

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

NUS CORPORATION
SUPERFUND DIVISION

R-584-08-88-01

REV. NO. 4

FINAL
DATA PRESENTATION FOR THE DELINEATION
OF MERCURY IN SURFACE SOILS
SABRE PARK, NIAGARA, NIAGARA COUNTY, NEW YORK

PREPARED UNDER

TECHNICAL DIRECTIVE NO. 02-8804-15
CONTRACT NO. 68-01-7346


FOR THE

ENVIRONMENTAL SERVICES DIVISION
U.S. ENVIRONMENTAL PROTECTION AGENCY

SEPTEMBER 28, 1988

NUS CORPORATION
SUPERFUND DIVISION

SUBMITTED BY:

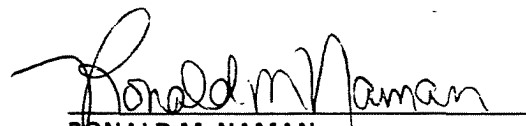


VANCE M. MATTHEWS
PROJECT MANAGER

REVIEWED/APPROVED BY:



MICHAEL BAUMAN
SITE MANAGER



RONALD M. NAMAN
FACILITY MANAGER

CONTENTS

<u>SECTION</u>	<u>PAGE</u>
EXECUTIVE SUMMARY	v
1.0 INTRODUCTION	
1.1 Site Location	1-1
1.2 Site History	1-1
1.3 Previous Site Investigations	1-3
2.0 RESULTS	
2.1 General	2-1
2.2 Surface Sampling Results	2-3
2.3 Fixed-Base Laboratory Confirmation Results	2-5
APPENDIX A: CLP Analytical Data for Total Mercury in Surface Soils, November 1986	A-1
APPENDIX B: XRF Analytical Data for Total Mercury in Surface Soils, May 1988	B-1
APPENDIX C: Soil Classification Data and Results	C-1
APPENDIX D: Subsurface Sampling Data and Results	D-1
APPENDIX E: ATSDR Memo of May 27, 1987	E-1

TABLES

<u>NUMBER</u>		<u>PAGE</u>
2-1	Results of Environmental Split-Sample Analyses, CLP vs. On-Site XRF	2-6
2-2	Results of Environmental Split-Sample Analyses, CLP vs. EPA vs. On-Site XRF	2-7

FIGURES

<u>NUMBER</u>		<u>PAGE</u>
1-1	Site Location Map	1-2
2-1	Surface Soil Sampling Locations, November 1986 and May 1988	2-2
2-2	Total Mercury Surface Sampling Results, November 1986 and May 1988	2-4
3-1	Surface Concentration Isopleths of Total Mercury	3-2

EXECUTIVE SUMMARY

The Region 2 Field Investigation Team (FIT 2) was tasked by the U.S. Environmental Protection Agency (EPA) to conduct a Site Inspection Followup Investigation of the extent of soil mercury contamination at the Sabre Park Trailer Park located in Niagara, New York. This report presents the surface soil mercury concentration data collected during the May 1988 sampling event and an earlier sampling event conducted in November 1986. Preparation of this report was authorized under Technical Directive No. 02-8804-15.

During the May 1988 investigation, 424 surface soil samples were collected and analyzed. The quantitative analysis for total mercury was performed entirely on site using the Region 2 FIT X-Ray Fluorescence (XRF) system. A select number of samples were sent to Contract Laboratory Program (CLP) and U.S. EPA laboratories for confirmatory mercury analysis. Combining the May 1988 surface soil mercury results with those of an earlier site inspection conducted by Region 2 FIT in November 1986 yields a total of 594 surface soil samples collected, 14 of which had concentrations greater than 40 milligrams per kilogram (mg/kg). Concentrations of mercury greater than 40 mg/kg are confined to the southwest portion of the Sabre Park Site.

1.0 INTRODUCTION

The NUS Corp. Region 2 Field Investigation Team (FIT) was tasked by the U.S. Environmental Protection Agency (EPA) to conduct a Site Inspection Followup Investigation of the extent of mercury contamination at the Sabre Park Trailer Park located in Niagara, New York. This work was authorized under Technical Directive No. 02-8804-15.

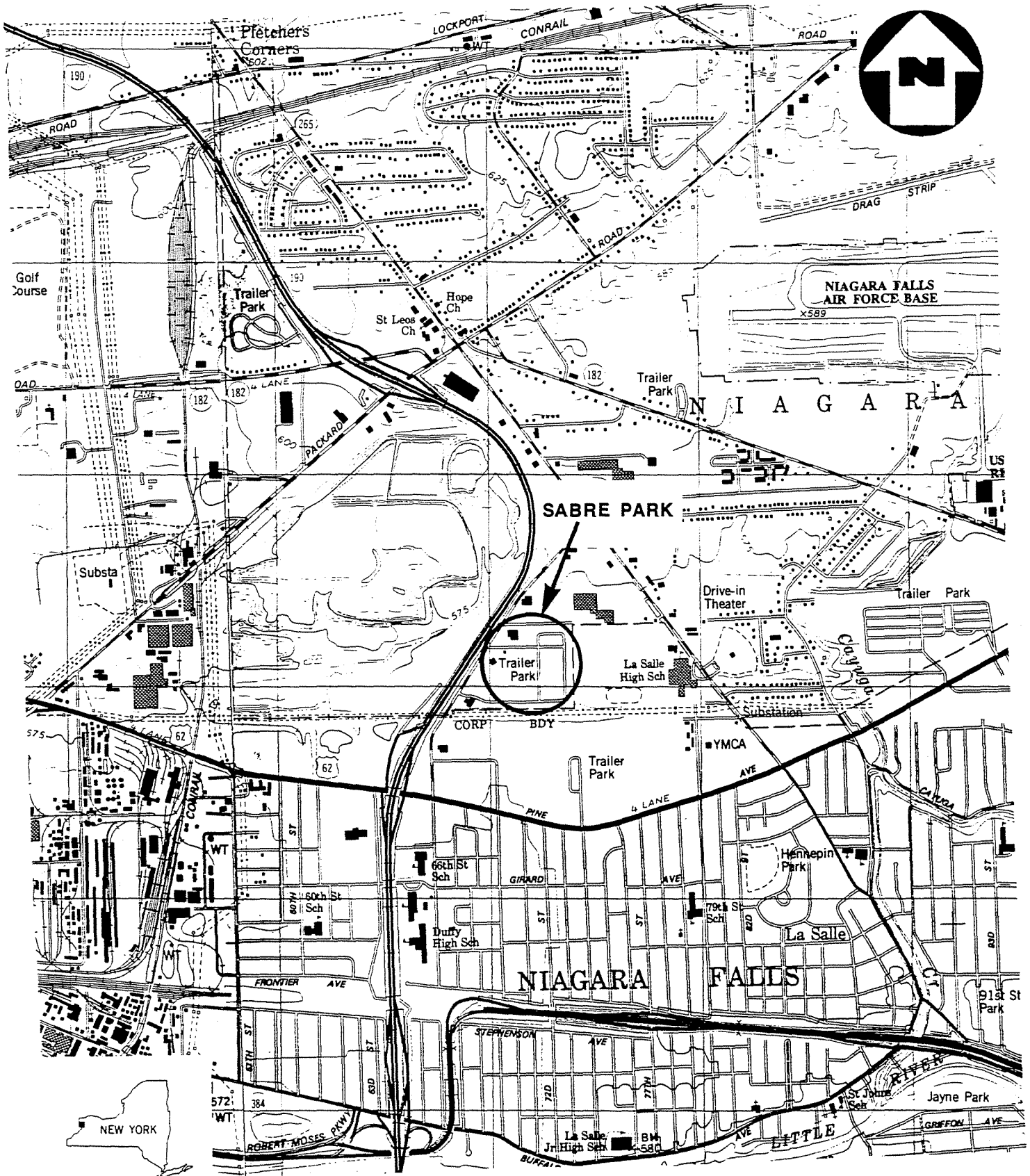
1.1 Site Location

Figure 1-1 presents a site location map providing regional perspective, for the Sabre Park Site. Sabre Park is a residential trailer development consisting of more than 250 housing units and occupying a 38-acre property located on Third Avenue in Niagara, Niagara County, New York.

1.2 Site History

The Sabre Park Trailer Park, Inc. subdivision was developed in 1970. Prior to this time, the site was a vacant wooded lot. During 1970, the tract was cleared, backfilled, and graded, and underground utilities were installed to service residential trailer units. The Sabre Park Trailer Park was expanded in 1978, with additional fill materials backfilled to grade along the southern portion of the site.

During September 1978, Amherst Paving, under contract to Hooker Chemical for paving work at the Hooker caustic soda and chlorine facilities, inadvertently deposited contaminated fill from the Hooker property at the Sabre Park Site. On October 3, 1978, officials at the Sabre Park Trailer Park were advised by the Niagara County Health Department to cease on-site construction activities until the absence of toxic chemicals could be confirmed. Eleven soil samples were collected for analysis; two of these samples were found to contain high concentrations of chlorinated hydrocarbons. Consequently, 1200 cubic yards of potentially contaminated fill materials was removed from the site in 1978.



(QUAD) TONAWANDA WEST, N.Y.

SITE LOCATION MAP
SABRE PARK, NIAGARA, N.Y.

SCALE: 1"= 2000'

FIGURE 1-1



1.3 Previous Site Investigations

In 1985, Region 2 FIT was tasked by the U.S. EPA to conduct a routine Site Inspection at the Sabre Park property under the Superfund Program. Soil samples to determine whether residual contamination existed at Sabre Park were collected by Region 2 FIT on November 21, 1985, with additional samples collected on May 21, 1986 to complete the Site Inspection. All samples were analyzed for the presence of Hazardous Substance List (HSL) compounds under the EPA Contract Laboratory Program (CLP). Polycyclic aromatic hydrocarbons (PAHs), substituted PAHs, and pesticides were detected at trace concentrations in several of the soil samples collected during the two sampling events. Higher-than-natural background concentrations of inorganic mercury were also detected in many of the samples.

The Site Inspection sampling results were summarized and forwarded to the Agency for Toxic Substances and Disease Registry (ATSDR) for evaluation. ATSDR completed a preliminary health assessment using these data, and concluded that the concentrations of HSL compounds present in the surface soils do not pose an imminent or substantial threat to the residents of the trailer park. However, ATSDR recommended additional sampling of on-site soils to dismiss any potential long-term threat from the presence of soil-bound mercury. ATSDR further recommended that remediation occur where soil mercury concentrations exceed 40 milligrams per kilogram (mg/kg). Appendix E presents the memo in which ATSDR made these recommendations.

Based upon the recommendations of ATSDR, additional samples were collected by Region 2 FIT from November 17 through November 25, 1986 to better characterize the extent of mercury contamination in the surface soils at Sabre Park. CLP results of this sampling effort are in Appendix A. These results indicated that total mercury was present in 138 of 170 soil samples at concentrations ranging from 0.11 to 86.0 mg/kg, with the higher concentrations of mercury detected in the southwest portion of the site. Geostatistical analysis of these data defined a "hot spot" in this portion of the site which roughly corresponded to the area where contaminated fill materials were inadvertently deposited and then removed in 1978.

A detailed presentation of previous sampling results is provided in the Final Work Plan to Define Mercury Contamination in Surface and Subsurface Soils at Sabre Park, Niagara, Niagara County, New York, Appendix A, (R-584-03-88-02). Also presented in this work plan for the May 1988 sampling is the detailed explanation of the sampling design and methodologies employed.

2.0 RESULTS

Analytical data from surface soils collected during the November 1986 and the May 1988 soil sampling events at the Sabre Park Site are summarized in the following sections.

2.1 General

Figure 2-1 depicts the locations where each of the 584 surface soil samples was collected during November 1986 and May 1988 to characterize the extent of mercury contamination. Locations for samples collected in November 1986 were selected randomly as defined in work plan R-584-11-86-01 Rev. No. 5. Locations for the samples collected in May 1988 were determined by random and judgemental selection as outlined in work plan R-584-03-88-02. Thirty-eight 200-by-200-ft sampling grids were laid out to encompass the entire surface area of the Sabre Park Trailer Park.

During the May 1988 sampling event on-site mercury analysis was conducted using the Region 2 FIT X-Ray Fluorescence (XRF) system in the Field Analytical Screening Project (FASP) mode. The XRF used in the FASP mode has a quantitation level of 10 mg/kg for mercury, where quantitation level refers to the minimum concentration of mercury that can be accurately quantified. FASP enabled high-quality analytical data to be produced on site in order to guide the field decisions concerning the selection of judgemental samples. Appendix B presents the XRF analytical results from the analysis of surface soil samples collected during the November 1986 and May 1988 sampling events.

Appendix C presents soil classification data collected during the May 1988 sampling event. Appendix D presents subsurface soil information collected during the May 1988 sampling event.



SURFACE SOIL SAMPLING LOCATIONS
NOVEMBER 1986 AND MAY 1988
SABRE PARK, NIAGARA, N.Y.

LEGEND

- RANDOM LOCATION
- JUDGEMENTAL LOCATION

				3	2	1
				6	5	4
		11	10	9	8	7
	17	16	15	14	13	12
24	23	22	21	20	19	18
31	30	29	28	27	26	25
38	37	36	35	34	33	32

GRID NUMBERING SYSTEM
EACH GRID IS 200 ft X 200 ft

FIGURE 2-1



2.2 Surface Sampling Results

Figure 2-2 presents the locations of surface samples with mercury concentrations greater than 40 mg/kg as determined by the November 1986 and the May 1988 Sabre Park sampling events. Appendix A, summarizes the analytical results from the November 1986 sampling event. Appendix B, Tables B-1 and B-2 summarize the analytical results from the May 1988 sampling event. Appendix E presents the ATSDR memo that recommends 40 mg/kg of mercury in soils be a health based action level. A total of 594 surface soil samples (0 to 2 inches) were collected from 583 locations within the boundaries of the trailer park. Of these samples, 512 were randomly located within the sampling grids, 72 were located judgementally based on the November 1986 sampling results and the on-site XRF results, and 11 were replicate samples. Of the 594 surface samples, 14 had mercury concentrations greater than 40 mg/kg.



**TOTAL MERCURY
SURFACE SAMPLING RESULTS
NOVEMBER 1986 AND MAY 1988
SABRE PARK, NIAGARA, N.Y.**

LEGEND

- ● RANDOM LOCATION
- ■ JUDGEMENTAL LOCATION

- < 40 mg/kg
- > 40 mg/kg

FIGURE 2-2



2.3 Fixed-Base Laboratory Confirmation Results

The fixed-base laboratory split sample confirmation analyses of the XRF mercury results for the May 1988 Sabre Park investigation were conducted by two independent laboratories: one selected under the EPA Contract Laboratory Program, and the other by the EPA Region 2 Environmental Services (ESD) laboratory.

Table 2-1 compares the results of the analysis of the environmental split samples by the CLP laboratory and the on-site XRF. Table 2-2 compares the results of the analysis of environmental split samples by the CLP laboratory, EPA Region 2 ESD laboratory, and the on-site XRF.

TABLE 2-1
RESULTS OF ENVIRONMENTAL SPLIT-SAMPLE ANALYSES
CLP VS. ON-SITE XRF

<u>SAMPLE NO.</u>	<u>MERCURY</u> <u>CONC. (mg/kg)</u>		<u>SAMPLE NO.</u>	<u>MERCURY</u> <u>CONC. (mg/kg)</u>	
	<u>CLP</u>	<u>XRF</u>		<u>CLP</u>	<u>XRF</u>
NY12S-176	0.29	BQL	NY12S-379	11.9	10
NY12S-194	ND	BQL	NY12S-381	19.3	50
NY12S-218	ND	BQL	NY12S-401	0.3	BQL
NY12S-236	0.3	BQL	NY12S-421	0.3	BQL
NY12S-251	33.0	71	NY12S-431	24.5	45
NY12S-259	R	BQL	NY12S-432	3.8	BQL
NY12S-290	ND	BQL	NY12S-434	59.4	40
NY12S-296	R	BQL	NY12S-435	11.9	15
NY12S-297	R	BQL	NY12S-436	39.1	32
NY12S-298	R	BQL	NY12S-437	54.4	36
NY12S-318	R	BQL	NY12S-438	9.5	BQL
NY12S-319	R	BQL	NY12S-439	41.8	84
NY12S-320	R	BQL	NY12S-440	7.4	37
NY12S-321	R	BQL	NY12S-441	21.8	24
NY12S-322	R	BQL	NY12S-449	ND	BQL
NY12S-323	R	BQL	NY12S-473	R	BQL
NY12S-324	ND	BQL	NY12S-478	14.8E	30
NY12S-325	0.61	BQL	NY12S-479	4.1	BQL
NY12S-326	0.12	BQL	NY12S-480	1.5	BQL
NY12S-327	0.70	BQL	NY12S-481	37.4E	40
NY12S-328	0.34	BQL	NY12S-482	2.20	BQL
NY12S-329	0.14	BQL	NY12S-483	R	44
NY12S-330	2.80	BQL	NY12S-484	22.6 E	27
NY12S-331	2.40	BQL	NY12S-485	26.3 E	39
NY12S-332	2.40	BQL	NY12S-486	30.5	BQL
NY12S-345	0.26	BQL	NY12S-487	0.56	BQL
NY12S-369	0.56	BQL	NY12S-488	3.5	BQL
NY12S-375	3.3	10	NY12S-489	ND	BQL
NY12S-376	25.5	50	NY12S-498	R	BQL
NY12S-377	36.6	64	NY12S-531	R	BQL
NY12S-378	6.9	10	NY12S-542	R	BQL

BQL = Below the 10 mg/kg XRF Quantitation Level.

E = Estimated value

ND = Not Detected above the CLP detection limit of 0.1 mg/kg.

R = Rejected due to EPA Quality Assurance/Quality Control requirements.

TABLE 2-2
RESULTS OF ENVIRONMENTAL SPLIT-SAMPLE ANALYSES
CLP VS. EPA VS. ON-SITE XRF

<u>SAMPLE NO.</u>	<u>MERCURY CONC. (mg/kg)</u>		
	<u>CLP</u>	<u>ESD</u>	<u>XRF</u>
NY12S-251	33.0	66.1	71
NY12S-251DUP	----	63.8	----
NY12S-375	3.3	2.9	10
NY12S-375DUP	----	3.1	----
NY12S-440	7.4	13.9	37
NY12S-440DUP	----	11.7	----
NY12S-478	14.8	27.6	30
NY12S-478DUP	----	25.5	----
NY12S-486	30.5	8.0	BQL
NY12S-486DUP	----	7.1	----
NY12S-439	41.8	50.2	84
NY12S-439DUP	----	44.2	----
NY12S-379	11.9	10.0	10
NY12S-379DUP	----	12.2	----
NY12S-441	21.9	42.9	24
NY12S-441DUP	----	52.1	----
NY12S-481	37.4	44.6	40
NY12S-481DUP	----	41.1	----
NY12S-434	59.4	41.3	40
NY12S-434DUP	----	45.0	----
NY12S-437	54.4	35.1	36
NY12S-437DUP	----	42.3	----
NY12S-438	9.5	14.9	BQL
NY12S-438DUP	----	8.9	----
NY12S-218	ND	ND	BQL
NY12S-319	ND	ND	BQL
NY12S-416	----	21.3	21 (25 ppm Spike)
NY12S-416DUP	----	21.8	23 (25 ppm Spike)
NY12S-416TRI	----	21.6	25 (25 ppm Spike)
NY12S-489	ND	ND	BQL
NY12S-381	19.30	37.3	50
NY12S-381DUP	----	37.6	----
NY12S-431	24.5	42.8	45
NY12S-431DUP	----	32.7	----
NY12S-483	35.1	58.9	44
NY12S-483DUP	----	39.0	----

BQL = Below the 10 mg/kg XRF Quantitation Level.

ND = Not Detected above the CLP and ESD detection Limit of 0.1 mg/kg.

APPENDIX A

**CLP ANALYTICAL DATA
FOR TOTAL MERCURY
IN SURFACE SOILS,
NOVEMBER, 1986**

APPENDIX A

CLP ANALYTICAL RESULTS
NOVEMBER, 1986, SABRE PARK
RANDOM SURFACE SAMPLING PROGRAM

Grid Number	Sample Number	Mercury Conc. (mg/Kg)
1	NY120001	0.12 J
1	NY120002	0.54
1	NY120003	0.32 J
1	NY120004	0.22 J
1	NY120005	0.18 J
2	NY120006	1.4
2	NY120007	5.3 J
2	NY120008	0.14 J
2	NY120009	0.32
2	NY120010	ND
3	NY120011	0.23 J
3	NY120012	0.15 J
3	NY120013	4.6
3	NY120014	0.74
3	NY120015	0.57
4	NY120016	ND
4	NY120017	0.8 J
4	NY120018	0.25 J
4	NY120019	0.22 J
4	NY120020	0.37 J
5	NY120021	0.43
5	NY120022	0.19
5	NY120023	0.23
5	NY120024	0.36
5	NY120025	0.34
6	NY120026	0.14
6	NY120027	0.19 J
6	NY120028	0.19
6	NY120029	0.15
6	NY120030	0.18 J
7	NY120031	0.14 J
7	NY120032	0.31 J
7	NY120033	0.3
7	NY120034	ND
7	NY120035	ND
8	NY120106	0.26
8	NY120107	0.19
8	NY120108	0.77 J
8	NY120109	0.77 J
8	NY120110	1.1 J
9	NY120101	ND
9	NY120102	ND
9	NY120103	0.26
9	NY120104	ND

J = Estimated value

ND = Not Detected above CLP detection limit of 0.1 mg/kg

APPENDIX A

R-584-08-88-01

Rev. No. 4

CLP ANALYTICAL RESULTS
NOVEMBER, 1986, SABRE PARK
RANDOM SURFACE SAMPLING PROGRAM

Grid Number	Sample Number	Mercury Conc. (mg/Kg)
9	NY120105	ND
10	NY120171	ND
10	NY120172	0.15
10	NY120173	0.2
10	NY120174	0.19
10	NY120175	ND
11	NY120166	0.48 J
11	NY120167	0.33
11	NY120168	0.08
11	NY120169	1
11	NY120170	0.23
12	NY120036	0.17 J
12	NY120037	ND
12	NY120038	ND
12	NY120039	2.6
12	NY120040	0.13 J
13	NY120096	ND
13	NY120097	ND
13	NY120098	0.38 J
13	NY120099	0.25
13	NY120100	R
14	NY120091	0.44
14	NY120092	1.6
14	NY120094	0.77 J
14	NY120095	0.14
15	NY120093	ND
15	NY120161	ND
15	NY120162	0.29
15	NY120163	2.8 J
15	NY120164	ND
15	NY120165	4.3 J
16	NY120156	0.11
16	NY120157	0.29
16	NY120159	0.21 J
16	NY120160	0.34
17	NY120158	0.62
18	NY120041	ND
18	NY120042	0.16 J
18	NY120043	0.17 J
18	NY120044	0.21 J
18	NY120045	ND
19	NY120081	0.11 J
19	NY120082	ND
19	NY120083	ND

J = Estimated value

ND = Not Detected above CLP detection limit of 0.1 mg/kg

R = Rejected by EPA Quality Assurance/Quality Control requirements

APPENDIX A

CLP ANALYTICAL RESULTS
NOVEMBER, 1986, SABRE PARK
RANDOM SURFACE SAMPLING PROGRAM

Grid Number	Sample Number	Mercury Conc. (mg/Kg)
19	NY120085	ND
20	NY120084	0.17 J
20	NY120086	1.1
20	NY120088	ND
20	NY120090	0.84 J
21	NY120087	ND
21	NY120089	ND
21	NY120141	0.21
21	NY120143	0.27
22	NY120142	ND
22	NY120144	0.18
22	NY120145	ND
22	NY120146	ND
22	NY120147	0.16
22	NY120149	ND
22	NY120150	ND
23	NY120148	0.18
23	NY120152	0.27
23	NY120154	0.16
23	NY120155	0.59
24	NY120151	ND
24	NY120153	0.17
25	NY120047	0.26
25	NY120048	0.48
25	NY120049	0.18 J
25	NY120050	ND
26	NY120046	0.95 J
26	NY120071	0.14 J
26	NY120072	0.23
26	NY120073	0.18
26	NY120075	ND
27	NY120074	ND
27	NY120076	0.15
27	NY120077	0.26
27	NY120078	0.6
27	NY120080	0.13 J
28	NY120079	0.79 J
28	NY120126	0.2 J
28	NY120128	0.23
28	NY120129	0.19
28	NY120130	0.14
29	NY120127	0.2
29	NY120131	ND
29	NY120132	0.54

J = Estimated value

ND = Not Detected above CLP detection limit of 0.1 mg/kg

APPENDIX A

CLP ANALYTICAL RESULTS
 NOVEMBER, 1986, SABRE PARK
 RANDOM SURFACE SAMPLING PROGRAM

R-584-08-88-01
 Rev. No. 4

Grid Number	Sample Number	Mercury Conc. (mg/Kg)
29	NY120134	0.16
29	NY120135	ND
30	NY120133	0.16
31	NY120136	ND
31	NY120137	0.18 J
31	NY120138	0.31 J
31	NY120139	1.2
31	NY120140	R
32	NY120051	0.59 J
32	NY120052	0.24
32	NY120053	0.22 J
32	NY120054	0.12
32	NY120055	ND
33	NY120056	0.15
33	NY120057	0.45 J
33	NY120059	0.12 J
33	NY120060	R
34	NY120058	0.1
34	NY120062	3.4 J
35	NY120061	3.8
35	NY120063	ND
35	NY120064	ND
35	NY120065	0.31
36	NY120066	0.16
36	NY120067	0.31 J
36	NY120068	1.4 J
36	NY120069	0.23
36	NY120070	3.9 J
37	NY120116	33
37	NY120117	39
37	NY120118	7.7
37	NY120119	86
37	NY120120	7.8
38	NY120121	0.9 J
38	NY120122	43
38	NY120123	17
38	NY120124	0.19
38	NY120125	0.4

J = Estimated value

ND = Not Detected above CLP detection limit of 0.1 mg/kg

R = Rejected by EPA Quality Assurance/Quality Control requirements

APPENDIX B

**XRF ANALYTICAL DATA
FOR TOTAL MERCURY
IN SURFACE SOILS,
MAY, 1988**

APPENDIX B
TABLE B-1
XRF ON-SITE ANALYTICAL RESULTS
MAY, 1988, SABRE PARK
RANDOM SURFACE SAMPLING PROGRAM

R-584-08-88-01
Rev. No. 4

Grid Number	Sample Number	Mercury Conc. (mg/Kg)
1	NY120176	BQL
1	NY120177	BQL
1	NY120178	BQL
1	NY120262	BQL
1	NY120263	BQL
1	NY120264	BQL
1	NY120348	BQL
1	NY120392	BQL
1	NY120393	BQL
1	NY120394	BQL
2	NY120179	BQL
2	NY120180	BQL
2	NY120181	BQL
2	NY120265	BQL
2	NY120266	BQL
2	NY120267	BQL
2	NY120353	BQL
2	NY120395	BQL
2	NY120396	BQL
2	NY120397	BQL
3	NY120182	BQL
3	NY120183	BQL
3	NY120184	BQL
3	NY120268	BQL
3	NY120269	BQL
3	NY120270	BQL
3	NY120398	BQL
3	NY120399	BQL
3	NY120400	BQL
4	NY120185	BQL
4	NY120186	BQL
4	NY120187	BQL
4	NY120271	BQL
4	NY120272	BQL
4	NY120273	BQL
4	NY120401	BQL
4	NY120402	BQL
4	NY120403	BQL
5	NY120510	BQL
5	NY120511	BQL
5	NY120512	BQL
5	NY120557	BQL
5	NY120558	BQL
5	NY120559	BQL
5	NY120560	BQL
5	NY120561	BQL
5	NY120562	BQL
5	NY120606	BQL
6	NY120188	BQL

BQL = Below the 10 mg/kg Quantitation Level

APPENDIX B
TABLE B-1 (CONT'D)
XRF ON-SITE ANALYTICAL RESULTS
MAY, 1988, SABRE PARK
RANDOM SURFACE SAMPLING PROGRAM

R-584-08-88-01
Rev. No. 4

Grid Number	Sample Number	Mercury Conc. (mg/Kg)
6	NY120189	BQL
6	NY120190	BQL
6	NY120274	BQL
6	NY120275	BQL
6	NY120276	BQL
6	NY120404	BQL
6	NY120405	BQL
6	NY120406	BQL
7	NY120191	BQL
7	NY120192	BQL
7	NY120193	BQL
7	NY120277	BQL
7	NY120278	BQL
7	NY120279	BQL
7	NY120407	BQL
7	NY120409	BQL
7	NY120563	BQL
8	NY120194	BQL
8	NY120195	BQL
8	NY120196	BQL
8	NY120280	BQL
8	NY120281	BQL
8	NY120282	BQL
8	NY120408	BQL
8	NY120410	BQL
8	NY120411	BQL
8	NY120412	BQL
9	NY120197	BQL
9	NY120198	BQL
9	NY120199	BQL
9	NY120283	BQL
9	NY120284	BQL
9	NY120285	BQL
9	NY120413	BQL
9	NY120414	BQL
9	NY120415	BQL
10	NY120200	BQL
10	NY120201	BQL
10	NY120202	BQL
10	NY120286	BQL
10	NY120287	BQL
10	NY120288	BQL
10	NY120422	BQL
10	NY120423	BQL
10	NY120424	BQL
11	NY120203	BQL
11	NY120204	BQL

BQL = Below the 10 mg/kg Quantitation Level

APPENDIX B
TABLE B-1 (CONT'D)
XRF ON-SITE ANALYTICAL RESULTS
MAY, 1988, SABRE PARK
RANDOM SURFACE SAMPLING PROGRAM

R-584-08-88-01
Rev. No. 4

Grid Number	Sample Number	Mercury Conc. (mg/Kg)
11	NY120205	BQL
11	NY120289	BQL
11	NY120290	BQL
11	NY120291	BQL
11	NY120425	BQL
11	NY120426	BQL
11	NY120427	BQL
12	NY120206	BQL
12	NY120207	BQL
12	NY120208	BQL
12	NY120292	BQL
12	NY120293	BQL
12	NY120294	BQL
12	NY120428	BQL
12	NY120429	BQL
12	NY120430	BQL
13	NY120209	BQL
13	NY120210	BQL
13	NY120211	BQL
13	NY120295	BQL
13	NY120442	BQL
13	NY120443	BQL
13	NY120444	BQL
13	NY120513	BQL
13	NY120514	BQL
13	NY120565	BQL
13	NY120566	BQL
13	NY120567	BQL
14	NY120212	BQL
14	NY120213	BQL
14	NY120214	BQL
14	NY120388	BQL
14	NY120389	BQL
14	NY120390	BQL
14	NY120445	BQL
14	NY120446	BQL
14	NY120447	BQL
14	NY120564	BQL
15	NY120215	BQL
15	NY120216	BQL
15	NY120217	BQL
15	NY120299	BQL
15	NY120300	BQL
15	NY120301	BQL
15	NY120448	BQL
15	NY120449	BQL
15	NY120450	BQL

BQL = Below the 10 mg/kg Quantitation Level

APPENDIX B
TABLE B-1 (CONT'D)
XRF ON-SITE ANALYTICAL RESULTS
MAY, 1988, SABRE PARK
RANDOM SURFACE SAMPLING PROGRAM

R-584-08-88-01
Rev. No. 4

Grid Number	Sample Number	Mercury Conc. (mg/Kg)
16	NY120302	BQL
16	NY120303	BQL
16	NY120304	BQL
16	NY120336	BQL
16	NY120337	BQL
16	NY120338	BQL
16	NY120451	BQL
16	NY120452	BQL
16	NY120453	BQL
16	NY120515	BQL
16	NY120516	BQL
17	NY120333	BQL
17	NY120334	BQL
17	NY120335	BQL
17	NY120454	BQL
17	NY120455	BQL
17	NY120456	BQL
17	NY120517	BQL
17	NY120518	BQL
17	NY120519	BQL
17	NY120568	BQL
17	NY120569	BQL
17	NY120570	BQL
17	NY120571	BQL
18	NY120218	BQL
18	NY120219	BQL
18	NY120220	BQL
18	NY120305	BQL
18	NY120306	BQL
18	NY120307	BQL
18	NY120457	BQL
18	NY120458	BQL
18	NY120459	BQL
19	NY120309	BQL
19	NY120310	BQL
19	NY120460	BQL
19	NY120461	BQL
19	NY120462	BQL
19	NY120520	BQL
19	NY120521	BQL
19	NY120522	BQL
19	NY120572	BQL
19	NY120573	BQL
19	NY120574	BQL
19	NY120575	BQL
19	NY120576	BQL
19	NY120577	BQL

BQL = Below the 10 mg/kg Quantitation Level

APPENDIX B
TABLE B-1 (CONT'D)
XRF ON-SITE ANALYTICAL RESULTS
MAY, 1988, SABRE PARK
RANDOM SURFACE SAMPLING PROGRAM

R-584-08-88-01
Rev. No. 4

Grid Number	Sample Number	Mercury Conc. (mg/Kg)
20	NY120221	BQL
20	NY120222	BQL
20	NY120223	BQL
20	NY120311	BQL
20	NY120312	BQL
20	NY120313	BQL
20	NY120463	BQL
20	NY120464	BQL
20	NY120465	BQL
20	NY120523	BQL
21	NY120224	BQL
21	NY120225	BQL
21	NY120226	BQL
21	NY120314	BQL
21	NY120315	BQL
21	NY120316	BQL
21	NY120466	BQL
21	NY120467	BQL
21	NY120468	BQL
21	NY120524	BQL
22	NY120227	BQL
22	NY120228	BQL
22	NY120229	BQL
22	NY120469	BQL
22	NY120470	BQL
22	NY120471	BQL
22	NY120525	BQL
22	NY120552	BQL
23	NY120230	BQL
23	NY120231	BQL
23	NY120308	BQL
23	NY120317	BQL
23	NY120472	BQL
23	NY120473	BQL
23	NY120474	BQL
23	NY120526	BQL
23	NY120555	BQL
23	NY120598	BQL
23	NY120623	BQL
24	NY120232	BQL
24	NY120233	BQL
24	NY120234	BQL
24	NY120339	BQL
24	NY120340	BQL
24	NY120341	BQL
24	NY120527	BQL
24	NY120578	BQL
24	NY120594	BQL
24	NY120595	BQL

BQL = Below the 10 mg/kg Quantitation Level

APPENDIX B
TABLE B-1 (CONT'D)
XRF ON-SITE ANALYTICAL RESULTS
MAY, 1988, SABRE PARK
RANDOM SURFACE SAMPLING PROGRAM

R-584-08-88-01
Rev. No. 4

Grid Number	Sample Number	Mercury Conc. (mg/Kg)
24	NY120596	BQL
24	NY120597	BQL
25	NY120235	BQL
25	NY120236	BQL
25	NY120237	BQL
25	NY120342	BQL
25	NY120343	BQL
25	NY120344	BQL
25	NY120475	BQL
25	NY120476	BQL
25	NY120477	BQL
25	NY120528	BQL
25	NY120579	BQL
26	NY120238	BQL
26	NY120239	BQL
26	NY120240	BQL
26	NY120345	BQL
26	NY120346	BQL
26	NY120347	BQL
26	NY120529	BQL
26	NY120530	BQL
26	NY120580	BQL
27	NY120241	BQL
27	NY120242	BQL
27	NY120243	BQL
27	NY120355	BQL
27	NY120356	BQL
27	NY120357	BQL
27	NY120531	BQL
27	NY120532	BQL
27	NY120533	BQL
27	NY120581	BQL
28	NY120244	BQL
28	NY120245	BQL
28	NY120246	BQL
28	NY120358	BQL
28	NY120359	BQL
28	NY120360	BQL
28	NY120534	BQL
28	NY120535	BQL
28	NY120549	BQL
28	NY120605	BQL
29	NY120247	BQL
29	NY120248	BQL
29	NY120249	BQL
29	NY120361	32
29	NY120362	BQL
29	NY120363	BQL
29	NY120492	BQL

BQL = Below the 10 mg/kg Quantitation Level

APPENDIX B
TABLE B-1 (CONT'D)
XRF ON-SITE ANALYTICAL RESULTS
MAY, 1988, SABRE PARK
RANDOM SURFACE SAMPLING PROGRAM

R-584-08-88-01
Rev. No. 4

Grid Number	Sample Number	Mercury Conc. (mg/Kg)
30	NY120250	BQL
30	NY120251	72
30	NY120252	BQL
30	NY120418	BQL
31	NY120253	BQL
31	NY120254	BQL
31	NY120255	BQL
31	NY120364	BQL
31	NY120365	BQL
31	NY120366	BQL
31	NY120490	BQL
31	NY120536	BQL
31	NY120592	BQL
31	NY120593	BQL
32	NY120386	BQL
32	NY120537	BQL
32	NY120538	BQL
32	NY120540	BQL
32	NY120582	BQL
32	NY120583	BQL
32	NY120584	BQL
32	NY120585	BQL
32	NY120586	BQL
32	NY120587	BQL
33	NY120539	BQL
33	NY120541	BQL
33	NY120542	BQL
33	NY120588	BQL
33	NY120589	BQL
33	NY120590	BQL
33	NY120591	BQL
33	NY120620	BQL
33	NY120621	BQL
33	NY120622	BQL
34	NY120256	BQL
34	NY120257	BQL
34	NY120258	BQL
34	NY120367	BQL
34	NY120368	BQL
34	NY120369	BQL
34	NY120543	BQL
34	NY120544	BQL
34	NY120545	BQL
34	NY120599	BQL
34	NY120600	BQL
34	NY120601	BQL
34	NY120602	BQL
35	NY120546	BQL
35	NY120547	BQL
35	NY120548	BQL

BQL = Below the 10 mg/kg Quantitation Level

APPENDIX B
TABLE B-1 (CONT'D)
XRF ON-SITE ANALYTICAL RESULTS
MAY, 1988, SABRE PARK
RANDOM SURFACE SAMPLING PROGRAM

Grid Number	Sample Number	Mercury Conc. (mg/Kg)
35	NY120603	BQL
35	NY120604	BQL
35	NY120607	BQL
35	NY120608	BQL
35	NY120609	BQL
35	NY120610	BQL
35	NY120611	BQL
36	NY120259	BQL
36	NY120260	BQL
36	NY120261	BQL
36	NY120370	53
36	NY120371	BQL
36	NY120372	10

BQL = Below the 10 mg/kg Quantitation Level

APPENDIX B
TABLE B-2
XRF ON-SITE ANALYTICAL RESULTS
MAY, 1988, SABRE PARK
JUDGEMENTAL SURFACE SAMPLING PROGRAM

Grid Number	Sample Number	Mercury Conc. (mg/Kg)
5	NY120296	BQL
5	NY120297	BQL
5	NY120298	BQL
13	NY120318	BQL
13	NY120319	BQL
13	NY120320	BQL
19	NY120321	BQL
19	NY120322	BQL
19	NY120323	BQL
29	NY120478	30
30	NY120376	50
30	NY120377	64
30	NY120441	24
30	NY120479	BQL
30	NY120480	BQL
30	NY120481	40
30	NY120506	BQL
30	NY120507	13
30	NY120508	BQL
30	NY120509	BQL
30	NY120612	BQL
30	NY120615	13
32	NY120324	BQL
32	NY120325	BQL
32	NY120326	BQL
33	NY120327	BQL
33	NY120328	BQL
33	NY120329	BQL
34	NY120617	BQL
34	NY120618	BQL
34	NY120619	BQL
35	NY120330	BQL
35	NY120331	BQL
35	NY120332	BQL
36	NY120373	BQL
36	NY120431	45
36	NY120482	BQL
36	NY120483	44
36	NY120500	BQL
36	NY120501	BQL
36	NY120502	BQL
36	NY120616	BQL
37	NY120374	BQL
37	NY120375	10
37	NY120378	10
37	NY120379	10
37	NY120380	BQL

BQL = Below the 10 mg/kg Quantitation Level

APPENDIX B
TABLE B-2 (CONT'D)
XRF ON-SITE ANALYTICAL RESULTS
MAY, 1988, SABRE PARK
JUDGEMENTAL SURFACE SAMPLING PROGRAM

R-584-08-88-01
Rev. No 4

Grid Number	Sample Number	Mercury Conc. (mg/Kg)
37	NY120381	50
37	NY120382	BQL
37	NY120432	BQL
37	NY120433	BQL
37	NY120434	40
37	NY120435	15
37	NY120436	32
37	NY120437	36
37	NY120484	26
37	NY120485	39
37	NY120503	BQL
37	NY120504	BQL
38	NY120383	BQL
38	NY120384	BQL
38	NY120385	BQL
38	NY120438	BQL
38	NY120439	84
38	NY120440	37
38	NY120486	BQL
38	NY120487	BQL
38	NY120488	BQL
38	NY120489	BQL
38	NY120495	24
38	NY120505	BQL
38	NY120613	38
38	NY120614	10

BQL = Below the 10 mg/kg Quantitation Level

APPENDIX C

SOIL CLASSIFICATION DATA AND RESULTS

APPENDIX C
SOIL CLASSIFICATION
DATA AND RESULTS

Figure C-1 shows the Unified Soil Classification System (USCS) used for on-site indexing and description of all soils collected during the May 1988 sampling event. Table C-1 presents the USCS indexing and sample descriptions of these soil samples. Figure C-2 depicts the generalized surface soils map for Sabre Park based upon Table C-1. All of the surface soils were apparently placed on site as fill. Much of the soil contains various types of fill material including glass, slag, ash cinders, and metallic fragments. The surface soil fill materials have been in place long enough at Sabre Park to support well-established vegetation. An area where one type of soil predominates is found in the same generalized southwest portion of the Sabre Park Trailer Park as the mercury-contaminated soil. This area seems to have been disturbed after most of the fill was placed at Sabre Park.

SOIL CLASSIFICATION CHART						
MAJOR DIVISIONS			GROUP SYMBOLS (ASTM D2487)	TYPICAL DESCRIPTIONS		
COARSE-GRAINED SOILS	MORE THAN 50% RETAINED ON NO. 200 SIEVE *	GRAVELS 50% OR MORE OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS	GW	WELL-GRADED GRAVELS & GRAVEL-SAND MIXTURES, LITTLE OR NO FINES	
				GP	POORLY GRADED GRAVELS & GRAVEL-SAND MIXTURES, LITTLE OR NO FINES	
		SANDS MORE THAN 50% OF COARSE FRACTION PASSES NO. 4 SIEVE	GRAVELS WITH FINES		GM	SILTY GRAVELS, GRAVEL SAND CLAY MIXTURES
					GC	CLAYEY GRAVELS, GRAVEL SAND CLAY MIXTURES
	SANDS WITH FINES		CLEAN SANDS		SW	WELL-GRADED SANDS & GRAVELLY SANDS, LITTLE OR NO FINES
					SP	POORLY GRADED SANDS & GRAVELLY SANDS, LITTLE OR NO FINES
					SM	SILTY SANDS, SAND-SILT MIXTURES
					SC	CLAYEY SANDS, SAND-CLAY MIXTURES
FINE-GRAINED SOILS	SILTS & CLAYS LIQUID LIMIT 50% OR LESS			ML	INORGANIC SILTS, VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS	
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS	
				OL	ORGANIC SILTS & ORGANIC SILTY CLAYS OF LOW PLASTICITY	
	SILTS & CLAYS LIQUID LIMIT GREATER THAN 50%			MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDS OR SILTS, ELASTIC SILTS	
				CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS	
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY	
HIGHLY ORGANIC SOILS			PT	PEAT, MUCK & OTHER HIGHLY ORGANIC SOILS		

*BASED ON MATERIAL PASSING THE 3" (75 MM) SIEVE

GRADATION**			COMPACTNESS** (SAND AND/OR GRAVEL)			CONSISTENCY** (CLAY AND/OR SILT)		
TERM	% BY WEIGHT		TERM	% RELATIVE DENSITY		TERM	SHEAR STRENGTH TONS/SQ. FT.	
TRACE	1	TO 12	LOOSE	0	TO 40	SOFT	LESS THAN 0.25	
LITTLE	13	TO 20	MEDIUM DENSE	41	TO 70	FIRM	0.25	TO 0.5
SOME	21	TO 30	DENSE	71	TO 90	STIFF	0.5	TO 1.0
ADD "Y"	OVER 30		VERY DENSE	91	TO 100	VERY STIFF	1.0	TO 2.0
						HARD	OVER 2.0	

**VALUES ARE FROM LABORATORY OR FIELD TEST DATA, WHERE APPLICABLE. WHEN NO TESTING WAS PERFORMED, VALUES ARE ESTIMATED.

UNIFIED SOIL CLASSIFICATION SYSTEM CHART**FIGURE C-1**

APPENDIX C
TABLE C-1
ON-SITE SOIL CLASSIFICATION DATA
MAY, 1988, SABRE PARK

Grid Number	Sample Number	Soil Type	Soil Classification
1	NY120176	SP	BROWN TO DARK BROWN, F-M SAND, TR SILT, WITH ROOTS, (ORGANIC).
1	NY120177	SP	BROWNISH YELLOW / DARK GRAYISH BROWN, F-M SAND, TR SILT, WITH ROOTS, (ORGANIC)
1	NY120178	SP	DARK REDDISH GRAY, F-M SAND, TR SILT, WITH ROOTS, (ORGANIC).
1	NY120262	SP	DARK BROWN, F SAND, LITTLE M-C SAND, TR SILT, TR GRAVEL, TR ROOTS.
1	NY120263	SP	BROWN TO DARK BROWN, F SAND, TR SILT, TR ROOTS.
1	NY120264	SP	DARK GRAYISH BROWN, F SAND, TR SILT, TR ROOTS.
1	NY120348	SP	BROWN, F SAND, TR SILT, TR C SAND, TR ROOTS.
1	NY120349	ML	LIGHT GRAY TO GRAY, SILT.
1	NY120392	SP	DARK GRAYISH BROWN, F SAND, TR M SAND, TR SILT, TR ROOTS.
1	NY120393	SP	DARK YELLOWISH BROWN, F SAND, TR SILT, TR ROOTS.
1	NY120394	SP	DARK YELLOWISH BROWN, F SAND, TR SILT, TR GRAVEL, TR ROOTS.
2	NY120179	SP	DARK BROWN, F-M SAND, TR SILT, TR C SAND, WITH ROOTS, (ORGANIC).
2	NY120180	SP	DARK BROWN, F-M SAND, TR-LITTLE C SAND, TR-LITTLE SILT, TR GRAVEL, TR ROOTS, TR CONCRETE FRAGMENTS, (ORGANIC)
2	NY120181	SP	BROWN TO DARK BROWN, F-M SAND, TR SILT, TR C SAND, WITH ROOTS, (ORGANIC).
2	NY120265	SP	DARK YELLOWISH BROWN, F SAND, TR SILT, TR C SAND, TR GRAVEL, TR ROOTS.
2	NY120266	SP	BROWN TO DARK BROWN, F SAND, TR SILT, TR ROOTS, (VERY FIBROUS).

APPENDIX C
TABLE C-1 (CONT'D)
ON-SITE SOIL CLASSIFICATION DATA
MAY, 1988, SABRE PARK

Grid Number	Sample Number	Soil Type	Soil Classification
2	NY120267	CL/SP	DARK YELLOWISH BROWN/V-DARK GRAYISH BROWN, CLAY AND F SAND, TR-LITTLE SILT, TR ROOTS.
2	NY120350	SP	DARK YELLOW BROWN, F SAND, TR-LITTLE SILT, TR ROOTS.
2	NY120351	ML	LIGHT GRAY TO GRAY, SILTY CLAY, LITTLE-SOME F SAND.
2	NY120352	SP	BROWN, F SAND.
2	NY120395	SP	DARK YELLOWISH BROWN, F SAND, TR SILT, TR ROOTS.
2	NY120396	SP	DARK BROWN / LIGHT YELLOWISH BROWN, F SAND, TR SILT, TR ROOTS.
2	NY120397	SP	DARK GRAYISH BROWN, F SAND, TR SILT, TR ROOTS.
3	NY120182	SM	DARK BROWN, F-M SAND, LITTLE SILT, TR-LITTLE CLAY, TR C SAND, WITH ROOTS, (ORGANIC).
3	NY120183	SP	DARK REDDISH GRAY, F-M SAND, TR SILT, TR C SAND, WITH ROOTS, (ORGANIC).
3	NY120184	SP/SM	V-DARK GRAYISH BROWN, F-M SAND, TR-LITTLE SILT, TR CLAY, TR C SAND, TR ROOTS, (ORGANIC).
3	NY120268	SP	BROWN TO DARK BROWN, F SAND, TR SILT, TR ROOTS (FIBROUS), TR GRAVEL.
3	NY120269	SP	DARK GRAYISH BROWN, F SAND, TR SILT, TR ROOTS (FIBROUS).
3	NY120270	SP/SM	DARK BROWN, F SAND, TR-LITTLE SILT, TR ROOTS.
3	NY120353	SP	DARK BROWN, F SAND, TR SILT, TR M SAND, TR ROOTS.
3	NY120354	ML	YELLOW BROWN / GRAY, F SANDY SILT, TR ROOTS.
3	NY120398	SP/SM	DARK BROWN, F-M SAND, TR-LITTLE SILT, TR GRAVEL, TR C SAND, TR ROOTS.

APPENDIX C
TABLE C-1 (CONT'D)
ON-SITE SOIL CLASSIFICATION DATA
MAY, 1988, SABRE PARK

Grid Number	Sample Number	Soil Type	Soil Classification
3	NY120399	SP	DARK YELLOWISH BROWN, F SAND, TR SILT, TR GRAVEL, TR ROOTS.
3	NY120400	SP	DARK YELLOWISH BROWN, F SAND, TR SILT, TR ROOTS.
4	NY120185	SP	DARK REDDISH BROWN, F-M SAND, TR SILT, TR ROOTS.
4	NY120186	SC	DARK BROWN, F-SANDY CLAY, TR-LITTLE SILT, WITH ROOTS, (ORGANIC).
4	NY120187	SP	DARK BROWN, F-M SAND, TR-LITTLE SILT, TR C SAND, TR GRAVEL, WITH ROOTS, (ORGANIC).
4	NY120271	SP	DARK BROWN, F SAND, TR SILT, TR ROOTS (FIBROUS).
4	NY120272	SP	DARK YELLOWISH BROWN, F SAND, TR SILT, TR ROOTS.
4	NY120273	SP	DARK GRAYISH BROWN, F SAND, TR SILT, TR ROOTS.
4	NY120401	SP	BROWN TO DARK BROWN, F SAND, TR SILT, TR GRAVEL, TR ROOTS.
4	NY120402	SP	LIGHT YELLOWISH BROWN / DARK YELLOWISH BROWN, F-M SAND, TR SILT, TR ROOTS.
4	NY120403	SP	BROWN TO DARK BROWN, F SAND, TR SILT, TR ROOTS.
5	NY120296	SP	DARK YELLOW BROWN, F-M SAND, TR SILT, TR ROOTS.
5	NY120297	SP	DARK BROWN, F-M SAND, TR SILT, TR ROOTS.
5	NY120298	SP	DARK BROWN, F-SAND, TR SILT, TR ROOTS.
5	NY120510	SP	BROWNISH YELLOW, F SAND, TR-LITTLE SILT, TR M-C SAND, TR GRAVEL, TR ROOTS.
5	NY120511	SP	DARK BROWNISH YELLOW, F SAND, TR-LITTLE SILT, TR M-C SAND, TR GRAVEL, TR BRICK, TR ROOTS.

APPENDIX C
TABLE C-1 (CONT'D)
ON-SITE SOIL CLASSIFICATION DATA
MAY, 1988, SABRE PARK

Grid Number	Sample Number	Soil Type	Soil Classification
5	NY120512	SP	YELLOWISH BROWN, F SAND, TR-LITTLE SILT, TR M-C SAND, TR GRAVEL, TR ROOTS.
5	NY120557	SP	BROWN TO DARK BROWN, F-M SAND, TR SILT, TR GRAVEL, TR C SAND, TR CLAY, TR ROOTS.
5	NY120558	SP	DARK YELLOWISH BROWN, F-M SAND, TR SILT, TR C SAND, TR GRAVEL, TR ROOTS.
5	NY120559	SP	DARK YELLOWISH BROWN, F-M SAND, TR SILT, TR C SAND, TR GRAVEL, TR GREENISH PELLETS, TR ROOTS.
5	NY120560	SP	DARK BROWN, F-M SAND, TR SILT, TR C SAND, TR ROOTS.
5	NY120561	SP	DARK YELLOWISH BROWN, F-M SAND, TR SILT, TR C SAND, TR ROOTS.
5	NY120562	SP	DARK YELLOWISH BROWN, F-M SAND, TR SILT, TR C SAND, TR GRAVEL, TR ROOTS.
5	NY120606	SP	GRAY, F SAND, TR M-C SAND, TR SILT, TR ROOTS.
6	NY120188	OL	V-DARK BROWN, CLAYEY SILT, TR-LITTLE F-SAND, TR C SAND, (ORGANIC).
6	NY120189	SM	GRAYISH BROWN, F SAND, LITTLE-SOME SILT, WITH ROOTS, (ORGANIC).
6	NY120190	SM	DARK REDDISH BROWN, F SAND, TR-LITTLE SILT, TR CLAY, WITH ROOTS, (ORGANIC).
6	NY120274	SP/SM	DARK GRAYISH BROWN, F SAND, TR-LITTLE SILT, TR CLAY, TR ROOTS.
6	NY120275	OL	V-DARK GRAYISH BROWN, SILT, TR F SAND, TR ROOTS.
6	NY120276	OL	V-DARK GRAYISH BROWN, SILTY CLAY, TR F SANDS, TR ROOTS.
6	NY120404	SP	YELLOW / DARK BROWN, F SAND, TR-LITTLE SILT, TR ROOTS.
6	NY120405	SP	DARK BROWN, F SAND, TR-LITTLE SILT, TR GRAVEL, TR ROOTS.

C-6

APPENDIX C
TABLE C-1 (CONT'D)
ON-SITE SOIL CLASSIFICATION DATA
MAY, 1988, SABRE PARK

Grid Number	Sample Number	Soil Type	Soil Classification
6	NY120406	SM	LIGHT YELLOWISH BROWN / DARK YELLOWISH BROWN, F SANDY SILT, TR ROOTS.
7	NY120191	SM	DARK GRAYISH BROWN, F SAND, SOME SILT, TR CLAY, WITH ROOTS, (ORGANIC).
7	NY120192	SM	BROWN TO DARK BROWN, F SAND, SOME SILT, TR CLAY, WITH ROOTS, (ORGANIC).
7	NY120193	CL	DARK BROWN, SILTY CLAY, TR-LITTLE F SAND, TR C SAND, TR GRAVEL, WITH ROOTS.
7	NY120277	SP	BROWN TO DARK BROWN, F SAND, LITTLE C SAND, LITTLE GRAVEL, TR SILT, TR ROOTS.
7	NY120278	OL	DARK BROWN, SILT, TR F-C SAND, TR GRAVEL, TR ROOTS.
7	NY120279	OL	DARK BROWN, SILT, WITH SILTY F-C SAND, TR GRAVEL, TR ROOTS.
7	NY120407	OL	DARK YELLOWISH BROWN, SILTY CLAY WITH GRAVEL, TR F-C SAND, TR BRICK, TR ROOTS.
7	NY120409	SP	V-DARK GRAYISH BROWN, F SAND, TR M-C SAND, TR SILT, TR ROOTS.
7	NY120563	SP/SM	DARK GRAYISH BROWN, F-C SAND, LITTLE-SOME SILT, TR CLAY, TR GRAVEL, TR ROOTS.
8	NY120194	SP-SM	DARK GRAYISH BROWN, F SAND, TR-LITTLE SILT, (ORGANIC), SOME ORANGY SAND.
8	NY120195	SM	V-DARK GRAYISH BROWN, SILTY F SAND, WITH ROOTS, TR CLAY, (ORGANIC).
8	NY120196	SP	BROWN TO DARK BROWN, F-M SAND, TR SILT, TR CLAY, WITH ROOTS, (ORGANIC).
8	NY120280	OL	V-DARK GRAYISH BROWN, SILT, TR F-C SAND, TR ROOTS, TR PELLETS.
8	NY120281	SP	DARK GRAYISH BROWN, F SAND, TR M-C SAND, TR GRAVEL, TR SILT, TR ROOTS.
8	NY120282	OL/SM	V-DARK GRAYISH BROWN, SILT, TR-LITTLE F-C SAND, TR GRAVEL, TR ROOTS.

APPENDIX C
TABLE C-1 (CONT'D)
ON-SITE SOIL CLASSIFICATION DATA
MAY, 1988, SABRE PARK

Grid Number	Sample Number	Soil Type	Soil Classification
8	NY120408	SM	DARK BROWN, F SANDY SILT, TR M-C SAND, TR GRAVEL, TR SLAG, TR ROOTS.
8	NY120410	OL/SC	DARK GRAY, SILTY CLAY WITH F SAND, TR-LITTLE M-C SAND, TR ROOTS.
8	NY120411	SM	BROWN TO DARK BROWN, SILTY F SAND, TR M-C SAND, TR ROOTS.
8	NY120412	SM	BROWN TO DARK BROWN, SILTY F SAND, TR-LITTLE M-C SAND, TR GRAVEL, TR ROOTS.
9	NY120197	SP/SM	V-DARK GRAYISH BROWN, F SAND, TR-LITTLE SILT, TR CLAY, WITH ROOTS, (ORGANIC).
9	NY120198	SP	DARK REDDISH GRAY, F-C SAND, TR-LITTLE GRAVEL, TR SILT, WITH FILL, CONCRETE, AND SMALL BLUE GRAY PELLETS.
9	NY120199	SP	DARK YELLOWISH BROWN, F-M SAND, TR SILT, WITH TR ROOTS.
9	NY120283	OL	V-DARK GRAYISH BROWN, CLAY, TR-LITTLE F SAND, TR C SAND, TR ROOTS.
9	NY120284	SP	YELLOWISH BROWN, F SAND, TR M-C SAND, TR GRAVEL, TR SILT, TR ROOTS.
9	NY120285	SP	V-DARK GRAYISH BROWN / DARK YELLOW BROWN, F SAND, TR M-C SAND, WITH LENS OF SILT, TR ROOTS.
9	NY120413	SP	PALE BROWN, F SAND, TR M-C SAND, TR ROOTS.
9	NY120414	SP	DARK YELLOWISH BROWN, F SAND, TR M-C SAND, TR GRAVEL, TR SILT, TR ROOTS.
9	NY120415	SP	BROWNISH YELLOW, F SAND, TR M-C SAND, TR GRAVEL, TR SILT, TR ROOTS.
10	NY120200	SP	BROWN TO DARK BROWN, F-M SAND, TR-LITTLE SILT, TR-LITTLE C SAND, LITTLE GRAVEL, TR ROOTS, (ORGANIC) REDDISH BROWN.
10	NY120201	SP/SM	V-DARK GRAYISH BROWN, F-M SAND, TR-LITTLE SILT, TR C SAND, TR GRAVEL, WITH TR ROOTS, (ORGANIC).
10	NY120202	SP/SM	V-DARK BROWN, F-M SAND, TR-LITTLE SILT, TR C SAND, TR GRAVEL, WITH TRACE ROOTS, (ORGANIC).

APPENDIX C
TABLE C-1 (CONT'D)
ON-SITE SOIL CLASSIFICATION DATA
MAY, 1988, SABRE PARK

Grid Number	Sample Number	Soil Type	Soil Classification
10	NY120286	SP	DARK GRAYISH BROWN, F SAND, TR SILT, TR GRAVEL, TR ROOTS.
10	NY120287	SP	DARK YELLOWISH BROWN, F SAND, TR SILT, TR GRAVEL, TR ROOTS.
10	NY120288	SM/OL	V-DARK GRAYISH BROWN, SILT, LITTLE F SAND, WITH ROOTS.
10	NY120422	SP	LIGHT BROWNISH GRAY, F SAND, TR SILT, TR ROOTS (FIBROUS).
10	NY120423	SP/SM	V-DARK GRAYISH BROWN, F SAND, LITTLE-SOME SILT, TR C SAND, TR ROOTS.
10	NY120424	SP	BROWN TO DARK BROWN, F SAND, TR SILT, TR M-C SAND, TR ROOTS.
11	NY120203	SP/SM	V-DARK GRAYISH BROWN, F-M SAND, TR-LITTLE SILT, TR C SAND, TR ROOTS, (ORGANIC).
11	NY120204	SP/SM	DARK BROWN, F-M SAND, TR-LITTLE SILT, TR-LITTLE C SAND, TR GRAVEL, TR ROOTS, (ORGANIC).
11	NY120205	SC	DARK BROWN, F-M SAND WITH CLAY, TR-LITTLE SILT, TR GRAVEL, TR ROOTS, (ORGANIC).
11	NY120289	SP	BROWN TO DARK BROWN, F SAND, TR SILT, TR ROOTS.
11	NY120290	SP	BROWN TO DARK BROWN, F SAND, TR SILT, TR GRAVEL, TR ROOTS.
11	NY120291	SP	GRAYISH BROWN, F-C SAND, TR GRAVEL, TR SILT, TR ROOTS.
11	NY120425	SP	BROWN TO DARK BROWN, F SAND, TR SILT, TR M SAND, TR ROOTS (FIBROUS).
11	NY120426	SM	V-DARK GRAYISH BROWN, F SAND, SOME SILT, TR M-C SAND, TR ROOTS.
11	NY120427	SP	BROWN TO DARK BROWN, F SAND, TR SILT, TR M SAND, TR ROOTS.
12	NY120206	SM	V-DARK GRAYISH BROWN, F-M SAND, LITTLE SILT, TR-LITTLE CLAY (SOME LIGHTER COLOR), TR GRAVEL, TR ROOTS, (ORGANIC).

APPENDIX C
TABLE C-1 (CONT'D)
ON-SITE SOIL CLASSIFICATION DATA
MAY, 1988, SABRE PARK

Grid Number	Sample Number	Soil Type	Soil Classification
12	NY120207	SM	V-DARK GRAY, F-M SAND, LITTLE SILT, TR C SAND, TR CLAY, TR GRAVEL, TR ROOTS, (ORGANIC).
12	NY120208	SP	DARK GRAYISH BROWN, F SAND, TR SILT, TR M-C SAND, TR ROOTS, (ORGANIC).
12	NY120292	SP	BROWN TO DARK BROWN, F SAND, TR M-C SAND, TR GRAVEL, TR ROOTS.
12	NY120293	OL	BROWN TO DARK BROWN, SILT, TR F-M SAND, TR ROOTS.
12	NY120294	OL	DARK BROWN, CLAY, LITTLE-SOME F-C SAND, TR ROOTS.
12	NY120428	SP	V-DARK GRAYISH BROWN, F SAND, TR SILT, TR M SAND, TR GRAVEL, TR ROOTS.
12	NY120429	SM	V-DARK GRAYISH BROWN, SILTY F SAND, TR GRAVEL, TR M-C SAND, TR ROOTS, (LENS OF REDDISH SILT, TR WHITE SILT).
12	NY120430	SP	DARK BROWN, F SAND, TR M-C SAND, TR GRAVEL, TR SILT, TR ROOTS.
13	NY120209	SM	DARK BROWN, F-M SAND, LITTLE SILT, TR CLAY, LITTLE GRAVEL, TR C SAND, TR ROOTS, (ORGANIC).
13	NY120210	SP/SM	BROWN TO DARK BROWN, F-M SAND, TR-LITTLE SILT, TR CLAY, TR GRAVEL, TR C SAND, TR ROOTS, (ORGANIC).
13	NY120211	SP	BROWN TO DARK BROWN, F-M SAND, TR SILT, TR CLAY, TR C SAND, TR GRAVEL, TR ROOTS, (ORGANIC).
13	NY120295	SP	BROWN TO DARK BROWN, F-M SAND, TR SILT, TR GRAVEL, TR ROOTS.
13	NY120318	SP	BROWN, F SAND, TR C-M SAND, TR SILT, TR ROOTS.
13	NY120319	SP	BROWN, F SAND, TR SILT, TR ROOTS.
13	NY120320	SM	BROWN TO DARK BROWN, SILTY F-C SAND, LITTLE GRAVEL, TR BRICK, TR ROOTS.
13	NY120442	SP	DARK GRAYISH BROWN, F-C SAND, TR-LITTLE SILT, TR GRAVEL, TR ROOTS.

APPENDIX C
TABLE C-1 (CONT'D)
ON-SITE SOIL CLASSIFICATION DATA
MAY, 1988, SABRE PARK

Grid Number	Sample Number	Soil Type	Soil Classification
13	NY120443	SM	LIGHT YELLOWISH BROWN / YELLOWISH BROWN, F SAND, LITTLE-SOME SILT, TR CLAY, TR ROOTS.
13	NY120444	SP/SM	LIGHT GRAY TO GRAY / YELLOWISH BROWN / DARK BROWN, F SAND, TR-LITTLE CLAYEY SILT, TR GRAVEL.
13	NY120513	SP	PALE BROWN, F SAND, LITTLE SILT, TR M-C SAND, TR GRAVEL, TR ROOTS.
13	NY120514	SM	V-PALE BROWN, F SAND, SOME SILT, TR M SAND, TR ROOTS.
13	NY120565	SP	BROWN, F-M SAND, TR GRAVEL, TR C SAND, TR SILT, TR ROOTS.
13	NY120566	SP/SM	BROWN, F-M SAND, LITTLE SILT, TR C SAND, TR GRAVEL, TR ROOTS.
13	NY120567	SP	BROWN / DARK GRAYISH BROWN, F-M SAND, TR SILT, TR GRAVEL, TR C SAND, TR ROOTS.
14	NY120212	SP/SM	BROWN TO DARK BROWN, F-M SAND, TR-LITTLE SILT, TR C SAND, TR GRAVEL, TR ROOTS.
14	NY120213	SP	DARK BROWN, F SAND, TR M-C SAND, TR GRAVEL, TR SILT, TR ROOTS, TR BRICK.
14	NY120214	SP	DARK BROWN, F SAND, TR M-C SAND, TR GRAVEL, TR SILT, TR ROOTS, TR BRICK.
14	NY120388	SP	F SAND, TR M-C SAND, TR SILT, TR GRAVEL, TR ROOTS.
14	NY120389	SP	F SAND, TR-LITTLE SILT, TR M-C SAND, TR GRAVEL, TR ROOTS.
14	NY120390	SM	F-M SAND, LITTLE CLAYEY SILT, TR GRAVEL, TR ROOTS.
14	NY120445	SP	BROWNISH YELLOW, F SAND, TR SILT, TR M-C SAND.
14	NY120446	SP	BROWN TO DARK BROWN, F SAND, TR M SAND, TR GRAVEL, TR ROOTS.
14	NY120447	SM	BROWN TO DARK BROWN, SILTY F SAND, LITTLE M SAND, TR C SAND, TR GRAVEL, TR ROOTS

APPENDIX C
TABLE C-1 (CONT'D)
ON-SITE SOIL CLASSIFICATION DATA
MAY, 1988, SABRE PARK

Grid Number	Sample Number	Soil Type	Soil Classification
14	NY120564	SP	DARK GRAYISH BROWN, F-C SAND, TR SILT, TR GRAVEL, TR ROOTS.
15	NY120215	SP	DARK BROWN, F SAND, TR M-C SAND, TR GRAVEL, TR SILT, TR ROOTS, TR BRICK.
15	NY120216	SP	BROWN TO DARK BROWN, F SAND, TR M-C SAND, TR GRAVEL, TR SILT, TR ROOTS, TR BRICK
15	NY120217	SP	BROWN TO DARK BROWN, F SAND, TR SILT, TR CLAY TR ROOTS.
15	NY120299	SP	DARK GRAYISH BROWN, F-SAND, TR SILT, TR ROOTS.
15	NY120300	SP	BROWN, F SAND, TR SILT, TR ROOTS.
15	NY120301	SP	BROWN, F SAND, TR SILT, TR ROOTS.
15	NY120448	SM	BROWN TO DARK BROWN, SILTY F SAND, TR M SAND, TR ROOTS.
15	NY120449	SP	BROWN TO DARK BROWN, F SAND, TR SILT, TR M-C SAND, TR ROOTS.
15	NY120450	SM	DARK YELLOWISH BROWN, F SAND, SOME SILT, TR M-C SAND, TR ROOTS.
16	NY120302	SP	BROWN, F SAND, TR SILT, TR ROOTS.
16	NY120303	SP	BROWN, F SAND, TR SILT, TR GRAVEL, TR C SAND, TR ROOTS.
16	NY120304	SP	BROWN TO DARK BROWN, F SAND, TR SILT, TR GRAVEL, TR C SAND, TR BRICK, TR ROOTS.
16	NY120336	SM	V-DARK GRAYISH BROWN, SILTY F-M SAND, TR C SAND, TR GRAVEL.
16	NY120337	SM	BROWN TO DARK BROWN, SILTY F-M SAND, TR C SAND, TR GRAVEL.
16	NY120338	SM	V-DARK GRAYISH BROWN, F SAND, SOME SILT, TR M-C SAND, TR CLAY, TR GRAVEL, TR ROOTS.

APPENDIX C
TABLE C-1 (CONT'D)
ON-SITE SOIL CLASSIFICATION DATA
MAY, 1988, SABRE PARK

Grid Number	Sample Number	Soil Type	Soil Classification
16	NY120451	SP	BROWN TO DARK BROWN, F SAND, TR SILT, TR M SAND, TR ROOTS.
16	NY120452	SP	DARK YELLOWISH BROWN, F SAND, TR SILT, TR M-C SAND, TR GRAVEL, TR ROOTS.
16	NY120453	SP/SM	F-M SAND, LITTLE SILT, TR C SAND, TR GRAVEL, TR SLAG, TR ROOTS.
16	NY120515	SP	BROWN TO DARK BROWN, F SAND, TR-LITTLE SILT, TR M-C SAND, TR GRAVEL, TR ROOTS.
16	NY120516	SM	DARK BROWN, SILTY F SAND, TR M-C SAND, TR ROOTS.
17	NY120333	SP/SM	DARK GRAYISH BROWN, F SAND, LITTLE SILT, TR M-C SAND, TR GRAVEL, TR CLAY, TR ROOTS.
17	NY120334	SC/SM	DARK BROWN, F-C SAND WITH CLAYEY SILT, TR GRAVEL, TR ROOTS.
17	NY120335	OL	BROWN TO DARK BROWN, SILT, TR F SAND, TR C SAND, TR ROOTS.
17	NY120454	SP	BROWN TO DARK BROWN / BROWNISH YELLOW, F SAND, TR SILT, TR M SAND, TR GRAVEL, TR ROOTS.
17	NY120455	SP	BROWN TO DARK BROWN, F SAND, TR SILT, TR M SAND, TR GRAVEL, TR ROOTS.
17	NY120456	SP/SM	DARK GRAYISH BROWN, F SAND, LITTLE SILT, TR M-C SAND, TR ROOTS.
17	NY120517	SP	LIGHT YELLOWISH BROWN / V-DARK GRAYISH BROWN, F SAND, TR SILT, TR M-C SAND, TR ROOTS.
17	NY120518	SM	V-DARK GRAYISH BROWN, F-M SAND, SOME SILT, TR C SAND, TR GRAVEL, TR ROOTS.
17	NY120519	SP	BROWN TO DARK BROWN / REDDISH BROWN, F SAND, LITTLE CLAY, TR M-C SAND, TR BRICK, TR ROOTS.
17	NY120568	SP	YELLOWISH BROWN, F-M SAND, TR SILT, TR GRAVEL, TR C SAND, TR ROOTS.
17	NY120569	SP	BROWN TO DARK BROWN, F-M SAND, TR SILT, TR GRAVEL, TR C SAND, TR ROOTS.

C-13

R-584-08-88-01
Rev. No. 4

APPENDIX C
TABLE C-1 (CONT'D)
ON-SITE SOIL CLASSIFICATION DATA
MAY, 1988, SABRE PARK

Grid Number	Sample Number	Soil Type	Soil Classification
17	NY120570	SP	LIGHT YELLOWISH BROWN / DARK YELLOWISH BROWN, M-F SAND, TR C SAND, TR SILT, TR GRAVEL, TR ROOTS.
17	NY120571	SP	LIGHT YELLOWISH BROWN / DARK YELLOWISH BROWN, M-F SAND, TR C SAND, TR SILT, TR GRAVEL, TR ROOTS.
18	NY120218	SP	DARK YELLOWISH BROWN, F SAND, TR SILT, TR CLAY, TR ROOTS.
18	NY120219	SP/SM	V- DARK GRAYISH BROWN, F SAND, LITTLE SILT, TR CLAY, TR ROOTS.
18	NY120220	SC	BROWN TO DARK BROWN, F SAND WITH SILTY CLAY, TR GRAVEL TR ROOTS.
18	NY120305	OL	BROWN, SILT, SOME CLAYEY SILT, TR F-M SAND, TR ROOTS.
18	NY120306	SM	BROWN TO DARK BROWN, F-M SANDY SILT, TR C SAND, TR GRAVEL, TR BRICK, TR ROOTS.
18	NY120307	SP	DARK GRAYISH BROWN, F SAND, TR SILT, TR M-C SAND, TR GRAVEL, TR ROOTS.
18	NY120457	SP/SM	V-DARK GRAYISH BROWN, F SAND, LITTLE SILT, TR M-C SAND, TR GRAVEL, TR ROOTS.
18	NY120458	SP	BROWN, F SAND, TR-LITTLE SILT, TR M-C SAND, TR GRAVEL, TR ROOTS.
18	NY120459	SP/SM	BROWN TO DARK BROWN, F SAND, LITTLE SILT, TR M SAND, TR GRAVEL, TR ROOTS.
19	NY120309	SP	BROWN TO DARK BROWN, F SAND, TR SILT, TR M-C SAND, TR ROOTS.
19	NY120310	SP	BROWN TO DARK BROWN, F-M SAND, TR-LITTLE SILT, TR C SAND, TR GRAVEL, TR ROOTS.
19	NY120321	SM	BROWN TO DARK BROWN, SILTY F-M SAND, TR C SAND, TR GRAVEL, TR CLAY, TR ROOTS.
19	NY120322	SP	YELLOWISH BROWN, F SAND, TR-LITTLE SILT, TR M-C SAND, TR GRAVEL, TR ROOTS.
19	NY120323	SP	BROWN, F SAND, TR-LITTLE SILT, TR M-C SAND, TR GRAVEL, TR ROOTS.

C-14

R-584-08-88-01
Rev No. 4

APPENDIX C
TABLE C-1 (CONT'D)
ON-SITE SOIL CLASSIFICATION DATA
MAY, 1988, SABRE PARK

Grid Number	Sample Number	Soil Type	Soil Classification
19	NY120460	SP	DARK REDDISH BROWN, F-M SAND, TR SILT, TR C SAND, TR GRAVEL, TR ROOTS.
19	NY120461	SM	BROWNISH YELLOW / LIGHT BROWNISH GRAY, SILTY F SAND, TR M-C SAND, TR GRAVEL, TR ROOTS.
19	NY120462	SP	BROWN TO DARK BROWN / DARK REDDISH BROWN, F SAND, TR-LITTLE SILT, TR M SAND, TR GRAVEL, TR ROOTS.
19	NY120520	SP	DARK BROWN, F SAND, TR-LITTLE SILT, TR M-C SAND, TR GRAVEL, TR ROOTS.
19	NY120521	SP/SM	YELLOWISH BROWN, F SAND, LITTLE-SOME SILT, TR M-C SAND, TR GRAVEL, TR ROOTS.
19	NY120522	SP	DARK BROWN / REDDISH BROWN, F SAND, TR SILT, TR CLAY, TR M-C SAND, TR ROOTS.
19	NY120572	SP	BROWN TO DARK BROWN, F-M SAND, TR GRAVEL, TR C SAND, TR SILT, TR GLASS, TR ROOTS
19	NY120573	SP	DARK YELLOWISH BROWN, F-M SAND, TR C SAND, TR SILT, TR GRAVEL, TR ROOTS.
19	NY120574	SP	V-DARK GRAYISH BROWN, F-C SAND, TR GRAVEL, TR SILT, TR BRICK, TR SLAG, TR ROOTS.
19	NY120575	SP	DARK YELLOWISH BROWN, F-M SAND, TR C SAND, TR SILT, TR GRAVEL, TR BRICK, TR ROOTS.
19	NY120576	SP	DARK REDDISH BROWN, F-C SAND, TR CLAY, TR SILT, TR GRAVEL, TR SLAG, TR ROOTS.
19	NY120577	SP	DARK BROWN, M-F SAND, TR C SAND, TR SILT, TR CLAY, TR GRAVEL, TR ROOTS.
20	NY120221	SP/SM	BROWN TO DARK BROWN, F-M SAND, TR-LITTLE SILT, TR C SAND, TR GRAVEL, TR GLASS, TR ROOTS.
20	NY120222	SM	DARK BROWN, SILTY F-M SAND, TR-LITTLE CLAY, TR GRAVEL, TR ROOTS.
20	NY120223	SC	BROWN, CLAYEY F SAND, TR ROOTS.
20	NY120311	SP	DARK GRAYISH BROWN, F SAND, TR-LITTLE SILT, TR GRAVEL, TR M-C SAND, TR ROOTS.

C-15

R-584-08-88-01
REV. NO. 4

APPENDIX C
TABLE C-1 (CONT'D)
ON-SITE SOIL CLASSIFICATION DATA
MAY, 1988, SABRE PARK

Grid Number	Sample Number	Soil Type	Soil Classification
20	NY120312	SP	DARK YELLOWISH BROWN, F SAND, TR-LITTLE SILT, TR GRAVEL, TR M-C SAND, TR ROOTS.
20	NY120313	SP	BROWN, F SAND, TR-LITTLE SILT, TR GRAVEL, TR M-C SAND, TR ROOTS.
20	NY120463	OL	DARK BROWN, SILT, TR F SAND, TR C SAND, TR GRAVEL, TR ROOTS.
20	NY120464	SM	BROWNISH YELLOW, F SANDY SILT, TR ROOTS.
20	NY120465	SM	DARK YELLOWISH BROWN, F SANDY SILT, TR ROOTS.
20	NY120523	SP	DARK BROWN, F SAND, TR SILT, TR M-C SAND, TR GRAVEL, TR ROOTS.
21	NY120224	SC	DARK YELLOWISH BROWN, SILTY F SAND, LITTLE CLAY, TR ROOTS, TR GRAVEL, TR GLASS.
21	NY120225	SM/SC	DARK YELLOWISH BROWN, F SAND, SOME SILT, LITTLE CLAY, TR C SAND, TR GRAVEL, TR ROOTS.
21	NY120226	SP	DARK YELLOWISH BROWN, F SAND, TR SILT, TR ROOTS.
21	NY120314	SP	DARK YELLOWISH BROWN, F SAND, TR-LITTLE SILT, TR GRAVEL, TR M-C SAND, TR ROOTS.
21	NY120315	SP	YELLOWISH BROWN, F SAND, TR M-C SAND, TR GRAVEL, TR SILT, TR CLAY, TR SLAG, ROOTS, BRICK, METALLIC FRAGMENTS.
21	NY120316	SP	YELLOWISH BROWN, F SAND, TR SILT, TR M-C SAND, TR ROOTS.
21	NY120466	SM	GRAYISH BROWN / BROWNISH YELLOW, SILTY F SAND, TR GRAVEL, TR CLAY, TR ROOTS.
21	NY120467	SM	YELLOWISH BROWN / DARK YELLOWISH BROWN, SILTY F SAND, TR GRAVEL, TR CLAY, TR ROOTS.
21	NY120468	SM	DARK YELLOWISH BROWN / BROWNISH YELLOW, SILT, SOME F SAND, TR C SAND, TR ROOTS.
21	NY120524	SP	LIGHT YELLOWISH BROWN, F SAND, TR SILT, TR M-C SAND, TR GRAVEL, TR CLAY, TR ROOTS.

APPENDIX C
TABLE C-1 (CONT'D)
ON-SITE SOIL CLASSIFICATION DATA
MAY, 1988, SABRE PARK

Grid Number	Sample Number	Soil Type	Soil Classification
22	NY120227	SP/SM	BROWN TO DARK BROWN, F SAND, TR-LITTLE CLAY, TR SILT, TR ROOTS.
22	NY120228	SP	DARK YELLOWISH BROWN, F-M SAND, TR C SAND, TR GRAVEL, TR ROOTS.
22	NY120229	SP	BROWN TO DARK BROWN, F-M SAND, TR SILT, TR GRAVEL, TR C SAND, TR ROOTS.
22	NY120469	SM	DARK BROWN / YELLOWISH BROWN, SILT, TR-LITTLE F SAND, TR ROOTS.
22	NY120470	OL	DARK BROWN / YELLOWISH BROWN, SILT, TR F-C SAND, REDDISH BROWN CLAY LENS, TR ROOTS.
22	NY120471	OL	DARK BROWN / YELLOWISH BROWN, SILT, TR F-C SAND, REDDISH BROWN CLAY LENS, TR ROOTS.
22	NY120525	SP	LIGHT YELLOWISH BROWN / V-DARK GRAYISH BROWN, F SAND, TR SILT, TR M-C SAND, TR ROOTS.
22	NY120552	SP	DARK YELLOWISH BROWN, F-M SAND, TR SILT, TR C SAND, TR GRAVEL, TR ROOTS.
22	NY120553	SP	DARK YELLOWISH BROWN, F SAND, TR M-C SAND, TR CLAY, TR SILT, TR GRAVEL, TR ROOTS
22	NY120554	SP	V-DARK GRAY, F SAND, TR SILT, TR M-C SAND, TR ROOTS.
23	NY120230	SP/SM	BROWN TO DARK BROWN, F-M SAND, TR-LITTLE SILT, TR C SAND, TR GRAVEL, TR ROOTS.
23	NY120231	SP	YELLOWISH BROWN, F SAND, TR M-C SAND, TR GRAVEL, TR SILT, TR ROOTS.
23	NY120308	SP	DARK BROWN, F SAND, TR M-C SAND, TR GRAVEL, TR CLAY (IN A RED LENS), TR ROOTS.
23	NY120317	SP	BROWN TO DARK BROWN, F SAND, TR SILT, TR GRAVEL, TR M-C SAND, TR ROOTS.
23	NY120472	SP	DARK YELLOWISH BROWN, F SAND, TR M-C SAND, TR GRAVEL, TR SILT, TR ROOTS.
23	NY120473	SP/SM	DARK GRAYISH BROWN, F SAND, TR-LITTLE SILT, TR M-C SAND, TR SLAG (GRAVEL-SIZED).

C-17

R-584-08-88-01
Rev No. 4

APPENDIX C
TABLE C-1 (CONT'D)
ON-SITE SOIL CLASSIFICATION DATA
MAY, 1988, SABRE PARK

Grid Number	Sample Number	Soil Type	Soil Classification
23	NY120474	SP	DARK GRAYISH BROWN, F SAND, TR SILT, TR GRAVEL, TR C SAND, TR ROOTS.
23	NY120526	SP	DARK BROWN, F SAND, TR-LITTLE SILT, TR M-C SAND, TR GRAVEL, TR ROOTS.
23	NY120555	SP	DARK YELLOWISH BROWN / BROWNISH YELLOW, F-M SAND, TR SILT, TR C SAND, TR GRAVEL, TR ROOTS.
23	NY120556	SP	DARK YELLOWISH BROWN, F-C SAND, TR CLAY, TR SILT, TR GRAVEL, TR SLAG, TR ROOTS.
23	NY120598	SP	DARK YELLOWISH BROWN, F-M SAND, TR SILT, TR C SAND, TR SLAG, TR ROOTS.
23	NY120623	SP	YELLOWISH BROWN, F SAND, TR M-C SAND, TR SILT, TR GRAVEL, TR BRICK, TR SLAG, TR ROOTS.
24	NY120232	SP	BROWN TO DARK BROWN, F-C SAND, LITTLE GRAVEL, TR SILT, TR ROOTS.
24	NY120233	SP	BROWN, F SAND, LITTLE M-C SAND, TR GRAVEL, TR SILT, TR ROOTS.
24	NY120234	SP	BROWN TO DARK BROWN, F-C SAND, LITTLE GRAVEL, TR SILT, TR BRICK, TR ROOTS.
24	NY120339	SP	V-DARK GRAY, F-M SAND, TR-LITTLE SILT, TR GRAVEL, TR ROOTS.
24	NY120340	SM	DARK BROWN, F-M SAND, SOME CLAYEY SILT, TR C SAND, TR GRAVEL, TR BRICK, TR ROOTS
24	NY120341	SP	V-DARK GRAYISH BROWN, F-M SAND, TR SILT, TR C SAND, TR ROOTS.
24	NY120527	SP	YELLOWISH BROWN, F SAND, TR-LITTLE SILT, TR M-C SAND, TR ROOTS.
24	NY120578	SP	DARK REDDISH BROWN, M-F SAND, TR C SAND, TR SILT, TR CLAY, TR GRAVEL, TR ROOTS.
24	NY120594	SP	V-DARK GRAYISH BROWN, F SAND, TR M-C SAND, TR SILT, TR GRAVEL, TR ROOTS.
24	NY120595	SP	DARK YELLOWISH BROWN, F-M SAND, TR C SAND, TR GRAVEL, TR SILT, TR ROOTS, TR BRICK, TR CLAY.

APPENDIX C
TABLE C-1 (CONT'D)
ON-SITE SOIL CLASSIFICATION DATA
MAY, 1988, SABRE PARK

Grid Number	Sample Number	Soil Type	Soil Classification
24	NY120596	SP	DARK YELLOWISH BROWN, F-M SAND, TR C SAND, TR GRAVEL, TR SILT, TR ROOTS.
24	NY120597	SP/SM	V-DARK GRAYISH BROWN, F-C SAND, LITTLE-SOME SILT, TR CLAY, TR ROOTS.
25	NY120235	SP	DARK YELLOWISH BROWN, F-M SAND, TR SILT, TR GRAVEL, TR ROOTS.
25	NY120236	SM	DARK BROWN, SILTY F-M SAND, TR C SAND, TR ROOTS.
25	NY120237	SM	YELLOWISH BROWN, SILTY F-M SAND, TR C SAND, TR GRAVEL, TR ROOTS.
25	NY120342	SP	DARK YELLOW BROWN, F-C SAND, TR SILT, (CONGLOMERATE OF BLUE-GREEN PELLETS).
25	NY120343	SP	BROWN TO DARK BROWN, F-M SAND, TR SILT, TR M-C SAND, TR ROOTS.
25	NY120344	SM	DARK GRAYISH BROWN, F SAND, LITTLE CLAYEY SILT, TR M-C SAND, TR ROOTS.
25	NY120475	SP	DARK GRAY / GRAY, F SAND, TR SILT, TR GRAVEL, TR C SAND, TR ROOTS.
25	NY120476	SP	YELLOWISH BROWN / DARK BROWN, F SAND, TR SILT, TR ROOTS.
25	NY120477	SM	DARK YELLOWISH BROWN, SILTY F SAND, TR M-C SAND, TR GRAVEL, TR ROOTS.
25	NY120528	SM	DARK GRAYISH BROWN, F-M SAND, SOME SILT, TR C SAND, TR GRAVEL, TR ROOTS.
25	NY120579	SP	BROWN, F-M SAND, TR C SAND, TR SILT, TR ROOTS.
26	NY120238	SP	DARK YELLOWISH BROWN, F-M SAND, TR C SAND, TR SILT, TR GRAVEL, TR ROOTS.
26	NY120239	SP	BROWN TO DARK BROWN, F SAND, TR M-C SAND, TR GRAVEL, TR SILT, TR ROOTS, VERY FIBROUS.
26	NY120240	SP	BROWN TO DARK BROWN, F SAND, TR M-C SAND, TR GRAVEL, TR SILTS, TR ROOTS, VERY FIBROUS.

APPENDIX C
TABLE C-1 (CONT'D)
ON-SITE SOIL CLASSIFICATION DATA
MAY, 1988, SABRE PARK

Grid Number	Sample Number	Soil Type	Soil Classification
26	NY120345	OL	DARK BROWN, SILT, TR F-M SAND, TR ROOTS.
26	NY120346	OL	DARK BROWN, SILT WITH F-C SAND, TR GLASS, TR ROOTS.
26	NY120347	SP	DARK BROWN, F SAND, TR-LITTLE SILT, TR M-C SAND, TR ROOTS.
26	NY120529	SP	DARK GRAY, F SAND, TR-LITTLE SILT, TR M-C SAND, TR GRAVEL, TR ROOTS.
26	NY120530	SP	YELLOWISH BROWN, F SAND, TR-LITTLE SILT, TR M-C SAND, TR GRAVEL, TR ROOTS.
26	NY120580	SP	V-DARK GRAYISH BROWN / LIGHT YELLOWISH BROWN, M-F SAND, TR GRAVEL, TR C SAND, TR SILT, TR ROOTS.
27	NY120241	SM/SC	DARK GRAYISH BROWN, SILTY F-C SAND, TR-LITTLE CLAY, TR GRAVEL, TR ROOTS, TR BRICK.
27	NY120242	ML	DARK BROWN, CLAYEY SILT, TR F SAND, TR ROOTS.
27	NY120243	SP	YELLOWISH BROWN, F-M SAND, LITTLE GRAVEL, TR SILT, TR C SAND, TR ROOTS.
27	NY120355	SP/SM	V-DARK GRAYISH BROWN, F-M SAND, TR-LITTLE SILT, TR-LITTLE GRAVEL, TR C SAND, TR ROOTS.
27	NY120356	ML	V-DARK GRAYISH BROWN, SILTY CLAY, TR F-M SAND, TR GRAVEL, TR ROOTS.
27	NY120357	SP	V-DARK GRAY, F-M SAND, TR-LITTLE C SAND, TR GRAVEL, TR ROOTS.
27	NY120531	SP	BROWN TO DARK BROWN, F SAND, TR SILT, TR M-C SAND, TR GRAVEL, TR ROOTS.
27	NY120532	SM	DARK BROWN, SILTY F SAND, TR M SAND, TR GRAVEL, TR ROOTS.
27	NY120533	SM	DARK YELLOWISH BROWN, F SAND, SOME SILT, TR M-C SAND, TR ROOTS.
27	NY120581	SP	BROWN TO DARK BROWN, F-M SAND, TR SILT, TR C SAND, TR ROOTS.

APPENDIX C
TABLE C-1 (CONT'D)
ON-SITE SOIL CLASSIFICATION DATA
MAY, 1988, SABRE PARK

Grid Number	Sample Number	Soil Type	Soil Classification
28	NY120244	ML	BROWN TO DARK BROWN, CLAYEY SILT, TR F SAND, TR GRAVEL, TR ROOTS.
28	NY120245	SP	BROWN, F SAND, TR C SAND, TR SILT, TR ROOTS.
28	NY120246	SP/SM	V-DARK GRAYISH BROWN, F SAND, TR-LITTLE SILT, TR CLAY, TR C SAND, TR ROOTS.
28	NY120358	SP	BROWN TO DARK BROWN, F-M SAND, TR-LITTLE SILT, TR C SAND, TR GRAVEL, TR ROOTS.
28	NY120359	SP	BROWN TO DARK BROWN, F SAND, TR SILT, TR GRAVEL, TR M-C SAND, TR ROOTS.
28	NY120360	SP	BROWN, F SAND, TR SILT, TR M SAND, TR ROOTS.
28	NY120534	SP	DARK BROWN, F SAND, TR-LITTLE SILT, TR M-C SAND, TR ROOTS.
28	NY120535	SP	V-DARK GRAYISH BROWN, F SAND, TR-LITTLE SILT, TR M-C SAND, TR ROOTS.
28	NY120549	SM	BROWNISH YELLOW, SILTY F SAND, TR M-C SAND, TR ROOTS.
28	NY120550	SP	DARK YELLOWISH BROWN, F-M SAND, TR SILT, TR C SAND, TR GRAVEL, TR SLAG, TR ROOTS
28	NY120551	SP	V-DARK GRAYISH BROWN, F-C SAND, TR SILT, TR GRAVEL, TR SLAG, TR ROOTS.
28	NY120605	SP	DARK YELLOWISH BROWN, F-M SAND, TR SILT, TR C SAND, TR ROOTS.
29	NY120247	SP	DARK GRAYISH BROWN, F SAND, TR M-C SAND, TR SILT.
29	NY120248	SP	V-DARK GRAYISH BROWN, F-M SAND, TR C SAND, TR GRAVEL, TR SILT, TR ROOTS.
29	NY120249	SP	DARK YELLOWISH BROWN, F SAND, TR SILT, TR C SANDS, TR ROOTS.
29	NY120361	SP/SM	DARK BROWN, F SAND, TR-LITTLE SILT, TR GRAVEL, TR ROOTS.

APPENDIX C
TABLE C-1 (CONT'D)
ON-SITE SOIL CLASSIFICATION DATA
MAY, 1988, SABRE PARK

Grid Number	Sample Number	Soil Type	Soil Classification
29	NY120362	SM	DARK GRAYISH BROWN, F SANDY SILT, TR M SAND, TR ROOTS.
29	NY120363	SM	DARK GRAYISH BROWN, F-M SANDY SILT, TR CLAY, TR ROOTS.
29	NY120478	OL	V-DARK GRAY, SILTY CLAY, LITTLE F SAND, TR M SAND, TR GRAVEL, TR ROOTS.
29	NY120492	SP	V-DARK GRAYISH BROWN, TR M-C SAND, TR SILT, TR GRAVEL, TR ROOTS.
29	NY120493	SP/F	V-DARK GRAYISH BROWN, GRAVELLY F SAND, TR M-C SAND, TR CLAY, TR SILT, TR CONCRETE / BRICK / SLAG.
29	NY120494	SP/F	V-DARK GRAYISH BROWN, GRAVELLY F SAND, TR M-C SAND, TR CLAY, TR SILT, TR CONCRETE / BRICK / SLAG.
30	NY120250	SP	BROWN TO DARK BROWN, F-C SAND, TR-LITTLE SILT, TR GRAVEL, TR ROOTS, TR METALLIC FRAGMENTS.
30	NY120251	SP	BROWN TO DARK BROWN, F-C SAND, TR-LITTLE SILT, TR GRAVEL, TR ROOTS, TR METALLIC FRAGMENTS.
30	NY120252	SP	DARK BROWN, F SAND, TR SILT, TR M-C SAND, TR ROOTS, TR BRICK.
30	NY120376	SP/SM	V-DARK GRAY, F-C SAND, TR-LITTLE SILT, LITTLE GRAVEL, TR GLASS, TR WOOD, TR ROOTS.
30	NY120377	SP	BLACK, F-M SAND, TR SILT, TR CLAY, TR BRICK, TR GRAVEL, TR CINDERS, TR ROOTS.
30	NY120418	SP	V-DARK GRAYISH BROWN, F-M SAND, LITTLE C SAND, TR GRAVEL, TR SILT, TR ROOTS.
30	NY120419	SP	DARK BROWN, F SAND, TR-LITTLE SILT.
30	NY120420	OL	SILT, TR-LITTLE F SAND, TR GRAVEL, TR C SAND, TR WOOD, TR ROOTS.
30	NY120421	SM	GRAY, SILTY F SAND, TO F SANDY SILT, TR CLAYEY SILT.
30	NY120441	SP/SM	F-C SAND, SOME SILT AND GRAVEL, (SATURATED).

APPENDIX C
TABLE C-1 (CONT'D)
ON-SITE SOIL CLASSIFICATION DATA
MAY, 1988, SABRE PARK

Grid Number	Sample Number	Soil Type	Soil Classification
30	NY120479	SP	V-DARK GRAYISH BROWN, F SAND, TR-LITTLE M-C SAND, TR SILT, TR ROOTS.
30	NY120480	SP	BROWN TO DARK BROWN, F SAND, TR SILT, TR M-C SAND, TR GRAVEL, TR ROOTS.
30	NY120481	SP	DARK GRAYISH BROWN, F SAND, TR SILT, TR M-C SAND, TR GRAVEL, TR ROOTS.
30	NY120498	SP	V-DARK GRAYISH BROWN / BROWN TO DARK BROWN, F SAND, TR M-C SAND, TR GRAVEL, TR SILT, TR ROOTS.
30	NY120499	OL	V-DARK GRAYISH BROWN, CLAYEY SILT, LITTLE-SOME GRAVEL, TR-LITTLE F SAND.
30	NY120506	SM	V-DARK GRAYISH BROWN, F SAND, LITTLE-SOME SILT, TR M-C SAND, TR GRAVEL, TR BRICK, TR ROOTS.
30	NY120507	SP	V-DARK GRAYISH BROWN, F SAND, TR M-C SAND, TR SILT, TR GRAVEL, TR BRICK, TR ROOTS.
30	NY120508	SP	DARK YELLOWISH BROWN / BROWNISH YELLOW, F-M SAND, TR-LITTLE SILT, TR C SAND, TR GRAVEL, TR ROOTS.
30	NY120509	SP	BROWN TO DARK BROWN, F SAND, TR SILT, TR M-C SAND, TR GRAVEL, TR BRICK, TR ROOTS
30	NY120612	SP	BROWN, F SAND, LITTLE M-C SAND, TR GRAVEL, TR SILT, TR ROOTS.
30	NY120615	SP	BROWN, F-M SAND, TR C SAND, TR GRAVEL, TR SILT, TR SLAG, TR ROOTS.
31	NY120253	SP	BROWN TO DARK BROWN, F SAND, LITTLE M-C SAND, TR GRAVEL, TR ROOTS.
31	NY120254	SP	V-DARK GRAYISH BROWN, F SAND, TR-LITTLE SILT, TR GRAVEL, TR ROOTS, TR WOOD.
31	NY120255	SP	YELLOWISH BROWN, F SAND, TR SILT, TR ROOTS.
31	NY120364	CL	DARK GRAYISH BROWN, CLAY, TR ROOTS.
31	NY120365	SP	DARK GRAYISH BROWN, F-M SAND, TR-LITTLE GRAVEL, TR-LITTLE SILT, TR ROOTS.

APPENDIX C
TABLE C-1 (CONT'D)
ON-SITE SOIL CLASSIFICATION DATA
MAY, 1988, SABRE PARK

Grid Number	Sample Number	Soil Type	Soil Classification
31	NY120366	SP	BROWN TO DARK BROWN, F-M SAND, TR-LITTLE SILT, TR C SAND, TR ROOTS.
31	NY120490	SP	YELLOW BROWN GRADING TO YELLOW AND GRAYISH BROWN, F SAND, TR SILT, TR GRAVEL, TR M SAND, TR ROOTS.
31	NY120491	SP	GRAY GRADING TO V-DARK GRAYISH BROWN, GRAVELLY F SAND, TR M-C SAND, TR ROOTS.
31	NY120536	SP/SM	V-DARK GRAYISH BROWN, F-C SAND, LITTLE-SOME SILT, TR-LITTLE GRAVEL, TR ROOTS.
31	NY120592	SP	DARK GRAYISH BROWN, F-M SAND, TR SILT, TR C SAND, TR ROOTS.
31	NY120593	SP	BROWN TO DARK BROWN, F-M SAND, TR SILT, TR C SAND, TR GRAVEL, TR ROOTS.
32	NY120324	SM	V-DARK GRAYISH BROWN, F-C SAND, LITTLE-SOME CLAY, TR GRAVEL, TR ROOTS, TR METAL OR SLAG FRAGMENTS, TR BRICK, TR WOOD.
32	NY120325	SM	V-DARK GRAYISH BROWN, F-C SAND, LITTLE-SOME CLAY, TR GRAVEL, TR ROOTS, TR METALLIC OR SLAG FRAGMENTS.
32	NY120326	SM	V-DARK GRAYISH BROWN, F-M SAND, TR-LITTLE SILTY CLAY, TR GRAVEL, TR WOOD, TR METALLIC FRAGMENTS.
32	NY120386	OL/SC	BROWN TO DARK BROWN, SILTY CLAY, SOME F-C SAND, TR GRAVEL, TR ROOTS.
32	NY120387	OL	GRAYISH BROWN, SILTY CLAY, TR-LITTLE F-M SAND, TR SHELLS (GASTROPODS), TR C SAND, TR ASH LAYER.
32	NY120391	F	V-DARK GRAYISH BROWN, ASH, CINDERS, SLAG (IN GRAVEL-SIZED CONGLOMERATES).
32	NY120537	SM	BROWN TO DARK BROWN, SILTY F-C SAND, TR-LITTLE GRAVEL, TR SLAG, TR ROOTS.
32	NY120538	SP	V-DARK GRAYISH BROWN / LIGHT GRAY, F SAND, TR SILT, TR M-C SAND, TR GRAVEL, TR ROOTS.
32	NY120540	SP/SM	V-DARK GRAYISH BROWN, F-C SAND, LITTLE SILT, TR GRAVEL, TR BRICK, TR ROOTS.
32	NY120582	SP	DARK GRAYISH BROWN, M-F SAND, TR SILT, TR C SAND, TR GRAVEL, TR BRICK, TR GREEN PELLETS, TR ROOTS.

C-24

R-584-08-88-01
Rev. No 4

APPENDIX C
TABLE C-1 (CONT'D)
ON-SITE SOIL CLASSIFICATION DATA
MAY, 1988, SABRE PARK

Grid Number	Sample Number	Soil Type	Soil Classification
32	NY120583	SP	DARK GRAYISH BROWN, M-F SAND, TR SILT, TR C SAND, TR GRAVEL, TR ROOTS.
32	NY120584	SP	BROWN TO DARK BROWN, F-M SAND, TR SILT, TR C SAND, TR CLAY, TR BRICK, TR ROOTS.
32	NY120585	SP	BROWN TO DARK BROWN, M-F SAND, TR SLAG, TR C SAND, TR SILT, TR GRAVEL, TR BRICK, TR ROOTS.
32	NY120586	SP/SM	DARK BROWN, M-F SAND, LITTLE-SOME SILT, TR GRAVEL, TR C SAND, TR BRICK, TR ROOTS
32	NY120587	SP	BROWN, F-M SAND, TR SILT, TR C SAND, TR GRAVEL, TR ROOTS.
33	NY120327	SM	DARK BROWN, SILTY F-C SAND, TR GRAVEL, TR ROOTS, TR BRICK, TR SLAG.
33	NY120328	SM	DARK BROWN, SILTY F-C SAND, TR GRAVEL, TR ROOTS, TR SLAG.
33	NY120329	OL	DARK GRAY, SILTY CLAY, TR F-C SAND, TR GRAVEL, TR ROOTS.
33	NY120539	SM	GRAY, F-C SANDY SILT, TR-LITTLE GRAVEL, TR ROOTS.
33	NY120541	SP	DARK YELLOWISH BROWN, F-M SAND, TR C SAND, TR SILT, TR GRAVEL, TR ROOTS.
33	NY120542	SP	V-DARK GRAYISH BROWN / BROWN TO DARK BROWN, F-C SAND, TR SILT, TR GRAVEL, TR ROOTS.
33	NY120588	SP	DARK YELLOWISH BROWN, M-F SAND, TR SILT, TR C SAND, TR GRAVEL, TR BRICK, TR ROOTS.
33	NY120589	SP	DARK BROWN, M-F SAND, TR SILT, TR GRAVEL, TR C SAND, TR SLAG, TR ROOTS.
33	NY120590	SM	DARK BROWN, SILTY F SAND, TR M-C SAND, TR CLAY, TR GRAVEL, TR BRICK, TR ROOTS.
33	NY120591	SP	V-DARK GRAYISH BROWN, F SAND, TR SILT, TR M SAND, TR ROOTS.
33	NY120620	SP	BROWN, F-M SAND, TR SILT, TR GRAVEL, TR C SAND, TR ROOTS.

APPENDIX C
TABLE C-1 (CONT'D)
ON-SITE SOIL CLASSIFICATION DATA
MAY, 1988, SABRE PARK

Grid Number	Sample Number	Soil Type	Soil Classification
33	NY120621	SP	BROWN, F-M SAND, TR SILT, TR GRAVEL, TR C SAND, TR SLAG, TR ROOTS.
33	NY120622	SP	BROWN, F-M SAND, TR SILT, TR GRAVEL, TR C SAND, TR ROOTS.
34	NY120256	SP	V-DARK GRAYISH BROWN, F SAND, TR SILT, TR M-C SAND, TR GRAVEL TR ROOTS.
34	NY120257	SP/SM	DARK BROWN, F SAND, TR-LITTLE SILT, TR CLAY, TR GRAVEL, TR ROOTS.
34	NY120258	SP	BROWN TO DARK BROWN, F-M SAND, TR SILT, TR GRAVEL, TR C SAND, TR ROOTS.
34	NY120367	OL	BLACK, SILT, TR F SAND, TR ROOTS.
34	NY120368	SM	BROWN TO DARK BROWN, SILTY F-M SAND, TR CLAY, TR ROOTS.
34	NY120369	CL/SC	V-DARK GRAYISH BROWN, CLAY WITH F-C SAND, TR ROOTS.
34	NY120543	SP	DARK GRAYISH BROWN / DARK BROWN, F-C SAND, TR SILT, TR GRAVEL, TR ROOTS.
34	NY120544	SP	V-DARK GRAYISH BROWN, F-C SAND, TR-LITTLE SILT, TR GRAVEL, TR CLAY, TR ROOTS.
34	NY120545	SP	DARK BROWN, F-C SAND, TR-LITTLE SILT, TR GRAVEL, TR CLAY, TR ROOTS.
34	NY120599	SP	BROWN TO DARK BROWN, M-F SAND, TR SILT, TR C SAND, TR GRAVEL, TR SLAG, TR ROOTS.
34	NY120600	SP	BROWN TO DARK BROWN, M-F SAND, TR SILT, TR C SAND, TR GRAVEL, TR SLAG, TR ROOTS.
34	NY120601	SP	DARK YELLOWISH BROWN, F-M SAND, TR SILT, TR GRAVEL, TR C SAND, TR CLAY, TR ROOTS
34	NY120602	SP	DARK BROWN, F SAND, TR M-C SAND, TR SILT, TR CLAY, TR ROOTS.
34	NY120617	SP	BROWN, F-M SAND, TR SILT, TR C SAND, TR GRAVEL, TR ROOTS.

APPENDIX C
TABLE C-1 (CONT'D)
ON-SITE SOIL CLASSIFICATION DATA
MAY, 1988, SABRE PARK

Grid Number	Sample Number	Soil Type	Soil Classification
34	NY120618	SP/SM	V-DARK GRAYISH BROWN, F-C SAND, LITTLE-SOME SILT, TR GRAVEL, TR CLAY, TR SLAG, TR ROOTS.
34	NY120619	SP	BROWN, F-M SAND, TR SILT, TR GRAVEL, TR C SAND, TR ROOTS.
35	NY120330	OL	V-DARK GRAY, SILT, TR-LITTLE F SAND, TR M-C SAND, TR GRAVEL, TR ROOTS.
35	NY120331	SP	BLACK, F SAND, TR SILT, LITTLE GRAVEL, TR M-C SAND, TR ROOTS.
35	NY120332	SP	BLACK, F SAND, TR SILT, TR M-C SAND, TR CLAY, TR ROOTS.
35	NY120546	SP	DARK BROWN, F-C SAND, TR-LITTLE SILT, TR GRAVEL, TR CLAY, TR ROOTS.
35	NY120547	SP	DARK YELLOWISH BROWN / DARK BROWN, F-M SAND, TR C SAND, TR SILT, TR CLAY, TR ROOTS.
35	NY120548	SP/SM	DARK YELLOWISH BROWN, F-C SAND, LITTLE SILT, TR CLAY, TR GRAVEL, TR ROOTS.
35	NY120603	SM	BROWN TO DARK BROWN, SILTY F-C SAND, TR GRAVEL, TR ROOTS.
35	NY120604	SM	BROWN, SILTY F-C SAND, TR GRAVEL, TR ROOTS.
35	NY120607	SP	YELLOWISH BROWN, F-M SAND, TR SILT, TR C SAND, TR GRAVEL, TR ROOTS.
35	NY120608	SP	YELLOWISH BROWN, M-F SAND, TR-LITTLE SILT, TR C SAND, TR GRAVEL, TR ROOTS.
35	NY120609	SP	BROWN TO DARK BROWN, M-F SAND, TR-LITTLE SILT, TR C SAND, TR GRAVEL, TR ROOTS.
35	NY120610	SP	BROWN TO DARK BROWN, F-M SAND, TR SILT, TR GRAVEL, TR C SAND, TR ROOTS.
35	NY120611	SP	V-DARK GRAYISH BROWN, F SAND, LITTLE SILT, TR M-C SAND, TR GRAVEL, TR ROOTS.
36	NY120259	SP	BROWN, F-M SAND, TR SILT, TR GRAVEL, TR C SAND, TR ROOTS.

APPENDIX C
TABLE C-1 (CONT'D)
ON-SITE SOIL CLASSIFICATION DATA
MAY, 1988, SABRE PARK

Grid Number	Sample Number	Soil Type	Soil Classification
36	NY120260	SP	BROWN, F-M SAND, TR SILT, TR GRAVEL, TR C SAND, TR ROOTS.
36	NY120261	SP	DARK BROWN, F-M SAND, TR C SAND, TR GRAVEL, TR SILT, TR ROOTS.
36	NY120370	SP	V-DARK GRAY, F SAND, TR SILT, TR CLAY, TR ROOTS.
36	NY120371	SP	DARK BROWN, F SAND, TR SILT, TR C SAND, TR ROOTS.
36	NY120372	SP	DARK YELLOWISH BROWN, F SAND, TR SILT, TR M-C SAND, TR GRAVEL, TR ROOTS.
36	NY120373	SM	DARK BROWN, SILTY F SAND, TR M-C SAND, TR ROOTS.
36	NY120431	SM	F-C SAND, SOME SILTY CLAY, TR GRAVEL, TR ROOTS.
36	NY120482	SP	V-DARK GRAYISH BROWN, F SAND, TR SILT, TR M-C SAND, TR ROOTS.
36	NY120483	SP	DARK GRAYISH BROWN, F SAND, TR SILT, TR M-C SAND, TR ROOTS.
36	NY120500	SM	V-DARK GRAYISH BROWN, SILTY F SAND, LITTLE-SOME GRAVEL, TR M-C SAND, TR ROOTS.
36	NY120501	SP	BROWN TO DARK BROWN / BROWNISH YELLOW, F SAND, TR SILT, TR M-C SAND, TR GRAVEL.
36	NY120502	SP	BROWN TO DARK BROWN / YELLOWISH BROWN, F SAND, TR-LITTLE CLAY, TR SILT, TR M-C SAND, TR GRAVEL, TR ROOTS.
36	NY120616	SP	BROWN / DARK YELLOWISH BROWN, F-M SAND, TR C SAND, TR GRAVEL, TR CLAY, TR SILT, TR SLAG, TR ROOTS.
37	NY120374	SP/SM	DARK GRAY, F-C SAND, TR-LITTLE SILT, LITTLE GRAVEL, TR ROOTS.
37	NY120375	SM	V-DARK GRAY, SILTY F-M SAND, TR ROOTS.
37	NY120378	SM/CL	V-DARK GRAYISH BROWN / RED, MOTTLED REDDISH CLAY AND SILTY F-M SAND, TR GLASS, TR GRAVEL.

APPENDIX C
TABLE C-1 (CONT'D)
ON-SITE SOIL CLASSIFICATION DATA
MAY, 1988, SABRE PARK

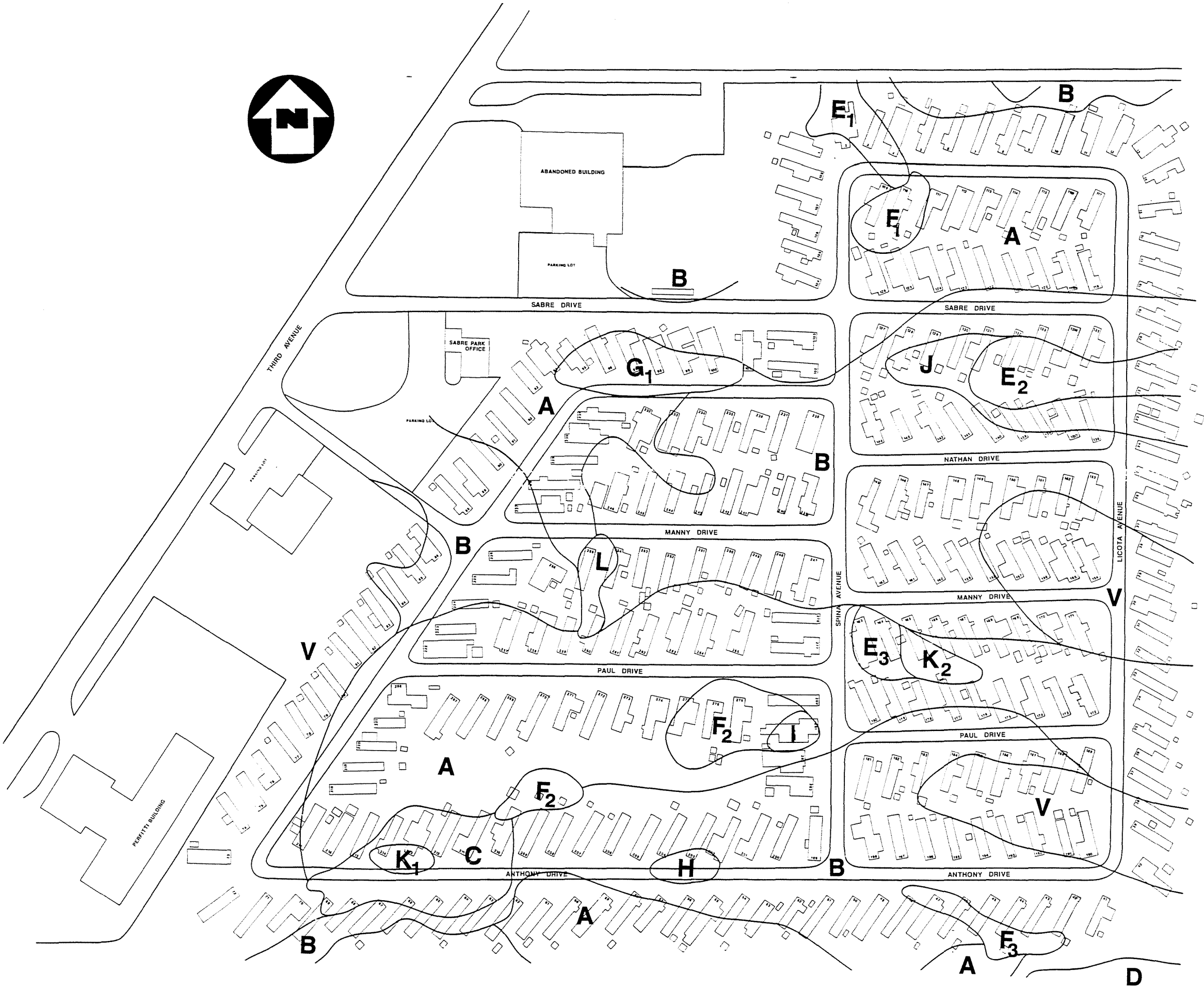
Grid Number	Sample Number	Soil Type	Soil Classification
37	NY120379	SP	DARK BROWN, F-M SAND, TR SILT, TR GRAVEL, TR ROOTS, TR WOOD, TR GLASS.
37	NY120380	SM	BROWN TO DARK BROWN, F SAND, LITTLE SILT, TR CLAY, TR ROOTS.
37	NY120381	SM	DARK GRAY, F-C SAND, SOME SILT, TR GRAVEL, TR SLAG, TR COAL, TR ROOTS, TR WOOD.
37	NY120382	SM	DARK GRAYISH BROWN, SILTY F-C SAND, SOME GRAVEL, TR ROOTS.
37	NY120432	SM	F SAND, SOME SILT, TR CLAY, TR ROOTS.
37	NY120433	OL	CLAYEY SILT, LITTLE-SOME F SAND, TR ROOTS.
37	NY120434	SP/SM	F SAND, TR-LITTLE SILT, LITTLE M-C SAND, TR CLAY (REDDISH AND WHITE), TR GRAVEL, TR SLAG.
37	NY120435	SM	F-C SAND, SOME SILTY CLAY, TR GRAVEL, TR ROOTS.
37	NY120436	SP/SM	GRAVELLY F-M SAND, TR-LITTLE SILT, TR C SAND, TR ROOTS.
37	NY120437	SM	SILTY F SAND, TR M-C SAND, TR CLAY (LENS), TR ROOTS.
37	NY120484	SP	DARK GRAYISH BROWN, F SAND, LITTLE C SAND, LITTLE GRAVEL, TR SILT, TR ROOTS.
37	NY120485	SP	V-DARK GRAYISH BROWN, F SAND, LITTLE C SAND, LITTLE GRAVEL, TR SILT, TR ROOTS.
37	NY120503	SP	V-DARK GRAYISH BROWN, F SAND, TR SILT, TR M-C SAND, TR CLAY, TR ROOTS.
37	NY120504	SM	YELLOWISH BROWN / BROWN, SILT, TR-LITTLE F SAND, TR M-C SAND, TR ROOTS, (VERY WET).
38	NY120383	SM	BROWN TO DARK BROWN, SILTY F-C SAND, SOME GRAVEL, TR ROOTS.
38	NY120384	SP/SM	BROWN TO DARK BROWN, F-M SAND, TR-LITTLE SILT, TR ROOTS.

APPENDIX C
TABLE C-1 (CONT'D)
ON-SITE SOIL CLASSIFICATION DATA
MAY, 1988, SABRE PARK

Grid Number	Sample Number	Soil Type	Soil Classification
38	NY120385	SP/SM	V-DARK GRAY, F-M SAND, TR-LITTLE SILT, TR C SAND, TR ROOTS.
38	NY120416	F	DARK GRAY, F-C SAND AND GRAVEL, TR BRICK, TR CONCRETE.
38	NY120417	SM	DARK GRAY, SILTY F SAND.
38	NY120438	SM	SILTY F SAND, TR M-C SAND, TR CLAY (LENS), TR GLASS, TR ROOTS.
38	NY120439	SM	SILTY F-C SAND, TR GRAVEL, TR CONCRETE, TR ROOTS.
38	NY120440	SM	SILTY F-C SAND, TR GRAVEL, TR CONCRETE, TR ROOTS.
38	NY120486	SP	DARK GRAYISH BROWN, F-M SAND, SOME GRAVEL, LITTLE C SAND, TR SILT, TR GLASS / BRICK / METALLIC FRAGMENT(SLAG) / ROOTS.
38	NY120487	SP	DARK BROWN, F-M SAND, LITTLE C SAND, TR GRAVEL, TR SILT, TR BRICK / CONCRETE / METALLIC FRAGMENTS, TR ROOTS.
38	NY120488	SP	DARK BROWN, F-M SAND, SOME GRAVEL, LITTLE C SAND, TR SILT, TR GLASS / BRICK / METALLIC FRAGMENTS (SLAG), TR ROOTS.
38	NY120489	SP	GRAYISH BROWN, F SAND, TR SILT, TR M SAND, TR BRICK / METAL / WOOD, TR ROOTS.
38	NY120495	SP	V-DARK GRAYISH BROWN / DARK BROWN, F SAND, TR M-C SAND, TR SILT, TR GRAVEL, TR CLAY, TR CONCRETE / BRICK, TR ROOTS.
38	NY120496	CL	DARK REDDISH BROWN, CLAY, TR F SAND.
38	NY120497	CL	V-DARK GRAY TO V-DARK GRAYISH BROWN / BROWNISH YELLOW / REDDISH BROWN, CLAY, TR-LITTLE F SAND, TR GRAVEL.
38	NY120505	SP	YELLOWISH BROWN, F SAND, TR-LITTLE M-C SAND, TR SILT, TR GRAVEL, TR ROOTS.
38	NY120613	SP	BROWN, F SAND, LITTLE M-C SAND, TR GRAVEL, TR SILT, TR BRICK, TR ROOTS.
38	NY120614	SP	V-DARK GRAYISH BROWN, M-F SAND, LITTLE SILT, TR C SAND, TR GRAVEL, TR CLAY, TR SLAG, TR ROOTS.

C-30

R-584-08-88-01
Rev. No. 4



GENERALIZED SOILS MAP
SABRE PARK, NIAGARA, N.Y.

LEGEND

- A - DARK BROWN TO DARK YELLOW BROWN FINE TO MEDIUM SAND, tr. SILT
- B - DARK BROWN TO GRAYISH BROWN FINE TO MEDIUM SAND, tr. SILT
- C - GRAYISH SILTY FINE TO COARSE SAND, SOME GRAVEL
- D - GRAYISH SILTY FINE TO COARSE SAND
- E₁ - DARK BROWN FINE SAND, LITTLE SILT
- E₂ - DARK BROWN SILTY SAND TO SANDY SILT
- E₃ - BROWN TO DARK BROWN SILT, CLAY, SILTY SAND
- F₁ - DARK GRAYISH BROWN FINE SAND, SILTS, SILTY CLAY
- F₂ - GRAY TO BROWN FINE SAND TO SILTY SAND
- F₃ - DARK GRAYISH BROWN FINE TO MEDIUM SAND, LITTLE SILTY CLAY
- G - VERY DARK GRAYISH BROWN FINE TO MEDIUM SAND, VARIABLE AMOUNTS OF SILT
- H - BLACK FINE SAND TO SILT
- I - DARK GRAY TO BROWN CLAY, SILT
- J - SILTY CLAY AND CLAY (VARIABLE COLORS)
- K₁ - RED BROWN FINE SAND WITH WHITE CLAY
- K₂ - RED BROWN FINE TO MEDIUM SAND, tr. SILT
- L - DARK BROWN AND YELLOW BROWN SILT
- V - VARIABLE SOILS

APPENDIX D

SUBSURFACE SAMPLING DATA AND RESULTS

APPENDIX D
SUBSURFACE SAMPLING
DATA AND RESULTS

Figure D-1 presents the subsurface sampling locations for the May 1988 Sabre Park sampling event. Tables D-1 and D-2 summarize the analytical results. A total of 34 subsurface soil samples (0 to 5 feet) were collected from 13 locations within the boundaries of the trailer park. Of these samples, 29 were collected from randomly located boreholes within selected sampling grids, and 5 were collected from boreholes judgementally placed within contaminated surface grid areas of the site. None of the 34 subsurface samples had mercury concentrations exceeding 40 mg/kg.

Figures D-2 through D-4 present the generalized borehole cross-section soils maps for the May 1988 Sabre Park investigation. The subsurface soils investigation indicated little correlation between the types of fill material and the mercury contamination encountered in the subsurface soils. In addition, there was little correlation found between the types of subsurface fill material encountered at various locations on site. This indicates that the fill was obtained from different sources.



SABRE PARK, NIAGARA, N.Y.
BOREHOLE AND CROSS-SECTION
LOCATION MAP

LEGEND

- RANDOM BOREHOLE LOCATION
- JUDGEMENTAL BOREHOLE LOCATION

FIGURE D-1

APPENDIX D
TABLE D-1
XRF ON-SITE ANALYTICAL RESULTS
MAY, 1988, SABRE PARK
RANDOM SUBSURFACE SAMPLING PROGRAM

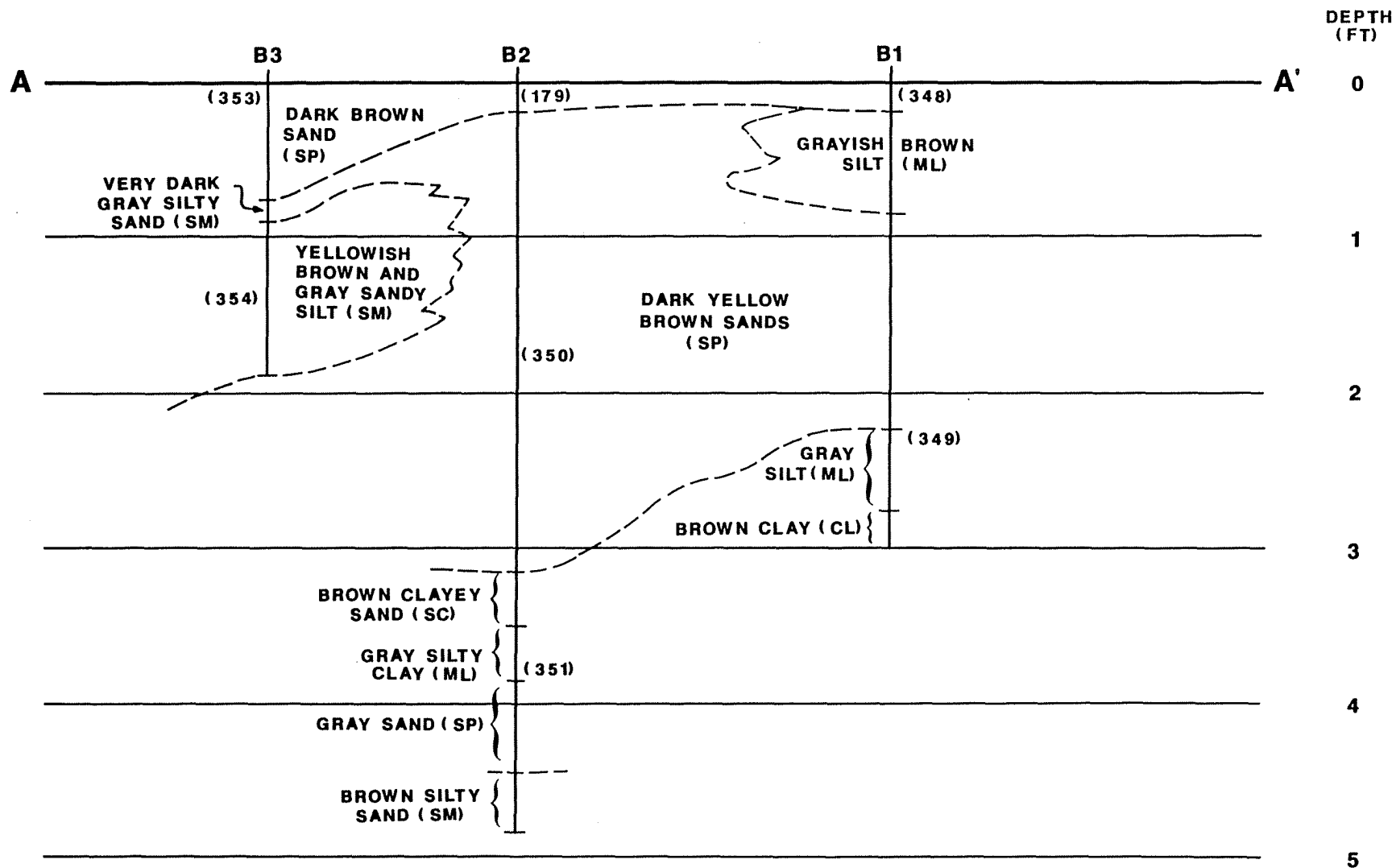
Grid Number	Sample Number	Sample Depth (in.)	Mercury Conc. (mg/Kg)
1	NY120348	2	BQL
1	NY120349	30	BQL
2	NY120350	30	BQL
2	NY120351	38	BQL
2	NY120352	46	BQL
3	NY120353	2	BQL
3	NY120354	28	BQL
22	NY120552	2	BQL
22	NY120553	9	BQL
22	NY120554	36	BQL
23	NY120555	2	BQL
23	NY120556	6	BQL
28	NY120549	2	BQL
28	NY120550	10	BQL
28	NY120551	20	BQL
29	NY120492	2	BQL
29	NY120493	4	BQL
29	NY120494	15	BQL
30	NY120418	2	BQL
30	NY120419	6	BQL
30	NY120420	40	BQL
30	NY120421	49	BQL
31	NY120490	2	BQL
31	NY120491	4	BQL
32	NY120386	2	BQL
32	NY120387	17	BQL
32	NY120391	36	BQL
38	NY120416	8	BQL
38	NY120417	20	BQL

BQL = Below the 10 mg/kg Quantitation Level

APPENDIX D
TABLE D-2
XRF ON-SITE ANALYTICAL RESULTS
MAY, 1988, SABRE PARK
JUDGEMENTAL SUBSURFACE SAMPLING PROGRAM

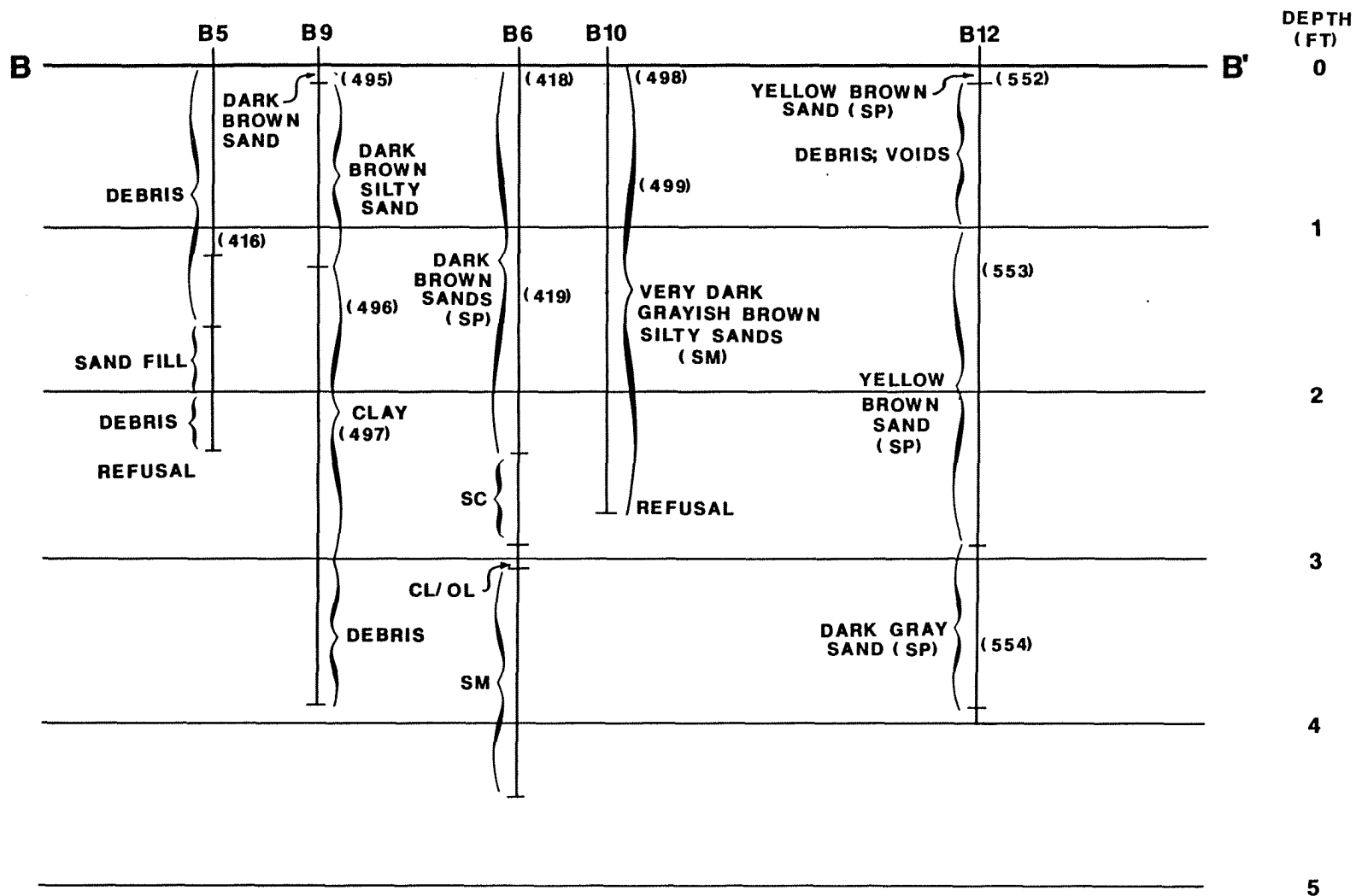
Grid Number	Sample Number	Sample Depth (in.)	Mercury Conc. (mg/Kg)
30	NY120498	21	BQL
30	NY120499	32	37
38	NY120495	2	24
38	NY120496	15	BQL
38	NY120497	36	BQL

BQL = Below the 10 mg/kg Quantitation Level



NOTE: FOR SEE FIGURE C-1 FOR KEY TO USCS CLASSIFICATIONS
() DENOTES SAMPLE NUMBER

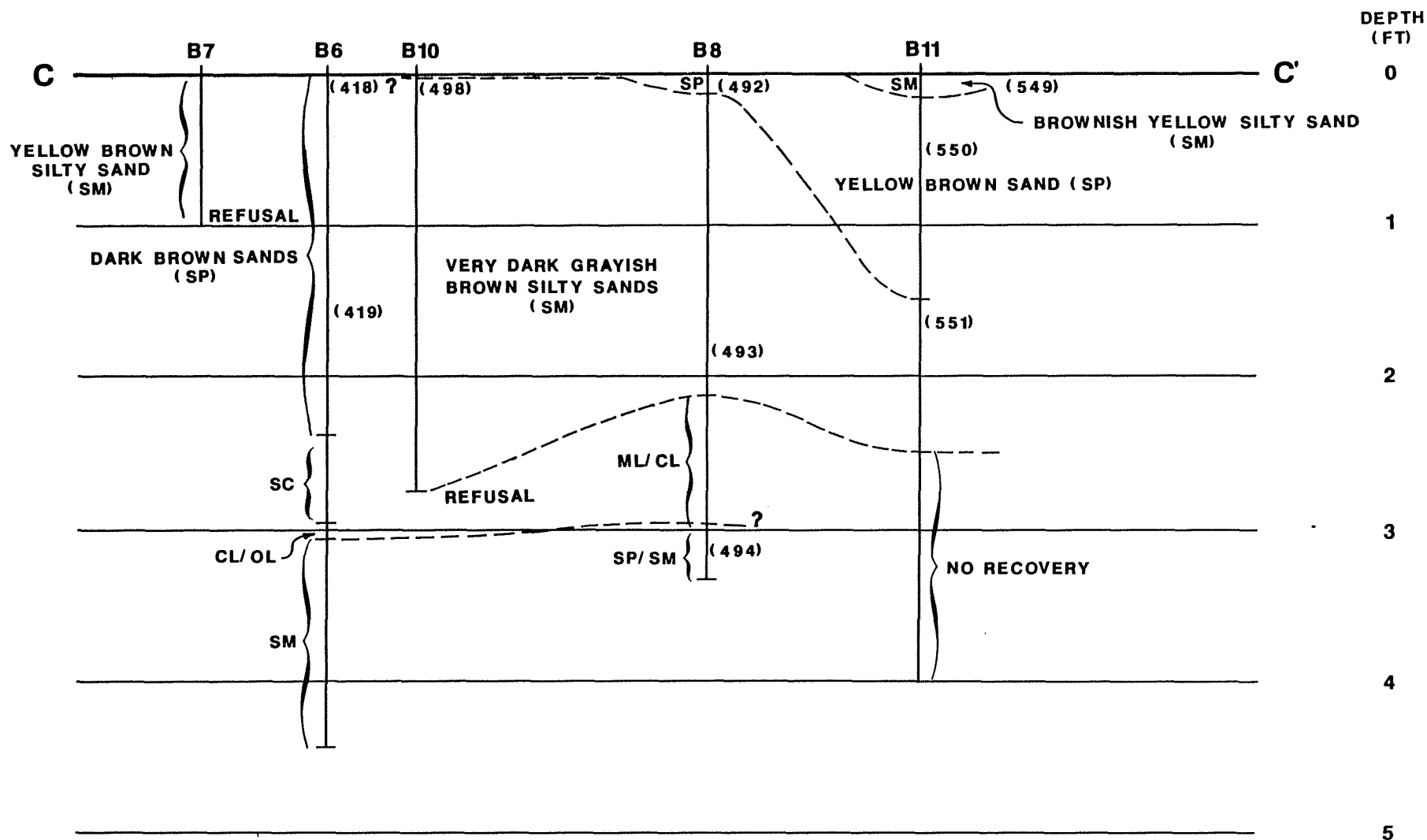
GEOLOGICAL SOIL CROSS SECTION A-A'
SABRE PARK, NIAGARA, N.Y.



NOTE: SEE FIGURE C-1 FOR KEY TO USCS CLASSIFICATIONS
 () DENOTES SAMPLE NUMBER

REFUSAL - DEPTH AT WHICH SAMPLING
 INSTRUMENT COULD NOT PENETRATE.

GEOLOGICAL SOIL CROSS SECTION B-B'
SABRE PARK, NIAGARA, N.Y.



NOTE: SEE FIGURE C-1 FOR KEY TO USCS CLASSIFICATIONS
() DENOTES SAMPLE NUMBER

NO RECOVERY - SAMPLING INSTRUMENT RETURNED
NO SAMPLE VOLUME.
REFUSAL - DEPTH AT WHICH SAMPLING INSTRUMENT
COULD NOT PENETRATE

GEOLOGICAL SOIL CROSS SECTION C-C'
SABRE PARK, NIAGARA, N.Y.

APPENDIX E

**ATSDR MEMO OF
MAY 27, 1987**



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Agency for Toxic Substances
and Disease Registry
Atlanta GA 30333

ate: May 27, 1987

rom: William Nelson *WLN*
ATSDR, Region II

subject: Health Consultation, Sabre Park (SI-86-137)
Niagara Falls, New York

o: Evans Stamatakis
EPA, Region II

On July 7, 1986, The Agency for Toxic Substances and Disease Registry reviewed surface soil sample data obtained on November 21, 1985 from Sabre Trailer Park in Niagara Falls, New York. The assessment concluded that the compounds identified at the site did not pose an imminent nor substantial health threat to the residents at the levels reported. ATSDR recommended however that the mercury contamination and surface water runoff be better characterized to more completely address the potential of a long term threat. As a result of these recommendations, the Environmental Protection Agency collected additional surface soil, sediment and water samples from November 17 through November 25, 1986.

The 1986 sampling program revealed the following analytical results:

soil

- o Total mercury was detected in 138 of 170 soil samples in concentrations ranging from 0.11 mg/kg to 86.0 mg/kg. Only 2 samples however, indicated total mercury in concentrations over 40.0 mg/kg. These samples were both located in grid number 33 and were in concentrations of 43.0 and 86.0 mg/kg
- o Inorganic mercury was detected in 134 of 170 soil samples in concentrations ranging from 0.10 mg/kg to 94.0 mg/kg. Similar to total mercury, only 2 samples were found in concentrations over 40 mg/kg. They were in the same samples where total mercury concentrations were highest. The inorganic concentrations were 42.0 and 94.0 mg/kg respectively.

sediment

- o Carbon disulfide, bis(2-ethylhexyl)phthalate and zinc were found at concentrations of 8.4-18.0 ug/kg, 1200-2600 ug/kg, and 239-785 mg/kg respectively. Mercury was detected in only 1 of 3 samples at .38 mg/kg. Pesticides were only found in trace concentrations. Polycyclic aromatic hydrocarbons (PAH's) ranged from trace concentrations to 4400 ug/kg. In general, all detected compounds were higher in the upgradient than the two downgradient samples.

Surface water

- o Total and inorganic mercury results did not pass laboratory requirements. Pesticides were only present in trace amounts with the exception of beta-BHC which was present in a trace amount to 0.07 ug/L. Di-n-butylphthalate was detected at 16 ug/L. Aluminum, barium, chromium, lead and zinc were present at levels ranging from 496-203,000 ug/L, 0-2280 ug/L, 214-5630 ug/L, 79-1750 ug/L and 104-17,800 ug/L respectfully.

The presence of total and inorganic mercury found in the soil at levels of 86 and 94 mg/kg is not significantly higher than the mercury levels found in the previous sampling program performed in 1985 and does not pose an immediate or significant health threat. However, It would be preferable for the residents located in the trailer park not to have a lifetime opportunity for contact to the higher concentrations.

The concentrations of carbon disulfide, bis(2-ethylhexyl)phthalate, zinc, and PAH's in the sediments are not remarkable and do not constitute a significant public health problem.

Although the surface water runoff is contaminated with high levels of metals, occasional contact with the runoff through wading is insignificant and not a health threat. The water is not used for drinking purposes nor are fish present in the stream.

It should be noted that the contaminants found in the sediment do not appear to be related to the runoff and its unlikely the metals are coming from the oil at the park.

Recommendations

- 1) Soil in Sabre Park containing more than 40 mg/kg of mercury should be removed to avoid a residential lifetime opportunity for contact.
- 2) Efforts to determine the source of contamination for the surface-water should be considered.