

**Lawler,
Matusky
& Skelly
Engineers LLP** Environmental Science & Engineering Consultants

January 20, 2005
File No.: 911-007

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Remedial Bureau C
Div of Environmental Remediation

Mr. Dwight Douglas
Village Administrator
Village Hall
28 Beekman Avenue
Sleepy Hollow, New York 10591

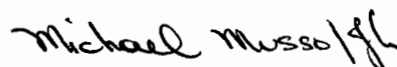
Re: **FINDINGS REPORT: Shallow Soil Sampling
Barnhart Park
Sleepy Hollow, New York**

Dear Mr. Douglas:

Attached is a letter report that summarizes Lawler, Matusky & Skelly Engineers LLP (LMS') findings of the shallow soil sampling conducted at Barnhart Park in the Village of Sleepy Hollow in December 2004. As requested, I am also forwarding a copy of this report to the contact at Duracell, Inc.

Should you have any questions on the report, please do not hesitate to contact me at 845-735-8300 ext. 261 (mobile: 845-304-9639).

Sincerely,



Michael P. Musso P.E
Senior Project Engineer

Attachment
cc: Victor Miles (Duracell)

January 20, 2005
File No.: 911-007

Mr. Dwight Douglas
Village Administrator
Village Hall
28 Beekman Avenue
Sleepy Hollow, New York 10591

Re: **FINDINGS REPORT: Shallow Soil Sampling
Barnhart Park
Sleepy Hollow, New York**

Dear Mr. Douglas:

Lawler, Matusky & Skelly Engineers LLP (LMS) is pleased to present the findings of the soil sampling conducted at Barnhart Park on December 8 and 9, 2004. A site location map is provided as Figure 1, and a site plan is provided as Figure 2.

Plans for site development include the construction of a parking lot and enhancements to the existing park. Although remediation under NYSDEC was previously conducted at the site, the potential of residual soil contamination may still exist and be encountered during site development efforts. Thus, pre-construction sampling was conducted to evaluate residual contamination and assist with Contractor health and safety planning, assess soil disposal and soil management options, and identify needs for additional remediation (if warranted).

Soil Sampling

Prior to the commencement of field activities, LMS requested a utility markout of the site by contacting the local utility clearance hotline. LMS mobilized to the site on December 8, 2004 to conduct the soil sampling. A total of 43 shallow soil probes were installed (designated as P-1 through P-16 on the lot east of Andrews Lane that formerly housed the Duracell facility building, and B-1 through B-27 at locations west of Andrews Lane). All LMS sampling locations are shown on Figure 2. A few borings were relocated from their original location due to refusal and/or poor soil recovery. The soil probes were advanced utilizing direct push/probe drilling methods and tools. The probe sampling methods employed created 2-in. diameter holes with minimal disturbance to the surrounding ground surface. Each probe location was advanced to a depth of 3-ft below grade (or greater), and soils from each location were recovered in dedicated acetate liners. Sample materials were classified visually by an on-site LMS technician. Field information was recorded on boring logs that are included as Attachment A of this letter report. The geological descriptions include color, material type and composition, relative grain size and

distribution, presence of free moisture, evidence of possible contamination, photoionization detector (PID) readings, and any other distinctive observations.

Soil samples from 21 probe locations were submitted to Mitkem Labs (Mitkem) of Warwick, Rhode Island, a NYSDOH-certified laboratory, for analyses. Soil samples were collected at probe locations across the site, targeting the former Duracell building/facility location (i.e., east of Andrews Lane), the former Duracell parking area (west of Andrews Lane), and the park area (west of Andrews Lane). Samples were biased to areas of future soil disturbance (i.e., utility trenching, plantings, comfort station building, playground equipment) based on the layout of a recent Site Plan. A blind duplicate sample was collected at location B-14 (designated as "GP-1 dup").

In the area east of Andrews Lane, soils from eight of the sixteen soil probe locations were submitted to Mitkem for laboratory analysis. In general, soils from below the existing soil cap at this area (i.e., below 1.5 – 2 ft bgs) were targeted for laboratory analysis. Seven of the eight samples were analyzed for volatile organic compounds (VOCs) using EPA Method 8260 and RCRA metals. One sample (P-7) was submitted for additional analyses of semivolatile organic compounds (SVOCs) using EPA method 8270, target analyte list (TAL) metals (i.e., expanded metals parameters list), and pesticides/polychlorinated biphenyls (PCBs).

In the area west of Andrews Lane, soil samples were generally collected from the 0 – 4 ft target depth interval. Of the 27 borings collected west of Andrews Lane during LMS sampling, thirteen were submitted to Mitkem for analysis. Eleven of the thirteen soil samples were analyzed for VOCs and RCRA metals. Shallow soils from two locations (B-16 and B-20) were submitted for additional analyses of SVOCs, TAL metals, and PCBs/pesticides.

All LMS soil samples were collected in laboratory-supplied containers and labeled with the appropriate sample identification, date and time of sampling, requested analyses, and sampler identification. All down-hole sampling equipment was decontaminated between probe locations and prior to leaving the site using cold wash techniques. Following completion of each soil probe, the hole was backfilled to grade using drill cuttings from that location and/or clean sand.

Soil Sample Results

The analytical results from the soil samples were assessed against the NYSDEC recommended soil cleanup objectives (RSCOs) and eastern USA background levels of Technical and Administrative Guidance Memorandum (TAGM) #4046. A summary of the soil data is presented in Table 1. A copy of the full data package from Mitkem, including laboratory methods that were used, is provided in Attachment B (as CD-ROM).

A total of 21 soil samples (plus one blind duplicate sample, and QA/QC samples comprised of a field blank and a trip blank) were submitted to Mitkem for laboratory analysis. Data summaries by analyte category are provided in the following paragraphs.

VOCs

As summarized in Table 1, several VOCs were detected in soil sample P-2, located at the southeast portion of the lot east of Andrews Lane (i.e., in close proximity to the former Duracell facility building; refer to Figure 2). Two compounds, tetrachloroethylene (PCE) and trichloroethylene (TCE) were detected at this location at concentrations (67 mg/kg and 3.1 mg/kg, respectively) that exceeded the TAGM #4046 soil objectives (RSCOs). LMS recorded the highest PID reading (18 ppm above background) at this sample location during the field work (see logs of Attachment A). All of the other VOCs that were detected in this sample were reported at concentrations that were below the RSCO values.

Aside from sample P-2, six VOCs (methylene chloride, chloroform, trichloroethylene, tetrachloroethylene, 2-Butanone, and acetone) were detected in one or more of the other soil samples; however, all concentrations of these compounds were below the respective RSCO in all these samples (see Table 1). Methylene chloride, a common laboratory artifact, was also detected in the QA/QC samples indicating the possibility of minor sample cross-contamination.

SVOCs

Several SVOCs were detected in two of the three samples that were analyzed for SVOCs, P-7 and B-20. In general, relatively low-levels of these compounds (including some polycyclic aromatic hydrocarbons [PAHs]) were reported that are typically associated with fill material and/or urban/semi-urban environments. None of the reported concentrations appear to be indicative of an active contaminant source in the shallow soils. Two SVOCs were detected at concentrations above the RSCOs. Benzo(a)pyrene was detected in sample P-7 at a concentration of 0.18 mg/kg, above the NYSDEC recommended soil cleanup objective of 0.061 mg/kg. Dibenzo(a,h)anthracene was reported at a concentration of 0.042 mg/kg in sample P-7, which exceeded the RSCO of 0.014 mg/kg. Sample B-16 did not have any detectable levels of any SVOCs. Three SVOCs were detected in sample B-20; all concentrations were below the RSCO values in this sample. Table 1 provides a summary of the SVOC sample data.

PCBs/Pesticides

No PCBs or pesticides were detected in any of the soil samples (P-7, B-16, and B-20) submitted for laboratory analysis.

Metals

Several metals were detected in all 21 of the soil samples that were submitted for analysis. Eighteen samples were analyzed for RCRA metals (which includes: arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver); the remaining samples (P-7, B-16, and B-20) were analyzed for the expanded list of 23 TAL metals. As shown on Table 1, one or more of the samples had RSCO exceedences of the following metals:

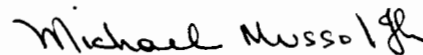
- Beryllium (overall concentration range among all samples analyzed of 0.18 – 0.26 mg/kg)
- Cadmium (1.2 – 4.6 mg/kg)
- Chromium (6.6 – 27.5 mg/kg)
- Copper (11.4 – 38.4 mg/kg)
- Iron (8950 – 11,400 mg/kg)
- Mercury (0.18 – 2130 mg/kg)
- Zinc (44.7 – 170 mg/kg)

With the exception of mercury, none of these concentrations are believed to be indicative of an active contamination source in the shallow on-site soils (i.e., many of the reported concentrations are below or slightly above the Eastern U.S. soil background levels cited in TAGM #4046). Rather, these levels may be associated with historic fill materials (similar to SVOCs).

Mercury concentrations in the shallow soils exceeded the RSCO criterion (0.1 mg/kg) at all LMS sample locations. All samples except five had mercury concentrations that were above the upper range of the Eastern U.S. soil background level cited in TAGM #4046 (0.2 mg/kg). The mercury concentrations at two locations (P-2 and B-1; shaded on Table 1) are indicative of possible mercury contamination source areas that were not completely addressed during the site remediation activities of the early 1990's. As shown on Figure 2, sample P-2 is located at the southeast portion of the lot east of Andrews Lane (i.e., in close proximity to the former Duracell facility building); sample B-1 is located along the west side of Andrews Lane near the former Duracell employee parking lot. The mercury concentrations reported at samples P-2 and B-1 (2130 mg/kg and 182 mg/kg, respectively) are higher than the NYSDEC site-specific soil action level that was established during the remediation activities.

Should you have any questions on this findings report, please do not hesitate to contact me at 845-735-8300 ext. 261 (mobile: 845-304-9639).

Sincerely,



Michael P. Musso P.E.
Senior Project Engineer

Attachments

TABLE

TABLE 1
SOIL DATA SUMMARY
VOCs
Barnhart Park, Sleepy Hollow, NY

LMS Sample ID	P-1	P-2	P-4	P-7	P-8	P-10	P-13	P-15	B-1	B-3	B-5	B-6	RECOMMENDED SOIL CLEANUP OBJECTIVE (a)
Lab Sample ID	C1535-03B	C1536-04B	C1535-01B	C1535-02B	C1535-03B	C1535-04B	C1535-05B	C1535-06B	C1535-07B	C1535-08B	C1535-09B	C1535-10B	
Date Sampled	12/8/2004	12/8/2004	12/8/2004	12/8/2004	12/8/2004	12/8/2004	12/8/2004	12/8/2004	12/8/2004	12/8/2004	12/8/2004	12/8/2004	
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
Df 10:1													
Volatile Organic Compounds (mg/kg)													
Methylene Chloride	ND	0.008	0.002 j	0.002 j	0.002 j	0.002 j	0.002 j	0.002 j	0.003 j	0.002 j	0.003 j	0.002 j	0.1
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	0.001 j	0.001 j	0.001 j	0.001 j	0.3
cis-1,2-Dichloroethane	ND	0.12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS
1,1,1-Trichloroethane	ND	0.002 j	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.8
Trichloroethylene	0.001 j	3.1 d	0.12	0.025	ND	ND	ND	ND	0.022	0.002 j	ND	ND	0.7
Tetrachloroethylene	0.003 j	67 d	0.11	0.01	0.002 j	ND	0.002 j	ND	0.003 j	0.004 j	0.003 j	0.004 j	1.4
1,1,2,2-Tetrachloroethane	ND	0.018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.6
1,2,3-Trichloropropane	ND	0.002 j	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.4
n-Propylbenzene	ND	0.001 j	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.7
1,3,5-Trimethylbenzene	ND	0.001 j	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.3
4-Chlorotoluene	ND	0.002 j	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS
1,2,4-Trimethylbenzene	ND	0.002 j	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10
sec-Butylbenzene	ND	0.001 j	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10
1,3-Dichlorobenzene	ND	0.002 j	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.6
1,4-Dichlorobenzene	ND	0.003 j	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.5
n-Butylbenzene	ND	0.002 j	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10
1,2-Dichlorobenzene	ND	0.003 j	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.9
1,2,4-Trichlorobenzene	ND	0.005 j	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.4
Hexachlorobutadiene	ND	0.002 j	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS
1,2,3-Trichlorobenzene	ND	0.006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS
Naphthalene	ND	0.014	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	13
2-Bulnonone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.3
Acetone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.2
Total	0.004	70.294	0.232	0.027	0.004	0.002	0.004	0.002	0.029	0.009	0.007	0.096	100

... As per TAGM#4046. Total VOCs < 10 ppm, Total SVOCs < 500 ppm, and Individual SVOCs < 50 ppm.

(a) - NYSEDEC Technical Administrative Guidance Memorandum (TAGM) 4046, January 1994

j - Includes additions from NYSEDEC memorandum of December 20, 2000

d - Estimated concentration

ND - Indicates that sample was diluted

NA - Not detected

Note - Numbers in bold exceed soil cleanup objectives

NA - Not applicable

NS - no soil cleanup objective

TABLE 1

SOIL DATA SUMMARY
VOCs
 Barnhart Park, Sleepy Hollow, NY

LMS Sample ID Lab Sample ID Date Sampled Units	B-9 C1535-13B 12/8/2004 mg/kg	B-11 C1535-14B 12/9/2004 mg/kg	B-12 C1535-15B 12/9/2004 mg/kg	B-13 C1535-16B 12/9/2004 mg/kg	B-14 C1535-17B 12/9/2004 mg/kg	B-16 C1535-19B 12/9/2004 mg/kg	B-20 C1536-02B 12/9/2004 mg/kg	B-23 C1536-01B 12/9/2004 mg/kg	B-27 C1535-20B 12/9/2004 mg/kg	GP-1 (dup) C1535-18B mg/kg	FB C1535-12A 12/9/2004 ug/l	TB C1535-11A 12/9/2004 ug/l	RECOMMENDED SOIL CLEANUP OBJECTIVE (a)
Volatile Organic Compounds (mg/kg)													
Methylene Chloride	0.003 j	0.003 j	0.003 j	0.002 j	0.002 j	0.003 j	0.002 j	0.003 j	0.007	0.003 j	17	1 j	0.1
Chloroform	0.001 j	0.001 j	0.002 j	0.002 j	0.003 j	ND	ND	ND	ND	ND	ND	1 j	0.3
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.8
Trichloroethylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.7
Tetrachloroethylene	ND	0.002 j	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.4
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.6
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.4
n-Propylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.7
1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.3
4-Chlorotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS
1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10
sec-Butylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.6
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.5
n-Butylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.9
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.4
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS
1,2,3-Trichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS
Naphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	13
2-Butanone	ND	ND	0.053	0.02	0.042	0.042	ND	ND	ND	ND	ND	ND	0.3
Acetone	ND	ND	0.13	0.09	0.11	0.11	ND	ND	ND	ND	ND	ND	0.2
Total	0.004	0.006	0.188	0.114	0.157	0.003	0.002	0.003	0.007	0.003	17	2	100

*** - As per TAGM4046, Total VOCs < 10 ppm, Total SVOCs < 500 ppm, and Individual SVOCs < 50 ppm.

(a) - NYSDEC Technical Arsenic/Lead Guidance Memorandum TAGM4046, January 1994

includes additions from NYSDEC memorandum of December 20, 2000

j - Estimated concentration

d - Indicates that sample was deleted

ND - Not detected

Note - Numbers in bold exceed cleanup objectives

NA - Not applicable

NS - no soil cleanup objective

TABLE 1

SOIL DATA SUMMARY
SVOCS
Barnhart Park, Sleepy Hollow, NY

LMS Sample ID Lab Sample ID Date Sampled Units	P-7 C1535-02C 12/8/2004 mg/kg	B-16 C1535-19C 12/9/2004 mg/kg	B-20 C1536-02C 12/9/2004 mg/kg	FB C1535-12C 12/9/2004 ug/l	RECOMMENDED SOIL CLEANUP OBJECTIVE (a)
Semivolatile Organic Compounds (mg/kg)					
Phenol	ND	ND	ND	3 j	0.03
Fluoranthene	0.12 j	ND	0.2 j	ND	50***
Pyrene	0.15 j	ND	0.15 j	ND	50***
Butylbenzylphthalate	ND	ND	0.26 j	ND	50***
Benzo[a]anthracene	0.11	ND	ND	ND	0.224 or MDL
Chrysene	0.15 j	ND	ND	ND	0.4
Benzo[b]fluoranthene	0.3 j	ND	ND	ND	1.1
Benzo[k]fluoranthene	0.12 j	ND	ND	ND	1.1
Benzo[a]pyrene	0.18j	ND	ND	ND	0.061 or MDL
Benzo[g,h,i]perylene	0.18j	ND	ND	ND	50***
Indeno[1,2,3-cd]pyrene	0.16j	ND	ND	ND	3.2
Dibenzo (a,h) anthracene	0.042 j	ND	ND	ND	0.014 or MDL
Bis (2- Ethylhexyl) phthalate	0.12j	ND	ND	ND	50***
Total SVOCS:	1.632	ND	0.61	3	

*** - As per TAGM#4046, Total VOCs < 10 ppm, Total SVOCS < 500 ppm, and Individual SVOCS < 50 ppm.

(a) - NYSDEC Technical Administrative Guidance Memorandum (TAGM) 4046, January 1994.

j - Estimated concentration.

MDL - Method Detection Limit.

ND - Not detected

Note - Numbers in bold exceed cleanup objectives.

NA - not applicable.

TABLE 1

SOIL DATA SUMMARY
PCBs/Pesticides
Barnhart Park, Sleepy Hollow, NY

LMS Sample ID	P-7	B16	B-20	FB	RECOMMENDED
Lab Sample ID	C1535-02D	C1535-19D	C1536-02A	C1535-12C	SOIL CLEANUP
Date Sampled	12/8/2004	12/9/2004	12/9/2004	12/9/2004	OBJECTIVE (a)
Units	mg/kg	mg/kg	mg/kg	ug/l	
PCBs (mg/kg)	ND	ND	ND	ND	1.0/10 *
Pesticides (mg/kg)	ND	ND	ND	ND	various

(a) - NYSDEC Technical Administrative Guidance Memorandum (TAGM) 4046, January 1994.

ND - Not detected.

* - Total PCB cleanup objectives in surface/subsurface soils.

TABLE 1

SOIL DATA SUMMARY
Metals
Barnhart Park, Sleepy Hollow, NY

LMS Sample ID	P-1	P-2	P-4	P-7	P-8	P-10	P-13	P-15	B-1	B-3	B-5	EASTERN USA BACKGROUND (ppm)	RECOMMENDED SOIL CLEANUP OBJECTIVES (a)
Lab Sample ID	C1536-03	C1536-04	C1535-01	C1535-02	C1535-03	C1535-04	C1535-05	C1535-06	C1535-07	C1535-08	C1535-09		
Date Sampled	12/8/2004	12/8/2004	12/8/2004	12/8/2004	12/8/2004	12/8/2004	12/8/2004	12/8/2004	12/8/2004	12/8/2004	12/8/2004		
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		
Metals (mg/kg)													
Aluminum	NA	NA	NA	6770	NA	NA	NA	NA	NA	NA	NA	33000	SB
Antimony	NA	NA	NA	0.98 b	NA	NA	NA	NA	NA	NA	NA	N/A	SB
Arsenic	ND	ND	ND	ND	ND	ND	1.2	ND	0.43 b	ND	ND	3 - 12**	7.5 or SB
Barium	43.6	113	90.8	47.5	64.2	68.2	162	37.4	61.8	51.1	89.7	15 - 600	300 or SB
Beryllium	NA	NA	NA	0.19 b	NA	NA	NA	NA	NA	NA	NA	0 - 1.75	0.16 or SB
Cadmium	2.3	4.6	2.6	1.4	2	1.9	1.8	1.2	2	1.4	2.1	0.1 - 1	1 or SB
Calcium	NA	NA	NA	1210	NA	NA	NA	NA	NA	NA	NA	130 - 35000	SB
Chromium	12.4	14.2	22.7	8.1	11.2	11.9	11.4	8.1	6.6	11.5	12.7	1.5 - 40**	10 or SB
Cobalt	NA	NA	NA	4.6	NA	NA	NA	NA	NA	NA	NA	2.5 - 60**	30 or SB
Copper	NA	NA	NA	14.1	NA	NA	NA	NA	NA	NA	NA	1 - 50	25 or SB
Iron	NA	NA	NA	8950	NA	NA	NA	NA	NA	NA	NA	2000 - 550000	2000 or SB
Lead	10.6	180	52.1	44.9	21.8	30.9	410	15.1	139	52.1	27.2	****	SB****
Magnesium	NA	NA	NA	2210	NA	NA	NA	NA	NA	NA	NA	100 - 5000	SB
Manganese	NA	NA	NA	189	NA	NA	NA	NA	NA	NA	NA	50 - 5000	SB
Mercury	3.1	2130.0	13.9	2.9	0.18	1.8	0.19	8.5	182	0.25	0.13	0.001 - 0.2	0.1
Nickel	NA	NA	NA	9.6	NA	NA	NA	NA	NA	NA	NA	0.5 - 25	13 or SB
Potassium	NA	NA	NA	1090	NA	NA	NA	NA	NA	NA	NA	8500 - 43000**	SB
Selenium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.1 - 3.9	2 or SB
Silver	10.4	5.3	7.1	6	9.7	9.1	8.8	5.6	ND	4	10.4	N/A	SB
Sodium	NA	NA	NA	49.2 b	NA	NA	NA	NA	NA	NA	NA	6000 - 8000	SB
Thallium	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	0.1 - 0.8 (q)	SB
Vanadium	NA	NA	NA	12.1	NA	NA	NA	NA	NA	NA	NA	1 - 300	150 or SB
Zinc	NA	NA	NA	60.1	NA	NA	NA	NA	NA	NA	NA	9 - 50	20 or SB

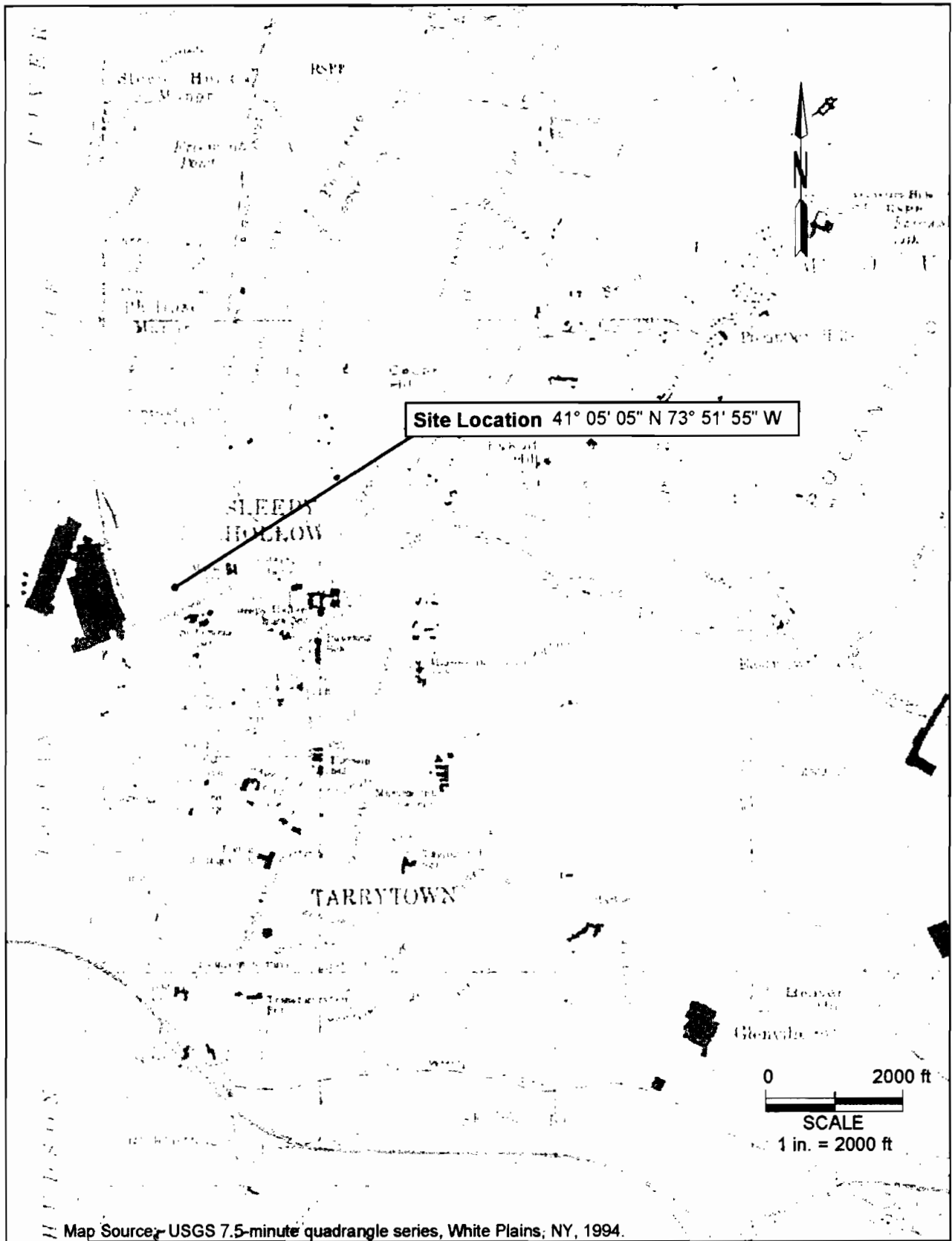
** New York State Background
 As cited by NYSDEC, Background levels for lead vary widely. Levels in undeveloped, rural areas can range from 4 - 61 ppm, while suburban/urban areas can range from 200 - 500 ppm
 (a) - NYSDEC Technical Administrative Guidance Memorandum (TAGM) 4046, January 1984
 (q) - Bowen, H. J., Environmental Chemistry of the Elements
 b - Value is less than contract-required detection limit but greater than the instrument detection limit.
 e - Indicates an estimated value because of the presence of interference
 ND - Not detected
 Note - Numbers in bold exceed soil cleanup objectives.
 SB - Site background

TABLE 1
SOIL DATA SUMMARY
Metals
Barnhart Park, Sleepy Hollow, NY

LMS Sample ID	B-6	B-9	B-11	B-12	B-13	B-14	GP-1 (dup)	B-16	B-20	B-23	B-27	FB	EASTERN USA RECOMMENDED BACKGROUND SOIL CLEANUP OBJECTIVES (a)
Lab Sample ID	C1535-10	C1535-13	C1535-14	C1535-15	C1535-16	C1535-17	C1535-18	C1535-19	C1536-02	C1536-01	C1535-20	C1535-12	(ppm)
Date Sampled	12/8/2004	12/8/2004	12/9/2004	12/9/2004	12/9/2004	12/9/2004	12/9/2004	12/9/2004	12/9/2004	12/9/2004	12/9/2004	12/8/2004	
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/l	
Aluminum	NA	NA	NA	NA	NA	NA	NA	7340	5700	NA	NA	27.6 b	33000
Antimony	NA	NA	NA	NA	NA	NA	NA	1.4	1.3	NA	NA	ND	N/A
Arsenic	ND	ND	ND	ND	0.085 b	0.085 b	0.085 b	1.4	ND	ND	ND	ND	3 - 12**
Barium	85.1	84.6	70.5	95.5	83.7	94.5	86.7	112	38.5	58.2	42.7	6.2 b	15 - 600
Beryllium	NA	NA	NA	NA	NA	NA	NA	0.26 b	0.18 b	NA	NA	ND	0 - 1.75
Cadmium	2	2.3	1.7	2.3	1.9	2.4	2.2	2.2	1.5	1.8	2.7	0.18 b	0.1 - 1
Calcium	NA	NA	NA	NA	NA	NA	NA	1610	715	NA	NA	105 b	130 - 35000
Chromium	15.6	13.9	12.9	17.6	15.5	27.5	16.5	15.2	7.9	11.5	10.4	0.68 b	1.5 - 40**
Cobalt	NA	NA	NA	NA	NA	NA	NA	5.1	4.3	NA	NA	1.3 b	2.5 - 60**
Copper	NA	NA	NA	NA	NA	NA	NA	38.4	11.4	NA	NA	7 b	1 - 50
Iron	NA	NA	NA	NA	NA	NA	NA	11400	9320	NA	NA	99.5 b	2000 - 550000
Lead	47.9	45.1	50.9	52.3	44.2	54.5	48.1	350	13.5	9.1	229	ND	****
Magnesium	NA	NA	NA	NA	NA	NA	NA	2300	2340	NA	NA	54.5 b	100 - 5000
Manganese	NA	NA	NA	NA	NA	NA	NA	235	304	NA	NA	4.2 b	50 - 5000
Mercury	2	1.3	0.19	0.23	0.25	0.23	0.22	5	0.11	0.076	1.9	ND	0.001 - 0.2
Nickel	NA	NA	NA	NA	NA	NA	NA	12.3	8.9	NA	NA	1.5 b	0.5 - 25
Potassium	NA	NA	NA	NA	NA	NA	NA	933	1160	NA	NA	ND	8500 - 43000**
Selenium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.1 b	0.1 - 3.9
Silver	6.2	2.4	5.5	7.4	6.2	7.6	6.2	7.5	5.7	8.7	4.5	ND	N/A
Sodium	NA	NA	NA	NA	NA	NA	NA	76.3	67.8	NA	NA	ND	6000 - 8000
Thallium	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	ND	0.1 - 0.8 (q)
Vanadium	NA	NA	NA	NA	NA	NA	NA	21	10.2	NA	NA	ND	1 - 300
Zinc	NA	NA	NA	NA	NA	NA	NA	170	44.7	NA	NA	10.4 b	9 - 50

** - New York State Background.
 **** - As cited by NYSDEC. Background levels for lead vary widely. Levels in undeveloped, rural areas can range from 4 - 61 ppm, while suburban/urban areas can range from 200 - 500 ppm
 (a) - NYSDEC Technical Administrative Guidance Memorandum (TAGM) 4046, January 1984
 (q) - Bowen, H. J., Environmental Chemistry of the Elements
 b - Value is less than contract-required detection limit but greater than the instrument detection limit
 e - Indicates an estimated value because of the presence of interference
 ND - Not detected
 Note - Numbers in bold exceed soil cleanup objectives
 SB - Site background

FIGURES



LMS Lawler, Matusky & Skelly Engineers LLP
 One Blue Hill Plaza • Pearl River, New York 10965
 ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS

Site Location
 Village of Sleepy Hollow • Andrews Lane Site

Figure
 1

ATTACHMENT A

Project Name: Barnhart Park

Project No.: 911-007

Client:

Date: Start 12-8-04

Driller:

Finish

Drilling Method: Geo Probe

Total Depth: 4ft

Boring Location:

Depth To Water:

Coordinates:

Surf. Elevation:

Logged By: Cary Friedman

Hole Diameter:

Monitoring Instrument(s): PID

Depth (ft)	Blows On Sampler				Recovery (ft)	Instrument Reading	Sample Retained	Classification Of Material f - fine m - medium c - coarse and - 35-50% some - 20-35% little - 10-20% trace - 0-10%	Remarks
	0"-6"	6"-12"	12"-18"	18"-24"					
0-4'					2'8"	0		Dark brown coarse sand with a little slaggy material.	
						0		8" Black slaggy material. Sulfur odor.	
						0	X	1'9" Brown coarse sand and slaggy material.	
								Concrete	
						0		2'1" Brown coarse sand and slaggy material.	
						0		2'4" Concrete	
						0		2'6" Coarse brown sand and slaggy material.	
						0		2'7" EOB = 4 ft	

Project Name: Barnhart Park

Project No.: 911-007

Client:

Date: Start 12-9-04

Driller:

Finish

Drilling Method: Geo Probe

Total Depth: 4ft

Boring Location:

Depth To Water:

Coordinates:

Surf. Elevation:

Logged By: Cary Friedman

Hole Diameter:

Monitoring Instrument(s): PID

Depth (ft)	Blows On Sampler				Recovery (ft)	Instrument Reading	Sample Retained		Classification Of Material		Remarks
	0"-6"	6"-12"	12"-18"	18"-24"					f - fine m - medium c - coarse	and - 35-50% some - 20-35% little - 10-20% trace - 0-10%	
0-4'					1'9"	0			Dark brown coarse sand with some gravel and trace organics.		2nd hole dug to retain enough material to sample.
						0		11"	Light brown medium-coarse sand.		
						0		15"	Inch long rock.		
						0		16"	Weathered concrete and brick.		
									EOB = 4 ft		

ATTACHMENT B