

**Appendix E-4**  
**Hills Property, Phase II ESA**



**Limited Phase II  
Environmental Site Assessment**

**The Hills @ Southampton**

**East Quogue, New York**

**NP&V Job# 05105**

**June 30, 2005**

## Limited Phase II

### Environmental Site Assessment

## The Hills @ Southampton

### 1.0 INTRODUCTION AND PURPOSE

Nelson, Pope & Voorhis, LLC (NP&V) has been contracted to prepare a Limited Phase II Environmental Site Assessment for the subject property. This report is intended to address recognized environmental conditions that were identified in a Phase I Environmental Site Assessment report prepared by Nelson, Pope & Voorhis, LLC dated May 9, 2005. The Phase I ESA was performed in accordance with the standards detailed by the American Society of Testing and Materials (ASTM) for the Performance of a Phase I Environmental Site Assessment (E 1527). This Phase II ESA was designed to determine what, if any, impact on-site activities have had upon the environmental quality of the subject property.

The subject property lies in the Hamlet of East Quogue, Town of Southampton, County of Suffolk, New York. The 430-acre subject property is comprised of numerous, primarily wooded parcels. The southern portion of the property is located on the north side of Old Country Road and extends northward to Sunrise Highway (Route 27) and east and west of Spinney Road, a partially developed road. Several out-parcels are located in the portion of the property located east of Spinney Road. The northern portion of the property is located on the north side of Sunrise Highway (Route 27) and is comprised of three (3) parcels of vacant, wooded land. For the purposes of discussions in this report, the property will be divided into three (3) sections; the northern portion, areas east of Spinney Road and areas west of Spinney Road.

The subject property is not used for any authorized purpose. The parcels located south of Sunrise highway (Route 27) have variable topography with steep slopes and higher elevations on the northern portions of the parcels. The parcels located to the north of Sunrise Highway (Route 27) have undulating topography. A LIPA right-of-way runs adjacent to these parcels. These northern parcels were relatively free of debris. No paths were observed. North of Sunrise Highway (Route 27), an area of forested swamp was observed east of Spinney Road and possible areas of ponding were observed west of Spinney Road.

The areas located to the east of Spinney Road have variable topography with cleared formerly mined areas. The southern portion of this area was generally flat, whereas the northern and central portion have undulating topography. Historical aerials photograph have indicated that the southern portion of this area was formerly farmed. Several cleared areas and paths were observed in this portion of the property. Debris was observed throughout the property, predominantly in the cleared areas and along paths. The debris included several vehicles and vehicle parts, vehicle batteries, numerous empty quarts of motor oil, partially full paint cans, metal, tires, wood, plastic and glass bottles and containers, several appliances, construction and demolition debris, shot gun shell casings and yard waste. A large area of yard waste, including



tree branches and numerous stumps, was observed in the western portion of this area, behind the existing residences that are located east of Spinney Road. Two (2) areas containing mounds of soil were also observed at the rear of the residences. The mounds were covered with grass. Several empty, rusted drums were observed in the vicinity of the southeastern property boundary. A small, wooden shack was observed in the south-central portion of this area.

The parcel located on the west side of Spinney Road also had variable topography. The remaining area of the property consists of paved parking area and landscaped area. The southern portion of this area was generally flat, whereas the northern and central portion had undulating topography. Several cleared areas and paths were observed. Debris was observed throughout the property, predominantly in the cleared areas and along paths. The debris included several vehicles and vehicle parts, vehicle batteries, numerous quarts of motor oil, paint cans, metal, tires, wood, pool filters, plastic and glass bottles and containers, several appliances, construction debris, mattresses, furniture, one (1) empty 275 gallon storage tank, shell casings, televisions, computer monitors, other household electronics and sundry items. There were no visible signs of release associated with any of the debris, except one area where a petroleum odor was evident in the vicinity of one of the abandoned cars. Some of the debris was used for target practice as evidenced by the shell casings observed in their vicinity. Evidence of past use of fireworks was observed on top of one hill. Evidence of bonfires and vehicle fires were observed in several locations throughout the property.

Based on these findings the Phase I Environmental Site Assessment identified recognized environmental conditions that prompted the performance of this Limited Phase II Environmental Site Assessment. These conditions included:

1. The area of petroleum odor by the abandoned car should be examined in more detail and soil samples should be collected to determine the appropriate action.
2. The soil mounds east of homes along Spinney Road should be sampled to determine if contamination is present.
3. Soil samples should be collected in areas with high concentrations of shell casings and analyzed for lead.
4. Soil samples should be collected from areas of the property that were formerly used for agricultural purposes and analyzed for pesticides and metals.

This assessment has been designed and performed by NP&V to address the potential impacts to the on-site leaching pools. The laboratory analysis was provided by Long Island Analytical Laboratories, Inc.

The protocol used to direct this investigation is based upon the following documents: 1) the New York State Department of Environmental Conservation (NYSDEC) Technical Administrative Guidance Memorandum (TAGM) 4046. The following sections detail the subject property and

surrounding area characteristics, sampling program, quality assurance protocol, laboratory analysis methodology and laboratory results.

This report is also intended to determine the concentration of pesticides and metals in the soil of the former agricultural field, because these substances were widely used for weed and pest control in Long Island agricultural practice.

The pesticide sampling program was designed and supervised by NP&V. Laboratory analytical data was prepared by Long Island Analytical Laboratories, Inc. The protocol used to direct this investigation was based upon the guidance offered by the New York State Department of Health Bureau of Toxic Substance Assessment to the local health department in particular, with general consideration of sampling and analysis protocol as documented in USEPA Soil Screening Guidance - Soil Screening Levels as imposed by SCDHS and/or New York State Department of Environmental Conservation (NYSDEC), Technical Administrative Guidance Manual (TAGM) # 4046 Determination of Soil Cleanup Objectives and Cleanup Levels. The following sections detail the subject property and surrounding area characteristics, sampling program, protocol and quality assurance, lab analysis and results.

A total of four (4) soil samples from two (2) locations were collected from the former farm field located on the southern portion of the property. The two (2) samples collected from a depth of 0-3 inches were analyzed for the presence of pesticides and metals due to the past use of the property as farmland. These two (2) samples revealed that there were no elevated concentrations of any of the analyzed constituents. As a result, none of the 3-6 inch samples were analyzed. The following sections of this report outline the sampling measures taken and provide a map illustrating the location of the samples collected.

## **2.0      SAMPLING AND ANALYSIS PROGRAM (SAP)**

### **2.1      HAND AUGER SOIL SAMPLING**

The soils in the vicinity of the shotgun shells and beneath the engine of the car located in the southwestern portion of the property were sampled using a stainless steel hand auger. The soil samples (LS-1 thru LS-4 and CAR-1) were collected from the upper six (6) inches of soil and were analyzed for the presence of lead, and volatile and semi-volatile organic compounds and metals, respectively. Soil samples (Pile-1 & Pile -2) were collected from numerous piles located on the east side of the houses situated along Spinney Road. **Figure 1** provides a location of the samples collected.

### **2.2      PESTICIDE SAMPLE COLLECTION**

A total of four (4) soil samples were collected from two (2) locations in the former farm field area on June 21, 2005. The soil samples were collected from depths of 0-3 and 3-6 inches below grade. The 0-3 inch samples were analyzed for the presence of pesticides and metals, while the 3-6 inch samples were held pending the results of the 0-3 inch samples. The depths of the soil samples were selected to provide a profile of the soil located on the subject property. The sampling scheme employed was consistent with guidance available from the New York State Department of Health.

### **2.3      PESTICIDE SAMPLING PROGRAM RATIONALE**

The New York State Department of Health (NYSDOH) provides guidance for such soil sampling through the Suffolk County Department of Health Services (SCDHS). Soil samples were collected in accordance with the recommendations of the NYSDOH, noted as follows:

- samples were collected at depths of 0-3 and 3-6 inches.
- samples were directed toward those areas likely to have accumulated the highest contaminant levels.
- samples were analyzed for metals and DDT and its metabolites.

In order to obtain vertical profile of the presence of arsenic, all of the samples were analyzed. Laboratory analysis results are discussed in Section 3.0. Since the proposed property will be used for a residential subdivision, the concentration of lead and arsenic is an important issue.

In accordance with NYSDOH recommendations, the sampling and analysis program was intended to determine:

- if site activities had caused degradation of soil quality on site;
- if a soils management plan (SMP) is appropriate given the concentration of contaminants and the intended use of the site.

The following section provides the laboratory analysis for the site samples, including test methods and analytical results.

#### 2.4 LABORATORY SAMPLE LOCATION AND FREQUENCY

The soil samples collected from the site were containerized and labeled for identification purposes. The labels were coded to correspond to the location from which the samples were secured. **Table 1** provides an index of how the samples were coded during labeling.

**TABLE 1  
SAMPLE IDENTIFICATION**

<b>SAMPLE LOCATION</b>	<b>SAMPLE ID CODE</b>
Sample collected from southwest corner of the shotgun range.	LS-1
Sample collected from northwest corner of the shotgun range.	LS-2
Sample collected from northeast corner of the shotgun range.	LS-3
Sample collected from southeast corner of the shotgun range.	LS-4
Sample collected from beneath the engine of the car located in the southwestern portion of the property.	CAR-1
Sample collected from the western soil piles.	Pile-1
Sample collected from the eastern soil piles.	Pile-2
Sample collected from the southern portion of the former farm field.	PS-1 (0-3)
Sample collected from the northern portion of the former farm field.	PS-2 (0-3)

**FIGURE 1**  
**SAMPLE LOCATION MAP**



### 3.0    LABORATORY ANALYSIS

#### 3.1    ANALYTICAL TEST METHODS

The soil samples were transported to a New York State Certified Commercial Laboratory for analysis. Selection of the analytical test methods for the presence of lead, and volatile and semi-volatile organic compounds and metals based on SCDHS parameters.

The pesticide samples were analyzed based on USEPA Test Method 8081 and SCDHS metals

#### 3.2    ANALYTICAL RESULTS

The laboratory analysis performed on the four (4) soil samples (LS-1 thru LS-4) collected from the shotgun range did not exhibit any elevated concentrations of lead. The laboratory analysis performed on the soil sample collected from the beneath the car engine (CAR-1) did not exhibit any elevated concentrations of volatile and semi-volatile organic compounds or metals. The laboratory analysis sheets (NYS ASPA) as prepared by Long Island Analytical Laboratories are presented in **Appendix A** of this document. The soil samples collected from the piles of soil located on the southern portion of the property east of the houses along Spinney Road were filed screening using a Photo Ionization Detector (PID) since the piles appeared to consist of native soils and numerous excavations were present in close proximity to all of the piles. Based on this observation, it appears that neighborhood children have formed these piles to create a motocross course. The PID screening revealed no elevated readings were detected indicating hydrocarbons were present.

#### 3.3    PESTICIDE ANALYTICAL RESULTS

The laboratory results revealed the two (2) 0-3 inch samples analyzed did not exhibit elevated concentrations of any of the analyzed constituents expect for several metals. None of these elevated concentrations of metals exceeded the regulatory guidance values identified in USEPA Soil Screening Guidance - Soil Screening Levels as imposed by SCDHS and/or the NYSDEC TAGM 4046. As a result, the 3-6 inch samples were not analyzed. **Table 2** identifies those constituents which exhibited elevated concentrations and the regulatory guidance values. The original laboratory analysis sheets as provided by Long Island Analytical Laboratories, Inc. are presented in **Appendix A** of this document.

**TABLE 2  
PESTICIDE RESULTS**

<b>Constituents</b>	<b>PS-1 (0-3)</b>	<b>PS-2 (0-3)</b>	<b>USEPA SSL</b>	<b>NYSDEC TAGM 4046</b>
<b>Metals</b>	<b>mg/kg</b>	<b>mg/kg</b>	<b>mg/kg</b>	<b>mg/kg</b>
Chromium	3.39	2.69	390	50 or SB
Copper	2.06	7.67	NA	NA
Nickel	ND	1.94	1,600	NA
Lead	6.37	7.87	400	SB

ND = Not Detected

NA = Not Applicable

SB = Soil Background

As illustrated in the previous table, neither of the samples exhibited elevated concentrations in excess of the regulatory guidance values. Therefore, no additional soil sampling is recommended for the former farm field area.

## **5.0 SUMMARY AND CONCLUSION**

This investigation was completed to address issues raised in a prior Phase I ESA prepared by Nelson, Pope & Voorhis, LLC. A sampling and analysis program was designed to determine if the use of the property as a shotgun range, the presence of an abandoned car or a former farm field had impacted the soils of the subject property. The sampling and analysis plan consisted of soil/sediment quality testing using analytical test methods consistent with expected parameters and agency soil cleanup objectives. The following presents an evaluation of the results of this investigation.

1. The soils in the area of the shotgun range were sampled and analyzed for the presence of lead. The analytical results revealed that none of the analyzed constituents exhibited elevated concentrations in excess of the regulatory guidance values. As a result no further action is recommended for this area.
2. The soil from beneath the engine of an abandoned car was sampled and analyzed for the presence of volatile and semi-volatile organic compounds and metals to determine if a prior release had occurred. The analytical results revealed no elevated concentrations of any of the analyzed constituents were detected. As a result, no further work is recommended for this area
3. The soil piles located in the southern portion of the property were field screened to determine if elevated concentrations of hydrocarbon compounds were present. This field screening did not identify any elevated hydrocarbon readings. Therefore, no further work is recommended for these soil piles.
4. The former farm located in the southern portion of the property was sampled and analyzed for the presence of pesticides and metals. The analytical results revealed no elevated concentrations in excess of the regulatory guidance values were present. As a result, no further action is recommended for the former farm area.

The subject property has been evaluated consistent with the findings of a Phase I ESA, and in accordance with standard practice for the industry. This Phase II ESA addresses only the specific areas of the site warranting further analysis and can only provide conclusions regarding the subsurface soil quality in those specific areas tested. The Phase II ESA report is limited to the evaluation of on-site conditions at the time of completion of the field sampling program.

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*Date of Completion*

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