NUS CORPORATION
1090 KING GEORGES POST ROAD
SUITE 1103
EDISON, NEW JERSEY 08837
201-225-6160

Jim Feron: EJH Above
What is this all about,
I don't know, but AB
it seems to concern Sabre Park
Trailer Site - which is Yavorz'
Project.
J Feron

C-584-03-89-141

March 24, 1988

Mr. John Tygert
NYSDEC Hazardous Waste Remedial Division Region 9
600 Delaware Avenue
Buffalo, New York 14202

Dear Mr. Tygert:

Enclosed please find a copy of the Final Data Presentation for the November 16, 1988 Sampling Event to Determine Potential Total Mercury Contamination of Surface Soils on the Perfitti Building Property, Niagara, Niagara County, New York. This document has been sent to you at the request of Ms. Kate Donnelly who is with the U.S. Environmental Protection Agency, Region 2, Edison, New Jersey.

Very truly yours,

David Grupp

Reviewed and Approved: T. Mi[illegible]

DG/jls

Enclosure

cc: Kate Donnelly

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FIELD INVESTIGATION TEAM ACTIVITIES AT UNCONTROLLED HAZARDOUS SUBSTANCES FACILITIES — ZONE I

NUS CORPORATION
SUPERFUND DIVISION

R-584-11-88-05
REV. NO. 1

DATA PRESENTATION OF THE NOVEMBER 16, 1988 SAMPLING EVENT TO DETERMINE POTENTIAL TOTAL MERCURY CONTAMINATION OF SURFACE SOILS ON THE PERFITTI BUILDING PROPERTY NIAGARA, NIAGARA COUNTY, NEW YORK

PREPARED UNDER

TECHNICAL DIRECTIVE DOCUMENT NO. 02-8810-48
CONTRACT NO. 68-01-7346

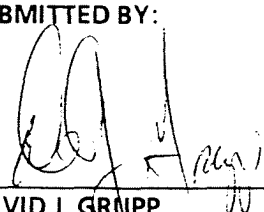
FOR THE

ENVIRONMENTAL SERVICES DIVISION
U.S. ENVIRONMENTAL PROTECTION AGENCY

MARCH 2, 1989
REVISION NO. 1 MARCH 14, 1989

NUS CORPORATION
SUPERFUND DIVISION

SUBMITTED BY:



DAVID J. GRUPP
PROJECT MANAGER

REVIEWED/APPROVED BY:

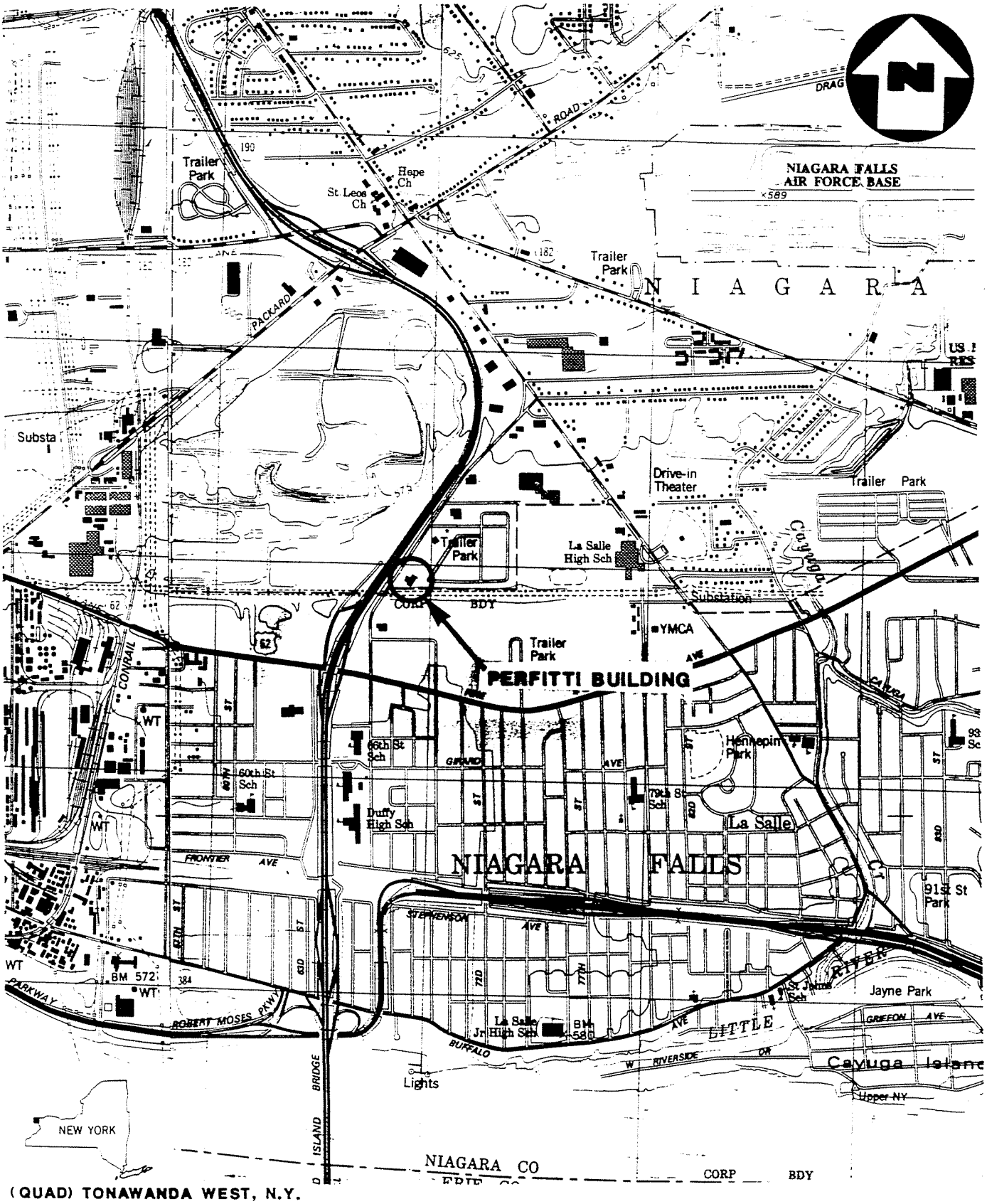
RONALD M. NAMAN
FIT OFFICE MANAGER

1.0 INTRODUCTION

The Region 2 Field Investigation Team (FIT 2) was tasked by EPA under Technical Directive No. 02-8810-48 to assess the potential for total mercury contamination in the surface soils at the Perfitti Building Property. The objective of this assessment was to ensure that total mercury contamination previously found in surface soils at the adjacent Sabre Park Trailer Park Site does not extend to the Perfitti Building Property.

Figures 1-1 and 1-2 present a site location map providing regional perspective, and a site map showing the site in relation to Sabre Park for the Perfitti Building Property. The Perfitti Building Property is located on Third Avenue in Niagara, Niagara County, New York. An office/warehouse building occupies the property to the north of the site. The Sabre Park Trailer Park, a residential trailer development consisting of approximately 250 housing units, is located immediately east of the property. The Niachlor Brine Pipeline right-of-way bounds the site to the south, and Third Avenue and I-190 border the site to the west. The Perfitti Building Property has an overall slope of 0 to 2 percent toward the northeast. Surface runoff collects on site in an unnamed drainage ditch located along Third Avenue. This intermittent stream is part of the Cayuga Creek drainage basin. Concern for mercury contamination at the Perfitti Building Property arises from the documented presence of total mercury in the surface soils at the adjoining Sabre Park Trailer Park.

On November 16, 1988, FIT 2 collected 34 randomly located surface soil samples from the perimeter of the Perfitti Building Property. This data presentation presents the analytical results of the November 16, 1989 investigation



SITE LOCATION MAP

PERFITTI BUILDING, NIAGARA, N.Y.

SCALE: 1"= 2000'

FIGURE 1-1

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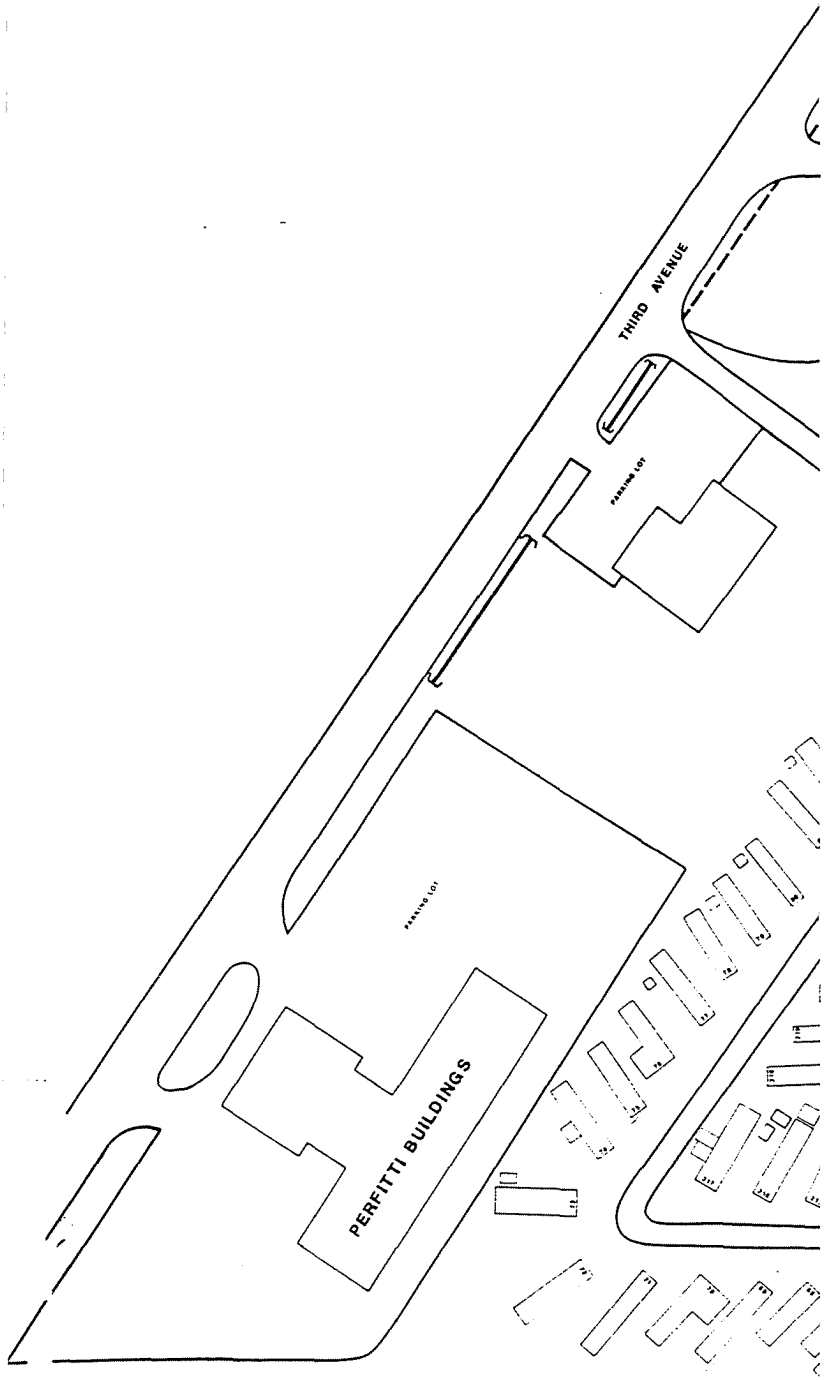

SITE MAP
SABRE PARK AND
PERFITTI BUILDING PROPERTY
NIAGARA, N.Y.

FIGURE 1-2

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2.0 TECHNICAL APPROACH

Sampling design and protocol used for the collection of environmental samples at the Perfitti Building Property are presented in this section. Thirty-four surface soil samples were collected from random locations along the perimeter of the site.

2.1 SAMPLING DESIGN

Figure 2-1 depicts a more specific site map, the sampling intervals defined, and sample locations of surface soils collected from the perimeter of the Perfitti Building Property. Thirty-four sampling intervals were surveyed along the site perimeter at 50-ft segments. One random sampling location was established within each sampling interval using a computer-generated random numbers table. When an unsampleable location was specified, random numbers were re-generated until a sampleable location was established within the sampling interval. Demarcation of sample locations was set using the northeast corner of the site perimeter as a benchmark origin point.

2.2 SAMPLING METHODOLOGIES

All sampling activities were conducted in accordance with EPA protocol as defined in the Compendium of Superfund Field Operation Methods, EPA/540/P-87/001. The following procedures were employed for the collection of soil and quality assurance/quality control (QA/QC) samples.

SOIL SAMPLES

Surface soil samples were collected at a depth of 0 to 2 inches using dedicated stainless steel trowels. Each soil sample was deposited into a dedicated stainless steel blender. Samples for soil classification were taken directly from the blender and indexed according to the Unified Soil Classification System (USCS).

All samples were returned to a sample preparation area where the soil mercury samples were homogenized in the stainless steel blender for a total of 90 seconds. After homogenization, an aliquot of the sample was removed for x-ray fluorescence analysis, and the remaining sample volume was split and placed into two 4-oz. glass jars and archived.

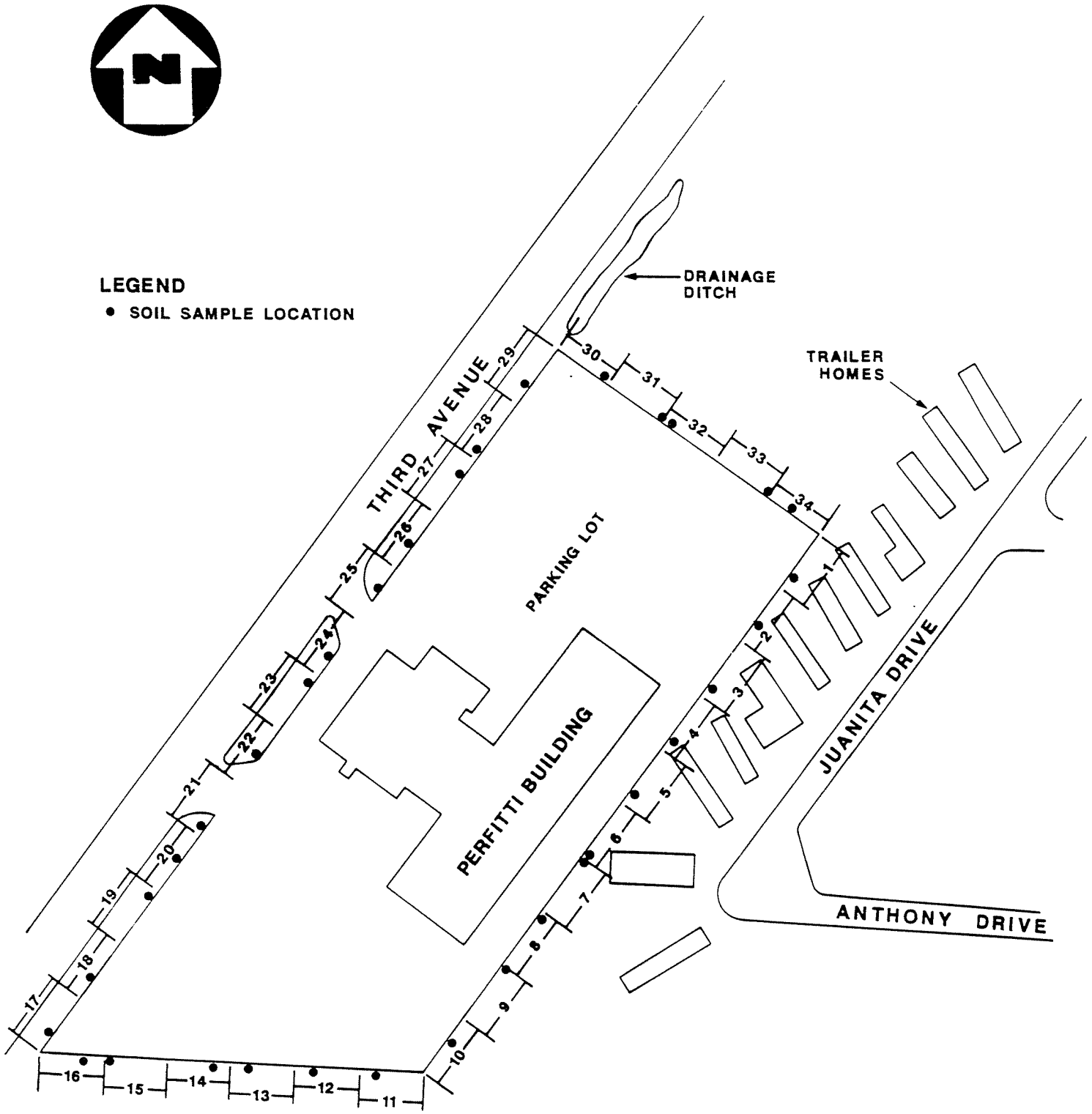

FIGURE 2-1

SAMPLE LOCATION MAP

PERFITTI BUILDING PROPERTY, NIAGARA, N.Y.

APPROX. SCALE: 1"= 100'

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QA/QC SAMPLES

Quality assurance/quality control (QA/QC) samples, consisting of equipment rinsate blanks, environmental duplicate samples, and laboratory matrix spike/matrix spike duplicates, were also collected. Rinsate blanks, consisting of a 1-liter volume of deionized water collected in a polyethylene bottle, were obtained from one of the trowels and one of the stainless steel blenders used during sampling. One aqueous rinsate sample was designated as the laboratory matrix spike/matrix spike duplicate sample. These samples were analyzed for Target Compound List (TCL) inorganic constituents. One in twenty soil samples was collected in duplicate and submitted for XRF analysis.

2.3 DECONTAMINATION PROCEDURES

Decontamination procedures were conducted in accordance with the U.S. EPA Region 2 CERCLA Quality Assurance Manual, Part II, Quality Control Handbook for CERCLA Sampling and Analysis, March 1988. All sampling equipment was decontaminated on site prior to and following sampling activities.

2.4 ANALYTICAL PROCEDURES

All soil samples and environmental duplicate samples were analyzed by FIT 2 at EPA Edison, New Jersey, as part of its Field Analytical Screening Program (FASP) using the KEVEX Corporation Delta X-Ray Fluorescence Analyst System. Soil sample analyses using x-ray fluorescence followed the procedures established in the NUS Corporation Region 2 Field Investigation Team (FIT) Final Draft Standard Operating Procedure for Metal Analysis Using X-Ray Fluorescence. A total of eight samples were submitted to the EPA Region 2 Laboratory for confirmatory analysis.

Equipment rinsate blanks and laboratory matrix spike/matrix spike duplicate samples were submitted for low-concentration analyses under Routine Analytical Services (RAS) of the U.S. EPA Contract Laboratory Program.

3.0 ANALYTICAL RESULTS

Table 3-1 presents the mercury analytical results from the x-ray fluorescence analysis and from the USEPA Region 2 Laboratory analysis. Table 3-2 presents mercury analytical results for rinsate samples analyzed through the Contract Laboratory Program (CLP) from the November 16, 1988 sampling event at the Perfitti Building Property.

Results from XRF analysis indicate that mercury in the surface soils along the perimeter of the Perfitti Building Property is not present in detectable concentrations. These results are supported by confirmatory analysis conducted by the EPA Region 2 Laboratory. Mercury was not detected in the rinsate samples submitted for CLP analysis.

TABLE 3-1
MERCURY ANALYTICAL RESULTS
X-RAY FLUORESCENCE (XRF) AND U.S. EPA REGION 2 LABORATORY
PERFITTI BUILDING PROPERTY, NIAGARA, NIAGARA COUNTY, NEW YORK.
NOVEMBER 16, 1988 SAMPLING EVENT

Sample ID No.	Sampling Interval	Random Sample Distance (ft)	XRF Total Mercury Concentration (mg/kg)	USEPA Region 2 Lab Total Mercury Concentration (mg/kg)
NYFZ-S1	1	35	ND	----
NYFZ-S2	2	30	ND	----
NYFZ-S3	3	39	ND	----
NYFZ-S4	4	37	ND	----
NYFZ-S5	5	36	ND	<0.5
NYFZ-S6	6	44	ND	----
NYFZ-S7	7	0	ND	----
NYFZ-S8	8	4	ND	----
NYFZ-S9	9	0	ND	----
NYFZ-S10	10	20	ND	----
NYFZ-S11	11	33	ND	<0.5
NYFZ11A (1)	----	----	----	<0.5
NYFZ-S12	12	34	ND	<0.5
NYFZ12A (2)	----	----	----	<0.5
NYFZ-S13	13	34	ND	----
NYFZ-S14	14	11	ND	----
NYFZ-S15	15	44	ND	----
NYFZ-S16	16	15	ND	----
NYFZ-S17	17	14	ND	<0.5
NYFZ-S18	18	19	ND	----
NYFZ-S19	19	41	ND	----
NYFZ-S20(a)	20	25	ND	0.53
NYFZ-S21	21	6	ND	----
NYFZ-S22	22	24	ND	----
NYFZ-S23	23	39	ND	----
NYFZ-S24	24	14	ND	----
NYFZ-S25	25	28	ND	----
NYFZ-S26	26	20	ND	----
NYFZ-S27	27	34	ND	----
NYFZ-S28	28	2	ND	----
NYFZ-S29	29	14	ND	----
NYFZ-S30	30	41	ND	1.6
NYFZ-S31	31	46	ND	----
NYFZ-S32(b)	32	5	ND	----
NYFZ-S33(a)	20	25	ND	----
NYFZ-S34(b)	32	5	ND	----
NYFZ-S35	33	49	ND	----
NYFZ-S36	34	18	ND	----

Notes to Table 3-1:

(1) NYFZ-S11A is a second aliquot of sample NYFZ-S11 submitted for U.S. EPA Region 2 Laboratory Analysis.
(2) NYFZ-S12A is a second aliquot of sample NYFZ-S12 submitted for U.S. EPA Region 2 Laboratory analysis.
(a) Samples NYFZ-S20 and NYFZ-S33 were collected as environmental duplicate samples for QA/QC purposes.
(b) Samples NYFZ-S32 and NYFZ-S34 were collected as environmental duplicate samples for QA/QC purposes.

ND-Not detected above the XRF quantification limit of 10 mg/kg.

TABLE 3-2

MERCURY ANALYTICAL RESULTS FROM RINSATE SAMPLES
CONTRACT LABORATORY PROGRAM (CLP)
PERFITTI BUILDING PROPERTY, NIAGARA, NIAGARA COUNTY, NEW YORK.
NOVEMBER 16, 1988 SAMPLING EVENT

Sample I.D. No.	Traffic Report No.	Total Mercury Concentration (ug/L)
NYFZ-RW1	MBR 961	<0.20
NYFZ-RW2	MBR 962	<0.20
NYFZ-RW3	MBR 963	<0.20
NYFZ-RW4	MBR 964	<0.20

4.0 SOIL CLASSIFICATION DATA

Table 4-1 presents soil classification data from the November 16, 1988 sampling event at the Perfitti Building Property. Soil along the site perimeter varied slightly in texture and color. Perimeter soils are silt with up to 30 percent sand. Occasionally sand predominates, and gravel was found in several samples. Soil color was generally a dark brown with some samples tending more toward yellow or gray. Variations in soil texture and color found along the site perimeter do not differ significantly, as these variations are gradual throughout and are not clustered in particular areas.

TABLE 4-1

SOIL CLASSIFICATION DATA FROM THE NOVEMBER 16, 1988 SAMPLING EVENT
PERFITTI BUILDING PROPERTY, NIAGARA, NIAGARA COUNTY, NEW YORK

Sample Number	Sampling Interval	Random Sample Distance (ft)	USCS Soil Classification	Munsell Soil Color
NYFZ-S1	1	35	Silt, some coarse to fine sand.	10 YR 3/3
NYFZ-S2	2	30	Silt, little fine to medium sand	10 YR 3/2
NYFZ-S3	3	39	Silt, trace sand and clay; Mottled	10 YR 3/2; 10 YR 5/8
NYFZ-S4	4	37	Silt, some sand	10 YR 4/1
NYFZ-S5	5	36	Silt and sand and gravel	10 YR 4/3
NYFZ-S6	6	44	Silty clay and sand	10 YR 3/3
NYFZ-S7	7	0	Silt clay, trace sand and gravel	10 YR 4/3
NYFZ-S8	8	4	Silt and trace gravel; Mottled	10 YR 4/3; 10 YR 6/4
NYFZ-S9	9	0	Clay, trace coarse sand	10 YR 3/2
NYFZ-S10	10	20	Sand with little silt	10 YR 4/3
NYFZ-S11	11	33	Silt, little sand	10 YR 4/2
NYFZ-S12	12	34	Silt, trace sand and gravel; Mottled	10 YR 4/6; 10 YR 3/3
NYFZ-S13	13	34	Silt, little sand	10 YR 3/2
NYFZ-S14	14	11	Silt, little sand	10 YR 3/3
NYFZ-S15	15	44	Silt, trace sand	10 YR 4/4
NYFZ-S16	16	15	Silt, trace sand	10 YR 3/2

TABLE 4-1 (CONT'D)

SOIL CLASSIFICATION DATA FROM THE NOVEMBER 16, 1988 SAMPLING EVENT
PERFITTI BUILDING PROPERTY, NIAGARA, NIAGARA COUNTY, NEW YORK

Sample Number	Sampling Interval	Random Sample Distance (ft)	USCS Soil Classification	Munsell Soil Color
NYFZ-S17	17	14	Gravel and silt	10 YR 3/3
NYFZ-S18	18	19	Silt, little sand and gravel	10 YR 4/4
NYFZ-S19	19	41	Fine to medium sand, little silt, trace gravel; Mottled	10 YR 6/6; 10 YR 4/3
NYFZ-S20	20	25	Clayey silt, little sand	10 YR 3/2
NYFZ-S21	21	6	Coarse to fine sand, gravel, trace silt	10 YR 3/2
NYFZ-S22	22	24	Silt, little fine sand	10 YR 3/2
NYFZ-S23	23	39	Silt, trace sand	10 YR 3/3
NYFZ-S24	24	14	Silt, trace sand	10 YR 3/2
NYFZ-S25	25	28	Fine sand, some silt	10 YR 3/3
NYFZ-S26	26	20	Silt, fine sand trace gravel	10 YR 4/3
NYFZ-S27	27	34	Silt, some fine sand and gravel	10 YR 3/2
NYFZ-S28	28	2	Silt, trace gravel	10 YR 3/3
NYFZ-S29	29	14	Fine to coarse sand, gravel little silt	10 YR 3/3
NYFZ-S30	30	41	Silt, fine to coarse sand	10 YR 3/3

TABLE 4-1 (CONT'D)

SOIL CLASSIFICATION DATA FROM THE NOVEMBER 16, 1988 SAMPLING EVENT
PERFITTI BUILDING PROPERTY, NIAGARA, NIAGARA COUNTY, NEW YORK

Sample Number	Sampling Interval	Random Sample Distance (ft)	USCS Soil Classification	Munsell Soil Color
NYFZ-S31	31	46	Sand, some silt, trace gravel	10 YR 3/2
NYFZ-S32	32	5	Silt, little sand and gravel	10 YR 3/2
NYFZ-S33	20	25	Clayey silt, little sand	10 YR 3/2
NYFZ-S34	32	5	Silt, little sand and gravel	10 YR 3/2
NYFZ-S35	33	49	Silt, little sand	10 YR 3/3
NYFZ-S36	34	18	Silty clay and coarse sand	10 YR 3/2