embedded coarse, medium, fine subrounded Gravel, and coarse, medium, fine Sand, moist, low plasticity, blocky, dense, fractured	HNU-BKG = 0.2 Test trench located in area of stressed vegitation		
	2		HNU = 0.2		
	4	Same as above	HNU = 0.2		
		5.0'			
		- Test trench terminated @ 5.0'			
	6	- Test trench 5' deep, 10' long, 3' wide			
		- No samples obtained			

DUNN GEOSCIENCE CORPORATION 495 Commerce Drive Amherst, New York 14150	TEST PIT / TRENCH LOG	Test Pit No.: TP-8 Sheet 1 of 1	Job No: 00296-01699 Date Started: 2/6/91
Project: Westinghouse Electric Corp.	Excavation Contractor: ADF Construction		Date Finished: 2/6/91
Client: NYSDEC	Operator Name: Don Phillips		Total Depth: 6.0'
Purpose: Subsurface Investigation	Inspector: Paul Steck		Ground Elev.: 713.0'
Site Location: Genessee St. Cheektowaga, NY	General Description: John Deere Rubber Tire Backhoe		S.W.L.:
Sampling Point Location: WEC-TP8-3'	Sample Equipment Used: SS spoon and mixing bowl	No. of Samples 1 GRAB	Container Size (3) 60 ml. (2) 250 ml.

Graphic Log	Depth Scale	Material Description (include in order: MATERIAL TYPE, color, plasticity, texture, bedding, moisture & minerals)	Remarks	Sample Number	Analysis Request
		TOPSOIL: ≈ 4" 0.3'			
		FILL: Brown gray blk clayey SILT, embedded angular coarse medium Gravel, moist, low plasticity - organic debris - slag - brick fragments - coal fragments - cement	HNU = 0.2 HNU = 0.2		
	2		large (4-6') twisted metal debris encountered @ 2.5'	2	
		Same as above - excavated a large gearbox and driveshaft @ 3.0' 4.0'	HNU = 0.2	A55761 11:45	WEC-TP8-3' GRAB sample @ 3.0' (A55761) Full CLP-ASP
	4	Tan SILT, clayey, moist-dry, low plasticity 4.5'		4	
		TILL: Brown red clayey SILT, embedded coarse, medium, fine subrounded Gravel and coarse, medium, fine Sand, moist, low plasticity blocky, dense 6.0'	HNU = 0.2		
	6	- Test Trench terminated @ 6.0' - Test trench 6.0' deep, 18' long and 5' wide - Till/Fill interface dips to the east. Water seeps observed @ till/fill interface.		6	

DUNN GEOSCIENCE CORPORATION
495 Commerce Drive Amherst, New York 14150

TEST PIT / TRENCH LOG

Test Pit No.: TP-9
Sheet 1 of 1

Job No: 00296-01699
Date Started: 2/6/91
Date Finished: 2/6/91
Total Depth: 6.0'
Ground Elev.: 712.4'
S.W.L.:
Container Size: NA

Project: Westinghouse Electric Corp.
Client: NYSDEC
Purpose: Subsurface Investigation
Site Location: Genessee St. Cheektowaga, NY
Sampling Point Location: WEC-TP9 Area G

Excavation Contractor: ADF Construction
Operator Name: Don Phillips
Inspector: Paul Steck
General Description: John Deere Rubber Tire Backhoe
Sample Equipment Used: NA
No. of Samples: 0

Graphic Log	Depth Scale	Material Description (Include in order: MATERIAL TYPE, color, grain size, texture, bedding, moisture & minerals)	Remarks	Sample Number	Analysis Request
		TOPSOIL: 0.25'			
		FILL: Dark brown black Clayey SILT, subangular fine Gravel, moist, plastic - organics - brick fragments	HNU = BKG = 0.2		
	2	2.5	Seeps @ interface (2.5')		
		Tan brown SILT, clayey, gravelly, moist-wet 3.0	HNU = 0.2		
	4	TILL: Brown red Clayey SILT, embedded coarse, medium, fine subrounded Gravel and coarse, medium, fine Sand, moist-dry low plasticity, blocky, dense	HNU = 0.2		
		same as above 6.0'	HNU = 0.2		
	6	- Test Trench terminated @ 6.0' - Test Trench 6.0' deep, 9' long, and 3' wide - No samples obtained			

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495 Commerce Drive Amherst, New York 14150

TEST PIT / TRENCH LOG

Test Pit No.: TP-10
Sheet 1 of 1

Job No: 00296-01699
Date Started: 2/6/91
Date Finished: 2/6/91
Total Depth: 4.0'
Ground Elev.: 712.1'
S.W.L.:
Container Size: NA

Project: Westinghouse Electric Corp.
Client: NYS DEC
Purpose: Subsurface Investigation
Site Location: Genessee St. Cheektowaga, NY
Sampling Point Location: WEC - TP - 10 Area G

Excavation Contractor: ADF Construction
Operator Name: Don Phillips
Inspector: Paul Steck
General Description: John Deere Rubber Tire Backhoe
Sample Equipment Used: NA
No. of Samples: 0

Graphic Log	Depth Scale	Material Description (include in order: MATERIAL TYPE, color, grain size, texture, bedding, moisture & minerals)	Remarks	Sample Number	Analysis Request
		TOPSOIL: ≈ 3" 0.25'			
		Dark brown black clayey SILT, moist, plastic - organics 1.0'	HNU = BKG = 0.2		
		Tan brown SILT, moist, non plastic, oxidized 1.5'			
	2	TILL: Brown red Clayey SILT, embedded coarse, medium, fine subrounded Gravel and coarse medium, fine Sand, moist, low plasticity, blocky, dense	HNU = 0.2		
		4.0'	HNU = 0.2		
	4	- Test Trench terminated @ 4.0'			
		- Test trench 4.0' deep, 8' long, 3' wide			
		- No samples obtained			

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495 Commerce Drive | Amherst, New York 14150

TEST PIT / TRENCH LOG

Test Pit No.: TP-11	Sheet 1 of 1	Job No: 00296-01699	
Project: Westinghouse Electric Corp.	Excavation Contractor: ADF Construction	Date Started: 2/13/91	
Client: NYSDEC	Operator Name: Don Phillips	Date Finished: 2/13/91	
Purpose: Subsurface Investigation	Inspector: Paul Steck	Total Depth: 7.0'	
Site Location: Genessee St. Cheektowaga, NY	General Description: John Deere Rubber Tire Backhoe	Ground Elev.: 712.4'	
Sampling Point Location: WEC-TP-11 Area G	Sample Equipment Used: NA	No. of Samples 0	Container Size: NA

Graphic Log	Depth Scale	Material Description (include in order: MATERIAL TYPE, color, grain size, texture, bedding, moisture & minerals)	Remarks	Sample Number	Analysis Request
		TOPSOIL: Brown black gray Clayey SILT, moist 0.25'			
		Brown gray Clayey SILT, moist, organics 0.5'	HNU = BKG = 0.2		
		Brown gray black SILT, clayey, sandy, moist low plasticity 1.5'	Steel pipe encountered @ 1.0'		
	2	Brown, tan, orange SILT, clayey, moist-dry low plasticity, oxidized 2.5'	HNU = 0.2		
		TILL:			
	4	Brown red Clayey SILT, embedded coarse, medium, fine subrounded Gravel and coarse, medium, fine Sand, moist-dry, low plasticity, blocky, dense, fract.	HNU = 0.2		
	6	Same as above 7.0'	HNU = 0.2		
	8	- Test Trench terminated @ 7.0' - Test Trench 7.0' deep, 10' long, 3' wide - No samples obtained			

DUNN GEOSCIENCE CORPORATION
495 Commerce Drive Amherst, New York 14150

TEST PIT / TRENCH LOG

Test Pit No.: TP-12
Sheet 1 of 1

Job No: 00296-01699
Date Started: 2/13/91
Date Finished: 2/13/91
Total Depth: 7.0'
Ground Elev.: 713.7'
S.W.L.:
Container Size: NA

Project: Westinghouse Electric Corp.
Client: NYSDEC
Purpose: Subsurface Investigation
Site Location: Genessee St. Cheektowaga, NY
Sampling Point Location: WEC-TP-12, Area G

Excavation Contractor: ADF Construction
Operator Name: Don Phillips
Inspector: Paul Steck
General Description: John Deere Rubber Tire Backhoe
Sample Equipment Used: NA
No. of Samples: 0

Graphic Log	Depth Scale	Material Description (Include in order: MATERIAL TYPE, color, grain size, texture, bedding, moisture & minerals)	Remarks	Sample Number	Analysis Request
		TOPSOIL: Brown gray Clayey SILT, moist, plastic - organics 1.0'	HNU = BKG = 0.2		
		Brown black gray Clayey SILT, sandy, moist-wet - organic debris 2.0'			
	2	Light Brown, tan, orange SILT, clayey, moist-wet 2.5	HNU = 0.2 wet @ 2.0'		
	4	TILL: Brown red Clayey SILT, embedded coarse, medium, fine subrounded Gravel and coarse, medium, fine Sand, moist-dry, low plasticity, blocky, dense	HNU = 0.2		
	6	same as above 7.0'	HNU = 0.2		
	8	- Test trench terminated @ 7.0' - Test trench 7.0' deep, 8.0' long, 3' wide - No samples obtained			

DUNN GEOSCIENCE CORPORATION
495 Commerce Drive Amherst, New York 14150

TEST PIT / TRENCH LOG

Test Pit No.: TP-13
Sheet 1 of 1

Job No: 00296-01699
Date Started: 2/13/91
Date Finished: 2/13/91
Total Depth: 7.0'
Ground Elev.: 714.1'
S.W.L.:
Container Size: (3) 60 ml. (2) 250 ml.

Project: Westinghouse Electric Corp.
Client: NYSDEC
Purpose: Subsurface Investigation
Site Location: Genessee St. Cheektowaga, NY
Sampling Point Location: WEC-TP13-1-7'

Excavation Contractor: ADF Construction
Operator Name: Don Phillips
Inspector: Paul Steck
General Description: John Deere Rubber Tire Backhoe
Sample Equipment Used: SS-spoon & mixing bowl
No. of Samples: 1 (COMP)

Graphic Log	Depth Scale	Material Description (include in order: MATERIAL TYPE, color, grain size, texture, bedding, moisture & minerals)	Remarks	Sample Number	Analysis Request
		FILL: Brown Clayey SILT, moist-dry, nonplastic – organic debris – concrete slabs (5-6' diameter) – asphalt	HNU = BKG = 0.2		
	2		HNU = 0.2		
		Brown gray clayey SILT, moist – large (5-6') diameter concrete slabs			
	4	@ 4.0' encounter concrete slab in place (beneath slab is crushed stone) 4.0	HNU = 0.2 Dead Rabbit @ 4.0'		
		Gray, angular fine GRAVEL, moist, nonplastic 4.5'			
		Light Brown, tan Clayey SILT, moist, nonplastic 5.0			
	6	TILL: Brown red Clayey SILT, embedded coarse, medium, fine subrounded Gravel and coarse medium, fine Sand, moist-dry, low plasticity, blocky, dense 7.0	HNU = 0.2	A55774 11:45	WEC-TP13-1-7' composite 1-7' (A55774) Full CLP-ASP
		– Test trench terminated @ 7.0'			
	8	– Test trench 7.0' deep, 10' long, 6.0' wide			

DUNN GEOSCIENCE CORPORATION
405 Commerce Drive Amherst, New York 14150

TEST PIT / TRENCH LOG

Test Pit No.: TP-14
Sheet 1 of 1

Job No: 00296-01699
Date Started: 2/13/91
Date Finished: 2/13/91
Total Depth: 5.0'
Ground Elev.: 711.9'
S.W.L.:
Container Size: NA

Project: Westinghouse Electric Corp.
Client: NYSDEC
Purpose: Subsurface Investigation
Site Location: Genessee St. Cheektowaga, NY
Sampling Point Location: WEC-TP-14, Area G

Excavation Contractor: ADF Construction
Operator Name: Don Phillips
Inspector: Paul Steck
General Description: John Deere Rubber Tire Backhoe
Sample Equipment Used: NA
No. of Samples: 0

Graphic Log	Depth Scale	Material Description (Include in order: MATERIAL TYPE, color, grain size, texture, bedding, moisture & minerals)	Remarks	Sample Number	Analysis Request
		Brown, tan, orange SILT, clayey, sandy, moist - oxidized, organic debris 1.0'	HNU = BKG = 0.2		
	2	TILL: Brown red Clayey SILT, embedded coarse, medium, fine subangular GRAVEL, coarse, medium, fine Sand, moist-dry, low plasticity, blocky, dense	HNU = BKG		
	4	Same as above 5.0'	HNU = BKG		
	6	- Test trench terminated @ 5.0' - Test trench 5.0' deep, 60' long, 3' wide - No samples obtained			

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TEST PIT / TRENCH LOG

Test Pit No.: TP-15	Sheet 1 of 1
Job No: 00296-01699	Date Started: 2/7/91
Date Finished: 2/7/91	Total Depth: 7.0'
Ground Elev.: 714.0'	S.W.L.:
Container Size: (3) 60 ml (2) 250 ml	

Project: Westinghouse Electric Corp.
Client: NYSDEC
Purpose: Subsurface Investigation
Site Location: Genessee St. Cheektowaga, NY
Sampling Point Location: WEC-TP15-7' Area Q
Excavation Contractor: ADF Construction
Operator Name: Don Phillips
Inspector: Paul Steck
General Description: John Deere Rubber Tire Backhoe
Sample Equipment Used: SS-Spoon & mixing bowl
No. of Samples: 1 GRAB

Graphic Log	Depth Scale	Material Description (Include in order: MATERIAL TYPE, color, grain size, texture, bedding, moisture & minerals)	Remarks	Sample Number	Analysis Request
		FILL: Brown gray black fine Sand and coarse (2") subrounded Gravel, wet-moist, nonplastic 1.5'	HNU = BKG = 0.2 wet @ 1.0' HNU = 1.0 slight odor		
	2	Tan SILT, subrounded fine gravel, moist wet, non plastic 2.5	HNU = 25 ppm in hole		
	4	TILL: Brown red Clayey SILT, embedded coarse, medium, fine subrounded Gravel and coarse medium, fine Sand, moist, low plasticity, blocky, dense	HNU = 100 ppm in bucket HNU = 150+ ppm in bucket		
	6	Same as above 7.0'	HNU = 200+ ppm in bucket	A55763 GRAB 10:45	WEC-TP15-7' GRAB Sample @ 7.0' (A55763) Full CLP-ASP
	8	- Test Trench terminated @ 7.0' - Test trench 7.0' deep, 12' long, 3' long			

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TEST PIT / TRENCH LOG

Test Pit No.: TP-16	Sheet 1 of 1	Job No: 00296-01699	Date Started: 2/7/91
Project: Westinghouse Electric Corp.	Excavation Contractor: ADF Construction	Date Finished: 2/7/91	
Client: NYSDEC	Operator Name: Don Phillips	Total Depth: 6.0'	
Purpose: Subsurface Investigation	Inspector: Paul Steck	Ground Elev.: 715.8'	
Site Location: Genessee St. Cheektowaga, NY	General Description: John Deere Rubber Tire Backhoe	S.W.L.:	
Sampling Point Location: WEC-TP-16, Area C	Sample Equipment Used: NA	No. of Samples 0	Container Size: NA

Graphic Log	Depth Scale	Material Description (Include in order: MATERIAL TYPE, color, grain size, texture, bedding, moisture & minerals)	Remarks	Sample Number	Analysis Request
		FILL: Gray brown black fine-coarse subrounded GRAVEL, - slag, moist, non plastic 1.0'	HNU = BKG = 0.2 wet @ contact only		
	2	TILL: Brown red Clayey SILT, embedded coarse, medium, fine subrounded Gravel, coarse, medium, fine Sand, moist, low plasticity blocky, dense	HNU = 0.2 moist		
	4	Same as above	HNU = 0.2		
	6	Same as above 6.0'	HNU = 0.2		
		- Test trench terminated @ 6.0' - Test trench 6.0' deep. 10' long, 3 ft wide - No samples obtained			

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TEST PIT / TRENCH LOG

Test Pit No.: TP-17	Sheet 1 of 1
Job No: 00296-01699	
Project: Westinghouse Electric Corp.	Excavation Contractor: ADF Construction
Client: NYSDEC	Operator Name: Don Phillips
Purpose: Subsurface Investigation	Inspector: Paul Steck
Site Location: Genessee St. Cheektowaga, NY	General Description: John Deere Rubber Tire Backhoe
Sampling Point Location: WEC - TP-17 Area Q	Sample Equipment Used: NA
No. of Samples: 0	Container Size: NA
Date Started: 2/7/91	Date Finished: 2/7/91
Total Depth: 6.0'	Ground Elev.: 715.9'
S.W.L.:	

Graphic Log	Depth Scale	Material Description (Include in order: MATERIAL TYPE, color, grain size, texture, bedding, moisture & minerals)	Remarks	Sample Number	Analysis Request
		WASTE: Red brown metal shavings/cuttings, dry 0.3'			
		FILL: Brown gray black coarse GRAVEL (2" diam.) dry, non plastic, - slag 1.0'	HNU = BKG = 0.2		
	2	TILL: Br rd Clayey SILT, embedded coarse, medium, fine subrounded Gravel, coarse medium, fine Sand, dry-moist, blocky dense. 3.5'	HNU = 0.2		
		Black SILT, sandy, moist, nonplastic 4.0'	HNU = 0.2		
	4	TILL: Brown red Clayey SILT, embedded coarse, medium, fine Gravel, coarse medium, fine Sand, dry-moist, blocky, dense. 6.0'	HNU = 0.2		
	6	- Test trench terminated @ 6.0' - Test trench 6.0' deep, 8' long, 3' wide - No samples obtained			

DUNN GEOSCIENCE CORPORATION 495 Commerce Drive Amherst, New York 14150	TEST PIT / TRENCH LOG	Test Pit No.: TP-18 Sheet 1 of 1	Job No: 00296-01699 Date Started: 2/7/91
Project: Westinghouse Electric Corp.	Excavation Contractor: ADF Construction		Date Finished: 2/7/91
Client: NYSDEC	Operator Name: Don Phillips		Total Depth: 6.0'
Purpose: Subsurface Investigation	Inspector: Paul Steck		Ground Elev.: 714.2'
Site Location: Genessee St. Cheektowaga, NY	General Description: John Deere Rubber Tire Backhoe		S.W.L.:
Sampling Point Location: WEC-TP18-1-2', Area Q	Sample Equipment Used: SS. spoon; mixing bowl	No. of Samples 1 GRAB	Container Size: (3) 60 ml. (2) 250 ml

Graphic Log	Depth Scale	Material Description (Include in order: MATERIAL TYPE, color, grain size, texture, bedding, moisture & minerals)	Remarks	Sample Number	Analysis Request
		WASTE: Black orange resin "tar" brittle (dried varnish) 0.25'	HNU = 6 ppm varnish odor		
		FILL: Brown gray, black coarse GRAVEL (2")-Slag 0.83'	wet @ interface		
	2	TILL: Brown red Clayey SILT, embedded coarse, medium, fine subrounded Gravel, course, medium, fine Sand, moist, low plasticity blocky, dense 3.0'	HNU = BKG = 0.2	A55765 GRAB	WEC-TP-18-1-2' GRAB sample @ 1-2' (A55765) Full CLP-ASP
		Black SILT seam, moist, nonplastic 3.5'	HNU = 0.2		
	4	TILL: Brown red Clayey SILT, embedded course, medium, fine subrounded Gravel and, coarse medium, fine Sand, moist-dry, low plasticity, blocky, dense. 6.0'	HNU = 0.2		
	6	- Test trench terminated @ 6.0' - Test trench 6.0' deep, 6' Long, 3' wide			

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495 Commerce Drive Amherst, New York 14150

TEST PIT / TRENCH LOG

Test Pit No.: TP-19
Sheet 1 of 1

Job No: 00296-01699
Date Started: 2/8/91
Date Finished: 2/8/91
Total Depth: 6.0'
Ground Elev.: 715.2'
S.W.L.:
Container Size: (3) 60 ml. (2) 250 ml

Project: Westinghouse Electric Corp.
Client: NYS DEC
Purpose: Subsurface Investigation
Site Location: Genessee St. Cheektowaga, NY
Sampling Point Location: WEC-TP19-3-4', Area Q

Excavation Contractor: ADF Construction
Operator Name: Don Phillips
Inspector: Paul Steck
General Description: John Deere Rubber Tire Backhoe
Sample Equipment Used: S.S. Spoon
No. of Samples: 1 GRAB

Graphic Log	Depth Scale	Material Description (Include in order: MATERIAL TYPE, color, grain size, texture, bedding, moisture & minerals)	Remarks	Sample Number	Analysis Request
		FILL: Black brown SILT and Coarse (2") Gravel 0.5'	HNU = BKG = 0.2		
	2	TILL: Brown red Clayey SILT, embedded subrounded Coarse, medium, fine Gravel and coarse, medium, fine Sand, moist, low plasticity, blocky, dense 3.0'	HNU = 0.2 HNU @ 3.0' = 3 ppm		
	4	Black SILT seam, moist, nonplastic 4.0'	HNU @ 3.5' = 15 ppm	A55766 GRAB 10:00	WEC-TP19-3-4' Grab sample 3-4' (A55766) Full CLP-ASP
	6	TILL: Brown red Clayey SILT, embedded coarse, medium, fine subrounded Gravel, and coarse medium, fine Sand, moist-dry, blocky, dense 6.0'	HNU = BKG		
		- Test trench terminated @ 6.0' - Test trench 6.0' deep, 14' long, 3' wide			

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TEST PIT / TRENCH LOG

Test Pit No.: TP-20
Sheet 1 of 1
Job No: 00296-01699

Project: Westinghouse Electric Corp.	Excavation Contractor: ADF Construction		Date Started: 2/8/91
			Date Finished: 2/8/91
Client: NYSDEC	Operator Name: Don Phillips		Total Depth: 6.0'
Purpose: Subsurface Investigation	Inspector: Paul Steck		Ground Elev.: 712.0'
Site Location: Genessee St. Cheektowaga, NY	General Description: John Deere Rubber Tire Backhoe		S.W.L.:
Sampling Point Location: WEC-TP-20, Area Q	Sample Equipment Used: NA	No. of Samples 0	Container Size: NA

Graphic Log	Depth Scale	Material Description (include in order: MATERIAL TYPE, color, grain size, texture, bedding, moisture & mineral)	Remarks	Sample Number	Analysis Request
		FILL: Brown black gray SILT and coarse (2") subrounded GRAVEL, moist, non plastic 1.0'	HNU = BKG = 0.2		
	2	Brown gray Clayey SILT, subrounded coarse, medium, fine sand and Gravel, moist, low plasticity 2.5'	HNU = 0.2		
		Brown, tan SILT, clayey, moist, low plasticity 3.5'			
	4	TILL: Brown red clayey SILT, embedded coarse, medium, fine subrounded Gravel and, coarse, medium, fine Sand, moist, blocky dense. 6.0'	HNU = 0.2 HNU = 0.2		
	6	- Test trench terminated @ 6.0' - Test trench 6.0' deep, 14' long, 3' wide			

DUNN GEOSCIENCE CORPORATION 495 Commerce Drive Amherst, New York 14150	TEST PIT / TRENCH LOG	Test Pit No.: TP21 Sheet 1 of 1	Job No: 00296-01699
Project: Westinghouse Electric Corp.	Excavation Contractor: ADF Construction		Date Started: 2/8/91
Client: NYSDEC	Operator Name: Don Phillips		Date Finished: 2/8/91
Purpose: Subsurface Investigation	Inspector: Paul Steck		Total Depth: 6.0'
Site Location: Genessee St. Cheektowaga, NY	General Description: John Deere Rubber Tire Backhoe		Ground Elev.: 714.2'
			S.W.L.:
Sampling Point Location: WEC-TP-21, Area Q	Sample Equipment Used: NA	No. of Samples: 0	Container Size: NA

Graphic Log	Depth Scale	Material Description (Include in order: MATERIAL TYPE, color, grain size, texture, bedding, moisture & minerals)	Remarks	Sample Number	Analysis Request
		FILL: Brown, Black fine Sandy, Clayey SILT and coarse (2") GRAVEL - slag 1.0'	HNU = BKG = 0.2		
	2	Brown gray Clayey SILT and coarse, medium, fine subrounded sand and Gravel, moist, nonplastic 3.0'	HNU = 0.2		
		Tan, brown, gray SILT, wet, low plasticity 4.0'	HNU = 0.2 wet @ SILT layer		
	4	TILL: Brown red Clayey SILT, embedded coarse, medium, fine Gravel and coarse, medium fine Sand, moist, blocky, dense 6.0'	HNU = 0.2		
	6		HNU = 0.2		
		- Test trench terminated @ 6.0'			
		- Test trench 6.0' deep, 14' long, 3' wide			
		- No samples obtained			

DUNN GEOSCIENCE CORPORATION 495 Commerce Drive Amherst, New York 14150	**TEST PIT / TRENCH LOG**	Test Pit No.: TP22 Sheet 1 of 1	Job No: 00296-01699 Date Started: 2/8/91
Project: Westinghouse Electric Corp.	Excavation Contractor: ADF Construction		Date Finished: 2/8/91
Client: NYSDEC	Operator Name: Don Phillips		Total Depth: 6.0' ft
Purpose: Subsurface Investigation	Inspector: Paul Steck		Ground Elev.: 712.9'
Site Location: Genessee St. Cheektowaga, NY	General Description: John Deere Rubber Tire Backhoe		S.W.L.:
Sampling Point Location: WEC-TP22-1-2'	Sample Equipment Used: S.S. Spoon	No. of Samples 1 GRAB	Container Size: (3) 60 ml. (2) 250 ml.

Graphic Log	Depth Scale	Material Description (Include in order: MATERIAL TYPE, color, plasticity, texture, bedding, moisture & minerals)	Remarks	Sample Number	Analysis Request
		FILL: Brown, black, gray Clayey SILT and coarse (2") GRAVEL, moist - organics, slag 1.0'	HNU = BKG = 0.2 wet @ Interface (1.0')		
	2	Brown, gray clayey SILT and subrounded coarse, medium, fine Sand and Gravel, moist-wet 2.0'	HNU = 0.2 wet @ interface (2.0')	A55767 GRAB 2:15	WEC-TP22-1-2' Grab sample @ 1-2' (A55767) Full CLP-ASP
		Tan, brown SILT, sandy, moist-wet, oxid. 2.5'			
	4	TILL: Brown red Clayey SILT, embedded coarse, medium, fine subrounded Gravel and Coarse, medium, fine Sand, moist - dry blocky, dense	HNU = 0.2		
	6	Same as above 6.0'	HNU = 0.2		
		- Test trench terminated @ 6.0' - Test trench 6.0' deep, 10' long, 3' wide			

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495 Commerce Drive Amherst, New York 14150

TEST PIT / TRENCH LOG

Test Pit No.: TP-23	Sheet 1 of 1	Job No: 00296-01699	
Project: Westinghouse Electric Corp.	Excavation Contractor: ADF Construction	Date Started: 2/8/91	
Client: NYSDEC	Operator Name: Don Phillips	Date Finished: 2/8/91	
Purpose: Subsurface Investigation	Inspector: Paul Steck	Total Depth: 6.0'	
Site Location: Genessee St. Cheektowaga, NY	General Description: John Deere Rubber Tire Backhoe	Ground Elev.: 711.3'	
Sampling Point Location: WEC - TP-23, Area Q	Sample Equipment Used: NA	No. of Samples 0	Container Size: NA
		S.W.L.:	

Graphic Log	Depth Scale	Material Description (Include in order: MATERIAL TYPE, color, grain size, texture, bedding, moisture & minerals)	Remarks	Sample Number	Analysis Request
		FILL: Black, brown, gray fine Sandy SILT and Coarse (2") Gravel, moist-wet - organics, Slag 1.0'	HNU = BKG = 0.2 Septic odor wet @ interface (1.0')		
		Gray brown fine Sandy SILT and Subangular Coarse Gravel and Coarse - fine Sand, wet 2.0'	HNU = 0.2 Septic odor		
	2	Brown tan SILT, sandy, moist, oxidized 2.5'	HNU = 0.2		
	4	TILL: Brown red clayey SILT, embedded coarse, medium, fine subrounded Gravel and Coarse, medium, fine Sand, moist - dry, blocky, dense	HNU = 0.2		
	6	Same as above 6.0'	HNU = 0.2		
		- Test trench terminated @ 6.0' - Test trench 6.0' deep, 12' long, and 3' wide - No samples obtained			

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495 Commerce Drive Amherst, New York 14150

TEST PIT / TRENCH LOG

Test Pit No.: TP24	Sheet 1 of 1	Job No: 00296-01699	Date Started: 2/11/91
Project: Westinghouse Electric Corp.	Excavation Contractor: ADF Construction	Date Finished: 2/11/91	
Client: NYSDEC	Operator Name: Don Phillips	Total Depth: 7.0'	
Purpose: Subsurface Investigation	Inspector: Paul Steck	Ground Elev.: 711.9'	
Site Location: Genessee St. Cheektowaga, NY	General Description: John Deere Rubber Tire Backhoe	S.W.L.:	
Sampling Point Location: WEC- TP24 - 1-4' Area Q	Sample Equipment Used: SS. spoon & mixing bowl	No. of Samples: 1 COMP	Container Size: (3) 60 ml. (2) 250 ml.

Graphic Log	Depth Scale	Material Description (include in order: MATERIAL TYPE, color, grain size, texture, bedding, moisture & minerals)	Remarks	Sample Number	Analysis Request
		FILL: Black Clayey SILT and coarse (2") GRAVEL, moist, nonplastic, - slag 1.0'	HNU = BKG = 0.2		
		Brown gray Clayey SILT, sandy, moist 1.5'		A55770 COMP 9:30	WEC - TP24 - 1-4' composite sample 1-4' (A55770) Full CLP- ASP
	2	Brown, tan, orange fine Sandy SILT, oxidized 2.0'	HNU = 0.2		
		TILL: Brown red clayey SILT, embedded coarse, medium, fine subrounded Gravel and coarse, medium, fine Sand, moist, low plasticity, blocky, dense	HNU = 0.2		
	4		HNU = 0.2		
	6	same as above 7.0'	HNU = 0.2		
	8	- Test trench terminated @ 7.0' - Test trench 7.0' deep, 11' long, and 3' wide			

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TEST PIT / TRENCH LOG

Test Pit No.: TP25	Sheet 1 of 1	Job No: 00296-01699	
Project: Westinghouse Electric Corp.	Excavation Contractor: ADF Construction	Date Started: 2/11/91	
Client: NYSDEC	Operator Name: Don Phillips	Date Finished: 2/11/91	
Purpose: Subsurface Investigation	Inspector: Paul Steck	Total Depth: 6.0'	
Site Location: Genessee St. Cheektowaga, NY	General Description: John Deere Rubber Tire Backhoe	Ground Elev.: 713.0'	
Sampling Point Location: WEC-TP-25, Area O	Sample Equipment Used: NA	No. of Samples: 0	Container Size: NA

S.W.L.:

Graphic Log	Depth Scale	Material Description (Include in order: MATERIAL TYPE, color, grain size, texture, bedding, moisture & minerals)	Remarks	Sample Number	Analysis Request
		TOPSOIL/FILL: Black gray brown Clayey SILT, moist plastic, organic debris 1.0'	HNU=BKG=0.2		
	2	Brown, tan, orange Clayey f. Sandy SILT, moist-dry, non plastic - oxidized 2.0'	HNU=0.2		
	4	TILL: Brown, red clayey SILT, embedded, Coarse, medium, fine subrounded Gravel, and coarse, medium, fine Sand, moist-dry, blocky, dense, fractured - gray green along partings where wet	HNU=0.2 HNU=0.2		
	6	6.0			
		- Test trench terminated @ 6.0' - Test trench 6.0' deep, 11' long, and 3' wide - No samples obtained			

DUNN GEOSCIENCE CORPORATION
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TEST PIT / TRENCH LOG

Test Pit No.: TP 26	Sheet 1 of 1
Job No: 00296-01699	
Project: Westinghouse Electric Corp.	Excavation Contractor: ADF Construction
Client: NYSDEC	Operator Name: Don Phillips
Purpose: Subsurface Investigation	Inspector: Paul Steck
Site Location: Genessee St. Cheektowaga, NY	General Description: John Deere Rubber Tire Backhoe
Sampling Point Location: WEC-TP26-1-4', Area 0	Sample Equipment Used: S.S. spoon & mixing bowl
No. of Samples: 1 COMP	
Date Started: 2/11/91	Date Finished: 2/11/91
Total Depth: 8.0'	Ground Elev.: 711.4'
S.W.L.:	Container Size: (3) 60 ml, (2) 250 ml

Graphic Log	Depth Scale	Material Description (Include in order: MATERIAL TYPE, color, grain size, texture, bedding, moisture & minerals)	Remarks	Sample Number	Analysis Request
		FILL: Brown gray coarse, medium, fine angular GRAVEL, wet - crushed Stone. 1.0'	HNU= BKG = 0.2		
		Brown, tan, orange Clayey SILT, moist - oxid. 1.5'	HNU= 0.2	A55771 COMP 2:15	WEC-TP26-1-4' Composite sample 1-4' (A55771) Full CLP-ASP * MS/MSD taken on this sample
	2	TILL: Brown, red clayey SILT, embedded coarse, medium, fine subrounded Gravel, and coarse, medium, fine Sand, moist-dry, blocky, fractured, dense	HNU= 0.2		
	4		HNU= 0.2		
		same as above			
	6	same as above	HNU = 0.2		
		Same as above 8.0'	HNU = 0.2		
	8	- Test trench terminated @ 8.0' - Test trench 8.0' deep, 12' long, and 3' wide			

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TEST PIT / TRENCH LOG

Test Pit No.: TP 27
Sheet 1 of 1

Job No: 00296-01699
Date Started: 2/11/91
Date Finished: 2/11/91
Total Depth: 7.0'
Ground Elev.: 712.1'
S.W.L.:
Container Size: NA

Project: Westinghouse Electric Corp.
Client: NYSDEC
Purpose: Subsurface Investigation
Site Location: Genessee St. Cheektowaga, NY
Sampling Point Location: WEC - TP - 27, Area O

Excavation Contractor: ADF Construction
Operator Name: Don Phillips
Inspector: Paul Steck
General Description: John Deere Rubber Tire Backhoe
Sample Equipment Used: NA
No. of Samples: 0

Graphic Log	Depth Scale	Material Description (include in order: MATERIAL TYPE, color, grain size, texture, bedding, moisture & minerals)	Remarks	Sample Number	Analysis Request
		FILL: Brown gray black clayey SILT and coarse (2") GRAVEL, moist - coal frag. 1.5'	HNU = BKG = 0.2 Slight petroleum odor		
		Brown, tan, orange, fine Sandy SILT, clayey 2.0'	HNU = 0.2		
	2	TILL: Brown, red clayey SILT, embedded coarse, medium, fine Sand and Gravel, moist-dry, blocky, low plasticity 3.0	HNU = 0.2		
		Brown coarse, medium, fine SAND seam, wet 3.3'			
	4	TILL: Brown, red clayey SILT, embedded coarse, medium, fine subrounded Gravel, and coarse, medium, fine Sand, moist-dry, low plasticity blocky, dense	HNU = 0.2		
	6	Same as above 7.0'	HNU = 0.2		
	8	- Test trench terminated @ 7.0' - Test trench 7.0' deep, 10' long, 3' wide - No samples obtained			

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495 Commerce Drive Amherst, New York 14150

TEST PIT / TRENCH LOG

Test Pit No.: TP28
Sheet 1 of 1

Job No: 00296-01699
Date Started: 2/12/91
Date Finished: 2/12/91
Total Depth: 8.0'
Ground Elev.: 712.2'
S.W.L.:
Container Size: (3) 60 ml. (2) 250 ml.

Project: Westinghouse Electric Corp.
Client: NYSDEC
Purpose: Subsurface Investigation
Site Location: Genessee St. Cheektowaga, NY
Sampling Point Location: WEC-TP28-7', Area O

Excavation Contractor: ADF Construction
Operator Name: Don Phillips
Inspector: Paul Steck
General Description: John Deere Rubber Tire Backhoe
Sample Equipment Used: S.S. Spoon
No. of Samples: 1 GRAB

Graphic Log	Depth Scale	Material Description (Include in order: MATERIAL TYPE, color, grain size, texture, bedding, moisture & minerals)	Remarks	Sample Number	Analysis Request
		TOPSOIL: Dark brown gray clayey SILT, moist - organic debris 0.5'	HNU = BKG = 0.2		
		Brown, tan clayey SILT, coarse - fine Sand; Gravel moist, non plastic - organic debris 2.0'	HNU = 0.2		
	2	TILL: Brown, red clayey SILT, embedded coarse, medium, fine subrounded Gravel and Coarse medium, fine Sand, moist-dry, low plasticity blocky, fractured, dense	HNU = 0.2		
	4		HNU = 5 ppm in bucket @ 5.0' solvent odor (sweet)		
	6	Same as above			
		Same as above 8.0'	HNU = 20 ppm in bucket @ 7' Headspace = 60 ppm	A55772 GRAB - 9:30 a	WEC-TP28-7' Grab Sample @ 7.0 (A55772) Full CLP-ASP
	8	- Test trench terminated @ 8.0' - Test trench 8.0' deep, 9' long, 3' wide	HNU = 1 ppm in bucket		

DUNN GEOSCIENCE CORPORATION 495 Commerce Drive, Amherst, New York 14150	TEST PIT / TRENCH LOG	Test Pit No.: TP-29 Sheet 1 of 2	Job No: 00296-01699 Date Started: 2/12/91

Project:	Westinghouse Electric Corp.	Excavation Contractor: ADF Construction	Date Finished: 2/12/91
Client:	NYSDEC	Operator Name: Don Phillips	Total Depth: 12.2'
Purpose:	Subsurface Investigation	Inspector: Paul Steck	Ground Elev.: 713.6'
Site Location:	Genessee St. Cheektowaga, NY	General Description: John Deere Rubber Tire Backhoe	S.W.L.:
Sampling Point Location:	WEC-TP29-11-12' Area O	Sample Equipment Used: S.S. spoon / No. of Samples 1 GRAB	Container Size (3) 60 ml. (2) 250 ml.

Graphic Log	Depth Scale	Material Description (Include in order: MATERIAL TYPE, color, grain size, texture, bedding, moisture & minerals)	Remarks	COMP.	Analysis Request
		FILL: - comprised of TILL	HNU= BKG= 0.2		
	2	Dark brown clayey SILT, embedded coarse medium, fine subrounded Gravel, and coarse medium, fine Sand, moist, non plastic, blocky, loose	HNU= 0.2		
	4	Same as above	HNU= 0.2		
	6	Same as above	HNU= 0.2		
	8	Same as above	HNU= 0.2		
		9.5	HNU= 0.2		
	10	Brown, tan, green, orange fine Sand, moist 10.0'	HNU= 18		
		- continued -			

DUNN GEOSCIENCE CORPORATION
495 Commerce Drive Amherst, New York 14150

TEST PIT / TRENCH LOG

Test Pit No.: TP-29	Sheet 2 of 2
Job No: 00296-01699	
Date Started: 2/12/91	Date Finished: 2/12/91
Total Depth: 12.2'	Ground Elev.: 713.6'
S.W.L.:	Container Size: (3) 60 ml (2) 250 ml.
Project: Westinghouse Electric Corp.	Excavation Contractor: ADF Construction
Client: NYSDEC	Operator Name: Don Phillips
Purpose: Subsurface Investigation	Inspector: Paul Steck
Site Location: Genessee St. Cheektowaga, NY	General Description: John Deere Rubber Tire Backhoe
Sampling Point Location: WEC-TP29-11-12' Area O	Sample Equipment Used: S.S. Spoon
	No. of Samples 1 GRAB /

Graphic Log	Depth Scale	Material Description (include in order: MATERIAL TYPE, color, grain size, texture, bedding, moisture & minerals)	Remarks	COMP.	Analysis Request
		FILL: (CON'T) Brown black coarse, medium, fine SAND, moist - wet, - slag 11.0'	HNU = 18 ppm		WEC-TP29-1-12', COMP
		Black gray coarse, medium, fine SAND, Subrounded fine Gravel, moist, slag wood, cinders 12.0'	Headspace = 80 ppm HNU = 20 ppm	A55773 GRAB 11:30 a.	WEC-TP29-11-12' (VOA) Grab Sample @ 11-12' (VOA) (A55773)
	12	Concrete Slab / Foundation 12.2'			Full CLP-ASP
		TILL: Brown red clayey SILT, cmf Sand & Gravel etc. 12.5'	HNU = 0.2		
		Test trench terminated @ 12.5' Test trench 12.5' deep, 12' Long, 3' wide			
	14				

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495 Commerce Drive Amherst, New York 14150

TEST PIT / TRENCH LOG

Test Pit No.: TP 30
Sheet 1 of 1

Project: Westinghouse Electric Corp.	Excavation Contractor: ADF Construction		Job No: 00296-01699
Client: NYS DEC	Operator Name: Don Phillips		Date Started: 2/12/91
Purpose: Subsurface Investigation	Inspector: Paul Steck		Date Finished: 2/12/91
Site Location: Genessee St. Cheektowaga, NY	General Description: John Deere Rubber Tire Backhoe		Total Depth: 7.5'
Sampling Point Location: WEC - TP-30 Area 0	Sample Equipment Used: NA	No. of Samples 0	Ground Elev.: 710.8'
			S.W.L.:
			Container Size: NA

Graphic Log	Depth Scale	Material Description (include in order: MATERIAL TYPE, color, grain size, texture, bedding, moisture & minerals)	Remarks	Sample Number	Analysis Request
		TOPSOIL: 0.25			
		FILL: Brown clayey SILT and subrounded coarse, medium, fine Sand and Gravel, moist, low plasticity.	HNU = BKG = 0.2		
	2	2.5'	HNU = 0.2 septic odor		
		Brown gray black, clayey SILT, sand and gravel moist-wet - cinders 3.0'			
	4	TILL: Brown, red clayey SILT, embedded coarse, medium, fine subrounded Gravel and coarse medium, fine Sand, moist-dry, blocky, fractured, dense	HNU = 0.2		
	6	same as above	HNU = 0.2		
		same as above 7.5'			
	8	- Test trench terminated @ 7.5' - Test trench 7.5' deep, 9' long, 3' wide - No Samples obtained - Headspace = 3 ppm			

DUNN GEOSCIENCE CORPORATION 495 Commerce Drive Amherst, New York 14150	TEST PIT / TRENCH LOG	Test Pit No.: TP-31 Sheet 1 of 1	Job No: 00296-01699 Date Started: 2/12/91
Project: Westinghouse Electric Corp.	Excavation Contractor: ADF Construction		Date Finished: 2/12/91
Client: NYSDEC	Operator Name: Don Phillips		Total Depth: 8.0'
Purpose: Subsurface Investigation	Inspector: Paul Steck		Ground Elev.: 712.3'
Site Location: Genessee St. Cheektowaga, NY	General Description: John Deere Rubber Tire Backhoe		S.W.L.:
Sampling Point Location: WEC-TP-31, Area O	Sample Equipment Used: NA	No. of Samples 0	Container Size: NA

Graphic Log	Depth Scale	Material Description (Include in order: MATERIAL TYPE, color, grain size, texture, bedding, moisture & minerals)	Remarks	Sample Number	Analysis Request
		TOPSOIL / FILL: Dark brown Clayey SILT, sand & gravel - organics; moist 1.0'	HNU = BKG = 0.2		
		Dark brown gray black clayey SILT, moist, org. 1.5'	HNU ~ 0.2		
	2	Brown, tan SILT, clayey, moist, plastic - oxidized 2.5'			
		TILL: Brown red, Clayey SILT, embedded coarse, medium, fine subrounded Gravel and coarse, medium, fine Sand, moist-dry, blocky, fractured, dense	HNU = 0.2		
	4		HNU = 0.2		
	6	same as above	HNU = 0.2		
	8	same as above 8.0'	HNU = 0.2		
		- Test trench terminated @ 8.0' - Test trench 8.0' deep, 8' long, 3' wide - No samples obtained			

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TEST PIT / TRENCH LOG

Test Pit No.: TP 32	Sheet 1 of 1	Job No: 00296-01699	
Project: Westinghouse Electric Corp.	Excavation Contractor: ADF Construction	Date Started: 2/15/91	
Client: NYSDEC	Operator Name: Don Phillips	Date Finished: 2/15/91	
Purpose: Subsurface Investigation	Inspector: Paul Steck	Total Depth: 8.0'	
Site Location: Genessee St. Cheektowaga, NY	General Description: John Deere Rubber Tire Backhoe	Ground Elev.: 712.1'	
Sampling Point Location: WEC-TP32-2-6', Area O	Sample Equipment Used:	No. of Samples 1 COMP	Container Size: (3) 60 ml. (2) 250 ml.
		S.W.L.:	

Graphic Log	Depth Scale	Material Description (Include in order: MATERIAL TYPE, color, grain size, texture, bedding, moisture & minerals)	Remarks	Sample Number	Analysis Request
		TOPSOIL: Brown gray clayey SILT, moist-wet, organics (Previously excavated for roadway) 1.5'	HNU = BKG = 0.4		
		Brown, tan, orange SILT, moist, oxidized, org. 2.0'	HNU = 0.4		
	2				
		TILL: Brown, red Clayey SILT, embedded coarse, medium, fine subrounded Gravel and Coarse, medium, fine Sand, moist, blocky, dense.		A55785 COMP 2:30p	WEC-TP32-2-6' Composite sample @ 2-6' (A55785) Full CLP-ASP
	4		HNU = 0.4		
	6	Same as above	HNU = 0.4		
		Same as above 8.0'	HNU = 0.4		
	8				
		- Test trench terminated @ 8.0' - Test trench 8.0' deep, 10' long, 3' wide - Headspace = 3 ppm			

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405 Commerce Drive Amherst, New York 14150

TEST PIT / TRENCH LOG

Project: Westinghouse Electric Corp.	Excavation Contractor: ADF Construction	Test Pit No.: TP-33 / Sheet 1 of 1	Job No: 00296-01699
Client: NYSDEC	Operator Name: Don Phillips		Date Started: 2/15/91
Purpose: Subsurface Investigation	Inspector: Paul Steck		Date Finished: 2/15/91
Site Location: Genessee St. Cheektowaga, NY	General Description: John Deere Rubber Tire Backhoe		Total Depth: 8.0'
Sampling Point Location: WEC-TP33, Area O	Sample Equipment Used: NA	No. of Samples: 0	Ground Elev.: 711.9'
			S.W.L.:
			Container Size: NA

Graphic Log	Depth Scale	Material Description (Include in order: MATERIAL TYPE, color, grain size, texture, bedding, moisture & minerals)	Remarks	Sample Number	Analysis Request
		TOPSOIL: Brown gray Clayey SILT, subrounded cmf Gravel, moist - wet, plasticity - organics 1.5'	HNU= BKG = 0.4		
	2	Brown tan, orange SILT, clayey, fine sandy, moist & wet, plastic, oxidized 2.5'	HNU= 0.4 Wet @ 2.0'		
	4	TILL: Brown, red Clayey SILT, embedded coarse, medium, fine subrounded Gravel and Coarse, medium, fine Sand, moist-dry, blocky, low plasticity, dense.	HNU= 0.4		
	6	Same as above	HNU= 0.4		
	8	Same as above 8.0'	HNU= 0.4		
		- Test trench terminated @ 8.0' - Test trench 8.0' deep, 12' long, 3' wide - Headspace = 1 ppm			

DUNN GEOSCIENCE CORPORATION
495 Commerce Drive Amherst, New York 14150

TEST PIT / TRENCH LOG

Test Pit No.: TP-34	Sheet 1 of 1
Job No: 00296-01699	Date Started: 2/15/91
Project: Westinghouse Electric Corp.	Excavation Contractor: ADF Construction
Date Finished: 2/15/91	
Client: NYSDEC	Operator Name: Don Phillips
Total Depth: 6.0'	
Purpose: Subsurface Investigation	Inspector: Paul Steck
Ground Elev.: 709.2	
Site Location: Genessee St. Cheektowaga, NY	General Description: John Deere Rubber Tire Backhoe
S.W.L.:	
Sampling Point Location: WEC-TP34-1-6', Area O	Sample Equipment Used: S.S. spoon & mixing bowl
No. of Samples: 1 COMP	Container Size: (3) 60 ml. (2) 250 ml.

Graphic Log	Depth Scale	Material Description (include in order: MATERIAL TYPE, color, plasticity, texture, bedding, moisture & minerals)	Remarks	Sample Number	Analysis Request
		TOPSOIL: Brown gray Clayey SILT, moist-wet, organics (Previously excavated for Roadway) 1.0'	HNU=BKG=0.4		
		Brown, tan, orange fine sandy SILT, oxid 1.5'	HNU=0.4 moist		
	2	TILL: Brown, red clayey SILT, embedded coarse, medium, fine subrounded Gravel and coarse medium, fine Sand, moist-dry, low plasticity, blocky	HNU=0.4	A55786 COMP 3:30	WEC-TP34-1-6' Composite sample 1-6' (A55786) Full CLP-ASP
	4	Same as above	HNU=0.4		
		same as above 6.0			
	6	- Test trench terminated @ 6.0' - Test trench 6.0' deep, 8' long, 3' wide - Headspace = 2 ppm			
	8				

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495 Commerce Drive Amherst, New York 14150

TEST PIT / TRENCH LOG

Test Pit No.: TP35	Sheet 1 of 1
Job No: 00296-01699	Date Started: 2/14/91
Date Finished: 2/14/91	Total Depth: 9.0'
Ground Elev.: 713.3'	S.W.L.:
Container Size: (3) 60 ml. (2) 250 ml.	

Project: Westinghouse Electric Corp.	Excavation Contractor: ADF Construction
Client: NYSDEC	Operator Name: Don Phillips
Purpose: Subsurface Investigation	Inspector: Paul Steck
Site Location: Genessee St. Cheektowaga, NY	General Description: John Deere Rubber Tire Backhoe
Sampling Point Location: WEC-TP35-3-4', Area O	Sample Equipment Used: S.S. spoon
	No. of Samples: 1 GRAB

Graphic Log	Depth Scale	Material Description (Include in order: MATERIAL TYPE, color, grain size, texture, bedding, moisture & minerals)	Remarks	Sample Number	Analysis Request
		TOPSOIL / FILL: Black grey Clayey SILT, moist, org. 0.5'	HNU = BKG = 0.6		
		Brown gray coarse, medium, fine angular GRAVEL, - crushed stone, cemented 1.5	HNU = 200+ in hole Upgrade to Level C		
	2	Light brown, tan, orange Clayey SILT, sand & Gravel, moist, low plasticity. 2.5'	V. Strong odor (varnish)		
		TILL: Brown, red Clayey SILT, embedded coarse, medium, fine subrounded Gravel and coarse medium, fine Sand; moist-dry, low plasticity, blocky, fractured, dense.	HNU = 500+ in bucket @ 3'	A55784 GRAB 3:15	WEC-TP35-3-4' GRAB Sample @ 3-4' (A55784) Full CLP-ASP
	4		HNU = 500+ in bucket @ 4' V. Strong odor		
			HNU = 300+ in bucket		
	6	same as above	HNU = 40+ in bucket		
			HNU = 450+ in bucket		
	8	same as above 9.0'	HNU = 5 in bucket		
	10	Test trench terminated @ 9.0' Test trench 9.0' deep, 10' long, 3' wide Headspace = 500+			

DUNN GEOSCIENCE CORPORATION
495 Commerce Drive Amherst, New York 14150

TEST PIT / TRENCH LOG

Test Pit No.: TP36
Sheet 1 of 1

Job No: 00296-01699
Date Started: 2/14/91
Date Finished: 2/14/91
Total Depth: 5.0'
Ground Elev.: 713.1'
S.W.L.:
Container Size: NA

Project: Westinghouse Electric Corp.
Client: NYSDEC
Purpose: Subsurface Investigation
Site Location: Genessee St. Cheektowaga, NY
Sampling Point Location: WEC-TP-36, Area 0

Excavation Contractor: ADF Construction
Operator Name: Don Phillips
Inspector: Paul Steck
General Description: John Deere Rubber Tire Backhoe
Sample Equipment Used: NA
No. of Samples: 0

Graphic Log	Depth Scale	Material Description (include in order: MATERIAL TYPE, color, grain size, texture, bedding, moisture & minerals)	Remarks	Sample Number	Analysis Request
		FILL: Black gray brown Clayey SILT, moist - misc. debris - wood - metal frag - "Varnish waste"	HNU = BKG = 0.6		
	2		HNU = 20+ Slight odor		
		3.0'			
		Brown, tan, orange SILT, sandy, moist, oxid 4.0'	HNU = 50+		
	4	TILL: Brown, red Clayey SILT, embedded coarse medium fine subrounded Sand & Gravel, moist-dry, blocky, low plasticity, dense 5.0'	HNU = 40		
		- Test trench terminated @ 5.0'			
	6	- Test trench 5.0' deep, 8' long, and 3' wide			
		- No samples obtained			

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TEST PIT / TRENCH LOG

Test Pit No.: TP37	Sheet 1 of 1	Job No: 00296-01699	
Project: Westinghouse Electric Corp.	Excavation Contractor: ADF Construction	Date Started: 2/14/91	
Client: NYSDEC	Operator Name: Don Phillips	Date Finished: 2/14/91	
Purpose: Subsurface Investigation	Inspector: Paul Steck	Total Depth: 5.0'	
Site Location: Genessee St. Cheektowaga, NY	General Description: John Deere Rubber Tire Backhoe	Ground Elev.: 713.3'	
Sampling Point Location: WEC-TP-37, Area O	Sample Equipment Used: NA	No. of Samples: 0	Container Size: NA

S.W.L.:

Graphic Log	Depth Scale	Material Description (Include in order: MATERIAL TYPE, color, grain size, texture, bedding, moisture & minerals)	Remarks	Sample Number	Analysis Request
		TOPSOIL/FILL: Brown gray Clayey SILT, Coarse-fine Gravel, moist - organics 1.0'	HNU = BKG = 0.6		
		Light brown tan, orange SILT, fine Sand, moist low plasticity - organics 2.0'	HNU = 0.6		
	2				
		TILL: Brown, red Clayey SILT, embedded coarse, medium, fine subrounded Gravel and coarse, medium, fine Sand, moist-dry, low plasticity, blocky, dense	HNU = 0.6		
	4		HNU = 0.6		
		5.0'			
	6	- Test trench terminated @ 5.0' - Test trench 5.0' deep, 7' long, and 3' wide - No Samples obtained - Headspace = 15 ppm			

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495 Commerce Drive Amherst, New York 14150

TEST PIT / TRENCH LOG

Test Pit No.: TP 38	Sheet 1 of 1	Job No: 00296-01699	
Project: Westinghouse Electric Corp.	Excavation Contractor: ADF Construction	Date Started: 2/18/91	
Client: NYSDEC	Operator Name: Don Phillips	Date Finished: 2/18/91	
Purpose: Subsurface Investigation	Inspector: Paul Steck	Total Depth: 6.0'	
Site Location: Genessee St. Cheektowaga, NY	General Description: John Deere Rubber Tire Backhoe	Ground Elev.: 713.2'	
Sampling Point Location: WEC-TP-38, Area O	Sample Equipment Used: NA	No. of Samples 0	S.W.L.:
			Container Size: NA

Graphic Log	Depth Scale	Material Description (Include in order: MATERIAL TYPE, color, plasticity, texture, bedding, moisture & minerals)	Remarks	Sample Number	Analysis Request
		TOPSOIL/FILL: Browngray Clayey SILT, moist, org. 0.5'	HNU-BKG = 0.2		
	2	FILL: Dark brown black Clayey SILT, moist, low plasticity - organics - cement 3.0'	HNU = 0.2		
		brown, tan, orange fine Sandy SILT, clayey 3.5'	HNU = 0.2		
	4	TILL: Brown, red clayey SILT, embedded coarse, medium, fine subrounded Gravel and coarse, meduim, fine Sand, moist, blocky, low plasticity, dense 6.0'	HNU = 0.2		
	6		HNU = 0.2		
		- Test trench termmated @ 6.0'			
		- Test trench 6.0' deep, 8' long, 3' wide			

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405 Commerce Drive Amherst, New York 14150

TEST PIT / TRENCH LOG

Test Pit No.: TP 39	Sheet 1 of 1
Job No: 00296-01699	Date Started: 2/18/91
Date Finished: 2/18/91	Total Depth: 8.5'
Ground Elev.: 712.9'	S.W.L.:
Project: Westinghouse Electric Corp.	Excavation Contractor: ADF Construction
Client: NYSDEC	Operator Name: Don Phillips
Purpose: Subsurface Investigation	Inspector: Paul Steck
Site Location: Genessee St. Cheektowaga, NY	General Description: John Deere Rubber Tire Backhoe
Sampling Point Location: WEC-TP39-4-5'	Sample Equipment Used: SS. Spoon
No. of Samples: 1 GRAB	Container Size: (3) 60 ml. (2) 250 ml.

Graphic Log	Depth Scale	Material Description (include in order: MATERIAL TYPE, color, grain size, texture, bedding, moisture & minerals)	Remarks	Sample Number	Analysis Request
		TOPSOIL/FILL: Brown gray Clayey SILT, moist - organics - railroad rail 2.0'	HNU= BKG = 0.2		
	2	FILL: Black fine Sandy SILT, moist, nonplastic	HNU = 5ppm		
	4	5.0'	wet @ 4.5-5.0	A55787 GRAB 10:45	WEC-TP39-4-5' Grab sample @ 4-5' (A55787) Full CLP-ASP
		Brown fine Sandy SILT, moist 5.5'	HNU= 4ppm		
	6	TILL: Brown, red clayey SILT, embedded coarse, medium, fine subrounded Gravel and Coarse, medium, fine Sand, moist, low plasticity, blocky, fractured, dense.	HNU= 5ppm * - but may be a result of moisture.		
	8	8.5'			
	10	Test trench terminated @ 8.5' Test trench 8.5' deep, 12' long, 3' wide Headspace = 3ppm			

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495 Commerce Drive Amherst, New York 14150

TEST PIT / TRENCH LOG

Test Pit No.: TP40
Sheet 1 of 1

Job No: 00296-01699
Date Started: 2/18/91
Date Finished: 2/18/91
Total Depth: 8.0'
Ground Elev.: 714.9'
S.W.L.:
Container Size: (3) 60 ml, (2) 250 ml

Project: Westinghouse Electric Corp.
Client: NYSDEC
Purpose: Subsurface Investigation
Site Location: Genessee St. Cheektowaga, NY
Sampling Point Location: WEC-TP40-4-5', AreaQ

Excavation Contractor: ADF Construction
Operator Name: Don Phillips
Inspector: Paul Steck
General Description: John Deere Rubber Tire Backhoe
Sample Equipment Used: S.S. Spoon
No. of Samples: 1 GRAB

Graphic Log	Depth Scale	Material Description (Include in order: MATERIAL TYPE, color, grain size, texture, bedding, moisture & minerals)	Remarks	Sample Number	Analysis Request
		FILL: Asphalt & brown gray coarse (2") GRAVEL 0.5	HNU = BKG = 0.2 wet Septic odor		
		Brown gray Clayey SILT and 2" GRAVEL, wet 1.5'			
	2	Brown, tan, orange SILT, sandy, moist-wet - oxidized, nonplastic	HNU = 15+ ppm in hole UPGRADE TO LEVEL C HNU = 120 ppm in bucket		
	4	Same as above 5.0'	HNU = 600+ in bucket @ 4.0' HNU = 800+ in bucket @ 5.0'	A55788 GRAB 12:30	WEC-TP40-4-5' Grab Sample @ 4-5' (A55788) Full CLP-ASP
		Brown coarse, medium, fine SAND, coarse, medium fine Gravel, v. wet - producing H_2O 6.0'	Sheen on water ≈ 1' of H_2O in hole		
	6	TILL: Brown, red Clayey SILT, embedded coarse, medium, fine subrounded Gravel and coarse medium, fine Sand, moist-wet, low plasticity blocky, dense. 8.0'	HNU = 50+ in bucket & hole HNU = 3 ppm in breathing zone HNU = 30+, 40+ in hole HNU = 300+ in bucket, 50 in hole		
	8	- Test trench terminated @ 8.0' due to hole Collapsing as a result of water and sand. - Test trench 8.0' deep, 12' long, 6' wide	(Headspace = 650+ ppm) Strong solvent odor		

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TEST PIT / TRENCH LOG

Test Pit No.: TP41
Sheet 1 of 1

Job No: 00296-01699
Date Started: 2/5/91
Date Finished: 2/5/91
Total Depth: 5.5'
Ground Elev.: 701.6'
S.W.L.:
Container Size: NA

Project: Westinghouse Electric Corp.
Client: NYSDEC
Purpose: Subsurface Investigation
Site Location: Genessee St. Cheektowaga, NY
Sampling Point Location: WEC-TP-41 Area M

Excavation Contractor: ADF Construction
Operator Name: Don Phillips
Inspector: Paul Steck
General Description: John Deere Rubber Tire Backhoe
Sample Equipment Used: NA
No. of Samples: NA

Graphic Log	Depth Scale	Material Description (Include in order: MATERIAL TYPE, color, plasticity, texture, bedding, moisture & minerals)	Remarks	Sample Number	Analysis Request
		FILL: Gray brown coarse, medium, fine angular GRAVEL, fine - coarse Sand, wet - crushed stone	HNU - BKG = 0.2		
	2	2.5	wet @ 2.0' producing H_2O HNU = 0.2		
		Brown tan fine Sand, slight discoloration, wet 3.0'			
	4	Gray coarse angular GRAVEL (1" diam) - crushed stone - steel pipe 5.5'	HNU = 0.2 H_2O has no sheen, no odor HNU = 0.2		
	6	Test trench terminated @ 5.5' due to collapsing hole and large quantities of H_2O - No samples obtained	- Difficult to identify Stratigraphy b/c water @ 2.0' - can't see what is being excavated.		

Appendix B-2

Boring Logs

Dunn Geoscience Corporation Amherst, NY 14228 (716)691-3866	Test Boring Log	Boring No. B-1

PROJECT: WESTINGHOUSE ELECTRIC CORP.					Sheet 1 of 1
CLIENT: NYSDEC					Job. No. 00296-01699
DRILLING CONTRACTOR: ADVANCED DRILLING INVESTIGATIONS					Meas. Pt. El.
PURPOSE: PHASE II INVESTIGATION					Gr. Elev. 702.6'
DRILLING METHOD: 4 1/4" I.D. HSA		SAMPLE	CORE	CASING	Datum
DRILL RIG TYPE: MOBIL B57	TYPE	SPLITSPOON			Date Started: 1-29-91
GROUNDWATER DEPTH: —	DIAM.	2.0"			Date Finished: 1-29-91
MEAS. POINT: —	WEIGHT	140 lbs.			Driller: Mark Seiler
DATE OF MEAS.: —	FALL	30"			Geologist: Joel Taft

Depth (Feet)	Sample Numbers	Blow Counts	Unified Classification	Geologic Description	Remarks
	1	4 / 4 / 9 / 8		FILL: Dark brown Gravelly Silt, moist, non-plastic	RECOVERY = 1.7 HNU = 0.2 *HNU = 3.8
	2	4 / 6 / 50/.1 / —		GLACIAL TILL: Brown Silt, clayey, embedded subrounded Gravel, moist, non-plastic. Seam brown Sandy Gravel noted, wet.	RECOVERY = 1.1 HNU = 0.2 *HNU = 5.0
5	3	4 / 13 / 16 / 21			RECOVERY = 1.9 HNU = 0.2 *HNU = 1.8
	4	7 / 11 / 20 / 24		- wood fragments noted, becomes moist to wet	RECOVERY = 2.0 HNU = 0.4 *HNU = 4.8
10	5	9 / 14 / 21 / 27			RECOVERY = 1.7 HNU = 0.6 *HNU = 2.2
	6	6 / 10 / 17 / 16			RECOVERY = 1.9 HNU = 0.2 *HNU = 2.4
	7	12 / 16 / 21 / 25		- wood fragments noted - grades to brown Clayey Silt, embedded subrounded Gravel and Coarse Sand, moist to wet, plastic	RECOVERY = 0.5 HNU = 0.4 *HNU = 6.8
15	8	5 / 12 / 12 / 16			RECOVERY = 1.9 HNU = 0.4 *HNU = 2.8
	9	8 / 10 / 13 / 16			RECOVERY = 1.8 HNU = 0.4 *HNU = 2.8
20	10	5 / 6 / 11 / 15			RECOVERY = 2.0 HNU = 0.2 *HNU = 1.8

BORING TERMINATED @ 20.0'

* THESE VALUES REPRESENT HEAD-SPACE RESULTS PERFORMED AFTER SAMPLES WERE ALLOWED TO ATTAIN ROOM TEMPERATURE. HNU RESULTS ARE PRESENTED IN PARTS PER MILLION (ppm).

Dunn Geoscience Corporation Amherst, NY 14228 (716)691-3866	Test Boring Log	Boring No. B-2
PROJECT: WESTINGHOUSE ELECTRIC CORP.		Sheet 1 of 1
CLIENT: NYSDEC		Job. No. 00296-01699
DRILLING CONTRACTOR: ADVANCED DRILLING INVESTIGATIONS		Meas. Pt. El.
PURPOSE: PHASE II INVESTIGATION		Gr. Elev. 703.6'

DRILLING METHOD: 4 1/4" I.D. HSA		SAMPLE	CORE	CASING	Datum
DRILL RIG TYPE: MOBIL B57	TYPE	SPLITSPOON			Date Started: 1-29-91
GROUNDWATER DEPTH: —	DIAM.	2.0"			Date Finished: 1-29-91
MEAS. POINT: —	WEIGHT	140 lbs.			Driller: Mark Seiler
DATE OF MEAS.: —	FALL	30"			Geologist: Joel Taft

Depth (Feet)	Sample Numbers	Blow Counts	Unified Classification	Geologic Description	Remarks
	1	3, 5, 4, 8		FILL: Brown Silt, embedded subrounded Gravel, coarse Sand, roots & Coal fragments, moist, non-plastic	RECOVERY = 2.0 HNU = 0.2 *HNU = 2.4
	2	16, 17, 23, 35		GLACIAL TILL: Brown Silt, embedded subrounded and angular Gravel & coarse Sand, damp, non-plastic	RECOVERY = 2.0 HNU = 0.2 *HNU = 3.0
5	3	10, 17, 22, 26		- becomes moist	RECOVERY = 1.8 HNU = 0.2 *HNU = 1.8
	4	7, 18, 24, 27			RECOVERY = 2.0 HNU = 0.8 *HNU = 1.4
	5	6, 16, 15, 17		- embedded Rock fragments noted	RECOVERY = 2.0 HNU = 0.2 *HNU = 1.2
10	6	8, 12, 14, 15		- grades to Clayey Silt, embedded subrounded and angular Gravel & coarse Sand, moist, low plasticity	RECOVERY = 1.9 HNU = NA *HNU = 1.6
	7	8, 13, 16, 20			RECOVERY = 1.4 HNU = NA *HNU = 1.9
15	8	6, 7, 12, 17			RECOVERY = 1.8 HNU = NA *HNU = 1.8
	9	7, 9, 16, 16		- becomes moist to wet	RECOVERY = 1.5 HNU = NA *HNU = 2.0
20	10	5, 10, 11, 11			RECOVERY = 1.9 HNU = NA *HNU = 1.9

BORING TERMINATED @ 20.0'

* THESE VALUES REPRESENT HEAD-SPACE RESULTS PERFORMED AFTER SAMPLES WERE ALLOWED TO ATTAIN ROOM TEMPERATURE.

NOTE: HNU VALUES ARE PRESENTED IN PARTS PER MILLION (ppm).

Dunn Geoscience Corporation Amherst, NY 14228 (716)691-3866	Test Boring Log	Boring No. B-3

PROJECT: WESTINGHOUSE ELECTRIC CORP.	Sheet 1 of 1
CLIENT: NYSDEC	Job. No. 00296-01699
DRILLING CONTRACTOR: ADVANCED DRILLING INVESTIGATIONS	Meas. Pt. El.
PURPOSE: PHASE II INVESTIGATION	Gr. Elev. 703.1'

		SAMPLE	CORE	CASING	
DRILLING METHOD: 4 1/4" I.D. HSA					Datum
DRILL RIG TYPE: MOBIL B57	TYPE	SPLITSPOON			Date Started: 1-30-91
GROUNDWATER DEPTH: —	DIAM.	2.0"			Date Finished: 1-30-91
MEAS. POINT: —	WEIGHT	140 lbs.			Driller: Mark Seiler
DATE OF MEAS.: —	FALL	30"			Geologist: Joel Taft

Depth (Feet)	Sample Numbers	Blow Counts	Unified Classification	Geologic Description	Remarks
	1	2, 6, 11, 13		FILL: Black Coal fragments and Cinders, moist, non-plastic	RECOVERY = 2.0 HNU = 0.8 *HNU = 1.0
	2	10, 15, 15, 36		GLACIAL TILL: Brown SILT, clayey, embedded subrounded Gravel + coarse Sand, moist, non-plastic	RECOVERY = 2.0 HNU = 1.8 *HNU = 1.0
5	3	8, 15, 16, 19			RECOVERY = 1.7 HNU = 1.4 *HNU = 1.8
	4	5, 8, 16, 18		- embedded Rock fragments noted	RECOVERY = 1.8 HNU = 0.6 *HNU = 1.2
	5	7, 11, 16, 18			RECOVERY = 1.8 HNU = 2.5 *HNU = 2.8
10	6	7, 9, 14, 15		- grades to brown clayey Silt, embedded subrounded fine Gravel + coarse Sand, moist, plastic	RECOVERY = 2.0 HNU = 0.3 *HNU = 2.5
	7	6, 8, 11, 12		- becomes moist to wet	RECOVERY = 1.7 HNU = 0.2 *HNU = 2.2
15	8	5, 7, 10, 17			RECOVERY = 2.0 HNU = 0.2 *HNU = 1.5
	9	5, 10, 13, 15			RECOVERY = 1.1 HNU = 0.2 *HNU = 2.8
	10	13, 12, 12, 16			RECOVERY = 1.5 HNU = 0.2 *HNU = 1.8
20					

BORING TERMINATED @ 20.0'

* THESE VALUES REPRESENT HEAD-SPACE RESULTS PERFORMED AFTER SAMPLES WERE ALLOWED TO ATTAIN ROOM TEMPERATURE.

NOTE: HNU VALUES ARE PRESENTED IN PARTS PER MILLION (ppm).

Dunn Geoscience Corporation Amherst, NY 14228 (716)691-3866	Test Boring Log			Boring No. B-4
PROJECT: WESTINGHOUSE ELECTRIC CORP.				Sheet 1 of 1
CLIENT: NYSDEC				Job. No. 00296-01699
DRILLING CONTRACTOR: ADVANCED DRILLING INVESTIGATIONS				Meas. Pt. El.
PURPOSE: PHASE II INVESTIGATION				Gr. Elev. 703.7'
DRILLING METHOD: 4 1/4" I.D. HSA	SAMPLE	CORE	CASING	Datum
DRILL RIG TYPE: MOBIL B57	TYPE: SPLIT SPOON			Date Started: 1-30-91
GROUNDWATER DEPTH: —	DIAM. 2.0"			Date Finished: 1-30-91
MEAS. POINT: —	WEIGHT 140 lbs.			Driller: Mark Seiler
DATE OF MEAS.: —	FALL 30"			Geologist: Joel Taft

Depth (Feet)	Sample Numbers	Blow Counts	Unified Classification	Geologic Description	Remarks
	1	3, 5, 12, 15		FILL: Gray-brown Sandy Silt, gravelly, coal fragments and cinders noted, moist, non-plastic	RECOVERY = 2.0 HNU = 10 *HNU = 1.8
	2	7, 12, 15, 19		GLACIAL TILL: Brown Silt, clayey, embedded subrounded Gravel & coarse Sand, moist, non-plastic	RECOVERY = 2.0 HNU = 0.5 *HNU = 2.0
5	3	7, 9, 9, 13			RECOVERY = 1.8 HNU = 1.2 *HNU = 1.8
	4	7, 10, 13, 12			RECOVERY = 1.6 HNU = 0.2 *HNU = 4.2
	5	6, 10, 13, 12		- grades to grayish-brown Clayey Silt, embedded subrounded and rounded Gravel, moist to wet, plastic	RECOVERY = 2.0 HNU = 0.2 *HNU = 1.0
10	6	7, 9, 12, 15			RECOVERY = 1.6 HNU = 1.0 *HNU = 1.2
	7	8, 10, 14, 16			RECOVERY = 1.2 HNU = 0.2 *HNU = 1.6
15	8	4, 9, 12, 14			RECOVERY = 1.5 HNU = 0.4 *HNU = 1.0
	9	4, 6, 10, 12		- embedded Rock fragments noted	RECOVERY = 2.0 HNU = 0.4 *HNU = 0.6
20	10	5, 7, 12, 18			RECOVERY = 2.0 HNU = 0.2 *HNU = 0.5

BORING TERMINATED @ 20.0'

* THESE VALUES REPRESENT HEAD-SPACE RESULTS PERFORMED AFTER SAMPLES WERE ALLOWED TO ATTAIN ROOM TEMPERATURE.
NOTE: HNU VALUES ARE PRESENTED IN PARTS PER MILLION (ppm).

Dunn Geoscience Corporation Amherst, NY 14228 (716)691-3866	Test Boring Log	Boring No. B-5

PROJECT: WESTINGHOUSE ELECTRIC CORP.	Sheet 1 of 1
CLIENT: NYSDEC	Job. No. 00296-01699
DRILLING CONTRACTOR: ADVANCED DRILLING INVESTIGATIONS	Meas. Pt. El.
PURPOSE: PHASE II INVESTIGATION	Gr. Elev. 702.1'

DRILLING METHOD: 4 1/4" I.D. HSA		SAMPLE	CORE	CASING	Datum
DRILL RIG TYPE: MOBIL B57	TYPE	SPLITSPOON			Date Started: 1-31-91
GROUNDWATER DEPTH: —	DIAM.	2.0"			Date Finished: 1-31-91
MEAS. POINT: —	WEIGHT	140 lbs.			Driller: Mark Seiler
DATE OF MEAS.: —	FALL	30"			Geologist: Joel Taft

Depth (Feet)	Sample Numbers	Blow Counts	Unified Classif-ication	Geologic Description	Remarks
	1	3, 4, 4, 3		FILL: Brown Silt, wood, roots and coal fragments, moist, non-plastic - grades to black Silt & Coal fragments, wet, non-plastic	RECOVERY = 0.5 HNU = 0.2 *HNU = 175
	2	4, 10, 11, 14		GLACIAL TILL: Brown Silt, embedded subrounded fine Gravel and coarse Sand, moist, non-plastic	RECOVERY = 1.9 HNU = 0.2 *HNU = 320
5	3	8, 16, 16, 17			RECOVERY = 0.0 HNU = N/A *HNU = N/A
	4	7, 10, 15, 16			RECOVERY = 2.0 HNU = 5.0 *HNU = 50
	5	4, 9, 15, 16		- grades to brown Clayey Silt, embedded subrounded Gravel & Rock fragments, moist, low plasticity	RECOVERY = 1.7 HNU = 4.0 *HNU = 8.0
10	6	9, 10, 18, 18			RECOVERY = 1.9 HNU = 3.0 *HNU = 2.0
	7	7, 10, 14, 22			RECOVERY = 1.7 HNU = 2.5 *HNU = 3.0
15	8	8, 10, 14, 16		- becomes moist to wet	RECOVERY = 1.6 HNU = 3.0 *HNU = 200
	9	9, 13, 14, 13		- solvent odor noted	RECOVERY = 1.5 HNU = 18 *HNU = 600
20	10	8, 10, 14, 16			RECOVERY = 1.6 HNU = 8.0 *HNU = 180

BORING TERMINATED @ 20.0'

* THESE VALUES REPRESENT HEAD-SPACE RESULTS PERFORMED AFTER SAMPLES WERE ALLOWED TO ATTAIN ROOM TEMPERATURE.
NOTE: HNU VALUES ARE PRESENTED IN PARTS PER MILLION (ppm).

Dunn Geoscience Corporation Amherst, NY 14228 (716)691-3866	Test Boring Log	Boring No. B-6

PROJECT: WESTINGHOUSE ELECTRIC CORP.					Sheet 1 of 1
CLIENT: NYSDEC					Job. No. 00296-01699
DRILLING CONTRACTOR: ADVANCED DRILLING INVESTIGATIONS					Meas. Pt. El.
PURPOSE: PHASE II INVESTIGATION					Gr. Elev. 702.9'
DRILLING METHOD: 4 1/4" I.D. HSA		SAMPLE	CORE	CASING	Datum
DRILL RIG TYPE: MOBIL B57	TYPE	SPLITSPOON			Date Started: 2-1-91
GROUNDWATER DEPTH: —	DIAM.	2.0"			Date Finished: 2-1-91
MEAS. POINT: —	WEIGHT	140 lbs.			Driller: Mark Seiler
DATE OF MEAS.: —	FALL	30"			Geologist: Joel Taft

Depth (Feet)	Sample Numbers	Blow Counts	Unified Classification	Geologic Description	Remarks
	1	8 13 11 13		FILL: Brown Gravelly Silt, Coal fragments & cinders noted, moist, non-plastic GLACIAL TILL: Brown Silt, embedded subrounded Gravel & coarse Sand, moist, non-plastic	RECOVERY = 1.8 HNU = 0.2 *HNU = 7.0
	2	10 17 22 22			RECOVERY = 1.5 HNU = 0.2 *HNU = 7.0
5	3	10 12 14 15		- embedded Rock fragments noted	RECOVERY = 1.6 HNU = 0.2 *HNU = 6.0
	4	13 15 17 20			RECOVERY = 0.7 HNU = 0.2 *HNU = 7.8
	5	7 7 9 15		- grades to brown Clayey Silt, embedded subrounded & rounded Gravel, moist, low plasticity	RECOVERY = 1.7 HNU = 0.6 *HNU = 5.6
10	6	8 10 17 18		- embedded Rock fragments noted	RECOVERY = 0.8 HNU = 0.2 *HNU = 6.6
	7	7 11 13 12		- becomes moist to wet	RECOVERY = 0.5 HNU = 0.6 *HNU = 4.8
15	8	4 8 11 13			RECOVERY = 2.0 HNU = 1.0 *HNU = 5.2
	9	7 9 14 15			RECOVERY = 1.9 HNU = 0.4 *HNU = 3.8
	10	7 9 12 16			RECOVERY = 2.0 HNU = 0.2 *HNU = 6.8
20					

BORING TERMINATED @ 20.0'

* THESE VALUES REPRESENT HEAD-SPACE RESULTS PERFORMED AFTER SAMPLES WERE ALLOWED TO ATTAIN ROOM TEMPERATURE.

NOTE: HNU VALUES ARE PRESENTED IN PARTS PER MILLION (ppm).

Dunn Geoscience Corporation Amherst, NY 14228 (716)691-3866	Test Boring Log	Boring No. B-7

PROJECT: WESTINGHOUSE ELECTRIC CORP.					Sheet 1 of 1
CLIENT: NYSDEC					Job. No. 00296-01699
DRILLING CONTRACTOR: ADVANCED DRILLING INVESTIGATIONS					Meas. Pt. El.
PURPOSE: PHASE II INVESTIGATION					Gr. Elev. 702.1'
DRILLING METHOD: 4 1/4" I.D. HSA		SAMPLE	CORE	CASING	Datum
DRILL RIG TYPE: MOBIL B57	TYPE	SPLITSPOON			Date Started: 2-1-91
GROUNDWATER DEPTH: —	DIAM.	2.0"			Date Finished: 2-1-91
MEAS. POINT: —	WEIGHT	140 lbs.			Driller: Mark Seiler
DATE OF MEAS.: —	FALL	30"			Geologist: Joel Taft

Depth (Feet)	Sample Numbers	Blow Counts	Unified Classification	Geologic Description	Remarks
	1	21, 6, 5, 3		FILL: Black Gravelly Sand, cinders, coal & wood fragments noted, damp, non-plastic	RECOVERY = 1.4 HNU = 2.0 *HNU = 22
	2	4, 7, 17, 32		-becomes wet, petroleum odor noted GLACIAL TILL: Brown Silt, embedded subrounded Gravel & coarse Sand, moist, non-plastic	RECOVERY = 1.6 HNU = 10 *HNU = 36
5	3	22, 23, 35, 39			RECOVERY = 1.0 HNU = 2.0 *HNU = 11
	4	21, 29, 30, 31		-embedded Rock fragments noted	RECOVERY = 1.9 HNU = 0.8 *HNU = 2.4
	5	14, 17, 22, 28			RECOVERY = 2.0 HNU = 0.8 *HNU = 3.6
10	6	12, 25, 23, 24			RECOVERY = 1.8 HNU = 1.5 *HNU = 5.6
	7	11, 17, 18, 17		-grades to brown Clayey Silt, embedded subrounded Gravel & coarse Sand, moist, low plasticity	RECOVERY = 1.7 HNU = 1.0 *HNU = 4.2
15	8	6, 12, 16, 21			RECOVERY = 1.6 HNU = 1.3 *HNU = 5.2
	9	4, 16, 16, 19		-becomes moist to wet	RECOVERY = 1.0 HNU = 1.2 *HNU = 4.8
20	10	11, 16, 18, 22			RECOVERY = 1.0 HNU = 1.8 *HNU = 5.2

BORING TERMINATED @ 20.0'

* THESE VALUES REPRESENT HEAD-SPACE RESULTS PERFORMED AFTER SAMPLES WERE ALLOWED TO ATTAIN ROOM TEMPERATURE.
NOTE: HNU VALUES ARE PRESENTED IN PARTS PER MILLION (ppm).

Dunn Geoscience Corporation Amherst, NY 14228 (716)691-3866	Test Boring Log	Boring No. B-8

PROJECT: WESTINGHOUSE ELECTRIC CORP.				Sheet 1 of 1
CLIENT: NYSDEC				Job. No. 00296-01699
DRILLING CONTRACTOR: ADVANCED DRILLING INVESTIGATIONS				Meas. Pt. El.
PURPOSE: PHASE II INVESTIGATION				Gr. Elev. 701.9'
DRILLING METHOD: 4 1/4" I.D. HSA	SAMPLE	CORE	CASING	Datum
DRILL RIG TYPE: MOBIL B57	TYPE: SPLIT SPOON			Date Started: 2-4-91
GROUNDWATER DEPTH: —	DIAM. 2.0"			Date Finished: 2-4-91
MEAS. POINT: —	WEIGHT 140 lbs.			Driller: Mark Seiler
DATE OF MEAS.: —	FALL 30"			Geologist: Joel Taft

Depth (Feet)	Sample Numbers	Blow Counts	Unified Classification	Geologic Description	Remarks
	1	13 15 5 4		FILL: Brown to gray Sandy Gravel, wet, non-plastic - grades to black, cinders noted, petroleum odor	RECOVERY = 1.5 HNU = 0.2 *HNU = 14
	2	4 7 20 24		GLACIAL TILL: Brown Silt, embedded subrounded Gravel & coarse Sand, moist, non-plastic	RECOVERY = 1.4 HNU = 0.2 *HNU = 21
5	3	12 15 27 52			RECOVERY = 1.8 HNU = 0.2 *HNU = 134
	4	14 28 46 68			RECOVERY = 1.5 HNU = 20 *HNU = 350
	5	14 22 24 28		- grades to brown Clayey Silt, embedded rounded & subrounded Gravel, moist to wet, low plasticity	RECOVERY = 2.0 HNU = 4.0 *HNU = 230
10	6	16 20 30 35		- solvent odor noted	RECOVERY = 1.7 HNU = 7.0 *HNU = 160
	7	13 19 22 23			RECOVERY = 1.2 HNU = 2.0 *HNU = 160
15	8	9 11 23 27			RECOVERY = 2.0 HNU = 2.0 *HNU = 120
	9	12 17 23 24			RECOVERY = 2.0 HNU = 60 *HNU = 10
	10	6 9 13 27		- becomes plastic	RECOVERY = 0.4 HNU = 2.5 *HNU = 5.8
20					

BORING TERMINATED @ 20.0'

* THESE VALUES REPRESENT HEAD-SPACE RESULTS PERFORMED AFTER SAMPLES WERE ALLOWED TO ATTAIN ROOM TEMPERATURE.

NOTE: HNU VALUES ARE PRESENTED IN PARTS PER MILLION (ppm).

Dunn Geoscience Corporation Amherst, NY 14228 (716)691-3866	Test Boring Log			Boring No. B-9
PROJECT: WESTINGHOUSE ELECTRIC CORP				Sheet 1 of 1
CLIENT: NYSDEC				Job. No. 00296-01699
DRILLING CONTRACTOR: ADVANCED DRILLING INVESTIGATIONS				Meas. Pt. El.
PURPOSE: PHASE II INVESTIGATION				Gr. Elev. 702.5'
DRILLING METHOD: 4 1/4" I.D. HSA	SAMPLE	CORE	CASING	Datum
DRILL RIG TYPE: MOBIL B57	TYPE: SPLIT SPOON			Date Started: 2-6-91
GROUNDWATER DEPTH: —	DIAM. 2.0"			Date Finished: 2-6-91
MEAS. POINT: —	WEIGHT 140 lbs.			Driller: Mark Seiler
DATE OF MEAS.: —	FALL 30"			Geologist: Joel Taft

Depth (Feet)	Sample Numbers	Blow Counts	Unified Classification	Geologic Description	Remarks
	1	8 24 50/.1 —		FILL: Brown Gravelly Sand, cinders & wood noted, moist, non-plastic - grades to black, becomes wet, petroleum odor noted	RECOVERY = 1.1 HNU = 0.2 *HNU = 4.0
	2	7 5 35 56		GLACIAL TILL: Brown Silt, embedded subrounded Gravel & coarse Sand, damp, non-plastic	RECOVERY = 1.5 HNU = 0.2 *HNU = 26
5	3	30 35 40 30		- grades to reddish-brown	RECOVERY = 1.6 HNU = 1.6 *HNU = 1.6
	4	36 53 60 40			RECOVERY = 2.0 HNU = 2.5 *HNU = 1.4
	5	24 26 32 21		- grades to brown, embedded Rock fragments noted	RECOVERY = 2.0 HNU = 1.8 *HNU = 0.8
10	6	17 24 33 37			RECOVERY = 1.5 HNU = 2.0 *HNU = 1.2
	7	7 23 25 28		- becomes moist	RECOVERY = 1.5 HNU = 2.2 *HNU = 1.2
15	8	15 20 23 22			RECOVERY = 1.8 HNU = 1.5 *HNU = 2.2
	9	17 37 45 51			RECOVERY = 0.0 HNU = NA *HNU = NA
20	10	14 23 20 27		- grades to brown Clayey Silt, embedded subrounded Gravel & coarse Sand, moist, low plasticity	RECOVERY = 2.0 HNU = 2.2 *HNU = 1.4

BORING TERMINATED @ 20.0'

* THESE VALUES REPRESENT HEAD-SPACE RESULTS PERFORMED AFTER SAMPLES WERE ALLOWED TO ATTAIN ROOM TEMPERATURE.

NOTE: HNU VALUES ARE PRESENTED IN PARTS PER MILLION (ppm).

Dunn Geoscience Corporation Amherst, NY 14228 (716)691-3866	Test Boring Log			Boring No. B-10
PROJECT: WESTINGHOUSE ELECTRIC CORP.				Sheet 1 of 1
CLIENT: NYSDEC				Job. No. 00296-01699
DRILLING CONTRACTOR: ADVANCED DRILLING INVESTIGATIONS				Meas. Pt. El.
PURPOSE: PHASE II INVESTIGATION				Gr. Elev. 702.8'
DRILLING METHOD: 4 1/4" I.D. HSA	SAMPLE	CORE	CASING	Datum
DRILL RIG TYPE: MOBIL B57	TYPE: SPLITSPOON			Date Started: 2-5-91
GROUNDWATER DEPTH: —	DIAM. 2.0"			Date Finished: 2-5-91
MEAS. POINT: —	WEIGHT 140 lbs.			Driller: Mark Seiler
DATE OF MEAS.: —	FALL 30"			Geologist: Joel Taft

Depth (Feet)	Sample Numbers	Blow Counts	Unified Classification	Geologic Description	Remarks
	1	5, 6, 7, 6		FILL: Grayish-brown Sandy Gravel, moist, non-plastic	RECOVERY = 1.2 HNU = 0.2 *HNU = 4.1
	2	5, 4, 5, 3		- grades to brown Sandy Silt, wet, non-plastic	RECOVERY = 1.4 HNU = 0.2 *HNU = 3.2
5	3	1, 1, 1, 1		- grades to brown Silty Sand, gravelly, wet, non-plastic	RECOVERY = 1.6 HNU = 1.2 *HNU = 11
	4	1, 1, 1, 1		- grades to brown Clayey Silt, gravelly, wet, plastic; seam black cinders noted	RECOVERY = 1.5 HNU = 2.0 *HNU = 8.9
	5	3, 1, 2, 2		- grades to brown Sandy Silt, gravelly, wet, non-plastic, fibrous organics noted	RECOVERY = 1.3 HNU = 1.0 *HNU = 62
10	6	3, 1, 7, 11			RECOVERY = 1.3 HNU = 0.2 *HNU = 5.2
	7	4, 13, 21, 15		GLACIAL TILL: Brown Clayey Silt, embedded subrounded Gravel, moist to wet, low plasticity	RECOVERY = 1.5 HNU = 0.8 *HNU = 5.0
15	8	8, 15, 30, 32			RECOVERY = 2.0 HNU = 2.6 *HNU = 4.9
	9	8, 36, 24, 26		- grades to brown Silt, clayey, embedded subrounded Gravel + Rock fragments, moist, non-plastic	RECOVERY = 2.0 HNU = 1.2 *HNU = 5.0
20	10	12, 19, 18, 22			RECOVERY = 2.0 HNU = 1.0 *HNU = 5.3

BORING TERMINATED @ 20.0'

* THESE VALUES REPRESENT HEAD-SPACE RESULTS PERFORMED AFTER SAMPLES WERE ALLOWED TO ATTAIN ROOM TEMPERATURE.

NOTE: HNU VALUES ARE PRESENTED IN PARTS PER MILLION (ppm).

Dunn Geoscience Corporation Amherst, NY 14228 (716)691-3866	Test Boring Log				Boring No. B-11
PROJECT: WESTINGHOUSE ELECTRIC CORP.					Sheet 1 of 1
CLIENT: NYSDEC					Job. No. 00296-01699
DRILLING CONTRACTOR: ADVANCED DRILLING INVESTIGATIONS					Meas. Pt. El.
PURPOSE: PHASE II INVESTIGATION					Gr. Elev. 701.9'
DRILLING METHOD: 4 1/4" I.D. HSA		SAMPLE	CORE	CASING	Datum
DRILL RIG TYPE: MOBIL B57	TYPE	SPLITSPOON			Date Started: 2-4-91
GROUNDWATER DEPTH: —	DIAM.	2.0"			Date Finished: 2-4-91
MEAS. POINT: —	WEIGHT	140 lbs.			Driller: Mark Seiler
DATE OF MEAS.: —	FALL	30"			Geologist: Joel Taft

Depth (Feet)	Sample Numbers	Blow Counts	Unified Classification	Geologic Description	Remarks
	1	3 3 5 4		FILL: Brown Gravelly Sand, moist, non-plastic	RECOVERY = 0.7 HNU = 0 *HNU = 2.4
	2	5 5 7 4			RECOVERY = 0.0 HNU = N/A *HNU = N/A
5	3	7 5 3 2		- cobbles noted	RECOVERY = 0.5 HNU = 0 *HNU = 2.6
	4	6 5 3 2		- seam Black Cinders, wet, non-plastic noted	RECOVERY = 0.7 HNU = 0 *HNU = 3.2
	5	5 1 1 2		- grades to brown Sandy Silt, clayey, wet, non-plastic	RECOVERY = 0.7 HNU = 0 *HNU = N/A
10	6	2 2 2 3		- grades to brown Clayey Silt, sandy, wet, low plasticity	RECOVERY = 1.3 HNU = 0 *HNU = 3.4
	7	2 4 4 6			RECOVERY = 1.5 HNU = 0 *HNU = 5.8
15	8	3 9 13 12		GLACIAL TILL: Brown Silt, clayey, embedded Subrounded Gravel, Rock fragments + coarse Sand, moist, non-plastic	RECOVERY = 1.5 HNU = 0 *HNU = 5.6
	9	5 10 13 18			RECOVERY = 2.0 HNU = 0 *HNU = 6.8
	10	10 13 17 20			RECOVERY = 1.2 HNU = 0 *HNU = 1.4
20					

BORING TERMINATED @ 20.0'

* THESE VALUES REPRESENT HEAD-SPACE RESULTS PERFORMED AFTER SAMPLES WERE ALLOWED TO ATTAIN ROOM TEMPERATURE.
NOTE: HNU VALUES ARE PRESENTED IN PARTS PER MILLION (ppm).

Dunn Geoscience Corporation Amherst, NY 14228 (716)691-3866	Test Boring Log	Boring No. B-12

PROJECT: WESTINGHOUSE ELECTRIC CORP.					Sheet 1 of 1
CLIENT: NYSDEC					Job. No. 00296-01699
DRILLING CONTRACTOR: ADVANCED DRILLING INVESTIGATIONS					Meas. Pt. El.
PURPOSE: PHASE II INVESTIGATION					Gr. Elev. 701.0'
DRILLING METHOD: 4¼" I.D. HSA		SAMPLE	CORE	CASING	Datum
DRILL RIG TYPE: MOBIL B57	TYPE	SPLITSPOON			Date Started: 2-6-91
GROUNDWATER DEPTH: —	DIAM.	2.0"			Date Finished: 2-6-91
MEAS. POINT: —	WEIGHT	140 lbs.			Driller: Mark Seiler
DATE OF MEAS.: —	FALL	30"			Geologist: Joel Taft

Depth (Feet)	Sample Numbers	Blow Counts	Unified Classification	Geologic Description	Remarks
	1	—, —, 2, 3		3.0" ASPHALT + 6.0" CONCRETE FILL: Reddish-brown Clayey Silt, gravelly, moist, plastic	RECOVERY = 1.8 HNU = 1.0 *HNU = 1.0
	2	8, 10, 15, 14		GLACIAL TILL: Reddish-brown SILT, clayey, embedded rounded & subrounded Gravel & Rock fragments, damp, non-plastic	RECOVERY = 1.8 HNU = 1.2 *HNU = 1.2
	3	10, 8, 16, 20		- becomes damp to moist	RECOVERY = 2.0 HNU = 1.5 *HNU = 0.8
	4	16, 24, 30, 40			RECOVERY = 1.8 HNU = 2.5 *HNU = 1.0
	5	18, 33, 50, 63			RECOVERY = 2.0 HNU = 3.0 *HNU = 1.2
	6	10, 20, 24, 30		- grades to brown	RECOVERY = 2.0 HNU = 2.8 *HNU = 1.4
	7	15, 27, 27, 29		- becomes moist	RECOVERY = 2.0 HNU = 3.0 *HNU = 1.6
	8	10, 21, 23, 31			RECOVERY = 2.0 HNU = 2.1 *HNU = 1.6
	9	20, 25, 35, 42		- embedded Rock fragments noted	RECOVERY = 1.8 HNU = 3.0 *HNU = 1.6
	10	13, 19, 26, 34		- becomes moist to wet	RECOVERY = 2.0 HNU = 2.0 *HNU = 1.4

BORING TERMINATED @ 20.0'

* THESE VALUES REPRESENT HEAD-SPACE RESULTS PERFORMED AFTER SAMPLES WERE ALLOWED TO ATTAIN ROOM TEMPERATURE.

NOTE: HNU VALUES ARE PRESENTED IN PARTS PER MILLION (ppm).

Dunn Geoscience Corporation Amherst, NY 14228 (716)691-3866	Test Boring Log			Boring No. B-13
PROJECT: WESTINGHOUSE ELECTRIC CORP				Sheet 1 of 1
CLIENT: NYSDEC				Job. No. 00296-01699
DRILLING CONTRACTOR: ADVANCED DRILLING INVESTIGATIONS				Meas. Pt. El.
PURPOSE: PHASE II INVESTIGATION				Gr. Elev. 702.1'
DRILLING METHOD: 4 1/4" I.D. HSA	SAMPLE	CORE	CASING	Datum
DRILL RIG TYPE: MOBIL B57 / TYPE	SPLIT SPOON			Date Started: 2-7-91
GROUNDWATER DEPTH: — / DIAM.	2.0"			Date Finished: 2-7-91
MEAS. POINT: — / WEIGHT	140 lbs.			Driller: Mark Seiler
DATE OF MEAS.: — / FALL	30"			Geologist: Joel Taft

Depth (Feet)	Sample Numbers	Blow Counts	Unified Classification	Geologic Description	Remarks
	1	–, –, 7, 6		0.5' CONCRETE FILL: Reddish-brown Sandy Silt, gravelly, moist, non-plastic	RECOVERY = 1.0 HNU = 0.2 *HNU = 2.6
	2	4, 2, 3, 3		- grades to reddish-brown Clayey Silt, gravelly, moist to wet, plastic	RECOVERY = 1.2 HNU = 0.2 *HNU = 2.0
5	3	2, 2, 2, 2			RECOVERY = 1.4 HNU = 0.2 *HNU = 1.4
	4	1, 3, 2, 3		- becomes saturated	RECOVERY = 1.2 HNU = 1.0 *HNU = 2.8
	5	12, 21, 40, 35		GLACIAL TILL: Brown Silt, clayey, embedded subrounded Gravel, Rock fragments & coarse Sand, moist, non-plastic.	RECOVERY = 1.5 HNU = 1.0 *HNU = 2.0
10	6	10, 25, 27, 30			RECOVERY = 2.0 HNU = 0.2 *HNU = 4.0
	7	19, 25, 30, 35			RECOVERY = 2.0 HNU = 0.2 *HNU = 1.4
15	8	15, 25, 28, 29		- grades to brown Clayey Silt, embedded rounded & subrounded Gravel, moist, low plasticity	RECOVERY = 2.0 HNU = 0.2 *HNU = 1.4
	9	18, 21, 25, 26			RECOVERY = 2.0 HNU = 0.2 *HNU = 1.6
20	10	6, 8, 12, 17			RECOVERY = 2.0 HNU = 0.2 *HNU = 1.4

BORING TERMINATED @ 20.0'

* THESE VALUES REPRESENT HEAD-SPACE RESULTS PERFORMED AFTER SAMPLES WERE ALLOWED TO ATTAIN ROOM TEMPERATURE.

NOTE: HNU VALUES ARE PRESENTED IN PARTS PER MILLION (ppm).

Dunn Geoscience Corporation Amherst, NY 14228 (716)691-3866	Test Boring Log	Boring No. B-14

PROJECT: WESTINGHOUSE ELECTRIC CORP.				Sheet 1 of 1
CLIENT: NYSDEC				Job. No. 00296-01699
DRILLING CONTRACTOR: ADVANCED DRILLING INVESTIGATIONS				Meas. Pt. El.
PURPOSE: PHASE II INVESTIGATION				Gr. Elev. 701.6'
DRILLING METHOD: 4 1/4" I.D. HSA	SAMPLE	CORE	CASING	Datum
DRILL RIG TYPE: MOBIL B57 — TYPE	SPLITSPOON			Date Started: 2-7-91
GROUNDWATER DEPTH: — — DIAM.	2.0"			Date Finished: 2-7-91
MEAS. POINT: — — WEIGHT	140 lbs.			Driller: Mark Seiler
DATE OF MEAS.: — — FALL	30"			Geologist: Joel Taft

Depth (Feet)	Sample Numbers	Blow Counts	Unified Classification	Geologic Description	Remarks
				2.0" Asphalt, 6.0" Concrete + 6.0" void noted	
	1	3, 2, 2, 2		FILL: Brown Clayey Silt, gravelly, asphalt fragments noted, moist, plastic	RECOVERY = 0.9 HNU = 3.0 *HNU = 240
5	2	2, 2, 3, 3			RECOVERY = 1.2 HNU = 0.2 *HNU = 2.0
	3	2, 2, 3, 4		-rounded Gravel noted	RECOVERY = 2.0 HNU = 0.4 *HNU = 3.0
	4	2, 1, 1, 2		-becomes moist to wet	RECOVERY = 0.8 HNU = 0.4 *HNU = 180
10	5	1, 1, 1, 1			RECOVERY = 0.5 HNU = 2.3 *HNU = 1.4
	6	5, 7, 11, 14		GLACIAL TILL: Brown Clayey Silt, embedded subrounded Gravel, Rock fragments + coarse Sand, moist, low plasticity	RECOVERY = 0.0 HNU = N/A *HNU = N/A
15	7	8, 12, 17, 20			RECOVERY = 2.0 HNU = 1.0 *HNU = 2.4
	8	8, 9, 17, 25			RECOVERY = 2.0 HNU = 1.0 *HNU = 1.0
	9	10, 17, 18, 20			RECOVERY = 2.0 HNU = 1.0 *HNU = 1.4
20					

BORING TERMINATED @ 20.0'

* THESE VALUES REPRESENT HEAD-SPACE RESULTS PERFORMED AFTER SAMPLES WERE ALLOWED TO ATTAIN ROOM TEMPERATURE.

NOTE: HNU VALUES ARE PRESENTED IN PARTS PER MILLION (ppm).

Dunn Geoscience Corporation Amherst, NY 14228 (716)691-3866	# Test Boring Log	Boring No. B-15

PROJECT: WESTINGHOUSE ELECTRIC CORP.				Sheet 1 of 1
CLIENT: NYSDEC				Job. No. 00296-01699
DRILLING CONTRACTOR: ADVANCED DRILLING INVESTIGATIONS				Meas. Pt. El.
PURPOSE: PHASE II INVESTIGATION				Gr. Elev. 701.4'
DRILLING METHOD: 4 1/4" I.D. HSA	SAMPLE	CORE	CASING	Datum
DRILL RIG TYPE: MOBIL B57	TYPE: SPLITSPOON			Date Started: 2-11-91
GROUNDWATER DEPTH: —	DIAM. 2.0"			Date Finished: 2-11-91
MEAS. POINT: —	WEIGHT 140 lbs.			Driller: Mark Seiler
DATE OF MEAS.: —	FALL 30"			Geologist: Joel Taft

Depth (Feet)	Sample Numbers	Blow Counts	Unified Classification	Geologic Description	Remarks
	1	—, —, 8, 12		0.7' Concrete GLACIAL TILL: Reddish-brown SILT, clayey, embedded subrounded Gravel, Rock fragments & Coarse Sand, damp to moist, non-plastic	RECOVERY = 1.0 HNU = 0.2 *HNU = 0.2
	2	12, 16, 20, 22			RECOVERY = 1.8 HNU = 0.2 *HNU = 0.8
5	3	13, 19, 26, 36			RECOVERY = 1.9 HNU = 0.2 *HNU = 1.8
	4	27, 30, 37, 60			RECOVERY = 2.0 HNU = 0.2 *HNU = 0.2
	5	20, 25, 35, 35		- grades to brown, becomes moist	RECOVERY = 2.0 HNU = 0.2 *HNU = 0.2
10	6	10, 15, 17, 22		- grades to brown Clayey Silt, embedded subrounded & rounded Gravel, moist, low plasticity	RECOVERY = 2.0 HNU = 0.2 *HNU = 0.2
	7	9, 10, 13, 20			RECOVERY = 2.0 HNU = 0.2 *HNU = 0.2
15	8	3, 10, 14, 22			RECOVERY = 0.5 HNU = 0.2 *HNU = 0.3
	9	11, 15, 20, 27			RECOVERY = 1.2 HNU = 0.2 *HNU = 0.2
	10	8, 10, 19, 19			RECOVERY = 1.9 HNU = 0.2 *HNU = 0.2
20					

BORING TERMINATED @ 20.0'

* THESE VALUES REPRESENT HEAD-SPACE RESULTS PERFORMED AFTER SAMPLES WERE ALLOWED TO ATTAIN ROOM TEMPERATURE.

NOTE: HNU VALUES ARE PRESENTED IN PARTS PER MILLION (ppm).

Dunn Geoscience Corporation Amherst, NY 14228 (716)691-3866	Test Boring Log			Boring No. B-16
PROJECT: WESTINGHOUSE ELECTRIC CORP.				Sheet 1 of 1
CLIENT: NYSDEC				Job. No. 00296-01699
DRILLING CONTRACTOR: ADVANCED DRILLING INVESTIGATIONS				Meas. Pt. El.
PURPOSE: PHASE II INVESTIGATION				Gr. Elev. 714.9'
DRILLING METHOD: 4 1/4" I.D. HSA	SAMPLE	CORE	CASING	Datum
DRILL RIG TYPE: MOBIL B57	TYPE: SPLIT SPOON			Date Started: 2-8-91
GROUNDWATER DEPTH: —	DIAM. 2.0"			Date Finished: 2-8-91
MEAS. POINT: —	WEIGHT 140 lbs.			Driller: Mark Seiler
DATE OF MEAS.: —	FALL 30"			Geologist: Joel Taft

Depth (Feet)	Sample Numbers	Blow Counts	Unified Classification	Geologic Description	Remarks
	1	14 5 6 10		FILL: Dark brown Sandy Gravel, concrete fragments, moist, non-plastic	RECOVERY = 0.5 HNU = 0.2 *HNU = 1.0
	2	6 6 10 19		GLACIAL TILL: Brown Silt, clayey, embedded subrounded Gravel & coarse Sand, moist to wet, non-plastic	RECOVERY = 1.3 HNU = 0.2 *HNU = 1.3
5	3	10 26 36 44			RECOVERY = 1.3 HNU = 1.0 *HNU = 2.0
	4	37 72 75 65		-embedded Rock fragments & rounded Gravel noted, becomes damp	RECOVERY = 2.0 HNU = 1.0 *HNU = 2.7
	5	33 40 47 50/.2			RECOVERY = 1.4 HNU = 0.4 *HNU = 0.7
10	6	20 30 35 38			RECOVERY = 1.9 HNU = 0.2 *HNU = 0.8
	7	58 100/.2 — —			RECOVERY = 0.7 HNU = 1.0 *HNU = 0.2
15	8	20 22 29 38			RECOVERY = 2.0 HNU = 1.0 *HNU = 1.0
	9	10 22 29 42			RECOVERY = 2.0 HNU = 1.2 *HNU = 0.8
	10	11 20 29 35			RECOVERY = 1.9 HNU = 0.8 *HNU = 1.0
20					

BORING TERMINATED @ 20.0'

* THESE VALUES REPRESENT HEAD-SPACE RESULTS PERFORMED AFTER SAMPLES WERE ALLOWED TO ATTAIN ROOM TEMPERATURE.

NOTE: HNU VALUES ARE PRESENTED IN PARTS PER MILLION (ppm).

Dunn Geoscience Corporation Amherst, NY 14228 (716)691-3866	Test Boring Log	Boring No. B-17
PROJECT: WESTINGHOUSE ELECTRIC CORP.		Sheet 1 of 1
CLIENT: NYSDEC		Job. No. 00296-01699
DRILLING CONTRACTOR: ADVANCED DRILLING INVESTIGATIONS		Meas. Pt. El.
PURPOSE: PHASE II INVESTIGATION		Gr. Elev. 701.1'

DRILLING METHOD: 4¼" I.D. HSA		SAMPLE	CORE	CASING	Datum
DRILL RIG TYPE: MOBIL B57	TYPE	SPLIT SPOON			Date Started: 2-14-91
GROUNDWATER DEPTH: —	DIAM.	2.0"			Date Finished: 2-14-91
MEAS. POINT: —	WEIGHT	140 lbs.			Driller: Mark Seiler
DATE OF MEAS.: —	FALL	30"			Geologist: Joel Taft

Depth (Feet)	Sample Numbers	Blow Counts	Unified Classification	Geologic Description	Remarks
	1	3 5 5 3		FILL: Brown Silty Sand, gravelly, wet, non-plastic	RECOVERY = 1.2 HNU = 0.3 *HNU = 2.0
	2	5 5 4 2			RECOVERY = 0.7 HNU = 0.3 *HNU = 8.0
5	3	2 1 2 1		grades to Brown Gravelly Sand, silty, wet, non-plastic	RECOVERY = 0.5 HNU = 0.3 *HNU = 4.5
	4	2 2 2 1		roots noted	RECOVERY = 1.7 HNU = 0.3 *HNU = 7.0
	5	2 20 1 1		grades to Brown Silty fine Sand, wet, non-plastic, bluish sheen noted	RECOVERY = 1.5 HNU = 0.3 *HNU = 4.0
10	6	1 1 1 1			RECOVERY = 0.2 HNU = 0.3 *HNU = 3.0
	7	2 1 1 1			RECOVERY = 1.3 HNU = 0.3 *HNU = 2.0
15	8	5 22 8 4		wood fragments, angular Gravel noted	RECOVERY = 0.3 HNU = 0.3 *HNU = 4.0
	9	1 50		Auger Refusal @ 17.0' BORING TERMINATED @ 17.0'	RECOVERY = 0.0 HNU = N/A *HNU = N/A
20					

* THESE VALUES REPRESENT HEAD-SPACE RESULTS PERFORMED AFTER SAMPLES WERE ALLOWED TO ATTAIN ROOM TEMPERATURE.
NOTE: HNU VALUES ARE PRESENTED IN PARTS PER MILLION (ppm).

Dunn Geoscience Corporation Amherst, NY 14228 (716)691-3866	Test Boring Log	Boring No. B-18

PROJECT: WESTINGHOUSE ELECTRIC CORP.				Sheet 1 of 1
CLIENT: NYSDEC				Job. No. 00296-01699
DRILLING CONTRACTOR: ADVANCED DRILLING INVESTIGATIONS				Meas. Pt. El.
PURPOSE: PHASE II INVESTIGATION				Gr. Elev. 702.3'
DRILLING METHOD: 4 1/4" I.D. HSA	SAMPLE	CORE	CASING	Datum
DRILL RIG TYPE: MOBIL B57	TYPE: SPLIT SPOON			Date Started: 2-14-91
GROUNDWATER DEPTH: —	DIAM. 2.0"			Date Finished: 2-14-91
MEAS. POINT: —	WEIGHT 140 lbs.			Driller: Mark Seiler
DATE OF MEAS.: —	FALL 30"			Geologist: Joel Taft

Depth (Feet)	Sample Numbers	Blow Counts	Unified Classification	Geologic Description	Remarks
	1	—, —, 23, 10		10" CONCRETE FILL: Brown Sandy Gravel, damp, non-plastic	RECOVERY = 1.0 HNU = 0.3 *HNU = 3.0
	2	11, 16, 7, 7			RECOVERY = 0.4 HNU = 0.3 *HNU = 3.0
5	3	6, 5, 12, 12		GLACIAL TILL: Brown Clayey Silt, embedded angular & rounded Gravel, moist, low plasticity	RECOVERY = 1.0 HNU = 0.3 *HNU = 2.0
	4	11, 13, 17, 18			RECOVERY = 1.8 HNU = 0.3 *HNU = 2.0
	5	7, 12, 14, 16		- seam Gray fine Sand noted	RECOVERY = 2.0 HNU = 0.3 *HNU = 2.0
10	6	9, 15, 21, 25		- embedded Rock fragments noted	RECOVERY = 2.0 HNU = 0.3 *HNU = 1.0
	7	14, 22, 29, 33			RECOVERY = 2.0 HNU = 0.3 *HNU = 0.4
15	8	8, 13, 24, 27			RECOVERY = 2.0 HNU = 0.3 *HNU = 1.0
	9	11, 21, 26, 27			RECOVERY = 2.0 HNU = 0.3 *HNU = 0.4
20	10	50/.3, —, —, —			RECOVERY = 0.3 HNU = 0.3 *HNU = 0.4

BORING TERMINATED @ 20.0'

* THESE VALUES REPRESENT HEAD-SPACE RESULTS PERFORMED AFTER SAMPLES WERE ALLOWED TO ATTAIN ROOM TEMPERATURE.

NOTE: HNU VALUES ARE PRESENTED IN PARTS PER MILLION (ppm).

Dunn Geoscience Corporation Amherst, NY 14228 (716)691-3866	Test Boring Log	Boring No. B-19

PROJECT: WESTINGHOUSE ELECTRIC CORP.				Sheet 1 of 1
CLIENT: NYSDEC				Job. No. 00296-01699
DRILLING CONTRACTOR: ADVANCED DRILLING INVESTIGATIONS				Meas. Pt. El.
PURPOSE: PHASE II INVESTIGATION				Gr. Elev. 707.5'
DRILLING METHOD: 4 1/4" I.D. HSA	SAMPLE	CORE	CASING	Datum
DRILL RIG TYPE: MOBIL B57	TYPE: SPLIT SPOON			Date Started: 2-15-91
GROUNDWATER DEPTH: —	DIAM. 2.0"			Date Finished: 2-15-91
MEAS. POINT: —	WEIGHT 140 lbs.			Driller: Mark Seiler
DATE OF MEAS.: —	FALL 30"			Geologist: Joel Taft

Depth (Feet)	Sample Numbers	Blow Counts	Unified Classification	Geologic Description	Remarks
	1	2, 3, 4, 9		FILL: Dark brown Gravelly Silt with organics, moist, non-plastic	RECOVERY = 1.8 HNU = 0.3 *HNU = 0.3
	2	16, 20, 25, 31		GLACIAL TILL: Brown Silt, embedded subrounded Gravel & coarse Sand, damp to moist, non-plastic.	RECOVERY = 2.0 HNU = 0.3 *HNU = 0.4
5	3	17, 18, 26, 39		- embedded Rock fragments noted	RECOVERY = 2.0 HNU = 0.3 *HNU = 0.3
	4	25, 35, 37, 34			RECOVERY = 2.0 HNU = 0.3 *HNU = 0.3
	5	21, 41, 51, 60			RECOVERY = 2.0 HNU = 0.3 *HNU = 0.3
10	6	18, 28, 30, 30		- becomes moist	RECOVERY = 1.8 HNU = 0.3 *HNU = 0.3
	7	15, 20, 28, 42			RECOVERY = 2.0 HNU = 0.3 *HNU = 0.4
15	8	14, 17, 35, 32		- grades to brown Clayey Silt, embedded rounded & subrounded Gravel, moist, low plasticity.	RECOVERY = 1.5 HNU = 0.3 *HNU = 1.3
	9	12, 14, 24, 26			RECOVERY = 2.0 HNU = 0.3 *HNU = 1.2
	10	15, 20, 30, 28			RECOVERY = 1.9 HNU = 0.3 *HNU = 0.3
20					

BORING TERMINATED @ 20.0'

* THESE VALUES REPRESENT HEAD-SPACE RESULTS PERFORMED AFTER SAMPLES WERE ALLOWED TO ATTAIN ROOM TEMPERATURE.

NOTE: HNU VALUES ARE PRESENTED IN PARTS PER MILLION (ppm).

Dunn Geoscience Corporation Amherst, NY 14228 (716)691-3866	Test Boring Log	Boring No. B-20
PROJECT: WESTINGHOUSE ELECTRIC CORP.		Sheet 1 of 1
CLIENT: NYSDEC		Job. No. 00296-01699
DRILLING CONTRACTOR: ADVANCED DRILLING INVESTIGATIONS		Meas. Pt. El.
PURPOSE: PHASE II INVESTIGATION		Gr. Elev. 707.7'

DRILLING METHOD: 4 1/4" I.D HSA		SAMPLE	CORE	CASING	Datum
DRILL RIG TYPE: MOBIL B-57	TYPE				Date Started: 2-15-91
GROUNDWATER DEPTH:	DIAM.				Date Finished: 2-15-91
MEAS. POINT:	WEIGHT				Driller: Mark Seiler
DATE OF MEAS.:	FALL				Geologist: Joel Taft

Depth (Feet)	Sample Numbers	Blow Counts	Unified Classification	Geologic Description	Remarks
				Augers were advanced to a depth of 26.0' for the purpose of a monitoring well installation. No soil samples were obtained.	
10					
20					
				BORING TERMINATED @ 26.0'	
30					
40					

Dunn Geoscience Corporation Amherst, NY 14228 (716)691-3866	**Test Boring Log**	Boring No. B-21
PROJECT: WESTINGHOUSE ELECTRIC CORP.		Sheet 1 of 2
CLIENT: NYSDEC		Job. No. 00296-01699
DRILLING CONTRACTOR: ADVANCED DRILLING INVESTIGATIONS		Meas. Pt. El.
PURPOSE: PHASE II INVESTIGATION		Gr. Elev. 711.5'

DRILLING METHOD: 4¼" I.D. HSA	SAMPLE	CORE	CASING	Datum
DRILL RIG TYPE: MOBIL B57	TYPE: SPLITSPOON			Date Started: 2-18-91
GROUNDWATER DEPTH: —	DIAM. 2.0"			Date Finished: 2-18-91
MEAS. POINT: —	WEIGHT 140 lbs.			Driller: Mark Seiler
DATE OF MEAS.: —	FALL 30"			Geologist: Joel Taft

Depth (Feet)	Sample Numbers	Blow Counts	Unified Classification	Geologic Description	Remarks
	1	2 4 4 3		FILL: Brown Gravelly Silt, moist, non-plastic	RECOVERY = 1.4 HNU = 0.3 *HNU = 1.9
	2	1 4 7 8		-grades to Black Coal fragments & Cinders, moist to wet, non-plastic	RECOVERY = 1.2 HNU = 0.3 *HNU = 1.8
5	3	4 9 17 20		GLACIAL TILL: Brown Silt, embedded subrounded & rounded Gravel, damp to moist, non-plastic	RECOVERY = 1.6 HNU = 0.3 *HNU = 1.3
	4	12 25 27 32			RECOVERY = 2.0 HNU = 0.3 *HNU = 1.2
	5	17 24 31 34			RECOVERY = 2.0 HNU = 0.3 *HNU = 1.2
10	6	22 43 34 55			RECOVERY = 2.0 HNU = 0.3 *HNU = 1.1
	7	20 26 38 35		-embedded Rock fragments noted	RECOVERY = 1.3 HNU = 0.3 *HNU = 1.4
15	8	7 23 32 32		- grades to Brown Clayey Silt, embedded subrounded & rounded Gravel, moist, low plasticity	RECOVERY = 1.1 HNU = 0.3 *HNU = 1.0
	9	8 16 22 24			RECOVERY = 1.8 HNU = 0.3 *HNU = 0.8
20	10	11 13 16 20		-becomes moist to wet	RECOVERY = 2.0 HNU = 0.3 *HNU = 0.8

* THESE VALUES REPRESENT HEAD-SPACE RESULTS PERFORMED AFTER SAMPLES WERE ALLOWED TO ATTAIN ROOM TEMPERATURE.
NOTE: HNU VALUES ARE PRESENTED IN PARTS PER MILLION (ppm).

Dunn Geoscience Corporation
Amherst, NY 14228 (716) 691-3866

Test Boring Log

Boring No. B-21

PROJECT: WESTINGHOUSE ELECTRIC CORP.

Sheet 2 of 2

CLIENT: NYSDEC

Job No. 00296-01694

Depth (Feet)	Sample Number	Blow Counts	Unified Classification	Visual Log Description	Geologic Description	Remarks
					GLACIAL TILL	
20						
25	11	9-21 26-24				RECOVERY = 0.0 HNU = N/A *HNU = N/A
	12	8-12 17-22			grades to grayish-brown, becomes wet	RECOVERY = 1.0 HNU = 0.3 *HNU = 0.8
					BORING TERMINATED @ 28.0'	
30						

DUNN GEOSCIENCE CORPORATION

Dunn Geoscience Corporation Amherst, NY 14228 (716)691-3866	Test Boring Log			Boring No. B-22
PROJECT: WESTINGHOUSE ELECTRIC CORP.				Sheet 1 of 1
CLIENT: NYSDEC				Job. No. 00296-01699
DRILLING CONTRACTOR: ADVANCED DRILLING INVESTIGATIONS				Meas. Pt. El.
PURPOSE: PHASE II INVESTIGATION				Gr. Elev. 712.0'
DRILLING METHOD: 4 1/4" I.D. HSA	SAMPLE	CORE	CASING	Datum
DRILL RIG TYPE: MOBIL B57	TYPE: SPLIT SPOON			Date Started: 2-19-91
GROUNDWATER DEPTH: —	DIAM.: 2.0"			Date Finished: 2-19-91
MEAS. POINT: —	WEIGHT: 140 lbs.			Driller: Mark Seiler
DATE OF MEAS.: —	FALL: 30"			Geologist: Joel Taft

Depth (Feet)	Sample Numbers	Blow Counts	Unified Classification	Geologic Description	Remarks
	1	9, 14, 9, 11		FILL: Grayish-brown Sandy Gravel over brown Gravelly Silt, wet to moist, non-plastic	RECOVERY = 1.4 HNU = 0.4 *HNU = 1.0
	2	8, 7, 13, 18		GLACIAL TILL: Grayish-brown Silt, embedded rounded & subrounded Gravel & Coarse Sand, moist, non-plastic	RECOVERY = 1.4 HNU = 0.4 *HNU = 1.4
5	3	10, 16, 20, 26			RECOVERY = 1.0 HNU = 0.4 *HNU = 1.2
	4	10, 14, 20, 21			RECOVERY = 1.0 HNU = 0.6 *HNU = 0.8
	5	9, 14, 21, 23		- grades to reddish-brown Clayey Silt, embedded rounded & subrounded Gravel, moist, low plasticity	RECOVERY = 2.0 HNU = 0.6 *HNU = 0.4
10	6	12, 21, 21, 21			RECOVERY = 1.4 HNU = 1.0 *HNU = 0.4
	7	11, 15, 15, 17			RECOVERY = 2.0 HNU = 1.0 *HNU = 0.4
15	8	11, 15, 16, 17		- grades to brown	RECOVERY = 2.0 HNU = 1.0 *HNU = 0.4
	9	10, 14, 20, 21			RECOVERY = 2.0 HNU = 1.0 *HNU = 0.4
	10	10, 15, 17, 18			RECOVERY = 1.7 HNU = 0.6 *HNU = 0.4
20					

BORING TERMINATED @ 20.0'

* THESE VALUES REPRESENT HEAD-SPACE RESULTS PERFORMED AFTER SAMPLES WERE ALLOWED TO ATTAIN ROOM TEMPERATURE.
NOTE: HNU VALUES ARE PRESENTED IN PARTS PER MILLION (ppm).

Dunn Geoscience Corporation Amherst, NY 14228 (716)691-3866	Test Boring Log			Boring No. B-23
PROJECT: WESTINGHOUSE ELECTRIC CORP.				Sheet 1 of 1
CLIENT: NYSDEC				Job. No. 00296-01699
DRILLING CONTRACTOR: ADVANCED DRILLING INVESTIGATIONS				Meas. Pt. El.
PURPOSE: PHASE II INVESTIGATION				Gr. Elev. 712.9'
DRILLING METHOD: 4¼" I.D HSA	SAMPLE	CORE	CASING	Datum
DRILL RIG TYPE: MOBIL B-57 / TYPE				Date Started: 2-19-91
GROUNDWATER DEPTH: / DIAM.				Date Finished: 2-19-91
MEAS. POINT: / WEIGHT				Driller: Mark Seiler
DATE OF MEAS.: / FALL				Geologist: Joel Taft

Depth (Feet)	Sample Numbers	Blow Counts	Unified Classification	Geologic Description	Remarks
				Augers were advanced to a depth of 20.0' for the purpose of a monitoring well installation. No soil samples were obtained.	
5					
10					
15					
20				BORING TERMINATED @ 20.0'	

Dunn Geoscience Corporation Amherst, NY 14228 (716)691-3866	Test Boring Log	Boring No. B-24

PROJECT: WESTINGHOUSE ELECTRIC CORP.		Sheet 1 of 1
CLIENT: NYSDEC		Job. No. 00296-01699
DRILLING CONTRACTOR: ADVANCED DRILLING INVESTIGATIONS		Meas. Pt. El.
PURPOSE: PHASE II INVESTIGATION		Gr. Elev. 714.6'

DRILLING METHOD: 4 1/4" I.D. HSA		SAMPLE	CORE	CASING	Datum
DRILL RIG TYPE: MOBIL B57	TYPE	SPLITSPOON			Date Started: 2-20-91
GROUNDWATER DEPTH: —	DIAM.	2.0"			Date Finished: 2-20-91
MEAS. POINT: —	WEIGHT	140 lbs.			Driller: Mark Seiler
DATE OF MEAS.: —	FALL	30"			Geologist: Joel Taft

Depth (Feet)	Sample Numbers	Blow Counts	Unified Classif-ication	Geologic Description	Remarks
	1	8, 4, 6, 7		FILL: Gray Sandy Gravel, wet, nonplastic Light gray to brown Silty fine Sand, mottled, wet, non-plastic	RECOVERY = 1.7 HNU = 0.4 *HNU = 3.1
	2	8, 10, 11, 13			RECOVERY = 1.2 HNU = 0.4 *HNU = 2.8
5	3	7, 10, 12, 19		- seam medium to coarse Sandy Gravel noted @ 6.0-7.0', wet, nonplastic	RECOVERY = 2.0 HNU = 15 *HNU = 200
	4	3, 4, 14, 19			RECOVERY = 2.0 HNU = 40 *HNU = 160
	5	15, 22, 34, 46		GLACIAL TILL: Brown Silt, embedded rounded & subrounded Gravel, moist to wet, non-plastic	RECOVERY = 1.7 HNU = 2.0 *HNU = 0.4
10	6	20, 38, 43, 45		- becomes damp to moist, embedded Rock fragments noted	RECOVERY = 1.3 HNU = 0.4 *HNU = 0.8
	7	20, 40, 55, 60			RECOVERY = 1.5 HNU = 0.4 *HNU = 1.2
15	8	19, 26, 31, 45		- becomes moist to wet	RECOVERY = 1.6 HNU = 0.6 *HNU = 2.4
	9	10, 24, 36, 40			RECOVERY = 1.6 HNU = 0.4 *HNU = 5.0
20				BORING TERMINATED @ 18.0'	

* THESE VALUES REPRESENT HEAD-SPACE RESULTS PERFORMED AFTER SAMPLES WERE ALLOWED TO ATTAIN ROOM TEMPERATURE.

NOTE: HNU VALUES ARE PRESENTED IN PARTS PER MILLION (ppm).

Dunn Geoscience Corporation Amherst, NY 14228 (716)691-3866	Test Boring Log	Boring No. B-25

PROJECT: WESTINGHOUSE ELECTRIC CORP.					Sheet 1 of 1
CLIENT: NYSDEC					Job. No. 00296-01699
DRILLING CONTRACTOR: ADVANCED DRILLING INVESTIGATIONS					Meas. Pt. El.
PURPOSE: PHASE II INVESTIGATION					Gr. Elev. 710.4'
DRILLING METHOD: 4 1/4" I.D. HSA		SAMPLE	CORE	CASING	Datum
DRILL RIG TYPE: MOBIL B57	TYPE	SPLITSPOON			Date Started: 2-20-91
GROUNDWATER DEPTH: —	DIAM.	2.0"			Date Finished: 2-20-91
MEAS. POINT: —	WEIGHT	140 lbs.			Driller: Mark Seiler
DATE OF MEAS.: —	FALL	30"			Geologist: Joel Taft

Depth (Feet)	Sample Numbers	Blow Counts	Unified Classification	Geologic Description	Remarks
	1	4 / 10 / 22 / 14		FILL: Grayish-brown Silty Gravel, moist to wet, non-plastic	RECOVERY = 1.3 HNU = 0.4 *HNU = 0.6
	2	12 / 7 / 10 / 12		- grades to brown Silt, embedded subrounded Gravel & coarse Sand, damp, non-plastic	RECOVERY = 0.2 HNU = 0.4 *HNU = N/A
5	3	9 / 16 / 22 / 27		GLACIAL TILL: Reddish-brown Silt, embedded subrounded Gravel & Rock fragments, moist, non-plastic	RECOVERY = 0.3 HNU = 0.4 *HNU = 0.6
	4	10 / 15 / 18 / 23			RECOVERY = 2.0 HNU = 0.4 *HNU = 1.2
	5	15 / 25 / 28 / 26			RECOVERY = 1.6 HNU = 0.6 *HNU = 0.8
10	6	12 / 20 / 25 / 35		- grades to reddish-brown Clayey Silt, embedded rounded & subrounded Gravel, moist, low plasticity	RECOVERY = 1.8 HNU = 0.4 *HNU = 0.4
	7	16 / 23 / 33 / 35			RECOVERY = 2.0 HNU = 0.4 *HNU = 0.4
15	8	18 / 22 / 25 / 35		- grades to brown	RECOVERY = 1.9 HNU = 0.4 *HNU = 0.4
	9	7 / 11 / 18 / 19		- embedded Rock fragments noted	RECOVERY = 1.1 HNU = 0.4 *HNU = 0.4
20	10	8 / 10 / 18 / 22			RECOVERY = 2.0 HNU = 0.4 *HNU = 0.4

BORING TERMINATED @ 20.0'

* THESE VALUES REPRESENT HEAD-SPACE RESULTS PERFORMED AFTER SAMPLES WERE ALLOWED TO ATTAIN ROOM TEMPERATURE.

NOTE: HNU VALUES ARE PRESENTED IN PARTS PER MILLION (ppm).

Dunn Geoscience Corporation Amherst, NY 14228 (716)691-3866	Test Boring Log			Boring No. B-26
PROJECT: WESTINGHOUSE ELECTRIC CORP.				Sheet 1 of 1
CLIENT: NYSDEC				Job. No. 00296-01699
DRILLING CONTRACTOR: ADVANCED DRILLING INVESTIGATIONS				Meas. Pt. El.
PURPOSE: PHASE II INVESTIGATION				Gr. Elev. 712.2'
DRILLING METHOD: 4 1/4" I.D. HSA	SAMPLE	CORE	CASING	Datum
DRILL RIG TYPE: MOBIL B57	TYPE: SPLITSPOON			Date Started: 2-21-91
GROUNDWATER DEPTH: —	DIAM.: 2.0"			Date Finished: 2-21-91
MEAS. POINT: —	WEIGHT: 140 lbs.			Driller: Mark Seiler
DATE OF MEAS.: —	FALL: 30"			Geologist: Joel Taft

Depth (Feet)	Sample Numbers	Blow Counts	Unified Classification	Geologic Description	Remarks
	1	2, 8, 6, 6		FILL: Brown Silty Gravel, sandy, moist, non-plastic	RECOVERY = 2.0 HNU = 0.4 *HNU = 0.4
	2	6, 11, 19, 18		- grades to Gray to brown Sandy Silt, Gravelly, moist, non-plastic, organics noted	RECOVERY = 1.9 HNU = 0.6 *HNU = 0.6
5	3	11, 16, 19, 23		GLACIAL TILL: Brown Clayey Silt, embedded subrounded Gravel & Rock fragments, moist, low plasticity, hydrocarbon odor noted	RECOVERY = 1.8 HNU = 0.4 *HNU = 6.0
	4	10, 15, 20, 25			RECOVERY = 1.9 HNU = 0.2 *HNU = 2.6
	5	20, 30, 33, 45		- becomes damp to moist	RECOVERY = 2.0 HNU = 0.8 *HNU = 3.0
10	6	15, 25, 35, 40			RECOVERY = 2.0 HNU = 0.6 *HNU = 0.8
	7	18, 26, 36, 41			RECOVERY = 2.0 HNU = 0.6 *HNU = 0.6
15	8	16, 23, 30, 36		- becomes moist	RECOVERY = 1.7 HNU = 1.0 *HNU = 0.6
	9	10, 19, 25, 30			RECOVERY = 1.8 HNU = 1.0 *HNU = 0.6
20	10	10, 17, 22, 23			RECOVERY = 1.9 HNU = 1.0 *HNU = 0.6

BORING TERMINATED @ 20.0'

* THESE VALUES REPRESENT HEAD-SPACE RESULTS PERFORMED AFTER SAMPLES WERE ALLOWED TO ATTAIN ROOM TEMPERATURE.
NOTE: HNU VALUES ARE PRESENTED IN PARTS PER MILLION (ppm).

Dunn Geoscience Corporation Amherst, NY 14228 (716)691-3866	Test Boring Log	Boring No. B-27

PROJECT: WESTINGHOUSE ELECTRIC CORP.		Sheet 1 of 1
CLIENT: NYSDEC		Job. No. 00296-01699
DRILLING CONTRACTOR: ADVANCED DRILLING INVESTIGATIONS		Meas. Pt. El.
PURPOSE: PHASE II INVESTIGATION		Gr. Elev. 711.3'

DRILLING METHOD: 4 1/4" I.D. HSA		SAMPLE	CORE	CASING	Datum
DRILL RIG TYPE: MOBIL B57	TYPE	SPLIT SPOON			Date Started: 2-21-91
GROUNDWATER DEPTH: —	DIAM.	2.0"			Date Finished: 2-21-91
MEAS. POINT: —	WEIGHT	140 lbs.			Driller: Mark Seiler
DATE OF MEAS.: —	FALL	30"			Geologist: Joel Taft

Depth (Feet)	Sample Numbers	Blow Counts	Unified Classification	Geologic Description	Remarks
	1	5, 3, 4, 4		FILL: Brown Sandy Silt, Gravelly, moist, non-plastic	RECOVERY = 1.8 HNU = 0.4 *HNU = 0.6
	2	8, 4, 4, 3		- grades to Black Silty fine Sand, organics noted, wet, non-plastic	RECOVERY = 1.5 HNU = 0.4 *HNU = 0.6
5	3	3, 4, 7, 10			RECOVERY = 1.8 HNU = 1.0 *HNU = 1.0
	4	4, 8, 15, 20		Brown Clayey Silt, wet, plastic - grades to Reddish-brown Silty Clay, varved, moist, high plasticity	RECOVERY = 1.0 HNU = 1.0 *HNU = 5.0
	5	9, 18, 22, 24			RECOVERY = 1.8 HNU = 0.6 *HNU = 40
10	6	8, 10, 15, 17		GLACIAL TILL: Reddish-brown Clayey Silt, embedded rounded + subrounded Gravel, moist to wet, plastic	RECOVERY = 1.7 HNU = 1.0 *HNU = 25
	7	11, 13, 18, 29			RECOVERY = 2.0 HNU = 0.4 *HNU = 35
15	8	14, 17, 22, 30			RECOVERY = 0.4 HNU = 0.4 *HNU = 6.0
	9	5, 15, 20, 24			RECOVERY = 2.0 HNU = 0.4 *HNU = 1.5
	10	5, 20, 50/.2		BORING TERMINATED @ 19.2'	RECOVERY = 1.0 HNU = 0.4 *HNU = 0.4
20					

* THESE VALUES REPRESENT HEAD-SPACE RESULTS PERFORMED AFTER SAMPLES WERE ALLOWED TO ATTAIN ROOM TEMPERATURE.
NOTE: HNU VALUES ARE PRESENTED IN PARTS PER MILLION (ppm).

Dunn Geoscience Corporation Amherst, NY 14228 (716)691-3866	Test Boring Log	Boring No. B-28

PROJECT: WESTINGHOUSE ELECTRIC CORP.				Sheet 1 of 1
CLIENT: NYSDEC				Job. No. 00296-01699
DRILLING CONTRACTOR: ADVANCED DRILLING INVESTIGATIONS				Meas. Pt. El.
PURPOSE: PHASE II INVESTIGATION				Gr. Elev. 712.3'
DRILLING METHOD: 4 1/4" I.D. HSA	SAMPLE	CORE	CASING	Datum
DRILL RIG TYPE: MOBIL B57 — TYPE	SPLITSPOON			Date Started: 2-22-91
GROUNDWATER DEPTH: — DIAM.	2.0"			Date Finished: 2-22-91
MEAS. POINT: — WEIGHT	140 lbs.			Driller: Mark Seiler
DATE OF MEAS.: — FALL	30"			Geologist: Joel Taft

Depth (Feet)	Sample Numbers	Blow Counts	Unified Classification	Geologic Description	Remarks
	1	2, 5, 6, 3		FILL: Brown to Gray Sandy Gravel, Silty, roots noted, moist, non-plastic	RECOVERY = 1.6 HNU = 30 *HNU = 160
	2	4, 3, 5, 8		- grades to Brown Silty Clay, wet, plastic, petroleum odor noted	RECOVERY = 1.5 HNU = 60 *HNU = 200
5	3	7, 12, 15, 20		GLACIAL TILL: Brown Silt, embedded subrounded & rounded Gravel & Rock fragments, moist, non-plastic	RECOVERY = 1.7 HNU = 50 *HNU = 170
	4	11, 17, 20, 23		- solvent odor noted	RECOVERY = 1.9 HNU = 20 *HNU = 250
	5	14, 27, 31, 34			RECOVERY = 2.0 HNU = 15 *HNU = 200
10	6	16, 30, 42, 48			RECOVERY = 1.9 HNU = 20 *HNU = 250
	7	14, 24, 29, 34			RECOVERY = 2.0 HNU = 5.0 *HNU = 80
15	8	12, 19, 22, 24		- grades to brown Clayey Silt, embedded subrounded Gravel & Rock fragments, moist, plastic	RECOVERY = 2.0 HNU = 2.0 *HNU = 1.0
	9	8, 15, 20, 23			RECOVERY = 1.8 HNU = 0.4 *HNU = 1.5
20	10	11, 11, 16, 17		- becomes moist to wet	RECOVERY = 1.8 HNU = 0.4 *HNU = 1.0

BORING TERMINATED @ 20.0'

* THESE VALUES REPRESENT HEAD-SPACE RESULTS PERFORMED AFTER SAMPLES WERE ALLOWED TO ATTAIN ROOM TEMPERATURE.
NOTE: HNU VALUES ARE PRESENTED IN PARTS PER MILLION (ppm).

Dunn Geoscience Corporation Amherst, NY 14228 (716)691-3866	Test Boring Log			Boring No. B-29
PROJECT: WESTINGHOUSE ELECTRIC CORP.				Sheet 1 of 1
CLIENT: NYSDEC				Job. No. 00296-01699
DRILLING CONTRACTOR: ADVANCED DRILLING INVESTIGATIONS				Meas. Pt. El.
PURPOSE: PHASE II INVESTIGATION				Gr. Elev. 707.6'
DRILLING METHOD: 4 1/4" I.D. HSA	SAMPLE	CORE	CASING	Datum
DRILL RIG TYPE: MOBIL B57	TYPE: SPLIT SPOON			Date Started: 2-22-91
GROUNDWATER DEPTH: —	DIAM. 2.0"			Date Finished: 2-22-91
MEAS. POINT: —	WEIGHT 140 lbs.			Driller: Mark Seiler
DATE OF MEAS.: —	FALL 30"			Geologist: Joel Taft

Depth (Feet)	Sample Numbers	Blow Counts	Unified Classification	Geologic Description	Remarks
	1	6, 7, 10, 12		FILL: Brown Silty Gravel grading to Brown fine Sand, moist, non-plastic	RECOVERY = 1.5 HNU = 0.4 *HNU = 3.8
	2	14, 17, 7, 8		Dark gray organic Silt, moist, non-plastic	RECOVERY = 1.2 HNU = 0.4 *HNU = 2.2
5	3	7, 7, 13, 15		Reddish-brown Silty Clay, varved, moist, high plasticity	RECOVERY = 1.7 HNU = 0.4 *HNU = 1.4
	4	7, 12, 18, 18			RECOVERY = 1.6 HNU = 0.4 *HNU = 1.2
	5	8, 16, 21, 31		GLACIAL TILL: Reddish-brown Clayey Silt, embedded subrounded Gravel + Rock fragments, moist, low plasticity	RECOVERY = 1.9 HNU = 1.0 *HNU = 1.0
10	6	8, 17, 20, 20			RECOVERY = 1.8 HNU = 0.4 *HNU = 0.6
	7	9, 15, 20, 23			RECOVERY = 1.7 HNU = 0.4 *HNU = 0.6
15	8	8, 17, 20, 25			RECOVERY = 1.6 HNU = 0.4 *HNU = 0.6
	9	4, 6, 9, 11		grades to Grayish-brown Clayey Silt, embedded subrounded Gravel, moist to wet, plastic	RECOVERY = 1.5 HNU = 0.4 *HNU = 0.6
	10	4, 5, 10, 10			RECOVERY = 1.8 HNU = 0.4 *HNU = 0.6
20					

BORING TERMINATED @ 20.0'

* THESE VALUES REPRESENT HEAD-SPACE RESULTS PERFORMED AFTER SAMPLES WERE ALLOWED TO ATTAIN ROOM TEMPERATURE.
NOTE: HNU VALUES ARE PRESENTED IN PARTS PER MILLION (ppm).

Dunn Geoscience Corporation Amherst, NY 14228 (716)691-3866	Test Boring Log	Boring No. B-30
PROJECT: WESTINGHOUSE ELECTRIC CORP.		Sheet 1 of 1
CLIENT: NYSDEC		Job. No. 00296-01699
DRILLING CONTRACTOR: ADVANCED DRILLING INVESTIGATIONS		Meas. Pt. El.
PURPOSE: PHASE II INVESTIGATION		Gr. Elev. 686.5'

DRILLING METHOD: 4 1/4" I.D. HSA		SAMPLE	CORE	CASING	Datum
DRILL RIG TYPE: MOBIL B57	TYPE	SPLITSPOON			Date Started: 2-25-91
GROUNDWATER DEPTH: —	DIAM.	2.0"			Date Finished: 2-25-91
MEAS. POINT: —	WEIGHT	140 lbs.			Driller: Mark Seiler
DATE OF MEAS.: —	FALL	30"			Geologist: Joel Taft

Depth (Feet)	Sample Numbers	Blow Counts	Unified Classification	Geologic Description	Remarks
	1	4 5 6 21		FILL: Brown Sandy Gravel, Silty, moist, non-plastic	RECOVERY = 1.5 HNU = 0.4 *HNU = 0.8
	2	19 20 20 18		- grades to Black Gravelly Sand, Silty, moist, non-plastic	RECOVERY = 2.0 HNU = 0.4 *HNU = 20
5	3	14 19 17 11		- grades to Grayish-brown Sandy Gravel, moist, non-plastic	RECOVERY = 0.5 HNU = 1.0 *HNU = 100
	4	9 4 5 13		- grades to brown to gray to red Silty Sand, Gravelly, moist to wet, non-plastic	RECOVERY = 1.2 HNU = 2.0 *HNU = 2.0
	5	6 15 16 24		GLACIAL TILL: Brown Silt, embedded rounded & subrounded Gravel & Coarse Sand, moist, non-plastic	RECOVERY = 1.7 HNU = 0.4 *HNU = 1.6
10	6	10 22 23 26			RECOVERY = 1.8 HNU = 0.4 *HNU = 1.6
	7	6 10 14 22		- grades to Grayish-brown Silty Clay, embedded rounded Gravel & Coarse Sand, moist to wet, high plasticity	RECOVERY = 1.6 HNU = 0.4 *HNU = 2.5
15	8	6 10 12 14			RECOVERY = 0.0 HNU = N/A *HNU = N/A
	9	6 9 12 18			RECOVERY = 2.0 HNU = 0.4 *HNU = 1.0
	10	9 10 9 11			RECOVERY = 1.3 HNU = 0.4 *HNU = 0.8
20					

BORING TERMINATED @ 20.0'

* THESE VALUES REPRESENT HEAD-SPACE RESULTS PERFORMED AFTER SAMPLES WERE ALLOWED TO ATTAIN ROOM TEMPERATURE.
NOTE: HNU VALUES ARE PRESENTED IN PARTS PER MILLION (ppm).

Dunn Geoscience Corporation Amherst, NY 14228 (716)691-3866	Test Boring Log	Boring No. B-31

PROJECT: WESTINGHOUSE ELECTRIC CORP.		Sheet 1 of 1
CLIENT: NYSDEC		Job. No. 00296-01699
DRILLING CONTRACTOR: ADVANCED DRILLING INVESTIGATIONS		Meas. Pt. El.
PURPOSE: PHASE II INVESTIGATION		Gr. Elev. 687.9'

DRILLING METHOD: 4 1/4" I.D. HSA	SAMPLE	CORE	CASING	Datum
DRILL RIG TYPE: MOBIL B57 — TYPE	SPLITSPOON			Date Started: 2-26-91
GROUNDWATER DEPTH: — — DIAM.	2.0"			Date Finished: 2-26-91
MEAS. POINT: — — WEIGHT	140 lbs.			Driller: Mark Seiler
DATE OF MEAS.: — — FALL	30"			Geologist: Joel Taft

Depth (Feet)	Sample Numbers	Blow Counts	Unified Classification	Geologic Description	Remarks
	1	3, 3, 3, 6		FILL: Brown Sandy Silt, Gravelly, cinders & roots noted, moist, non-plastic	RECOVERY = 1.3 HNU = 0.4 *HNU = 0.4
	2	9, 11, 13, 14		GLACIAL TILL: Brown Silt, embedded subrounded Gravel & coarse Sand, damp to moist, non-plastic	RECOVERY = 1.8 HNU = 0.4 *HNU = 0.5
5	3	8, 11, 17, 18			RECOVERY = 1.8 HNU = 0.4 *HNU = 0.8
	4	10, 17, 22, 25		- grades to Brown Clayey Silt, embedded rounded & subrounded Gravel & Rock fragments, moist, low plasticity	RECOVERY = 2.0 HNU = 0.4 *HNU = 1.8
	5	12, 19, 29, 35			RECOVERY = 2.0 HNU = 0.4 *HNU = 1.0
10	6	10, 21, 20, 17			RECOVERY = 1.7 HNU = 0.4 *HNU = 0.5
	7	8, 9, 14, 14			RECOVERY = 1.7 HNU = 0.4 *HNU = 0.4
15	8	5, 9, 12, 15		- grades to Grayish-brown Silty Clay, embedded rounded & subrounded Gravel, moist to wet, plastic	RECOVERY = 1.8 HNU = 0.4 *HNU = 0.4
	9	3, 6, 9, 12			RECOVERY = 1.7 HNU = 0.4 *HNU = 0.5
	10	12, 14, 17, 22		- embedded Rock fragments noted	RECOVERY = 1.8 HNU = 0.4 *HNU = 0.4
20					

BORING TERMINATED @ 20.0'

* THESE VALUES REPRESENT HEAD-SPACE RESULTS PERFORMED AFTER SAMPLES WERE ALLOWED TO ATTAIN ROOM TEMPERATURE.

NOTE: HNU VALUES ARE PRESENTED IN PARTS PER MILLION (ppm).

Appendix C

Monitoring Well Construction Logs

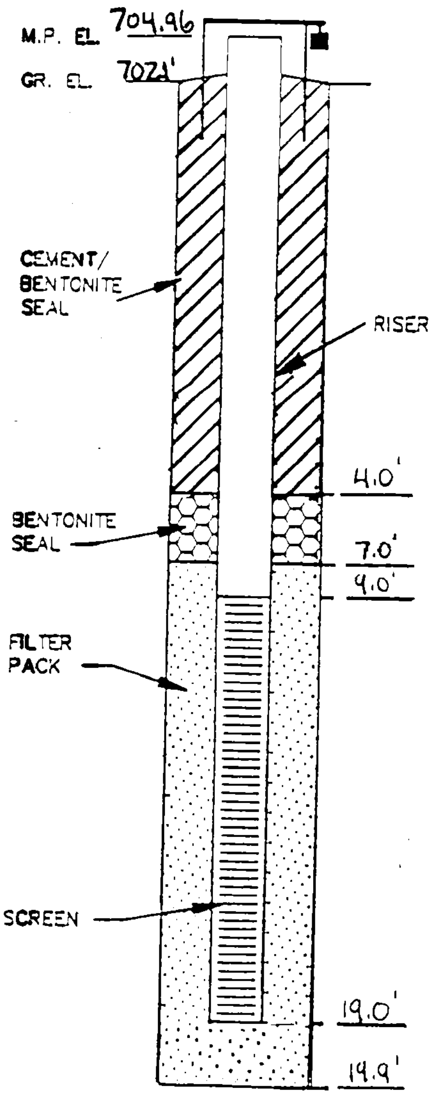
MONITORING WELL COMPLETION LOG

WELL NO. MW-7

DUNN GEOSCIENCE CORPORATION
495 COMMERCE DRIVE
AMHERST, NEW YORK 14150
(716) 691-3866
FAX (716) 691-3884

Project WESTINGHOUSE ELECTRIC
Client NYSDEC
Location BUFFALO AIRPORT CENTER
Project No. 00296-01699
Date Drilled 1-31-91
Date Developed 3-4-91

WELL CONSTRUCTION DETAIL



NOT TO SCALE

Inspector JOEL TAFT
Drilling Contractor ADVANCED DRILLING INV.

Type of Well 2.0" PVC MONITOR
Static Water Level ______ Date ______
Measuring Point (M.P.) TOP OF PVC CASING
Total Depth of Well 19.0 FEET

Drilling Method
Type HOLLOW STEM AUGER Diameter 4 1/4" I.D.
Casing ______

Sampling Method
Type SPLIT SPOON Diameter 2.0"
Weight 140 lbs. Fall 30"
Interval 2 FEET

Settling Tube
Material — Diameter —
Length — Joint Type —

Riser Pipe Left in Place
Material PVC Diameter 2.0"
Length 11.5 FEET Joint Type Flush-Thread

Screen
Material PVC Diameter 2.0"
Slot Size 0.010" Length 10 FEET
Stratigraphic Unit Screened GLACIAL TILL

Filter Pack
Sand MORIE Gravel ______ Natural ______
Grade 0
Amount 4 (100 lb) BAGS Interval 19.9' → 7.0'

Seal(s)
Type CHIPPED BENTONITE Interval 7.0' → 4.0'
Type CEMENT/BENTONITE GROUT Interval 4.0' to SURFACE
Type ______ Interval ______

Locking Casing ☒ Yes ☐ No
Notes:

FORM54 - 9/88

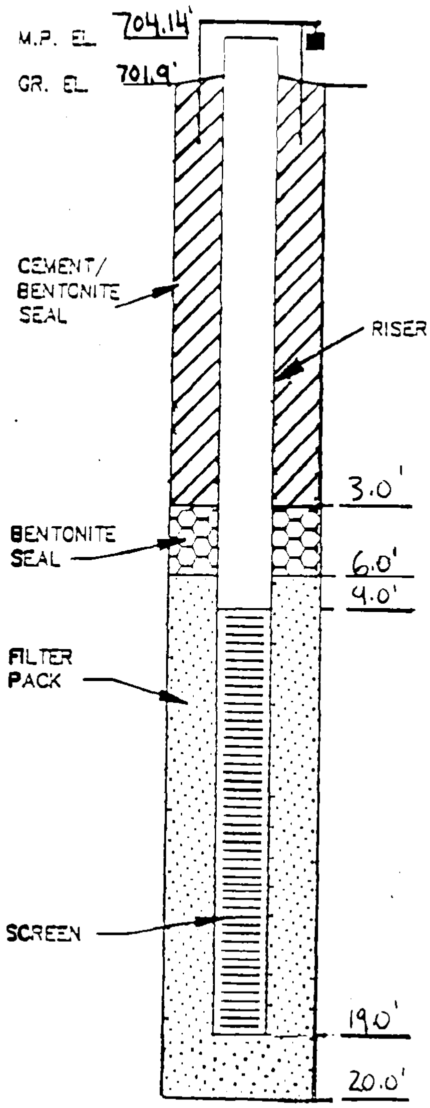
MONITORING WELL COMPLETION LOG

WELL NO. MW-8

DUNN GEOSCIENCE CORPORATION
495 COMMERCE DRIVE
AMHERST, NEW YORK 14150
(716) 691-3866
FAX (716) 691-3884

Project: WESTINGHOUSE ELECTRIC
Client: NYSDEC
Location: BUFFALO AIRPORT CENTER
Project No.: 00296-01699
Date Drilled: 2-4-91
Date Developed: 3-4-91

WELL CONSTRUCTION DETAIL



NOT TO SCALE

Inspector: JOEL TAFT
Drilling Contractor: ADVANCED DRILLING INV.

Type of Well: 2.0" PVC MONITOR
Static Water Level: ______ Date: ______
Measuring Point (M.P.): TOP OF PVC CASING
Total Depth of Well: 19.0 FEET

Drilling Method
Type: HOLLOW STEM AUGER Diameter: 4 1/4" I.D.
Casing: ______

Sampling Method
Type: SPLIT SPOON Diameter: 2.0"
Weight: 140 lbs. Fall: 30"
Interval: 2 FEET

Settling Tube
Material: — Diameter: —
Length: — Joint Type: —

Riser Pipe Left in Place
Material: PVC Diameter: 2.0"
Length: 11.5 FEET Joint Type: Flush-Thread

Screen
Material: PVC Diameter: 2.0"
Slot Size: 0.010" Length: 10 FEET
Stratigraphic Unit Screened: GLACIAL TILL

Filter Pack
Sand: MORIE Gravel: ______ Natural: ______
Grade: 0
Amount: 4 (100 lb) BAGS Interval: 20.0' → 6.0'

Seal(s)
Type: CHIPPED BENTONITE Interval: 6.0' → 3.0'
Type: CEMENT/BENTONITE GROUT Interval: 3.0' → SURFACE
Type: ______ Interval: ______

Locking Casing ☒ Yes ☐ No
Notes:

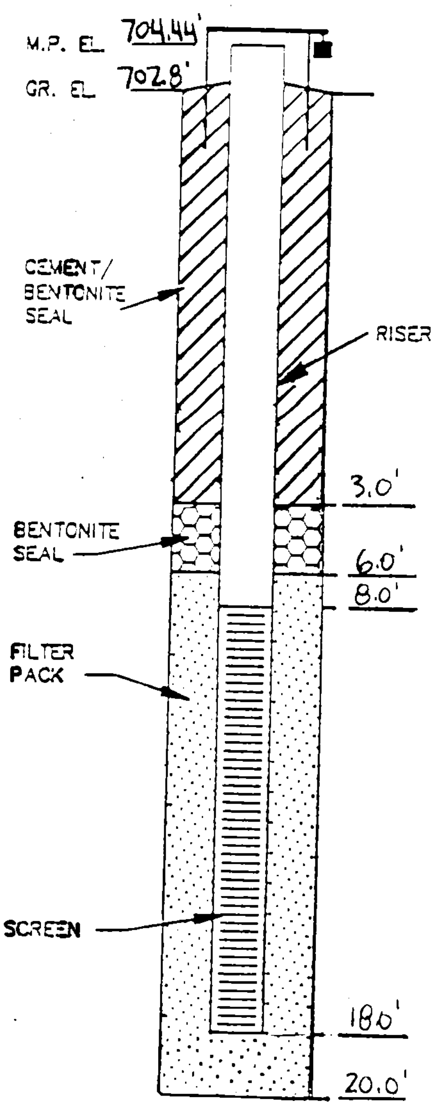
MONITORING WELL COMPLETION LOG

WELL NO. MW-9

DUNN GEOSCIENCE CORPORATION
495 COMMERCE DRIVE
AMHERST, NEW YORK 14150
(716) 691-3866
FAX (716) 691-3884

Project: WESTINGHOUSE ELECTRIC
Client: NYSDEC
Location: BUFFALO AIRPORT CENTER
Project No.: 00296-01699
Date Drilled: 2-5-91
Date Developed: 2-28-91

WELL CONSTRUCTION DETAIL



NOT TO SCALE

Inspector: JOEL TAFT
Drilling Contractor: ADVANCED DRILLING INV.

Type of Well: 2.0" PVC MONITOR
Static Water Level: ______ Date: ______
Measuring Point (M.P.): TOP OF PVC CASING
Total Depth of Well: 18.0 FEET

Drilling Method
Type: HOLLOW STEM AUGER Diameter: 4 1/4" I.D.
Casing: ______

Sampling Method
Type: SPLIT SPOON Diameter: 2.0"
Weight: 140 lbs. Fall: 30"
Interval: 2 FEET

Settling Tube
Material: — Diameter: —
Length: — Joint Type: —

Riser Pipe Left in Place
Material: PVC Diameter: 2.0"
Length: 10.5 FEET Joint Type: Flush-Thread

Screen
Material: PVC Diameter: 2.0"
Slot Size: 0.010" Length: 10 FEET
Stratigraphic Unit Screened: FILL/GLACIAL TILL

Filter Pack
Sand: MORIE Gravel: ______ Natural: ______
Grade: 0
Amount: 4 (100 lb) BAGS Interval: 20.0' → 6.0'

Seal(s)
Type: CHIPPED BENTONITE Interval: 6.0' → 3.0'
Type: CEMENT/BENTONITE GROUT Interval: 3.0' → SURFACE
Type: ______ Interval: ______

Locking Casing ☒ Yes ☐ No
Notes:

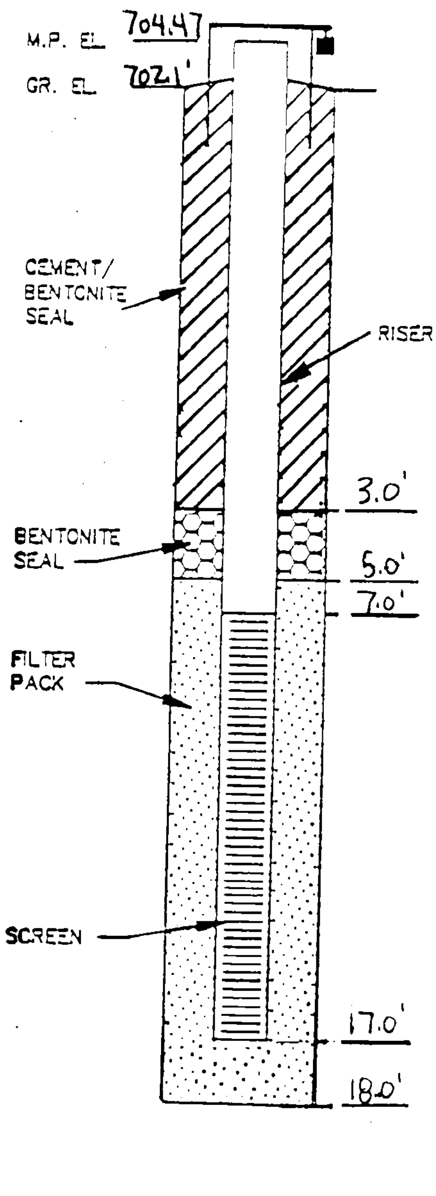
MONITORING WELL COMPLETION LOG

WELL NO. MW-10

DUNN GEOSCIENCE CORPORATION
495 COMMERCE DRIVE
AMHERST, NEW YORK 14150
(716) 691-3866
FAX (716) 691-3884

Project: WESTINGHOUSE ELECTRIC
Client: NYSDEC
Location: BUFFALO AIRPORT CENTER
Project No.: 00296-01699
Date Drilled: 2-7-91
Date Developed: 3-5-91

WELL CONSTRUCTION DETAIL



NOT TO SCALE

Inspector: JOEL TAFT
Drilling Contractor: ADVANCED DRILLING INV.

Type of Well: 2.0" PVC MONITOR
Static Water Level: ______ Date: ______
Measuring Point (M.P.): TOP OF PVC CASING
Total Depth of Well: 17.0 FEET

Drilling Method
Type: HOLLOW STEM AUGER Diameter: 4 1/4" I.D.
Casing: ______

Sampling Method
Type: SPLIT SPOON Diameter: 2.0"
Weight: 140 lbs. Fall: 30"
Interval: 2 FEET

Settling Tube
Material: — Diameter: —
Length: — Joint Type: —

Riser Pipe Left in Place
Material: PVC Diameter: 2.0"
Length: 9.5 FEET Joint Type: Flush-Thread

Screen
Material: PVC Diameter: 2.0"
Slot Size: 0.010" Length: 10 FEET
Stratigraphic Unit Screened: FILL / GLACIAL TILL

Filter Pack
Sand: MORIE Gravel: ______ Natural: ______
Grade: 0
Amount: 4 (100 lb) BAGS Interval: 18.0' → 5.0'

Seal(s)
Type: CHIPPED BENTONITE Interval: 5.0' → 3.0'
Type: CEMENT/BENTONITE GROUT Interval: 3.0' → SURFACE
Type: ______ Interval: ______

Locking Casing ☒ Yes ☐ No
Notes:

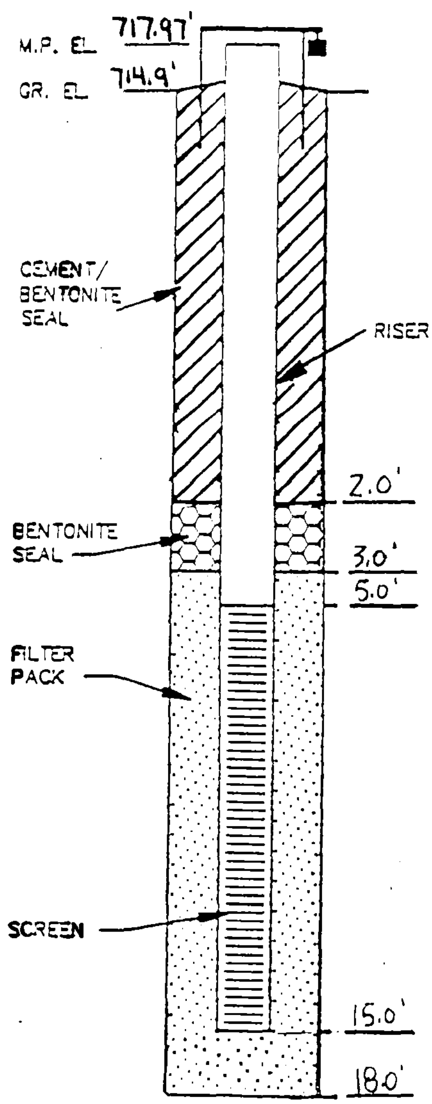
MONITORING WELL COMPLETION LOG

WELL NO. MW-11

DUNN GEOSCIENCE CORPORATION
495 COMMERCE DRIVE
AMHERST, NEW YORK 14150
(716) 691-3866
FAX (716) 691-3684

Project: WESTINGHOUSE ELECTRIC
Client: NYSDEC
Location: BUFFALO AIRPORT CENTER
Project No.: 00296-01699
Date Drilled: 2-8-91
Date Developed: 3-4-91

WELL CONSTRUCTION DETAIL



NOT TO SCALE

FORM54 – 9/88

Inspector: JOEL TAFT
Drilling Contractor: ADVANCED DRILLING INV.

Type of Well: 2.0" PVC MONITOR
Static Water Level: ______ Date: ______
Measuring Point (M.P.): TOP OF PVC CASING
Total Depth of Well: 15.0 FEET

Drilling Method
- Type: HOLLOW STEM AUGER Diameter: 4 1/4" I.D.
- Casing: ______

Sampling Method
- Type: SPLIT SPOON Diameter: 2.0"
- Weight: 140 lbs. Fall: 30"
- Interval: 2 FEET

Settling Tube
- Material: — Diameter: —
- Length: — Joint Type: —

Riser Pipe Left in Place
- Material: PVC Diameter: 2.0"
- Length: 8.0 FEET Joint Type: Flush-Thread

Screen
- Material: PVC Diameter: 2.0"
- Slot Size: 0.010" Length: 10 FEET
- Stratigraphic Unit Screened: GLACIAL TILL

Filter Pack
- Sand: MORIE Gravel: ______ Natural: ______
- Grade: 0
- Amount: 4 (100 lb) BAGS Interval: 18.0' → 3.0'

Seal(s)
- Type: CHIPPED BENTONITE Interval: 3.0' → 2.0'
- Type: CEMENT/BENTONITE GROUT Interval: 2.0' → SURFACE
- Type: ______ Interval: ______

Locking Casing ☒ Yes ☐ No

Notes:

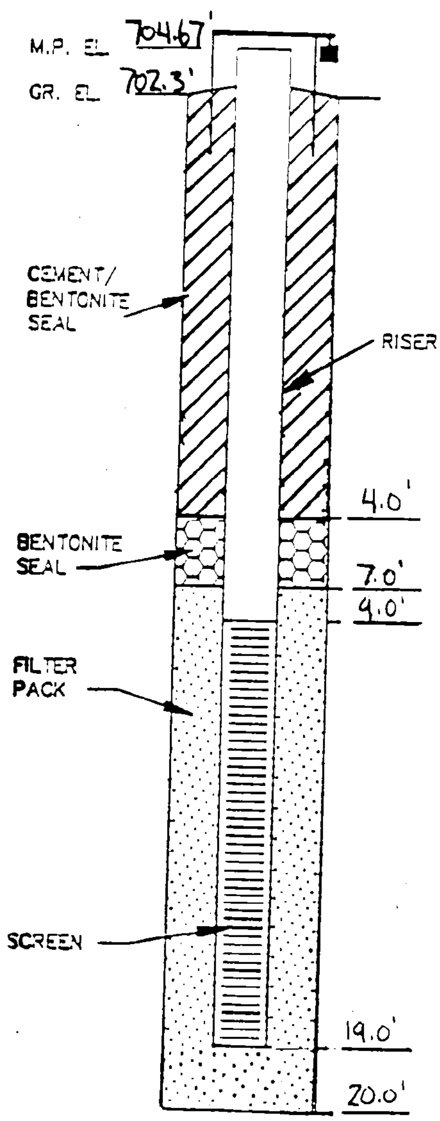
MONITORING WELL COMPLETION LOG

WELL NO. MW-12

DUNN GEOSCIENCE CORPORATION
495 COMMERCE DRIVE
AMHERST, NEW YORK 14150
(716) 691-3866
FAX (716) 691-3884

Project: WESTINGHOUSE ELECTRIC
Client: NYSDEC
Location: BUFFALO AIRPORT CENTER
Project No.: 00296-01699
Date Drilled: 2-14-91
Date Developed: 3-5-91

WELL CONSTRUCTION DETAIL



NOT TO SCALE

Inspector: JOEL TAFT
Drilling Contractor: ADVANCED DRILLING INV.

Type of Well: 2.0" PVC MONITOR
Static Water Level: ______ Date: ______
Measuring Point (M.P.): TOP OF PVC CASING
Total Depth of Well: 19.0 FEET

Drilling Method
Type: HOLLOW STEM AUGER Diameter: 4¼" I.D.
Casing: ______

Sampling Method
Type: SPLIT SPOON Diameter: 2.0"
Weight: 140 lbs. Fall: 30"
Interval: 2 FEET

Settling Tube
Material: — Diameter: —
Length: — Joint Type: —

Riser Pipe Left in Place
Material: PVC Diameter: 2.0"
Length: 11.5 FEET Joint Type: Flush-Thread

Screen
Material: PVC Diameter: 2.0"
Slot Size: 0.010" Length: 10 FEET
Stratigraphic Unit Screened: GLACIAL TILL

Filter Pack
Sand: MORIE Gravel: ______ Natural: ______
Grade: 0
Amount: 4 (100 lb) BAGS Interval: 20.0' → 7.0'

Seal(s)
Type: CHIPPED BENTONITE Interval: 7.0' → 4.0'
Type: CEMENT/BENTONITE GROUT Interval: 4.0' → SURFACE
Type: ______ Interval: ______

Locking Casing ☒ Yes ☐ No
Notes:

FORM54 - 9/88

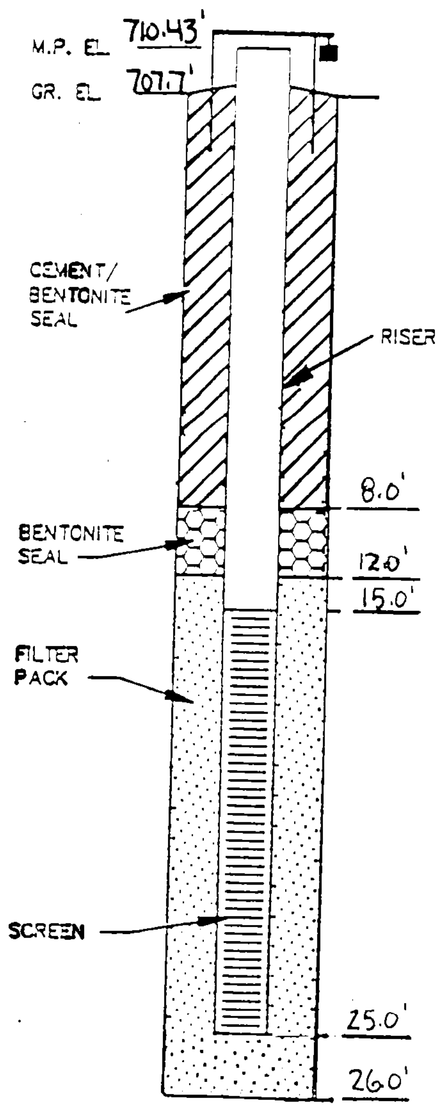
MONITORING WELL COMPLETION LOG

WELL NO. MW-13

DUNN GEOSCIENCE CORPORATION
495 COMMERCE DRIVE
AMHERST, NEW YORK 14150
(716) 691-3866
FAX (716) 691-3884

Project: WESTINGHOUSE ELECTRIC
Client: NYSDEC
Location: BUFFALO AIRPORT CENTER
Project No.: 00296-01699
Date Drilled: 2-15-91
Date Developed: 3-5-91

WELL CONSTRUCTION DETAIL



NOT TO SCALE

Inspector: JOEL TAFT
Drilling Contractor: ADVANCED DRILLING INV.

Type of Well: 2.0" PVC MONITOR
Static Water Level: ______ Date: ______
Measuring Point (M.P.): TOP OF PVC CASING
Total Depth of Well: 25.0 FEET

Drilling Method
Type: HOLLOW STEM AUGER Diameter: 4 1/4" I.D.
Casing: ______

Sampling Method
Type: SPLIT SPOON Diameter: 2.0"
Weight: 140 lbs. Fall: 30"
Interval: 2 FEET

Settling Tube
Material: — Diameter: —
Length: — Joint Type: —

Riser Pipe Left in Place
Material: PVC Diameter: 2.0"
Length: 17.5 FEET Joint Type: Flush-Thread

Screen
Material: PVC Diameter: 2.0"
Slot Size: 0.010" Length: 10 FEET
Stratigraphic Unit Screened: GLACIAL TILL

Filter Pack
Sand: MORIE Gravel: ______ Natural: ______
Grade: 0
Amount: 4 (100 lb) BAGS Interval: 26.0' → 12.0'

Seal(s)
Type: CHIPPED BENTONITE Interval: 12.0' → 8.0'
Type: CEMENT/BENTONITE GROUT Interval: 8.0' → SURFACE
Type: ______ Interval: ______

Locking Casing ☒ Yes ☐ No
Notes:

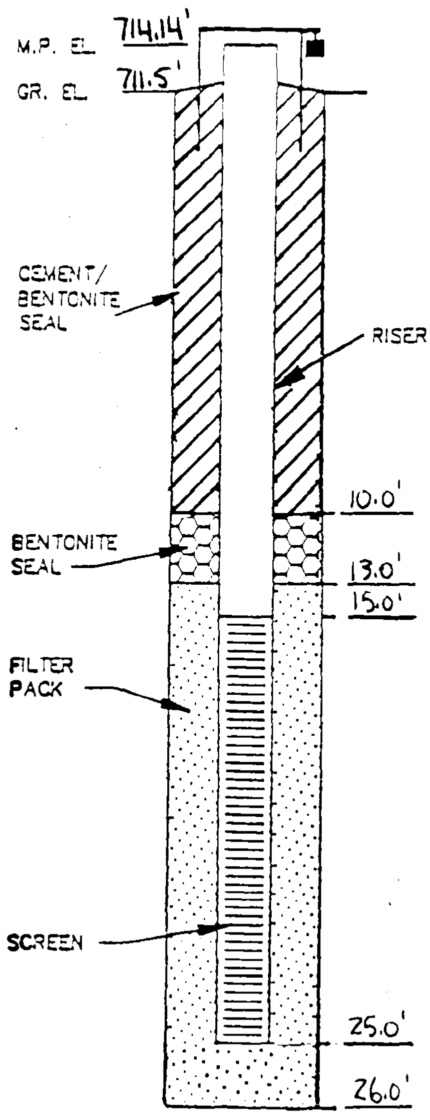
MONITORING WELL COMPLETION LOG

WELL NO. MW-14

DUNN GEOSCIENCE CORPORATION
495 COMMERCE DRIVE
AMHERST, NEW YORK 14150
(716) 691-3866
FAX (716) 691-3884

Project: WESTINGHOUSE ELECTRIC
Client: NYSDEC
Location: BUFFALO AIRPORT CENTER
Project No.: 00296-01699
Date Drilled: 2-18-91
Date Developed: 3-4-91

WELL CONSTRUCTION DETAIL



NOT TO SCALE

Inspector: JOEL TAFT
Drilling Contractor: ADVANCED DRILLING INV.

Type of Well: 2.0" PVC MONITOR
Static Water Level: ______ Date: ______
Measuring Point (M.P.): TOP OF PVC CASING
Total Depth of Well: 25.0 FEET

Drilling Method
Type: HOLLOW STEM AUGER Diameter: 4 1/4" I.D.
Casing: ______

Sampling Method
Type: SPLIT SPOON Diameter: 2.0"
Weight: 140 lbs. Fall: 30"
Interval: 2 FEET

Settling Tube
Material: — Diameter: —
Length: — Joint Type: —

Riser Pipe Left in Place
Material: PVC Diameter: 2.0"
Length: 17.5 FEET Joint Type: Flush-Thread

Screen
Material: PVC Diameter: 2.0"
Slot Size: 0.010" Length: 10 FEET
Stratigraphic Unit Screened: GLACIAL TILL

Filter Pack
Sand: MORIE Gravel: ______ Natural: ______
Grade: 0
Amount: 4 (100 lb) BAGS Interval: 26.0' → 13.0'

Seal(s)
Type: CHIPPED BENTONITE Interval: 13.0' → 10.0'
Type: CEMENT/BENTONITE GROUT Interval: 10.0' → SURFACE
Type: ______ Interval: ______

Locking Casing ☒ Yes ☐ No
Notes:

FORM54 - 9/88

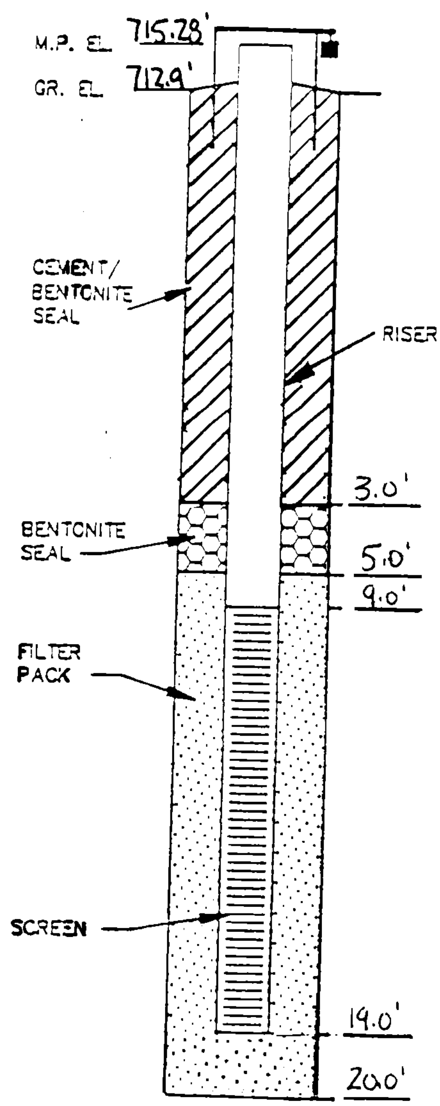
MONITORING WELL COMPLETION LOG

WELL NO. MW-15

DUNN GEOSCIENCE CORPORATION
495 COMMERCE DRIVE
AMHERST, NEW YORK 14150
(716) 691-3866
FAX (716) 691-3884

Project: WESTINGHOUSE ELECTRIC
Client: NYSDEC
Location: BUFFALO AIRPORT CENTER
Project No.: 00296-01699
Date Drilled: 2-19-91
Date Developed: 3-5-91

WELL CONSTRUCTION DETAIL



NOT TO SCALE

Inspector: JOEL TAFT
Drilling Contractor: ADVANCED DRILLING INV.

Type of Well: 2.0" PVC MONITOR
Static Water Level: ______ Date: ______
Measuring Point (M.P.): TOP OF PVC CASING
Total Depth of Well: 19.0 FEET

Drilling Method
Type: HOLLOW STEM AUGER Diameter: 4 1/4" I.D.
Casing: ______

Sampling Method
Type: SPLIT SPOON Diameter: 2.0"
Weight: 140 lbs. Fall: 30"
Interval: 2 FEET

Settling Tube
Material: — Diameter: —
Length: — Joint Type: —

Riser Pipe Left in Place
Material: PVC Diameter: 2.0"
Length: 11.5 FEET Joint Type: Flush Thread

Screen
Material: PVC Diameter: 2.0"
Slot Size: 0.010" Length: 10 FEET
Stratigraphic Unit Screened: GLACIAL TILL

Filter Pack
Sand: MORIE Gravel: ______ Natural: ______
Grade: 0
Amount: 4 (100 lb) BAGS Interval: 20.0' → 5.0'

Seal(s)
Type: CHIPPED BENTONITE Interval: 5.0' → 3.0'
Type: CEMENT/BENTONITE GROUT Interval: 3.0' → SURFACE
Type: ______ Interval: ______

Locking Casing ☒ Yes ☐ No
Notes:

FORM54 – 9/88

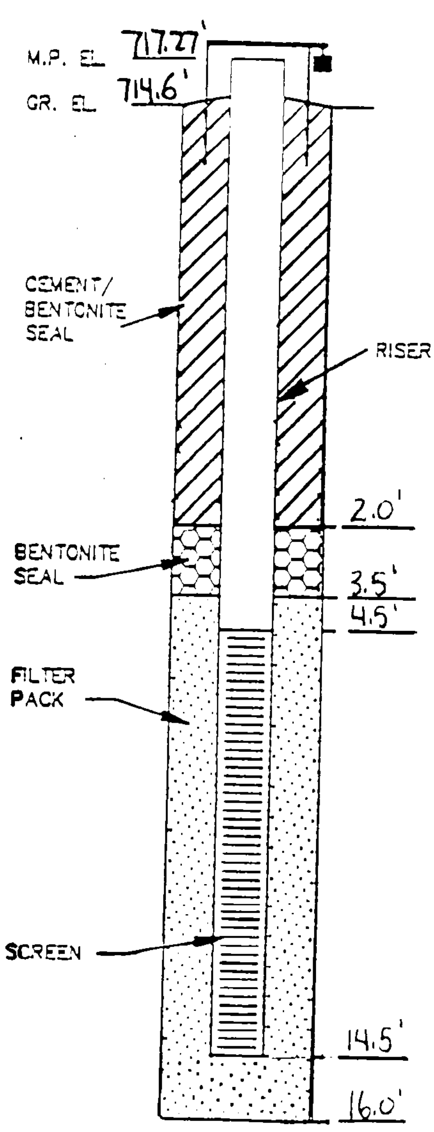
MONITORING WELL COMPLETION LOG

WELL NO. MW-16

DUNN GEOSCIENCE CORPORATION
495 COMMERCE DRIVE
AMHERST, NEW YORK 14150
(716) 691-3866
FAX (716) 691-3884

Project: WESTINGHOUSE ELECTRIC
Client: NYSDEC
Location: BUFFALO AIRPORT CENTER
Project No. 00296-01699
Date Drilled: 2-20-91
Date Developed: 2-28-91

WELL CONSTRUCTION DETAIL



NOT TO SCALE

Inspector: JOEL TAFT
Drilling Contractor: ADVANCED DRILLING INV.

Type of Well: 2.0" PVC MONITOR
Static Water Level: ______ Date: ______
Measuring Point (M.P.): TOP OF PVC CASING
Total Depth of Well: 14.5 FEET

Drilling Method
Type: HOLLOW STEM AUGER Diameter: 4 1/4" I.D.
Casing: ______

Sampling Method
Type: SPLIT SPOON Diameter: 2.0"
Weight: 140 lbs. Fall: 30"
Interval: 2 FEET

Settling Tube
Material: — Diameter: —
Length: — Joint Type: —

Riser Pipe Left in Place
Material: PVC Diameter: 2.0"
Length: 7.5 FEET Joint Type: Flush-Thread

Screen
Material: PVC Diameter: 2.0"
Slot Size: 0.010" Length: 10 FEET
Stratigraphic Unit Screened: GLACIAL TILL / SAND

Filter Pack
Sand: MORIE Gravel: ______ Natural: ______
Grade: 0
Amount: 4 (100 lb) BAGS Interval: 16.0' → 3.5'

Seal(s)
Type: CHIPPED BENTONITE Interval: 3.5' → 2.0'
Type: CEMENT/BENTONITE GROUT Interval: 2.0' → SURFACE
Type: ______ Interval: ______

Locking Casing ☒ Yes ☐ No
Notes:

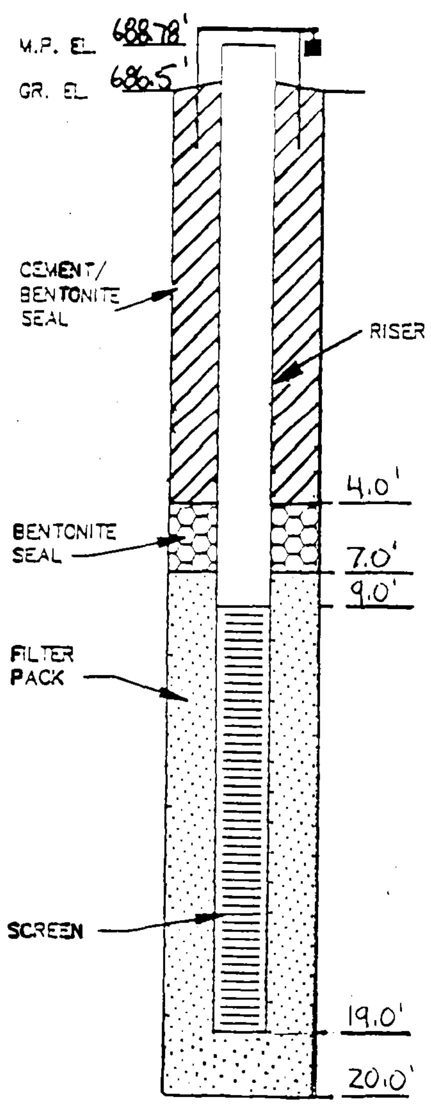
MONITORING WELL COMPLETION LOG

WELL NO. MW-17

DUNN GEOSCIENCE CORPORATION
495 COMMERCE DRIVE
AMHERST, NEW YORK 14150
(716) 691-3866
FAX (716) 691-3884

Project: WESTINGHOUSE ELECTRIC
Client: NYSDEC
Location: BUFFALO AIRPORT CENTER
Project No.: 00296-01699
Date Drilled: 2-25-91
Date Developed: 3-4-91

WELL CONSTRUCTION DETAIL



NOT TO SCALE

Inspector: JOEL TAFT
Drilling Contractor: ADVANCED DRILLING INV.

Type of Well: 2.0" PVC MONITOR
Static Water Level: ______ Date: ______
Measuring Point (M.P.): TOP OF PVC CASING
Total Depth of Well: 19.0 FEET

Drilling Method
Type: HOLLOW STEM AUGER Diameter: 4 1/4" I.D.
Casing: ______

Sampling Method
Type: SPLIT SPOON Diameter: 2.0"
Weight: 140 lbs. Fall: 30"
Interval: 2 FEET

Settling Tube
Material: — Diameter: —
Length: — Joint Type: —

Riser Pipe Left in Place
Material: PVC Diameter: 2.0"
Length: 11.5 FEET Joint Type: Flush-Thread

Screen
Material: PVC Diameter: 2.0"
Slot Size: 0.010" Length: 10 FEET
Stratigraphic Unit Screened: GLACIAL TILL

Filter Pack
Sand: MORIE Gravel: ______ Natural: ______
Grade: 0
Amount: 4 (100 lb) BAGS Interval: 20.0' → 7.0'

Seal(s)
Type: CHIPPED BENTONITE Interval: 7.0' → 4.0'
Type: CEMENT/BENTONITE GROUT Interval: 4.0' → SURFACE
Type: ______ Interval: ______

Locking Casing ☒ Yes ☐ No
Notes:

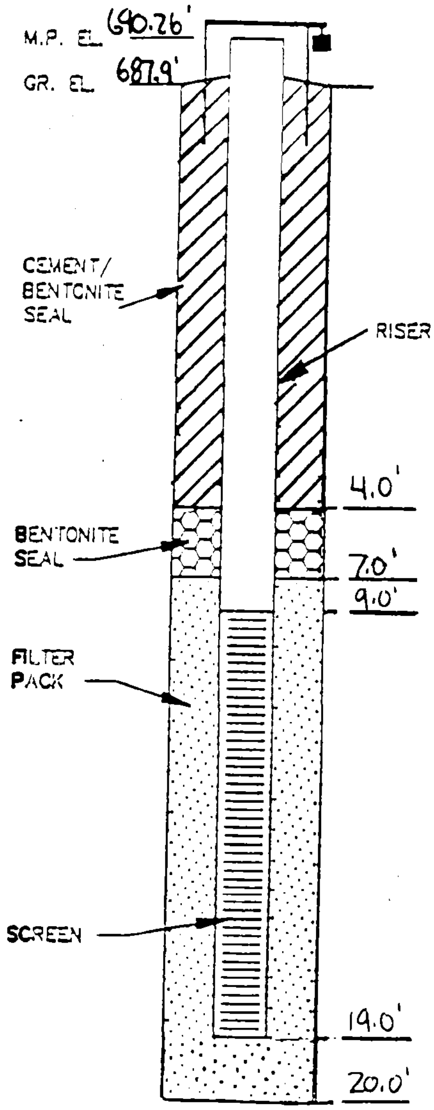
MONITORING WELL COMPLETION LOG

WELL NO. MW-18

DUNN GEOSCIENCE CORPORATION
495 COMMERCE DRIVE
AMHERST, NEW YORK 14150
(716) 691-3866
FAX (716) 691-3884

Project: WESTINGHOUSE ELECTRIC
Client: NYSDEC
Location: BUFFALO AIRPORT CENTER
Project No.: 00296-01699
Date Drilled: 2-26-91
Date Developed: 3-11-91

WELL CONSTRUCTION DETAIL



NOT TO SCALE

Inspector: JOEL TAFT
Drilling Contractor: ADVANCED DRILLING INV.

Type of Well: 2.0" PVC MONITOR
Static Water Level: ______ Date: ______
Measuring Point (M.P.): TOP OF PVC CASING
Total Depth of Well: 19.0 FEET

Drilling Method
- Type: HOLLOW STEM AUGER Diameter: 4 1/4" I.D.
- Casing: ______

Sampling Method
- Type: SPLIT SPOON Diameter: 2.0"
- Weight: 140 lbs. Fall: 30"
- Interval: 2 FEET

Settling Tube
- Material: — Diameter: —
- Length: — Joint Type: —

Riser Pipe Left in Place
- Material: PVC Diameter: 2.0"
- Length: 11.5 FEET Joint Type: Flush-Thread

Screen
- Material: PVC Diameter: 2.0"
- Slot Size: 0.010" Length: 10 FEET
- Stratigraphic Unit Screened: GLACIAL TILL

Filter Pack
- Sand: MORIE Gravel: ______ Natural: ______
- Grade: 0
- Amount: 4 (100 lb) BAGS Interval: 20.0' → 7.0'

Seal(s)
- Type: CHIPPED BENTONITE Interval: 7.0' → 4.0'
- Type: CEMENT/BENTONITE GROUT Interval: 4.0' → SURFACE
- Type: ______ Interval: ______

Locking Casing: ☒ Yes ☐ No
Notes: