Dearcop Farm
Inactive Hazardous Waste Site
Monroe County, New York
Site No. 08-28-016

Phase III
Remedial Investigation
Residential Lot Soil Sampling
Volume I

December 1994

Prepared by:
New York State Department of Environmental Conservation
Division of Hazardous Waste Remediation
New York State Department of Health
and
Monroe County Health Department

TABLE OF CONTENTS

VOLUME I

Appendix B Tables

VOLUME II - Appendix

Appendix C NYSDEC Mobile Laboratory Analytical Results

- PAH SCREENING ANALYTICAL RESULTS
- METALS ANALYTICAL RESULTS
- PAH CONFIRMATORY ANALYTICAL RESULTS
- CHAIN OF CUSTODY FORMS

Section 1.0 BACKGROUND

In August 1993, Ecology and Environment Engineering, P.C. (E&E),engineering consultants, were hired by the NYSDEC to performed a Phase II Remedial Investigation (RI) at the Dearcop Farm site (No. 8-28-016) in the Town of Gates, New York. The specific field activities performed consisted of the following:

- Groundwater sampling
- Off-site residential area soil gas sampling
- Off-site residential area surface and subsurface soil sampling
- Vegetable sampling from residential lots
- Surface water/sediment sampling from NYS Barge Canal and on-site drainage ditch

In February 1994 the NYSDEC received a draft report from E&E entitled, "**PHASE II REMEDIAL INVESTIGATION REPORT, ADDENDUM TO PHASE I REPORT** ", which served to supplement the human health risk assessment outlined in the Phase I RI report, and provide a more comprehensive characterization of the nature and extent of on and off-site contamination.

In the off-site residential area, during the Phase II RI, two (2) discrete and twelve (12) composite surface soil samples were collected to characterize potential contamination from apparent fill (material such as soil or gravel used to build up a piece of land) materials visible on the surface. The composite samples were collected from lots on Dearcop Drive and Varian Lane, and taken from areas frequented by humans (i.e., gardens, play areas, etc.). Many of these samples were taken next to driveways and barbecue pits. These locations may have increased PAH concentrations present due to asphalt or the incomplete combustion products from home owner activities and may not be indicative of possible PAH contamination from the Dearcop Farm site.

Based on the analytical results presented by E&E within the **draft** Phase II report, dated February 1994, staff from the New York State Department of Environment (NYSDEC), New York State Department of Health (NYSDOH), and Monroe County

Health Department (MCHD) concluded that additional data collection was necessary in order to better determine Polycyclic Aromatic Hydrocarbons (PAH) and metals concentration levels in the off-site residential area surface and subsurface soils.

PAHs are a group of chemicals that are formed through the incomplete combustion of coal, oil and gas, garbage, or other organic substances. PAHs can be man-made or occur naturally. They are found through out the environment and exposure to PAHs may occur through many varying sources: vehicle exhaust, asphalt roads, tobacco smoke, smoke from home heating of wood and many foods.

Metals are a group of elements which make up about 75% of all elements that occur in the environment. Metals are found naturally in soil but their concentrations may be increased by disposal of waste materials.

Section 2.0 PURPOSE AND SCOPE

The purpose of this Phase III RI was to address the concern that soil containing PAHs and specific metals from the Dearcop Farm Site may have been used as fill material in portions of the off-site residential area south of the site and the NYS bike path which runs along the canal. The off-site residential area consists of properties located on Dearcop Drive and Varian Lane. The specific questions to be answered by the Phase III RI were the following:

1. Determine the surface soil PAH concentrations in the residential lots along Dearcop Drive and Varian Lane.

2. Determine the subsurface soil PAH concentrations in the residential lots along Dearcop Drive and Varian Lane.

3. Determine the surface soil metals concentrations in the residential lots along Dearcop Drive and Varian Lane.

4. Determine the subsurface soil metals concentrations in the residential lots along Dearcop Drive and Varian Lane.

Section 3.0 DESCRIPTION OF FIELDWORK

Section 3.1 SAMPLE LOCATION

Note: All lots sampled during this event were sampled on a voluntary basis.

Representatives from the NYSDEC, NYSDOH and Monroe County Health Department (MCHD) collected surface soil samples from all lots along Dearcop Drive and Varian Lane whose owners chose to participate in the sampling program. A total of eighty (80) of eighty-one (81) property owners chose to participate in this sampling event. (Figure 1)

Section 3.2 TYPES OF SAMPLES

1. Composite surface soil samples: Samples were collected from at least two (2) locations on each residential lot. These samples were combined and a single sample was submitted to the laboratory for analysis.

2. Discrete surface soil samples: Discrete surface soil samples were collected in areas of lots where fill material was observed at the soil surface.

3. Discrete subsurface soil samples: Discrete subsurface soil samples were collected in areas of lots where it appeared the lot was mounded or raised.

Section 3.3 SAMPLE COLLECTION

Surface soil samples were collected at depths of 0 to two (2) inches. Samples taken within gardens were collected at depths of 0 to six (6) inches. Both types of samples were taken with disposable trowels and transferred to an appropriate container (four ounce glass jar with Teflon-lined cap). Subsurface samples were collected using a stainless steel hand auger at approximately two (2) feet below ground surface. Sufficient soil was collected to fill the number of sample bottles necessary for PAH analyses. All samples were placed on ice in appropriate coolers until delivery to the lab.. All observable physical characteristics of the soil as it was being sampled (e.g.. color, odor, physical state, waste material or

debris encountered) were recorded on the appropriate sampling data sheets (see Appendix F). A new disposable trowel and gloves were used for each sample and discrete sampling location. The hand augers were decontaminated between each sample location. Similar to the phase II RI sampling protocol, composite samples were collected by first placing the soil from each location in a ziplock plastic bag, mixing (shaking), and then placing the sample in a four (4) ounce glass jar. The plastic bag was discarded after each sample location. All waste generated from the sampling event was taken from the residential area for proper disposal.

Section 3.4 ANALYSIS PERFORMED

1. Polynuclear (polycyclic) aromatic hydrocarbons (PAH's) screening: All samples were initially screened for PAH's. Sample screening was performed by the NYSDEC, mobile laboratory, located in Saratoga, N.Y. Screening utilized the Millipore - EnviroGard Polynuclear Aromatic Hydrocarbons (PAH) in Soil Test Kit (See Appendix C). PAH screening results may be found in Table 1 for surface soil samples and Table 2 for subsurface soil samples.

2. Metals and cyanide analysis: Samples from select locations were analyzed for specific metals and cyanide. Based on the previous RI results, samples were analyzed for cadmium (Cd), copper (Cu), lead (Pb), nickel (Ni) and zinc (Zn). Analysis for metals was performed by the NYSDEC, mobile laboratory, located in Saratoga, N.Y. Analysis for cyanide was performed by RECRA Environmental Inc. Metals and cyanide analysis results may be found in Table 3 for surface soil samples and Table 4 for subsurface soil samples.

3. Confirmation of PAH screening analysis: Select soil samples underwent full laboratory analysis for PAH's, utilizing gas chromatograph/mass spectrometer techniques. Full analysis was performed to confirm the results of the PAH screening. Laboratory analysis for metals was performed by the NYSDEC, mobile laboratory, located in Saratoga, N.Y. Sample results and a comparison with PAH screening results may be found in Table 5.

4. NYS Department of Health (NYSDOH) split sample analysis: During this sampling event the NYS Department of Health (NYSDOH) collected their own samples, and performed full analysis for PAH's, metals and cyanide on select samples. Analysis was performed by the NYSDOH, Wadsworth Center for Laboratories and Research. Sample results and a comparison with PAH screening results may be found in Table 6.

Section 4.0 INVESTIGATION RESULTS

Soil samples were collected from all lots whose owners had chosen to participate in the sampling event on Dearcop Drive and Varian Lane. Attempts were made to collect samples from areas such as gardens, play areas and areas of distressed vegetation. Attempts were made to avoid collecting samples near blacktop driveways since driveways contain PAHs and may have influenced the sample results. (Figure 1)

Surface soil samples were taken from 80 of the 81 lots on Dearcop Drive and Varian Lane at locations chosen by either the NYSDOH or the MCHD. The following table summarizes the possible combinations of samples which were taken from each lot and at how many lots each combination of samples were taken:

TABLE 4-1

Types of Samples	No. of lots where samples were taken
Composite surface Only	52
Discrete surface Only	2
Composite surface and Discrete Surface	9

Composite Surface and Discrete subsurface	6
Discrete surface and Discrete subsurface	9
Composite surface, Discrete surface and Discrete subsurface	2
Total	80

Figure 1 shows the approximate location of each sampling point.

Section 4.1 PAH RESULTS

The screening results obtained during this investigation were verified through NYSDEC and NYSDOH full PAH analysis (Tables 5 and 6 respectively) on certain samples. Based on technical review it has been concluded that there is a good correlation between the results of the screening and the full analytical results. The discrepancies that exist between the screening and the full analytical results are minor and can be explained by the fact that the Millipore EnviroGard PAH in Soil Test Kit uses antibodies that bind to PAHs to determine the concentration of PAHs present in a sample. These antibodies have different affinities for different PAHs and may therefore produce slightly different results than those produced by full analysis (see Appendix H).

Section 4.1.1 SURFACE SOIL PAH RESULTS

The surface soil PAH screening results are contained in Table 1 (Appendix B). The results of the screening are also shown graphically on Figure 2 (Appendix A). As a conservative measure, if more than one (1) surface soil sample was taken from a lot the highest recorded result from the screening was assumed to be the result for the entire lot. Of the eighty (80) lots that were sampled sixty three (63) lots had total PAH

screening results less than one (1.0) part per million (ppm). The seventeen (17) remaining lots had PAH surface soil results greater than one (1.0) ppm and less than ten (10.0) ppm. No locations were found to have surface soil PAH results greater than ten (10.0) ppm by the NYSDEC screening.

Sample DEAR-331D had full confirmatory analysis performed by the NYSDOH. This sample result indicated that the total PAH concentration for this sample was thirty-three (33) ppm.

Section 4.1.2 SUBSURFACE SOIL PAH RESULTS

The subsurface soil PAH screening results are contained in Table 2 (Appendix B). The screening results from these samples are shown graphically on Figure 3 (Appendix A). To be conservative, if more than one (1) subsurface soil sample was taken from a lot the highest recorded result from the screening was assumed to be the result for the entire lot. Subsurface soil samples were collected from sixteen (16) lots. Of the sixteen (16) lots sampled eight (8) of the lots had total PAH results less than one (1.0) ppm, seven (7) of the lots had total PAH results greater than one (1.0) ppm and less than ten (10.0) ppm and one lot had a total PAH result greater than ten (10.0) ppm and less than 100.0 ppm. No locations were found to have subsurface soil PAH results greater than 100 ppm by the NYSDEC screening.

Sample VAR-33D was analyzed by the NYSDOH for full PAH confirmatory analysis. This analysis indicated that the total PAH concentration for this sample was forty-eight (48) ppm.

Section 4.2 METALS RESULTS

Section 4.2.1 SURFACE SOIL METALS RESULTS

Surface soil metals analysis was performed on samples from fifteen (15) lots along Dearcop Drive and Varian Lane by the NYSDEC, an additional four lots (4) had samples taken and analyzed by the NYSDOH. The analytical results from these samples are contained in Table 3 and Table 6 (Appendix B) respectively. Table 3 also includes the highest reported site specific background concentrations from the Phase II RI report, and the common concentration ranges for soils from the eastern United States for the metals of concern at the site. Sixteen surface soil samples, from the

fifteen (15) lots sampled by the NYSDEC were sent to RECRA Environmental, Inc for cyanide analysis. All samples which had metals analysis performed by the NYSDOH were analyzed for cyanide.

Two samples (DEAR-161B and DEAR-206D) were analyzed by both the NYSDEC and the NYSDOH. There is a good correlation between the results obtained by the NYSDEC and the NYSDOH. The differences in concentration results that are evident between these two sets of data can be easily accounted. Soil by its nature is not a homogeneous mixture. Therefore, even if samples are taken from the same sample container and analyzed by the same method it is unlikely that the same concentrations would be reported.

Many of the analytical results from this sampling event are above the site specific background concentrations reported in the Phase II RI report. However, most of the results are below the common range soil concentrations expected in the eastern United States. For example, of the thirty-six (36) surface soil samples analyses for site specific metal of concern twenty-nine (29) of the results are above the background concentration of 43.8 ppm for lead. However, none of these twenty-nine (29) results are above the expected range of concentrations for suburban communities near highways (200 ppm-500 ppm). None of the surface soil lead concentrations are above the NYSDOH recommended cleanup level of 400 ppm.

The cadmium concentrations detected in one surface soil sample (DEAR-161B) was above the NYSDOH recommended cleanup level of ten (10) ppm for both the NYSDEC and NYSDOH analytical results. Sample DEAR-161B was a discrete sample taken in a bare spot in the front of the lot (fill was noted on the sample data sheet (Appendix F)).

The copper concentrations detected in four samples (DEAR-161B, DEAR-205B, DEAR-205C and DEAR-206D) are elevated above the rest of the data. The copper concentrations detected in these samples are greater than ten times the eastern USA background levels reported in Phase II RI and may be indicative of fill material. Sample DEAR-161B was a discrete sample taken in a bare spot in the front of the lot (fill was noted on the sample data sheet (Appendix F)). Samples DEAR-205B and DEAR-205C were discrete samples taken from the same lot (no fill was noted on the sample data sheet for either sample). Sample DEAR-206D was a discrete sample (fill was noted on the sample data sheet and the color of the sample was black, brown and blue).

The zinc concentrations detected in six samples (DEAR-149B, DEAR-161B, DEAR-

181B, DEAR-205B, DEAR-205C and DEAR-218B) are elevated above the rest of the data.

The NYSDEC does not have a cyanide cleanup value listed in any of its guidance documents. Therefore, the 1991 New Jersey Department of Environmental Protection's (NJDEP) Soil Guideline for cyanide, 12 ppm, was used as the basis for comparison in this report. One surface soil sample (DEAR-206B) analyzed for cyanide was determined to be slightly above this guideline (i.e. 18.9 ppm). This sample was a discrete surface soil sample (fill was noted through out the yard).

Section 4.2.2 SUBSURFACE SOIL METALS RESULTS

The subsurface soil metals analysis was performed on samples from 15 lots along Dearcop Drive and Varian Lane by the NYSDEC and from one (1) additional lot by the NYSDOH . The analytical results from these samples are contained in Table 4 and Table 6 (Appendix B) respectively. Table 4 also includes the site specific subsurface background concentrations from the Phase II RI report and the expected common range of concentrations for soils in the eastern United States.

Like the results from the surface soil metals samples, many of the concentrations reported are above the site specific background concentrations reported in the Phase II RI report, but are well below the common range of concentrations expected in the eastern United States. For example, of the twenty-three (23) sub-surface soil samples analyses for site specific metal of concern nine (9) of the results are above the background concentration of 43.8 ppm for lead. However, none of these twenty-nine (29) results are above the expected range of concentrations for suburban communities near highways (200 ppm-500 ppm). Only one sample (DEAR-206F) analyzed by the NYSDOH was above the NYSDOH recommended cleanup level of 400 ppm. This sample was also analyzed by the NYSDEC, however the concentration reported by the NYSDEC was well below the NYSDOH recommended cleanup level.

The copper concentration detected in sample DEAR-206F is elevated above the rest of the data. Specifically, the copper concentrations detected in this sample is greater than ten times the eastern USA background levels reported in Phase II RI and may be indicative of fill material. The sample was a discrete subsurface sample (glass was noted on the sample data sheet).

The zinc concentrations detected in three samples (DEAR-168E, DEAR-182B, DEAR-206-F) are elevated above the rest of the data.

The NYSDEC does not have a cyanide cleanup value listed in any of its guidance documents. Therefore, the 1991 New Jersey Department of Environmental Protection's (NJDEP) Soil Guideline for cyanide, 12 ppm, was used as the basis for comparison in this report. None of the subsurface soil samples analyzed for cyanide were above this guideline.

Section 5.0 CONCLUSIONS

Section 5.1 PAH CONCLUSIONS

Although some of the PAH results obtained during this sampling event are elevated these elevated results can not be directly linked to the Dearcop Farm hazardous waste site. During the Phase I Remedial Investigation (RI) the on-site soils were analyzed for full PAH analysis. The highest total PAH concentration reported from the on-site sampling was 6.1 ppm. The levels present on the Dearcop Farm site are not indicative of the source of the elevated PAH levels in the residential lots. Therefore it must be assumed that the elevated concentrations found in some residential lots may be affected by homeowner activities such as burn barrels, disposal of ash from charcoal grills and wood stoves and the disposal of used motor oil.

This sampling event was initiated to confirm the PAH and metals results reported in the "Phase II Remedial Investigation Report, Addendum to the Phase I Report" and to better determine the PAH concentrations in the off-site residential lots near the Dearcop Farm inactive hazardous Waste site. Many of the sample PAH concentrations reported in this sampling event are below the PAH concentrations reported in the Phase II RI report. These discrepancies may be due to the fact that many of the Phase II samples were taken next to driveways and barbecue pits. Although these areas may be frequently used by homeowners the results obtained from these areas may not represent contamination from the site. These areas will have increased concentrations of PAHs due to the current use of the area (asphalt, driveway sealer and coals from fireplaces and barbecues all contain PAHs).

Section 5.1.1 SURFACE SOIL PAH CONCLUSIONS

The surface soil PAH concentrations ranged from less than one (1.0) ppm to less than ten (10.0) ppm total surface soil PAHs present in the residential lots along Dearcop Drive and Varian Lane. Sixty three (63) of the lots sampled in the area had PAH screening concentrations less than one (1.0) ppm. The seventeen (17) remaining lots had concentrations in the range of greater than one (1.0) ppm and less than ten (10.0)

ppm. No surface soil PAH screening results were greater than ten (10.0) ppm .

Two samples DEAR-331D and DEAR-244D that were analyzed by the NYSDOH for full confirmatory PAH analysis had results which were elevated with respect to the rest of the results from the area.

These results are not at a level which present a health concern and no additional work is required to evaluate or remediate surface soil PAH concentrations in the area.

Section 5.1.2 SUBSURFACE SOIL PAH CONCLUSIONS

All but one of the subsurface soil PAH concentrations present in the residential lots sampled along Dearcop Drive and Varian Lane were below ten (10.0) ppm. The PAH concentration for Sample VAR-79B was greater than ten ppm and less than 100 ppm. Confirmatory analysis was performed on this sample by the NYSDEC. The full analysis reported the total PAH concentration of the sample as sixty eight (68) ppm which confirms the screening results reported. No subsurface soil PAH results were greater than 100.0 ppm.

These results are not at a level which present a health concern and no additional work is required to evaluate or remediate sub-surface soil PAH concentrations in the area.

Section 5.2 METALS CONCLUSIONS

Section 5.2.1 SURFACE SOIL METALS CONCLUSIONS

Most of the metals concentrations detected in the surface soil samples collected from Dearcop Drive and Varian Lane were below the common range for the Eastern U.S. However, the Cadmium concentration at sample location DEAR-161B is above the NYSDOH recommended cadmium cleanup level of 10 ppm. The cyanide concentration at sample location DEAR-206B is marginally above the NJDEP's soil guideline. Although the surface soil concentrations for copper and zinc are elevated in the area the concentrations are not at levels which present a health concern. None of the other surface soil metals concentrations are at levels which present a health concern.

Section 5.2.2 SUBSURFACE SOIL METALS CONCLUSIONS

Most of the metals concentrations detected in the subsurface soil samples collected from Dearcop Drive and Varian Lane were below the common range for the Eastern U.S. However, one sample (DEAR-206F) analyzed by the NYSDOH was above the NYSDOH recommended lead cleanup level of 400 ppm. Although the sub-surface soil concentrations for copper and zinc are elevated in the area the concentrations are not at levels which present a health concern. None of the other sub-surface soil metals concentrations are at levels which present a health concern.

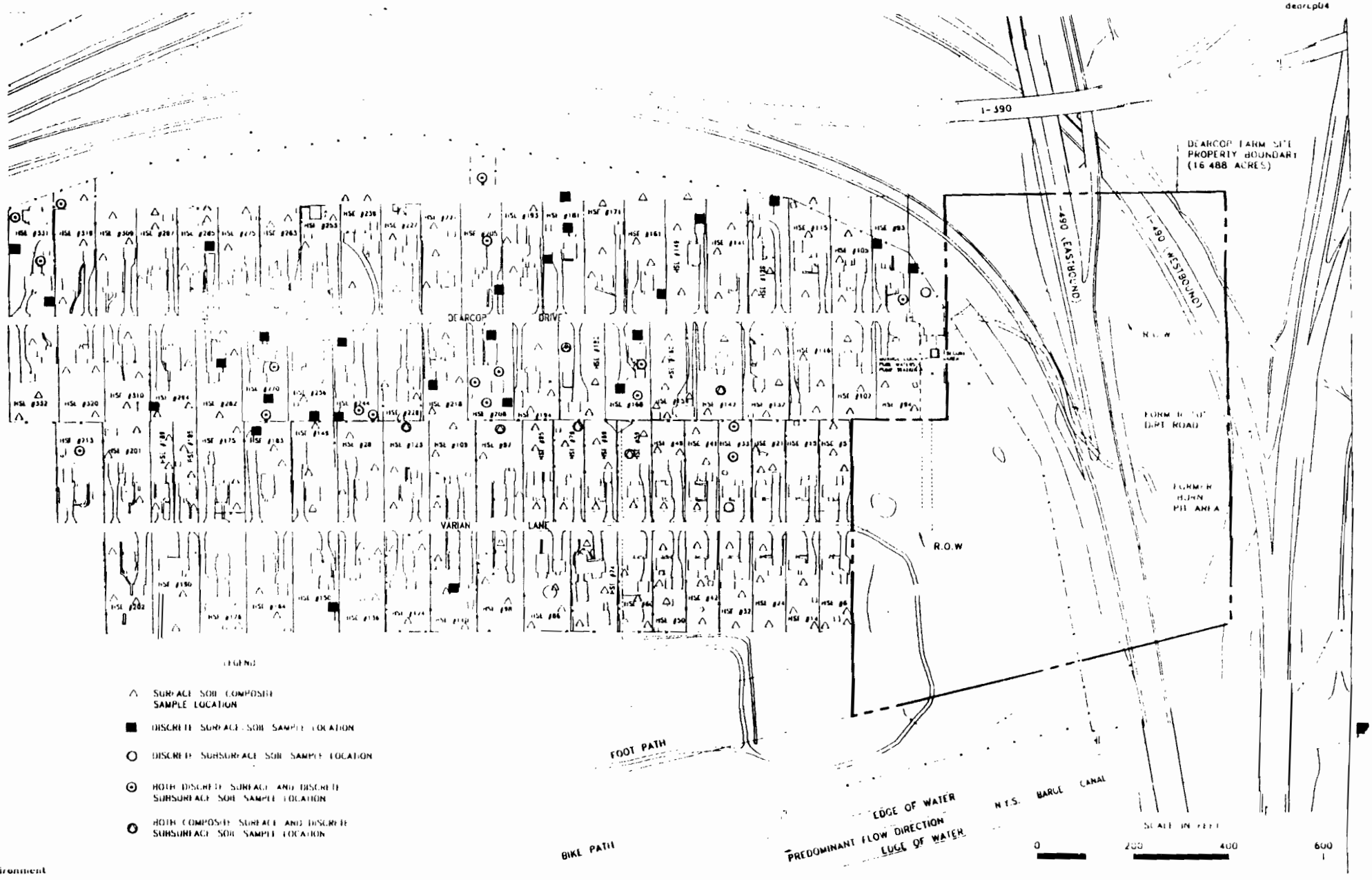
Section 6.0 Recommendations

It is recommended that the NYSDEC further define and remove grossly contaminated soil from the lot where sample DEAR-161B was taken. This sample was taken from the front of the lot where visual contamination was noted. The results of this sample indicate that the concentration of cadmium is above the NYSDOH cleanup criteria of 10 ppm.

It is also recommended that the NYSDEC remove the top two feet of soil from 206 Dearcop Drive. The results of the samples taken in this lot indicate that this lot has contamination present through out the lot. The lead concentration at DEAR-206F is above the NYSDOH cleanup level of 400 ppm and the cyanide concentration is marginally above the NJDEP's soil guideline.

APPENDIX A

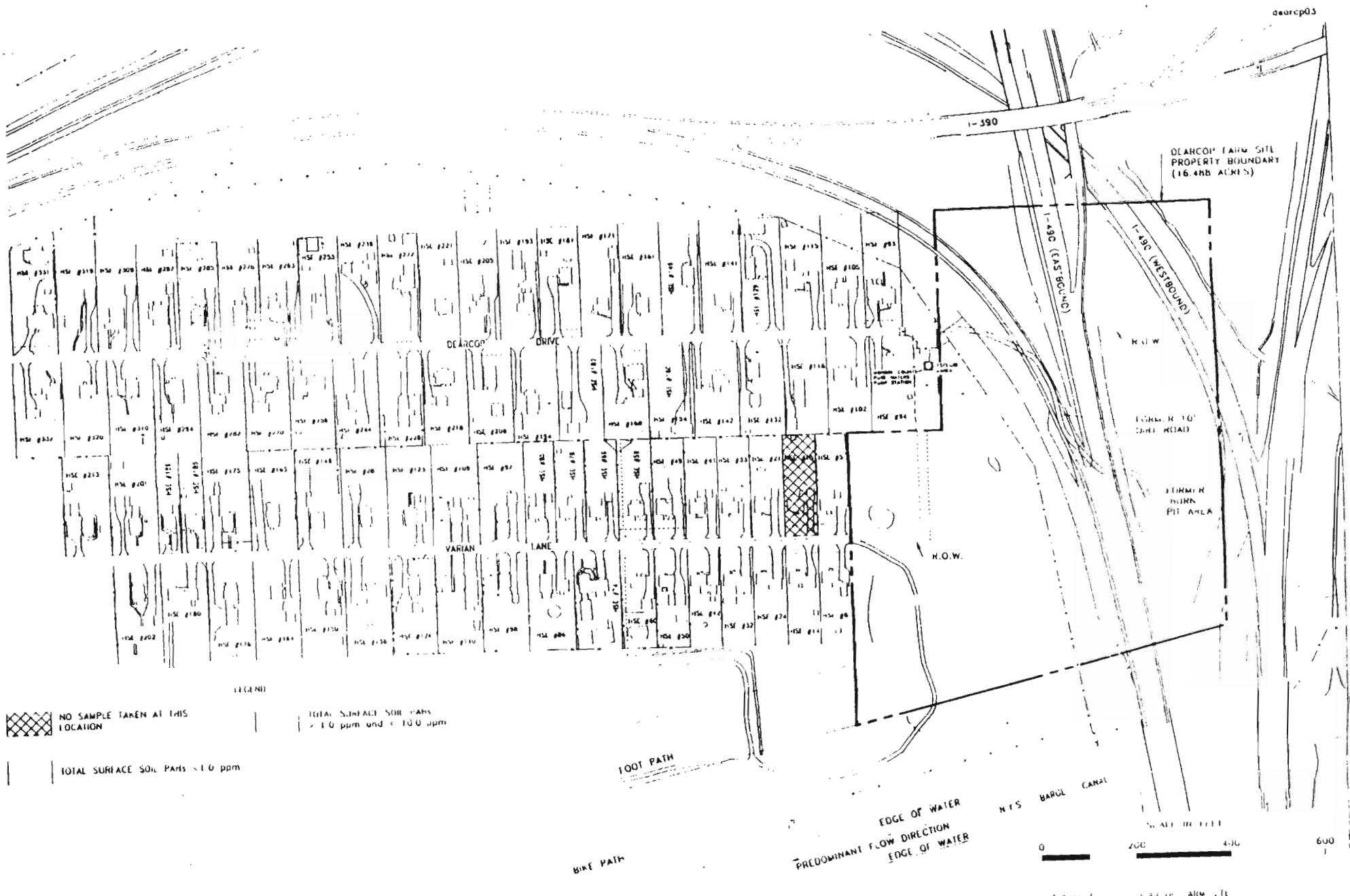
FIGURES



and environment

revised by NYSDEC

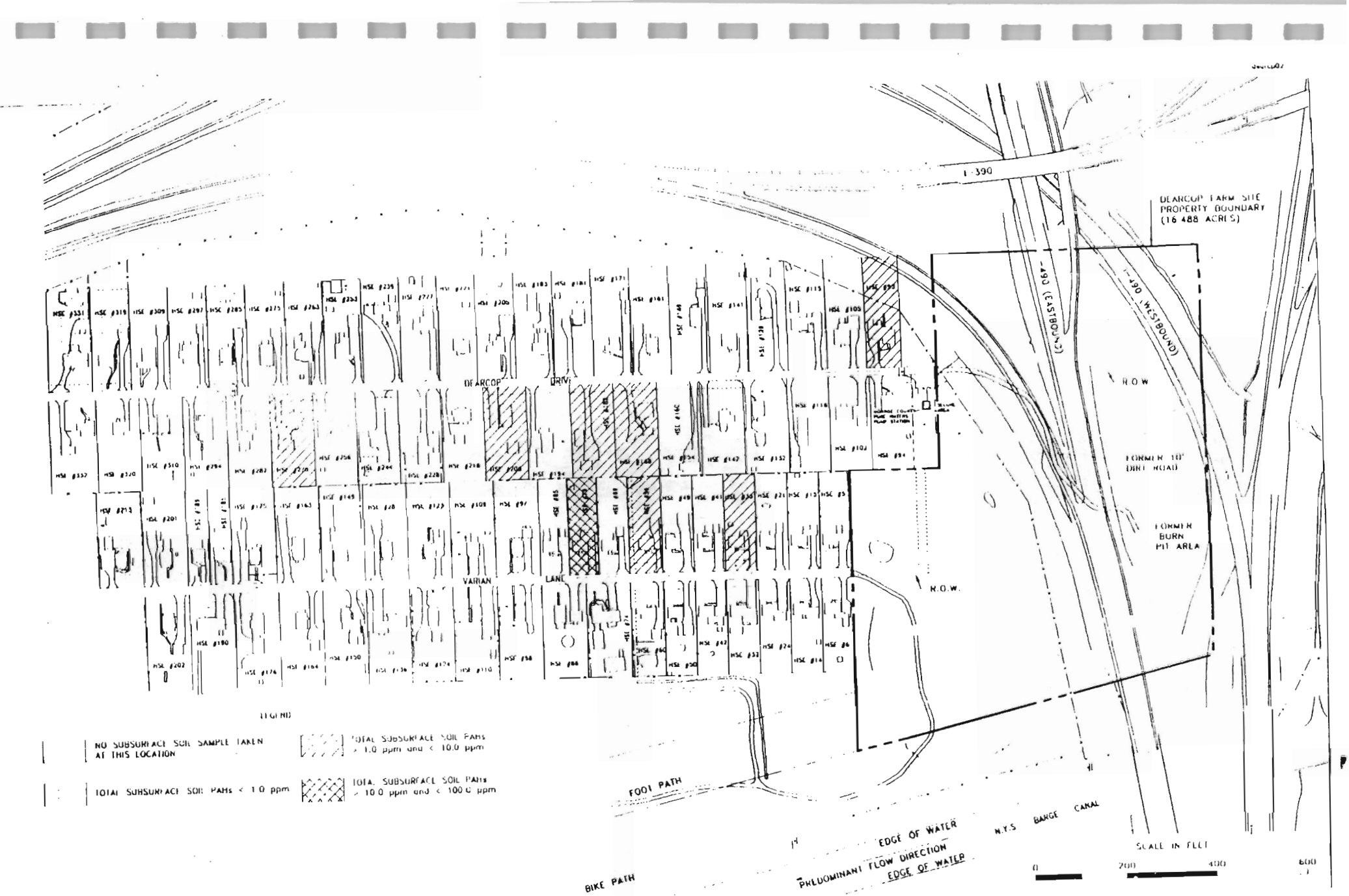
Figure 1 DEARCOP FARM SITE APPROX. RESIDENTIAL OF SOIL SAMPLE LOCATIONS



ogy and environment

ng revised by NYSDEC

Figure 2 DEARCOP FARM SITE SURFACE SOIL PAH SCREENING RESULTS



and environment

revised by NYSDEC

Figure 3 DEARCOP FARM SITE SUBSURFACE PAH SCREENING RESULTS

APPENDIX B

TABLES

Table 1

Summary of PAH(Polynuclear Aromatic Hydrocarbons) Screening Residential Surface Soil Samples Collected May 16-19, 1994 Dearcop Farm Site, Gates, NY (Site No. 08-28-016)

Sample No.	Sample Location	Sample Type [1]	Total PAH Reading PPM [2]
DEAR - 093A	93 Dearcop Drive	B	> 1.0 < 10
DEAR - 093B	93 Dearcop Drive	B	> 1.0 < 10
DEAR - 093C **	93 Dearcop Drive	B	> 1.0 < 10
DEAR - 094	94 Dearcop Drive	A	< 1.0
DEAR - 102	102 Dearcop Drive	A	< 1.0
DEAR - 105	105 Dearcop Drive	A	< 1.0
DEAR - 115A #	115 Dearcop Drive	A	< 1.0
DEAR - 116	116 Dearcop Drive	A	< 1.0
DEAR - 129A **	129 Dearcop Drive	A	> 1.0 < 10
DEAR - 129B **	129 Dearcop Drive	B	> 1.0 < 10
DEAR - 132	132 Dearcop Drive	A	< 1.0
DEAR - 141	141 Dearcop Drive	A	< 1.0
DEAR - 142A	142 Dearcop Drive	A	< 1.0
DEAR - 149A	149 Dearcop Drive	A	< 1.0
DEAR - 149B	149 Dearcop Drive	B	< 1.0
DEAR - 154	154 Dearcop Drive	A	< 1.0
DEAR - 160	160 Dearcop Drive *	A	< 1.0
DEAR - 161A	161 Dearcop Drive	A	< 1.0
DEAR - 161B #	161 Dearcop Drive	B	< 1.0
DEAR - 168A	168 Dearcop Drive	B	< 1.0
DEAR - 168B	168 Dearcop Drive	B	> 1.0 < 10
DEAR - 168C **	168 Dearcop Drive	B	> 1.0 < 10
DEAR - 168D	168 Dearcop Drive	B	< 1.0
DEAR - 171	171 Dearcop Drive	A	< 1.0
DEAR - 181A **	181 Dearcop Drive	B	< 1.0
DEAR - 181B	181 Dearcop Drive	B	> 1.0 < 10
DEAR - 181C	181 Dearcop Drive	B	< 1.0
DEAR - 182A	182 Dearcop Drive	A	< 1.0
DEAR - 193	193 Dearcop Drive	A	< 1.0
DEAR - 194	194 Dearcop Drive	A	< 1.0

Notes:

1. Sample Types A = surface/composite sample
   B = surface/discrete sample
2. PAH Screening provides results in ranges. Readings are in parts per million (ppm).

* Number listed on the house was #154.

** Confirmation PAH analysis was performed on this sample by NYSDEC. See Table 5 for results.

Confirmation PAH analysis was performed on this sample by NYSDOH. See Table 6 for results.

> = Greater than

< = Less than

Table 1

Summary of PAH(Polynuclear Aromatic Hydrocarbons) Screening
Residential Surface Soil Samples Collected May 16-19, 1994
Dearcop Farm Site, Gates, NY (Site No. 08-28-016)

Sample No.	Sample Location	Sample Type [1]	Total PAH Reading PPM [2]
DEAR - 205A **	205 Dearcop Drive	B	< 1.0
DEAR - 205B	205 Dearcop Drive	B	< 1.0
DEAR - 205C	205 Dearcop Drive	B	< 1.0
DEAR - 206A	206 Dearcop Drive	B	> 1.0 < 10
DEAR - 206B	206 Dearcop Drive	B	> 1.0 < 10
DEAR - 206C	206 Dearcop Drive	B	< 1.0
DEAR - 206D #	206 Dearcop Drive	B	< 1.0
DEAR - 206H	206 Dearcop Drive	B	> 1.0 < 10
DEAR - 218A	218 Dearcop Drive	A	< 1.0
DEAR - 218B	218 Dearcop Drive	B	> 1.0 < 10
DEAR - 221	221 Dearcop Drive	A	< 1.0
DEAR - 227	27 Dearcop Drive	A	> 1.0 < 10
DEAR - 228	228 Dearcop Drive	A	< 1.0
DEAR - 239	239 Dearcop Drive	A	< 1.0
DEAR - 244A	244 Dearcop Drive	B	< 1.0
DEAR - 244B	244 Dearcop Drive	B	< 1.0
DEAR - 244C **	244 Dearcop Drive	B	< 1.0
DEAR - 244D #	244 Dearcop Drive	B	< 1.0
DEAR - 253	253 Dearcop Drive	A	< 1.0
DEAR - 256A	256 Dearcop Drive	A	< 1.0
DEAR - 256B	256 Dearcop Drive	B	< 1.0
DEAR - 263	263 Dearcop Drive	A	< 1.0
DEAR - 270A	270 Dearcop Drive	B	> 1.0 < 10
DEAR - 270B	270 Dearcop Drive	B	> 1.0 < 10
DEAR - 270C **	270 Dearcop Drive	B	< 1.0
DEAR - 270D	270 Dearcop Drive	B	< 1.0
DEAR - 275	275 Dearcop Drive	A	> 1.0 < 10
DEAR - 282A	282 Dearcop Drive	A	< 1.0
DEAR - 282B	282 Dearcop Drive	B	> 1.0 < 10
DEAR - 285A	285 Dearcop Drive	A	< 1.0
DEAR - 285B **	285 Dearcop Drive	B	< 1.0

Notes:

1. Sample Types: A = surface/composite sample
   B = surface/discrete sample
2. PAH Screening provides results in ranges. Readings are in parts per million (ppm).

** Confirmation PAH analysis was performed on this sample by NYSDEC. See Table 5 for results.

Confirmation PAH analysis was performed on this sample by NYSDOH. See Table 6 for results.

> = Greater than

< = Less than

Table 1

Summary of PAH(Polynuclear Aromatic Hydrocarbons) Screening
Residential Surface Soil Samples Collected May 16-19, 1994
Dearcop Farm Site, Gates, NY (Site No. 08-28-016)

Sample No.	Sample Location	Sample Type [1]	Total PAH Reading [2] PPM
DEAR - 294A	294 Dearcop Drive	A	< 1.0
DEAR - 294B	294 Dearcop Drive	B	< 1.0
DEAR - 297	297 Dearcop Drive	A	> 1.0 < 10
DEAR - 309	309 Dearcop Drive	A	< 1.0
DEAR - 310	310 Dearcop Drive	A	< 1.0
DEAR - 319A	319 Dearcop Drive	A	< 1.0
DEAR - 319B	319 Dearcop Drive	B	< 1.0
DEAR - 320	320 Dearcop Drive	A	< 1.0
DEAR - 331A	331 Dearcop Drive	B	> 1.0 < 10
DEAR - 331B	331 Dearcop Drive	B	> 1.0 < 10
DEAR - 331C	331 Dearcop Drive	B	< 1.0
DEAR - 331D #	331 Dearcop Drive	B	> 1.0 < 10
DEAR - 332	332 Dearcop Drive	A	< 1.0
VAR - 005 **	5 Varian Lane	A	< 1.0
VAR - 006	6 Varian Lane	A	< 1.0
VAR - 014	14 Varian Lane	A	< 1.0
VAR - 021	21 Varian Lane	A	< 1.0
VAR - 024	24 Varian Lane	A	< 1.0
VAR - 028	28 Varian Lane	A	< 1.0
VAR - 032	32 Varian Lane	A	< 1.0
VAR - 033A	33 Varian Lane	B	< 1.0
VAR - 033B	33 Varian Lane	B	< 1.0
VAR - 041A	41 Varian Lane	A	< 1.0
VAR - 042	42 Varian Lane	A	< 1.0
VAR - 049 **	49 Varian Lane	A	> 1.0 < 10

Notes:

1 Sample Types: A = surface/composite sample
B = surface/discrete sample

2. PAH Screening provides results in ranges. Readings are in parts per million (ppm).

** Confirmation PAH analysis was performed on this sample by NYSDEC. See Table 5 for results.

Confirmation PAH analysis was performed on this sample by NYSDOH. See Table 6 for results.

> = Greater than

< = Less than

Table 1

Summary of PAH(Polynuclear Aromatic Hydrocarbons) Screening
Residential Surface Soil Samples Collected May 16-19, 1994
Dearcop Farm Site, Gates, NY (Site No. 08-28-016)

Sample No.	Sample Location	Sample Type [1]	Total PAH Reading [2] PPM
VAR - 050	50 Varian Lane	A	< 1.0
VAR - 059A	59 Varian Lane	A	> 1.0 < 10
VAR - 060	60 Varian Lane	A	< 1.0
VAR - 069	69 Varian Lane	A	< 1.0
VAR - 074	74 Varian Lane	A	< 1.0
VAR - 079A	79 Varian Lane	A	< 1.0
VAR - 085	85 Varian Lane	A	< 1.0
VAR - 086	86 Varian Lane	A	< 1.0
VAR - 097A	97 Varian Lane	A	< 1.0
VAR - 098	98 Varian Lane	A	< 1.0
VAR - 109	109 Varian Lane	A	< 1.0
VAR - 110	110 Varian Lane	A	< 1.0
VAR - 123A	123 Varian Lane	A	< 1.0
VAR - 124	124 Varian Lane	A	> 1.0 < 10
VAR - 136	136 Varian Lane	A	< 1.0
VAR - 149	149 Varian Lane	A	> 1.0 < 10
VAR - 150 **	150 Varian Lane	B	< 1.0
VAR - 163	163 Varian Lane	A	< 1.0
VAR - 164	164 Varian Lane	A	< 1.0
VAR - 175	175 Varian Lane	A	< 1.0
VAR - 176	176 Varian Lane	A	> 1.0 < 10
VAR - 185	185 Varian Lane	A	< 1.0
VAR - 189	189 Varian Lane	A	< 1.0
VAR - 190	190 Varian Lane	A	< 1.0
VAR - 201	201 Varian Lane	A	< 1.0
VAR - 202	202 Varian Lane	A	< 1.0
BIKE - 01	Bike Path	A	< 1.0

Notes:

1. **Sample Types:** A = surface/composite sample
   B = surface/discrete sample
2. **PAH Screening** provides results in ranges. Readings are in parts per million (ppm).

** Confirmation PAH analysis was performed on this sample by NYSDEC. See Table 5 for results.

Confirmation PAH analysis was performed on this sample by NYSDOH. See Table 6 for results.

> = Greater than

< = Less than

Table 2

Summary of PAH(Polynuclear Aromatic Hydrocarbons) Screening
Residential Subsurface Soil Samples Collected May 16-19, 1994
Dearcop Farm Site, Gates, NY (Site No. 08-28-016)

Sample No.	Sample Location	Sample Type [1]	Total PAH Reading [2] PPM
DEAR - 093D	93 Dearcop Drive	C	> 1.0 < 10
DEAR - 093E	93 Dearcop Drive	C	> 1.0 < 10
DEAR - 115B	115 Dearcop Drive	C	< 1.0
DEAR - 142B	142 Dearcop Drive	C	< 1.0
DEAR - 168E	168 Dearcop Drive	C	> 1.0 < 10
DEAR - 168F	168 Dearcop Drive	C	> 1.0 < 10
DEAR - 182B **	182 Dearcop Drive	C	> 1.0 < 10
DEAR - 205D	205 Dearcop Drive	C	< 1.0
DEAR - 205E	205 Dearcop Drive	C	< 1.0
DEAR - 206E **	206 Dearcop Drive	C	< 1.0
DEAR - 206F #	206 Dearcop Drive	C	< 1.0
DEAR - 206G	206 Dearcop Drive	C	> 1.0 < 10
DEAR - 244E	244 Dearcop Drive	C	< 1.0
DEAR - 244F	244 Dearcop Drive	C	< 1.0
DEAR - 270E	270 Dearcop Drive	C	> 1.0 < 10
DEAR - 270F	270 Dearcop Drive	C	< 1.0
DEAR - 319C **	319 Dearcop Drive	C	< 1.0
DEAR - 331E	331 Dearcop Drive	C	> 1.0 < 10
DEAR - 331F **	331 Dearcop Drive	C	< 1.0
VAR - 033C	33 Varian Lane	C	< 1.0
VAR - 033D # **	33 Varian Lane	C	> 1.0 < 10
VAR - 033E	33 Varian Lane	C	< 1.0
VAR - 041B **	41 Varian Lane	C	< 1.0
VAR - 059B	59 Varian Lane	C	> 1.0 < 10
VAR - 079B **	79 Varian Lane	C	> 10 < 100
VAR - 097B **	97 Varian Lane	C	< 1.0
VAR - 123B	123 Varian Lane	C	< 1.0
VAR - 213 **	213 Varian Lane	C	< 1.0
BIKE - 02 **	Bike Path	C	< 1.0

Notes:

1. **Sample Types:** C = subsurface/discrete sample (Approx. depth of sample collection is 2' below grade.)
2. PAH Screening provides results in ranges. Readings are in parts per million (ppm).

** Confirmation PAH analysis was performed on this sample by NYSDEC. See Table 5 for results.

Confirmation PAH analysis was performed on this sample by NYSDOH. See Table 6 for results.

> = Greater than

< = Less than

Table 3
Summary of Metals and Cyanide Analysis
Residential Surface Soil Samples Collected May 16-19, 1994
Dearcop Farm Site, Gates, NY (Site No. 08-28-016)

Sample No.	Sample Location	Sample Type[1]	METAL AND CYANIDE CONCENTRATIONS Cadmium Mg/Kg	Copper Mg/Kg	Lead Mg/Kg	Nickel Mg/Kg	Zinc Mg/Kg	Cyanide Mg/Kg
DEAR - 115B	115 Dearcop Drive	B	2.3	6.8	10	6.8	25	NA
DEAR - 129B	129 Dearcop Drive	B	2.8	150	160	8.4	250	NA
DEAR - 149B	149 Dearcop Drive	B	3.7	60	110	6.1	980	NA
DEAR - 161B #	161 Dearcop Drive	B	12	1400	60	20	1100	NA
DEAR - 168A	168 Dearcop Drive	B	1.3	80	50	2.6	120	1.2
DEAR - 168B	168 Dearcop Drive	B	1.1	30	50	4.5	240	1.1
DEAR - 168C	168 Dearcop Drive	B	1.1	54	61	8.7	250	1.1
DEAR - 168D	168 Dearcop Drive	B	2.6	150	83	14	290	1.2
DEAR - 181B	181 Dearcop Drive	B	2.8	140	180	9.9	560	NA
DEAR - 181C	181 Dearcop Drive	B	1.4	47	38	5.5	140	NA
DEAR - 205A	205 Dearcop Drive	B	ND	15	23	ND	56	1.1
DEAR - 205B	205 Dearcop Drive	B	4.7	2200	120	4.7	2000	1.3
DEAR - 205C	205 Dearcop Drive	B	1.3	510	60	10	770	3.9
DEAR - 206A	206 Dearcop Drive	B	1.2	16	22	6	54	1.3
DEAR - 206B	206 Dearcop Drive	B	5.9	130	69	67	160	18.9
DEAR - 206C	206 Dearcop Drive	B	ND	190	71	1.1	180	1.9
DEAR - 206D #	206 Dearcop Drive	B	ND	720	110	5.8	320	1.3
DEAR - 206H	206 Dearcop Drive	B	1.2	39	42	7.2	94	1.2
Highest, site specific, surface soil background levels.			1.3	20.2	43.8	10.5	48.6	0.71
Eastern USA Background levels ***			0.1 - 7	2 - 100	2 - 200	5 - 100	10 - 300	NL
New Jersey DEP Cyanide Soil Guidance								12

Notes:

1. Sample Types: A = surface/composite sample
   B = surface/discrete sample

NA = Not Analysed

ND = Concentration is below limit of detection.

NL = Not Listed

Confirmation metals analysis was performed on this sample by NYSDOH. See Table 6 for results.

*** Values are taken from "The Soil Chemistry of Hazardous Materials" by James Dragun, 1988.

Table 3
Summary of Metals and Cyanide Analysis
Residential Surface Soil Samples Collected May 16-19, 1994
Dearcop Farm Site, Gates, NY (Site No. 08-28-016)

Sample No.	Sample Location	Sample Type[1]	METAL AND CYANIDE CONCENTRATIONS					
			Cadmium Mg/Kg	Copper Mg/Kg	Lead Mg/Kg	Nickel Mg/Kg	Zinc Mg/Kg	Cyanide Mg/Kg
DEAR - 218B	218 Dearcop Drive	B	4.0	400	68	5.3	680	NA
DEAR - 256B	256 Dearcop Drive	B	2.6	12	29	3.9	55	NA
DEAR - 270A	270 Dearcop Drive	B	1.3	41	220	6.7	390	1.2
DEAR - 270B	270 Dearcop Drive	B	1.3	38	75	5.1	100	1.1
DEAR - 270C	270 Dearcop Drive	B	1.3	26	180	3.9	110	1.2
DEAR - 270D	270 Dearcop Drive	B	ND	17	73	1.4	140	1.4
DEAR - 282B	282 Dearcop Drive	B	2.5	48	140	5.1	360	NA
DEAR - 285B	285 Dearcop Drive	B	2.7	16	93	4.0	130	NA
DEAR - 294B	294 Dearcop Drive	B	2.5	25	87	6.3	120	NA
DEAR - 319B	319 Dearcop Drive	B	2.8	34	110	4.2	230	NA
VAR - 150	150 Varian Lane	B	2.5	35	290	10	250	NA
BIKE - 01	Bike Path	A	1.1	55	19	14	63	NA
Highest, site specific, surface soil background levels.			1.3	20.2	43.8	10.5	48.6	0.71
Eastern USA Background levels ***			0.1 - 7	2 - 100	2 - 200	5 - 100	10 - 300	NL
New Jersey DEP Cyanide Soil Guidance								12

Notes:

1. Sample Types. A = surface/composite sample
   B = surface/discrete sample

NA = Not Analysed.

ND = Concentration is below limit of detection

NL = Not Listed

Confirmation metals analysis was performed on this sample by NYSDOH. See Table 6 for results.

*** Values are taken from "The Soil Chemistry of Hazardous Materials" by James Dragun, 1988.

Table 4
Summary of Metals and Cyanide Analysis
Residential Subsurface Soil Samples Collected May 16-19, 1994
Dearcop Farm Site, Gates, NY (Site No. 08-28-016)

Sample No.	Sample Location	Sample[1] Type	METAL AND CYANIDE CONCENTRATIONS Cadmium Mg/Kg	Copper Mg/Kg	Lead Mg/Kg	Nickel Mg/Kg	Zinc Mg/Kg	Cyanide Mg/Kg
DEAR - 093D	93 Dearcop Drive	C	2.2	100	30	12	110	NA
DEAR - 093E	93 Dearcop Drive	C	ND	200	120	5.9	170	NA
DEAR - 142B	142 Dearcop Drive	C	7.1	260	52	44	340	NA
DEAR - 168E	168 Dearcop Drive	C	4.4	480	100	32	690	1.0
DEAR - 168F	168 Dearcop Drive	C	ND	10	2.3	ND	9.2	1.4
DEAR - 182B	182 Dearcop Drive	C	1.2	270	9.4	1.2	600	NA
DEAR - 206E	206 Dearcop Drive	C	1.2	40	27	4.8	170	2.0
DEAR - 206F #	206 Dearcop Drive	C	1.2	2600	260	24	1400	1.0
DEAR - 206G	206 Dearcop Drive	C	1.2	74	67	11	92	11.6
DEAR - 270E	270 Dearcop Drive	C	1.2	28	140	6.0	300	1.2
DEAR - 270F	270 Dearcop Drive	C	1.1	16	11	5.5	46	1.0
DEAR - 319C	319 Dearcop Drive	C	2.1	8.6	7.5	7.5	20	NA
DEAR - 331E	331 Dearcop Drive	C	ND	30	18	2.3	60	NA
DEAR - 331F	331 Dearcop Drive	C	ND	44	190	12	46	NA
VAR - 041B	41 Varian Lane	C	1.2	1.2	3.5	1.2	14	NA
VAR - 059B	59 Varian Lane	C	2.5	42	92	8.6	190	NA
VAR - 079B	79 Varian Lane	C	1.1	3.4	6.7	3.4	8.9	NA
VAR - 097B	97 Varian Lane	C	2.6	5.1	6.4	6.4	230	NA
VAR - 123B	123 Varian Lane	C	1.2	8.2	11	7.1	27	NA
VAR - 213	213 Varian Lane	C	1.2	4.8	8.4	2.4	25	NA
BIKE - 02	Bike Path	C	2.3	74	18	27	64	NA
Highest, site specific, surface soil background levels.			1.3	20.2	43.8	10.5	48.6	0.71
Eastern USA Background levels ***			0.1 - 7	2 - 100	2 - 200	5 - 1000	10 - 300	NL
New Jersey DEP Cyanide Soil Guidance								12

Notes:

1. Sample Types: C = subsurface/discrete sample (Approx. depth of sample collection is 2' below grade)

NA = Not Analysed

ND = Concentration is below limit of detection

NL = Not Listed

Confirmation metals analysis was performed on this sample by NYSDOH. See Table 6 for results.

*** Values are taken from "The Soil Chemistry of Hazardous Materials" by James Dragun, 1988.

Table 5

Summary of NYSDEC Confirmation Results for PAH Screening
Residential Soil Samples Collected May 16-19, 1994
Dearcop Farm Site, Gates, NY (Site No. 08-28-016)

PAH Concentration in PPb
Analysis by Gas Chromatograph/Mass Spectrometer

Sample No. / Sample Location	DEAR-093C 93 Dearcop Drive	DEAR-129A 129 Dearcop Drive	DEAR-129B 129 Dearcop Drive	DEAR-168C 168 Dearcop Drive	DEAR-181A 181 Dearcop Drive	DEAR-182B 182 Dearcop Drive	DEAR-205A 205 Dearcop Drive
Acenaphthene	ND	66	65	ND	ND	44	31
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND
* Anthracene & * Phenanthrene	250	1800	2500	1100	41	580	590
* Benzo(a)anthracene & * Chrysene total	230	1100	2400	1200	22	600	350
* Benzo(b)fluroanthene * Benzo(k)fluoranthene	81	190	1000	750	ND	590	220
Benzo(g,h,i)perylene	ND	ND	82	76	ND	170	ND
Benzo (a)pyrene	ND	84	610	280	ND	340	120
Dibenz(a,h)anthrancene	ND	ND	ND	39	ND	ND	ND
Fluoranthene	440	870	4600	2200	64	750	690
Fluorene	ND	110	91	ND	ND	27	33
Ideno(1,2,3-cd)Pyrene	ND	ND	91	140	ND	220	21
Napthalene	38	63 B	120 B	66 B	30 B	90 B	47
Pyrene	380	2100	4000	2100	59	620	470
Total PAH's (ppm)	1.4	6.4	17	7.9	0.19	4.0	2.5
PAH Screening Results from Table 1 (ppm)	> 1.0 < 10	> 1.0 < 10	> 1.0 < 10	> 1.0 < 10	< 1.0	> 1.0 < 10	<1.0
		B = 22 ppb	B = 22 ppb	B = 24 ppb	B = 17 ppb	B = 22 ppb	

ND = Non-detect
B = Concentration in Corresponding Blank
* Compounds Coeluted
> = Greater than
< = Less than

Table 5

Summary of NYSDEC Confirmation Results for PAH Screening
Residential Soil Samples Collected May 16-19, 1994
Dearcop Farm Site, Gates, NY (Site No. 08-28-016)

PAH Concentration in Ppb
Analysis by Gas Chromatograph/Mass Spectrometer

Sample No. Sample Location	DEAR-206E 206 Dearcop Drive	DEAR-244C 244 Dearcop Drive	DEAR-270C 270 Dearcop Drive	DEAR-285B 285 Dearcop Drive	DEAR-319C 319 Dearcop Drive	DEAR-331F 331 Dearcop Drive	VAR-5 5 Varian Lane
Acenaphthene	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND
* Anthracene & * Phenanthrene	ND	78	150	420	ND	400	64
* Benzo(a)anthracene & * Chrysene total	ND	66	140	730	25	250	110
* Benzo(b)fluroanthene * Benzo(k)fluoranthene	ND	ND	73	800	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND	ND	ND
Benzo (a)pyrene	ND	ND	ND	360	ND	ND	43
Dibenz(a,h)anthrancene	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	ND	140	240	740	21	430	120
Fluorene	ND	ND	ND	ND	ND	ND	ND
Ideno(1,2,3-cd)Pyrene	ND	ND	ND	ND	ND	ND	ND
Napthalene	120	43	43	45 B	35 B	120 B	44 B
Pyrene	ND	130	200	550	21	280	110
Total PAH's (ppm)	ND	0.35	0.85	3.5	0.08	1.5	0 45
PAH Screening Results from Table 1 (ppm)	< 1.0	< 1.0	< 1.0	< 1.0 B = 17	< 1.0 B = 17	< 1.0 B = 24	< 1.0 B = 24

ND = Non-detect
B = Concentration in Corresponding Blank
* Compounds Coeluted
> = Greater than
< = Less than

Table 5

Summary of NYSDEC Confirmation Results for PAH Screening
Residential Soil Samples Collected May 16-19, 1994
Dearcop Farm Site, Gates, NY (Site No. 08-28-016)

PAH Concentration in Ppb
Analysis by Gas Chromatograph/Mass Spectrometer

Sample No. / Sample Location	VAR-33D 33 Varian Lane	VAR-41B 41 Varian Lane	VAR-49 49 Varian Lane	VAR-79B 79 Varian Lane	VAR-97B 97 Varian Lane	VAR-150 150 Varian Lane	VAR-213 213 Varian Lane	BIKE-02 Bike Path
Acenaphthene	57	ND	31	ND	ND	18	ND	39
Acenaphthylene	ND	ND	24	ND	ND	ND	ND	ND
* Anthracene & * Phenanthrene	820	ND	660	2400	71	620	ND	410
* Benzo(a)anthracene & * Chrysene total	4900	ND	1400	9500	13	860	ND	100
* Benzo(b)fluroanthene & * Benzo(k)fluoranthene	360	ND	1400	20000	ND	760	ND	ND
Benzo(g,h,i)perylene	130	ND	130	4900	ND	83	ND	ND
Benzo (a)pyrene	1600	ND	500	11000	ND	ND	ND	ND
Dibenz(a,h)anthrancene	ND	ND	120	ND	ND	ND	ND	ND
Fluoranthene	3100	ND	1400	1500	15	1100	ND	280
Fluorene	70	ND	26	ND	ND	27	ND	51
Ideno(1,2,3-cd)Pyrene	190	ND	250	5800	ND	ND	ND	ND
Napthalene	440 B	23 B	170	370 B	24 B	65 B	44 B	320
Pyrene	2600	ND	1100	13000	12	810	ND	200
Total PAH's (ppm)	14	ND	7.2	68	0.12	4.3	ND	1.3
PAH Screening Results from Table 1 (ppm)	> 1.0 < 10	< 1.0	> 1.0 < 10	> 10 < 100	< 1.0	< 1.0	< 1.0	<1.0
	B = 24	B = 24		B = 22	B = 17	B = 24	B = ?	

ND = Non-detect
B = Concentration in Corresponding Blank
* Compounds Coeluted
> = Greater than
< = Less than

Table 6
Summary of NYS Department of Health Confirmation Results
Residential Soil Samples Collected May 16-19, 1994
Dearcop Farm Site, Gates, NY (Site No. 08-28-016)

PAH Concentration in Ppb

Sample No. / Sample Location	DEAR-115A 115 Dearcop Drive	DEAR-161B 161 Dearcop Drive	DEAR-182 182 Dearcop Drive	DEAR-206D 206 Dearcop Drive	DEAR-206F 206 Dearcop Drive	DEAR-244D 244 Dearcop Drive
Acenaphthene	< 250	< 250	< 250	< 250	< 250	< 250
Acenaphthylene	< 250	< 250	< 250	< 250	< 250	< 250
Anthracene	< 250	< 250	< 250	< 250	< 250	< 250
Phenanthrene	300	< 250	360	< 250	< 250	1100
Benzo(a)anthracene	< 250	< 250	460	< 250	< 250	760
Chrysene	< 250	< 250	550	< 250	< 250	930
Benzo(b)fluroanthene	< 250	260	540	< 250	< 250	580
Benzo(k)fluoranthene	< 250	< 250	520	< 250	< 250	540
Benzo(g,h,i)perylene	< 500	< 500	< 500	< 500	< 500	< 500
Benzo (a)pyrene	< 250	< 250	600	< 250	< 250	700
Dibenz(a,h)anthrancene	< 500	< 500	< 500	< 500	< 500	< 500
Fluoranthene	< 250	< 250	750	< 250	< 250	2800
Fluorene	< 250	< 250	< 250	< 250	< 250	< 250
Ideno(1,2,3-cd)Pyrene	< 500	< 500	< 500	< 500	< 500	< 500
Napthalene	< 250	< 250	< 250	< 250	< 250	< 250
Pyrene	< 250	< 250	820	< 250	270	2600
Total PAH's (ppm)	0.3	0.26	4 6	BDL	0.27	10
PAH Screening Results from Table 1 (ppm)	< 1.0	< 1.0	*	< 1.0	< 1.0	< 1.0

BDL = Below limit of detection

Metals Concentration in Dry Solids (Ppm)

Sample No. / Sample Location	DEAR-115A 115 Dearcop Drive	DEAR-161B 161 Dearcop Drive	DEAR-182 182 Dearcop Drive	DEAR-206D 206 Dearcop Drive	DEAR-206F 206 Dearcop Drive	DEAR-244D 244 Dearcop Drive
Arsenic	8.9	13	6.6	3.1	13	4.4
Mercury	< 0.04	< 0.04	< 0.04	0.12	0.07	0.08
Selenium	< 0.5	0.5	0.5	0.6	0.5	0.6
Beryllium	0.5	< 0.4	0.6	< 0.4	< 0.4	0.6
Silver	< 4	< 4	< 4	< 4	7.2	< 4
Barium	78.4	75.5	85.4	43.8	197	89.2
Cadmium	< 2	11 2	< 2	< 2	6	< 2
Cobalt	3.6	14 2	4 9	4.1	9 8	6.3
Chromium	22.1	49.5	17 1	13.9	48.7	19.7
Copper	18.4	2820	284	580	7810	27 4
Iron	14300	219000	19800	13600	63700	19900
Manganese	342	1720	403	264	516	511
Nickel	9.7	38.3	13	15.3	107	12
Strontium	21.2	23.4	30.1	< 20	< 20	< 20
Titanium	195	157	329	134	203	217
Vanadium	21.7	46 8	28.2	19.3	26.3	30 4
Zinc	76.9	1260	447	564	5350	142
Molybdenum	< 8	8	< 8	< 8	< 8	< 8
Lead	26.7	144	53.5	249	1470	81
Antimony	< 30	< 30	< 30	< 30	< 30	< 30
Tin	< 20	42.7	< 20	27.1	417	< 20
Thallium	< 30	< 30	< 30	< 30	< 30	< 30
Aluminum	12000	9330	12200	8890	15400	15400
Calcium	12400	2660	25000	6570	2130	8120
Potassium	2080	1080	2410	1250	1210	2430
Magnesium	4640	1310	8340	2480	1550	4550
Sodium	< 200	< 200	< 200	< 200	< 200	< 200
Cyanide	2	< 1	< 1	< 1	< 1	< 1

* The NYSDOH sample was a discrete, surface sample, collected at one of the DEC, surface, composite sample locations (DEAR-182A).

< = Less than

Table 6
Summary of NYS Department of Health Confirmation Results
Residential Soil Samples Collected May 16-19, 1994
Dearcop Farm Site, Gates, NY (Site No. 08-28-016)

PAH Concentration in Ppb

Sample No. Sample Location	DEAR-331D 331 Dearcop Drive	VAR-33D 33 Varian Lane	VAR-110 110 Varian Lane	VAR-163 163 Varian Lane	VAR-213 213 Varian Lane
Acenaphthene	< 250	< 250	< 250	< 250	< 250
Acenaphthylene	< 250	< 250	< 250	260	< 250
Anthracene	490	< 250	< 250	< 250	< 250
Phenanthrene	3500	960	< 250	< 250	< 250
Benzo(a)anthracene	2400	2700	310	< 250	< 250
Chrysene	2800	5300	560	< 250	350
Benzo(b)fluroanthene	2200	5800	670	< 250	400
Benzo(k)fluoranthene	2000	3500	490	< 250	340
Benzo(g,h,i)perylene	2100	7100	790	< 500	< 500
Benzo (a)pyrene	2500	3600	490	< 250	360
Dibenz(a,h)anthrancene	< 500	2100	< 500	< 500	< 500
Fluoranthene	6400	4800	500	< 250	460
Fluorene	< 250	< 250	< 250	< 250	< 250
Ideno(1,2,3-cd)Pyrene	2200	6700	< 500	< 500	< 500
Napthalene	< 250	< 250	< 250	< 250	< 250
Pyrene	6100	4200	470	< 250	410
Total PAH's (ppm)	33	48	4.3	BDL	2.3
PAH Screening Results from Table 1 (ppm)	> 1.0 < 10	> 1.0 < 10	*	*	#

BDL = Below limit of detection

Metals Concentration in Dry Solids (Ppm)

Sample No. Sample Location	DEAR-331D 331 Dearcop Drive	VAR-33D 33 Varian Lane	VAR-110 110 Varian Lane	VAR-163 163 Varian Lane	VAR-213 213 Varian Lane
Arsenic	4.6	4.8	6.2	10	3.3
Mercury	0.26	< 0.04	0.35	0.14	< 0.04
Selenium	0.6	0.7	0.7	1	< 0.5
Beryllium	0.6	0.6	0.6	0.8	0.5
Silver	< 4	< 4	< 4	< 4	< 4
Barium	98.5	75	82.8	148	49.6
Cadmium	< 2	< 2	< 2	<2	2.8
Cobalt	6.1	5.1	5.2	5.8	4.3
Chromium	21.9	22	19.2	27.7	14.6
Copper	76.5	22.2	120	30.6	640
Iron	23600	21500	19400	24000	19200
Manganese	503	262	392	662	388
Nickel	14	15.2	16.5	16.3	13.9
Strontium	< 20	< 20	22.1	24.3	< 20
Titanium	289	247	222	190	228
Vanadium	33	32.2	26.9	38	22.7
Zinc	282	76.8	284	279	1020
Molybdenum	< 8	< 8	< 8	< 8	< 8
Lead	179	28.7	97.9	155	71.3
Antimony	< 30	< 30	< 30	< 30	< 30
Tin	< 20	< 20	< 20	< 20	< 20
Thallium	< 30	< 30	< 30	< 30	< 30
Aluminum	15000	20100	11700	21400	10800
Calcium	8580	3550	13800	9630	4700
Potassium	2690	1460	1930	3650	1510
Magnesium	4840	2380	5060	4560	3140
Sodium	204	< 200	< 200	< 200	< 200
Cyanide	3	< 1	1	2	<1

*** The NYSDOH sample was a discrete, surface sample, collected at one of the NYSDEC, surface, composite sample locations (VAR-110, VAR-163).**
 # The NYSDOH sample was a discrete, surface sample, collected at a NYSDEC, discrete, subsurface sample location (VAR-213).