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July 31, 2013

Ms. Nicole Emmons  
Project Manager  
Hart Howerton  
Planning, Architecture and Landscape Architecture, P.C.  
10 East 40<sup>th</sup> Street  
New York, NY 10016

Re: EPR Master Development Planning  
Draft Phase I Environmental Assessment  
Empire Resorts Parcels 1 and 2

Dear Ms. Emmons:

AKRF, Inc. is pleased to submit this Phase I Environmental Site Assessment Report for the above-referenced site. This report includes the findings of a site inspection, an evaluation of available historical information, the interpretation of relevant federal and state environmental databases, and a review of selected Village of Monticello, Town of Thompson, and Sullivan County records. AKRF, Inc. met the requirements of American Society for Testing and Materials (ASTM) as established by ASTM Standard E1527-05 unless noted otherwise in Section 9: "Limitations".

We appreciate the opportunity to provide you with our services. If you should have any questions or comments regarding the enclosed report, please do not hesitate to contact me.

Sincerely,  
AKRF, Inc.

A handwritten signature in black ink, appearing to read 'MG' or similar initials, written in a cursive style.

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Marc S. Godick, LEP  
Senior Vice President  
Enc.

## EXECUTIVE SUMMARY

AKRF, Inc. (AKRF) was retained by Hart Howerton to perform a Phase I Environmental Site Assessment (ESA) of the area identified as Empire Resorts Parcels 1 and 2 (Project Site), which consisted of contiguous areas of land within the southern section of the EPT Concord Resort property. The Project Site parcels included sections of The Monster Golf Club and the former Breezy Corner Bungalow Community, a former chicken coop on Thompson Road, and undeveloped woodland. The legal definition of the Project Site is portions of Tax Section 23, Block 1, Lots 11.3, 48, 52, 53, 54.1, 54.2, and 54.3. The Project Site is bounded by: Thompsonville Road, followed by The Monster Golf Club, undeveloped woodland and wetland, and a municipal wastewater treatment plant to the north; vacant undeveloped land and a cemetery to the west; vacant undeveloped land followed by NYS Route 17 to the south; and the Breezy Corners Bungalow Community and Joyland Road, followed by undeveloped land and several residential homes to the east.

This Phase I Environmental Site Assessment was performed in accordance with customary principles and practices in the environmental consulting industry, and in conformance with the scope and limitations of ASTM Standard E1527-05, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Practice*. Any exceptions to, or deletions from, this practice are described in Sections 8.0 of this report.

This assessment revealed the following evidence of Recognized Environmental Conditions (RECs):

- The Breezy Corners Bungalow Community operated a sewage discharge system under NYSDEC SPDES Permit No. NY0147982. The discharge area was located in the eastern section of Parcel 1. The bungalows property was also the location of historical dumping of white goods and household equipment. Although waste removal efforts were completed and no hazardous material releases were reported, household sanitary lines may have been used for discharge of oils, paints, solvents, and other hazardous materials, and these may be present at the Project Site at the discharge point or any areas where leaks or breaks in the sewer lines occurred.
- The former chicken coop area in Tax Lot 48 was reported to store approximately 20 to 25 five-gallon buckets of creosote until 2004. Prior to storage of creosote, the chick coop area was reported to be used for storage of equipment and outdoor furniture. Details related to the former chick coop, including potential heating systems, were not known. No signs of spills or staining on the concrete pad were observed during the site visit. However, undocumented releases of creosote or other undisclosed materials may be present in soil surrounding or beneath the concrete pad.
- Electrical transformers along the Project Site may include polychlorinated biphenyl (PCB)-containing components (e.g., capacitors).
- Historical topographic maps indicated that former structures, consistent with small commercial or residential dwellings, were once present on the Project Site along Thompsonville Road. No signs of the structures were present, but buried materials, including debris and/or USTs, may be associated with the former structures.

The following off-site concerns were also noted:

- Three, 500 to 1,000-gallon fuel oil under-ground storage tanks (USTs) and three 275-gallon fuel oil above-ground storage tanks (ASTs) were located within the Breezy Corners Bungalow Community. No spills associated with the tanks have been reported, and no signs of leaks or staining were observed during the site visit. However, undocumented releases, as well as undocumented USTs, could affect groundwater at the Project Site.

AKRF understands that the Project Site is being evaluated for redevelopment. Based on the conclusions of this Phase I assessment, AKRF recommends the following:

- A limited subsurface (Phase II) investigation should be conducted to ascertain environmental conditions in the areas where soil disturbance is anticipated for the proposed and future development of the Project Site. The septic discharge and creosote storage/chicken coop areas should be targeted to determine whether contamination has been released to soil, and the golf course fairways should be targeted to determine whether pesticides and/or herbicides exist as a result of golf course maintenance and for general soil characterization during construction.
- Soil excavated as part of any future site development activities should be managed in accordance with all applicable regulations. If areas of contamination are discovered, they should be delineated and remediated in accordance with all applicable regulations. If unforeseen USTs are discovered during site development, they should be removed in accordance with all applicable regulations. Soil intended for off-site disposal should be tested in accordance with the requirements of the intended receiving facility. Transportation of material leaving the Project Site for off-site disposal must be in accordance with federal, state and local requirements covering licensing of haulers and trucks, placarding, truck routes, manifesting, etc.
- If future development plans for the Project Site require dewatering, it should be conducted in accordance with all applicable regulations and permitting requirements.
- Unless there is labeling or test data that indicates that electrical equipment are not PCB-containing, if disposal is required, it should be performed in accordance with applicable federal, state and local regulations and guidelines.

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- Appendix A – Photographic Documentation
- Appendix B – Previous Reports
- Appendix C – Historical Topographic Maps
- Appendix D – Historical Aerial Photographs
- Appendix E – Regulatory Records Review
- Appendix F – Local Records
- Appendix G – Sensitive Receptor Survey
- Appendix H – Site Owner Questionnaire

## 1.0 INTRODUCTION

AKRF, Inc. (AKRF) was retained by Hart Howerton to perform a Phase I Environmental Site Assessment (ESA) of the area identified as Empire Resorts Parcels 1 and 2 (Project Site), which consisted of contiguous areas of land within the southern section of the EPT Concord Resort property. The Project Site location is shown on Figure 1. The Project Site parcels included sections of The Monster Golf Club and the former Breezy Corner Bungalow Community, a former chicken coop on Thompson Road, and undeveloped woodland. The legal definition of the Project Site is portions of Tax Section 23, Block 1, Lots 11.3, 48, 52, 53, 54.1, 54.2, and 54.3. The Project Site is bounded by: Thompsonville Road, followed by the Concord Resort golf course, undeveloped woodland and wetland, and a municipal wastewater treatment plant to the north; vacant undeveloped land and a cemetery to the west; vacant undeveloped land followed by NYS Route 17 to the south; and the Breezy Corners Bungalow Community and Joyland Road, followed by undeveloped land and several residential homes to the east.

- Visual observations in accessible areas of the Project Site and surrounding the Project Site were made to identify potential sources or indications of chemical contamination. The potential sources of contamination included, but were not limited to, underground storage tanks (USTs), aboveground storage tanks (ASTs), objects that could contain polychlorinated biphenyls (PCBs), and areas where hazardous materials were used, stored, treated, generated and/or disposed. Indications of chemical contamination include stained surfaces and chemical odors;
- In addition, readily-observable portions of the properties immediately adjacent to the study site were viewed from public rights-of-way to identify or determine the likelihood of any of the aforementioned potential sources of contamination being present;
- A review of radon concentrations in Sullivan County was conducted to determine whether radon levels in the general area comply with United States Environmental Protection Agency (USEPA) guidelines;
- Historical aerial photographs were reviewed to evaluate previous land use. There was no historical topographic map coverage for the study site or the surrounding properties;
- The following federal regulatory databases were reviewed to determine the regulatory status of the site, adjacent properties, and properties within a predetermined study area; National Priority List (NPL); Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS); Emergency Response Notification System (ERNS); Toxic Chemical Release Inventory System (TRIS); the Permit Compliance System of Toxic Wastewater Discharges (WWD); the USEPA Civil Enforcement Docket; and US EPA AIRS database. The federal listing of facilities which are subject to corrective action under the Resource Conservation and Recovery Act (CORRACTS) is discussed with the State databases of RCRA listings;
- The following state regulatory databases were reviewed to determine the regulatory status of the site, adjacent properties, and properties within a predetermined study area; the listings of hazardous material spills (SPILLS); Resource Conservation and Recovery Act (RCRA) Notifiers; Chemical Bulk Storage (CBS); Solid Waste Facilities (SWF); Petroleum Bulk Storage (PBS); State Inactive Hazardous Waste Disposal Sites (SHWS); and Major Oil Storage Facilities (MOSF);
- A review of available records maintained by the Village of Monticello Clerks Office, the Town of Thompson Building Department, and the Sullivan County Department of Real Property Tax Services was conducted to obtain any information pertinent to the assessment of the environmental condition of the Project Site. Specifically, records regarding past and present on-site fuel oil tanks and historical uses were requested.

## 2.0 PHYSICAL SITE DESCRIPTION

Visual inspection of the site and adjacent areas were performed by Mr. Erik Nimlos of AKRF on May 21, 2013. Mr. Chris Hummel, Superintendent for The Monster Golf Club, accompanied AKRF personnel throughout the site and answered pertinent questions. At the time of the inspection, the weather was mostly clear, the temperature was 75°F, and the visibility was good. The premises were generally adequately illuminated. The site was inspected for the presence of stained surfaces, storage tanks, drums, leaking pipes, transformers, and any other evidence of hazardous material usage and storage on-site. Photographs documenting the site inspection are included as Appendix A. Selected features on and around the Project Site are shown on the Site Plan provided as Figure 2. Figure 2 also includes a layout of the proposed development for the Project Site.

### 2.1 General Site Conditions

The Project Site consisted of six holes of The Concord Monster Golf Club, undeveloped wooded and wetland areas, and a portion of the former Breezy Corners Bungalow Community. Pertinent observations are included below.

#### Breezy Corners Bungalow Community

The southwest section of the former Breezy Corners Bungalow Community extended into the southeastern portion of Parcel 1, as shown on Figure 2, and contained a septic sewer discharge area. The sewer pipes from each bungalow residence were connected to a sewer pump, which was located approximately 200 feet northwest of the bungalow community swimming pool. The sewer pump transferred “grey water” from each residence to the septic discharge area, and operated under NYSDEC SPDES discharge permit No. NY0147982. The SPDES permit was closed with the NYSDEC on November 22, 2011.

#### Tax Lot 48

A chicken coop had formerly occupied this lot until 2001, when it was demolished. A concrete slab was present at the time of the site visit comprising approximately 3,400 square feet. Following demolition of the chicken coop, the concrete pad was used as a staging area for approximately 20 to 25 five-gallon creosote buckets. The exact use of the creosote was not known. According to Mr. Hummel, the creosote was removed in 2004. No signs of spills or staining were visible on the concrete pad. The concrete pad was used for sand fill staging at the time of the site visit. No other structures or equipment were present on this lot.

#### The Monster Golf Club

Six holes of The Monster Golf Club comprised about 75 acres of land on the Project Site. The golf course holes included three ponds developed as water hazards for the golf course and a section of Tannery Brook. Two former irrigation pumps were located at the south end of Hole 2 (north side of Thompsonville Road and north-adjacent to the Project Site) and the north end of Hole 3. A discharge point from the local wastewater treatment plant was located at the north end of Hole 3. Three electrical transformers were also observed atop an electric pole from Thompsonville Road near Hole 3.

#### Undeveloped Woodland Area

Approximately half of the Project Site acreage was occupied by woodland and wetland areas that showed no evidence of any previous development.

## **2.2 Topography and Hydrogeology**

Based on reports compiled by the U.S. Geological Survey (USGS Topographic Maps – Monticello, N.Y. quadrangle dated 1982), the Project Site is characterized by the central valley of Tannery Brook that generally runs from north to south through the central portion of the site, and increases in elevation to the east and west. Elevations range from 1,340 feet above the National Geodetic Vertical Datum of 1929 (an approximation of mean sea level) at Tannery Brook to a high point of approximately 1,440 feet at the eastern border of the site. The high point on the western side of the Project Site is 1,360 feet above the NGVD.

Groundwater beneath the study site is expected to follow topography and flow from the eastern and western borders towards Tannery Brook. However, actual groundwater flow at the site can be affected by many factors, including current and past pumping of groundwater; past filling activities; underground utilities and other subsurface openings or obstructions; bedrock geology; and other factors beyond the scope of this study. Groundwater measurements from two 2012 geotechnical studies performed by Melick-Tully and Associates, P.C. indicated that the depth to groundwater was between 2 to 10.5 feet below ground surface in Tax Lot 52, and depth to groundwater was between 2 to 24 feet below ground surface in Tax Lots 54.1 and 54.2.

## **2.3 Storage Tanks**

### **2.3.1 Underground Storage Tanks (USTs)**

No USTs or evidence of former USTs were observed on the Project Site during the inspection. Approximately three UST areas were identified at the east-adjacent Breezy Corners Bungalow Community. A description of the Breezy Corners USTs is included in Section 4.0 (Adjacent Land Use). A review of off-site USTs for the surrounding area is included in Section 6.2.2.

### **2.3.2 Aboveground Storage Tanks (ASTs)**

No ASTs or evidence of former ASTs were observed on the Project Site. During the inspection, three ASTs were observed at the Breezy Corners Bungalow Community. A description of the Breezy Corners ASTs is included in Section 4.0 (Adjacent Land Use). A review of off-site ASTs for the surrounding area is included in Section 6.2.2.

## **2.4 Polychlorinated Biphenyls (PCBs)**

Prior to 1979, polychlorinated biphenyls (PCBs) were widely used for their cooling properties in electrical equipment such as transformers, capacitors, switches, and voltage regulators. Fluorescent lighting fixtures may also contain PCB-containing components including capacitors and potting compounds. Hydraulic lifts and elevators may contain PCB-containing hydraulic fluid.

During the site visit, AKRF personnel observed three electrical-pole transformers along Thompsonville Road, north of Hole 3. The transformers were observed to be in good condition with no signs of leaks, and no evidence of contamination below the transformers was observed. However, based on the given age of the transformers (Mr. Hummel indicated they were initially installed in the 1960s), PCBs may be present within the transformers.

## **2.5 Lead-Based Paint**

The residential use of lead-based paint was banned by the Consumer Products Safety Commission in 1977. The use of lead-based paint in commercial structures was severely

restricted by the Consumer Products Safety Commission in 1977. Lead-based paint is potentially hazardous when in a deteriorating condition (i.e. chipped, broken, crumbling, pulverized); lead is potentially harmful to humans, particularly children, if ingested, inhaled or otherwise absorbed.

There were no painted structures observed on the Project Site. Concerns related to lead based paint would be associated with dumped or buried construction debris. There were no dump areas observed on the Project Site, but several dump areas were reported for the overall EPT Concord Resort property. Due to the expansive wooded areas, unknown dump areas may exist and could be encountered during redevelopment.

## **2.6 Utilities**

No utilities service the Project Site.

## **2.7 Waste Management and Chemical Handling**

The Project Site is not currently serviced for waste removal. There were no dump areas observed on the Project Site, but several dump areas were reported for the overall EPT Concord Resort property. Due to the expansive wooded areas, unknown dump areas may exist and could be encountered during redevelopment.

## **2.8 Radon**

Radon is a colorless, odorless gas produced by the radioactive decay of certain elements. The most common sources of radon are igneous and metamorphic rocks containing uranium (such as pitchblende), granite, shale, or phosphate, as well as soils or sediments derived from these parent materials. Radon may also be found in soils contaminated with certain industrial wastes (such as uranium or phosphate mine tailings) or in earth-derived building products which include industrial wastes that contain phosphate slag. In areas where the potential for radon accumulation is high, special ventilation systems may offset potential health hazards.

According to data compiled by the Bureau of Radiation Protection, a division of the New York State Department of Health (NYSDOH), the Town of Thompson in Sullivan County has an average basement radon measurement of 2.76 picocuries/liter. The USEPA recommended action level is 4.0 picocuries/liter.

## **2.9 Pesticides/Herbicides**

Six of The Monster Golf Club holes are located on the Project Site. The potential exists for the use of pesticides and/or herbicides associated with turf maintenance. Based on the data compiled during the investigation, the area was undeveloped woodland prior to the development of the golf course.

# **3.0 ASBESTOS-CONTAINING MATERIALS (ACM)**

Asbestos, a known human carcinogen is a generic name assigned to a group of naturally occurring minerals exhibiting high tensile strength and possessing excellent fire resistance and insulating properties. These minerals include chrysotile, amosite, crocidolite, actinolite, tremolite and anthophyllite. Asbestos is commonly found as a component of building materials including: Thermal System Insulation (TSI), spray-applied fireproofing, spray- or trowel-applied surfacing materials, vinyl asbestos floor tiles and sheeting, plaster, sheetrock, ceiling tiles, fire door fill, roofing materials, thermal gaskets, mastics, and a range of other products. If a building was constructed prior to 1981, suspect-asbestos materials are presumed to contain asbestos unless otherwise proven.

Building materials containing greater than one percent asbestos are considered to be asbestos-containing materials (ACMs). ACMs are classified as friable or non-friable. Friable ACMs are those which can be crumbled, pulverized, or reduced to powder when dry by hand or other mechanical pressure. Friable ACMs, such as thermal system insulation and spray-applied fireproofing, are generally associated with a higher risk of releasing potentially hazardous fibers than non-friable ACMs, such as vinyl floor tiles and built-up roofing materials.

An ACM survey was not performed as part of this assessment. There were also no observable structures on the Project Site. Concerns related to asbestos would be associated with dumped or buried construction debris. There were no dump areas observed on the Project Site, but several dump areas were reported for the overall EPT Concord Resort property. Due to the expansive wooded areas, unknown dump areas may exist and could be encountered during redevelopment.

#### 4.0 ADJACENT LAND USE

The Project Site is bounded by: Thompsonville Road, followed by The Monster Golf Club, undeveloped woodland and wetland, and a municipal wastewater treatment plant to the north; vacant undeveloped land and a cemetery to the west; vacant undeveloped land followed by NYS Route 17 to the south; and the Breezy Corners Bungalow Community and Joyland Road, followed by undeveloped land and several residential homes to the east.

##### Breezy Corners Bungalow Community

The southwestern portion of the Breezy Corners Bungalow Community extended into the eastern portion of Parcel 1, as shown on Figure 2, and included the septic discharge area for off-site bungalows. Due to this association, a review of the vacant bungalow structures was completed. A 550-gallon fuel oil UST was reported to be located on the south side of House 59. The exact location of the tank is unknown; the vent port was observed on the south side of the house. A suspect fuel oil UST area, reported to contain a 500 to 550-gallon UST, was located on the south side of House 57, with both the vent and fill ports being visible. A suspect fuel oil UST-area, reported to contain a 500 to 1000-gallon UST, was located west of the cold water storage and hot water heater room on the western side of the bungalow colony; only a vent pipe was visible at the ground surface. No evidence of staining, odors, or damaged vegetation was noted near the UST locations. Three ASTs were also observed at the bungalow community. A steel, 275-gallon fuel oil AST was located in the basement of House 58 in the northeast section of Lot 54.1. No signs of leaks or staining were noted below the AST. A steel, 275-gallon fuel oil AST was located next to the south side exterior of the laundry building. No signs of leaking or staining were noted on the grass below. A steel, 275-gallon fuel oil AST was located near the southwest corner exterior of the gaming hall. The tank was on its side but appeared intact; no signs of leaking or staining on the pavement below were noted. No ASTs at the site were in use and they were reported to be empty.

##### Off-Site Investigations

The Project Site is part of the EPT Concord Resort property, which is approximately 1,600 acres in size and includes two golf courses, a former gas station, a golf club house, and a golf maintenance building. All existing structures on the EPT Concord Resort property are located between 0.5 and 1.5 miles north of the Project Site. Between 1998 and 2004, Phase I and Phase II ESAs were performed for a 1,700 acre area that included the EPT Concord Resort property (including the Project Site), the former main hotel complex property (northwest-adjacent to the EPT Concord Resort), which is owned by Concord Associates, L.P. (CALP) and additional land area that expanded beyond the EPT Concord Resort property to the north, east, south, and west. The Project Site was reported as being vacant land since the early

1900s. Area development began in the early 1940s with the construction at the former main hotel complex property. The former main hotel complex property, located northwest-adjacent to the EPT Concord Resort (CALP Property) was developed over time through the early 1960s, and included construction of the golf course located on the EPT Concord Resort property and portions of the Project Site. By 1977, most of the existing improvements were present, including the Concord Service Gasoline Station, and the golf course club house and maintenance buildings.

The prior assessments identified 24 areas of environmental concern (AOCs), to be addressed through additional investigation. AOCs 1 through 3 were associated with the adjacent CALP Property and included underground storage tanks (USTs) and pole mounted transformers associated with the main complex hotel. AOCs 4 through 9 included five locations on the EPT Concord Resort property (the chalet dump site, the casino dump site, Breezy Corners Bungalows dump area, and the cemetery dump site), and two locations beyond the EPT Concord Resort boundary (the horse farm dump site and the Mountain View residence). Reports and references to NYSDEC correspondence indicated that environmental issues associated with AOCs 4 through 9 have been addressed through investigations and remedial efforts. The Breezy Corners Bungalows dump area (east adjacent to the Project Site) was reported to consist of home appliances, wood, and shingles. The area was addressed by waste removal, there were no reported areas of contamination, and a letter report prepared by JM Associates, Inc., dated March 18, 2002, concluded that no further action was recommended. The cemetery dump area (west adjacent to the Project Site) was reported to consist of construction debris, appliances and home equipment, and plastic/metal toys. A Phase II ESA report completed by Environmental Compliance Services, Inc. (ESC) included a test pit investigation and laboratory testing of soil samples from the cemetery dump concluded that there were no signs of hazardous conditions associated with the dump. ESCs Phase II ESA also included details about the removal of the chicken coop on Parcel 2. The chicken coop area was thought to be a potential dump site, but test pits confirmed that buried wastes were not present and no further action was recommended. After completion of the investigations, AOCs (AOC 1 through AOC 3 and AOC 10 through AOC 24) that required remediation were to be addressed by CALP through the New York State Brownfield Cleanup Program (BCP), which is described in the following section. A copy of the previous reports that included work for the Project Site is contained in Appendix B. A review of the AOC investigation areas is shown on Figure 3.

#### Brownfield Cleanup Program

A Brownfield Cleanup Agreement (BCA), dated May 19, 2005 between CALP and the NYSDEC provided for the investigation and remediation of 14.5 acres of the CALP Property and EPT Concord Resort property. The 14.5 acres have been divided into five Operable Units (OU-1A, OU-1B, OU-1C, OU-2, and OU-3). Figure 3 includes the location and summary of each OU, none of which are located on the Project Site. An amendment to the BCA in August 2009 added 20 acres to OU-1A (CALP property), bringing the total BCA area to approximately 35 acres. A remedial investigation (RI) was completed in each OU to identify and delineate sources of contamination. RIs were conducted pursuant to NYSDEC-approved work plans were completed in October 2008. With the exception of localized “hot spots” related to contaminated fill, the soil and groundwater contamination was related primarily to USTs and unregulated landfills. Remedial Action Work Plans (RAWPs) have been prepared for the OUs, and at the time of this report, a remedial excavation had been completed at OU-1C (International Golf Club House and Maintenance Building Disposal Area) to remove pesticide contamination in shallow soil. The remaining work identified in the RAWPs has not been completed.

A Qualitative Human Health Exposure Assessment was completed by SESI Consulting Engineers, P.C (SESI) in November 2008 and concluded that the likelihood of adverse health effects as a result of exposure to the OU’s contamination was remote. A Fish and Wildlife Impact Analysis completed by

SESI concluded that fish and wildlife habitat did not exist in OU-1A, and that there were no potential ecological risks to fish and wildlife resources in OU-1B and OU-1C. An ecological exposure pathway was reported to exist for OU-2 and OU-3, but no impacts to nearby receptors were documented. According to the Fish and Wildlife Impact Analysis, proper remediation of the OUs would eliminate the risks. The OUs are located a minimum of 0.5 miles north of the Project Site, and based on groundwater flow direction, do not pose a threat to soil and groundwater at the Project Site.

## **5.0 USER PROVIDED INFORMATION**

### **5.1 Title Records**

Title records were not kept on file by the user.

### **5.2 Environmental Liens or Activity and Use Limitations**

No records were known concerning environmental liens or activity and use limitations.

### **5.3 Specialized Knowledge**

During the site visit, Mr. Chris Hummel, superintendent for The Monster Golf Club, located the septic system piping for the Breezy Corner Bungalow Community, and the former creosote storage area. Mr. Hummel also indicated the locations of several ASTs and USTs located on the Breezy Corner Bungalow Community formerly storing fuel oil. Details associated with the interview of Mr. Hummel are included in Section 7.0.

### **5.4 Commonly Known or Reasonably Ascertainable Information**

The user was not aware of any commonly known or reasonably ascertainable information within the local community that was associated with the environmental condition of the site.

### **5.5 Previous Reports**

Subsurface Investigation Reports were prepared by Melic-Tully and Associates for AKRF, Inc. on May 1, 2012 and September 28, 2012 for purposes of future construction preparation at the Project Site. Groundwater was encountered as shallow as 2 feet below grade in the western portion of the Project Site to approximately 24 feet below grade in the eastern portion. Encountered soils were glacial till composed of sand, gravel and silt; organic silt and peat was encountered in the eastern portion of the Project Site at depths of 1.5 to 6.5 feet below grade. There was no indication that contamination or fill materials were encountered during the investigation. Copies of the reports are available in Appendix B. Environmental reports associated investigations on the EPT Concord resort property are summarized in Section 4.0.

### **5.6 Valuation Reduction for Environmental Issues**

No information was obtained regarding any valuation reduction due to environmental issues.

### **5.7 Owner, Property Manager, and Occupant Information**

The client provided parcel maps, development plans, and the contact information for Mr. Chris Hummel of The Monster Golf Club.

### **5.8 Reason for Performing Phase I**

The Phase I is being performed for completion of an environmental review prior to the leasing of redevelopment Parcels 1 and 2.



## 6.0 SITE HISTORY AND RECORDS REVIEW

### 6.1 Prior Ownership and Usage

#### 6.1.1 Historic Topographic Maps

Portions of topographic maps were available for 1911, 1916, 1925, 1931, 1938, 1944, 1946, 1956, 1961, 1964, 1966 and 1982. Historic Topographic maps are included in Appendix C. Details from these topographic maps are as follows:

##### 1911

The Project Site appeared to be mostly vacant. Topographic lines appeared similar to modern maps. Kiamesha Creek was visible north of the site. A structure was visible on the Project Site along Thompsonville Road. A creek was visible where Tannery Brook is indicated on modern maps. An additional creek is visible originating in the southeast corner of the Project Site and connecting with the modern-day Tannery Brook.

##### 1916, 1925, 1931, and 1938

No notable changes were observed for the above years.

##### 1944

The Project Site appeared to be similar to the 1938 map. A pond was visible southeast of the Project Site where the additional creek was located in the 1938 map. An additional structure was present along Thompsonville Road.

##### 1946, 1956, 1961, and 1964

No notable changes were observed for the above years

##### 1966

The Project Site appeared to be similar to the 1911 map. A golf course was present north of Thompsonville Road; the white background on the topographic map may have indicated the golf course's presence south of Thompsonville Road on the Project Site. Several buildings were present adjacent to the northeast corner of the Project Site, which was likely the Breezy Corners Bungalow Community. One other building was also located approximately 500 feet west of Breezy Corners. A pond was also visible southeast of the Project Site where the additional creek was located in the 1911 map. The creek in the western portion of the Project Site is now labeled as Tannery Brook.

##### 1982

The Project Site appeared to be similar to the 1966 map. According to the map foot notes, additions were indicated using purple shading: Five buildings at Breezy Corners; a building west of Tannery Brook and south of Thompsonville Road; and two water bodies added as a likely part of golf course construction.

To summarize, the historic topographic maps indicated that the Project Site has remained mostly vacant from 1911 to the present. The golf course holes and Breezy Corners appeared in the 1966 map. A pond southeast of the Project Site also appeared in 1966 where a creek was formerly located. Several structures were visible along Thompsonville Road, which may have been former residences. These structures could have used heating oil stored in USTs or ASTs, or could be associated with buried demolition debris.

### **6.1.2 Historical Aerial Photographs**

Portions of historical aerial photographs were available for 1963, 2001, and 2004. Historic aerial photographs are included in Appendix D. Details from these photographs are as follows:

#### 1963

The Project Site consisted of a golf course that extended across to the north side of Thompsonville Road, undeveloped land, and a chicken coop (according to Mr. Hummel) west of Tannery Brook and south of Thompsonville Road in Tax Lot 48. The Breezy Corners Bungalow Community was visible in the northeast corner of the image. A building was also visible on the north side of Tax Lot 53, south of Thompsonville Road.

#### 2001

The Project Site appeared similar to the 1963 and 1968 photographs. A municipal water treatment facility was located northeast of the Project Site. Additionally, the chicken coop formerly in Tax Lot 48 was no longer present.

#### 2004

No significant changes were observed in the 2004 photograph.

To summarize, the historic aerial photographs indicated that a majority of the Project Site was occupied by the Breezy Corners Bungalow Community, a chicken coop, undeveloped woodland, wetland, and The Monster Golf Club in 1963. In 2001 the chicken coop was no longer present, and a municipal water treatment facility was erected.

### **6.1.3 Property Tax Files and Zoning Records**

Sullivan County Real Property Tax Services indicated that a majority of the property has been zoned for either residential or planned resort. The parcels were classified as either golf course or rural vacant. Tax Lot 54.1 was classified as Family Residential. The title records in the assessors department did not contain details associated with the ownership history of the site.

## **6.2 Regulatory Review**

Toxics Targeting, Inc. of Ithaca, New York, was contracted to obtain information regarding the regulatory status of the Project Site and the surrounding area. This information included records from databases maintained by the USEPA and New York State Department of Environmental Conservation (NYSDEC). AKRF reviewed these records to identify the use, generation, storage, treatment and/or disposal of hazardous material and chemicals, or releases of such materials which may impact the Project Site. All applicable regulatory databases meet ASTM guidelines requesting utilization of information within 90 days' receipt from the appropriate agency. Copies of the pertinent sections of the Toxics Targeting, Inc. report are included in Appendix E.

### **6.2.1 Federal**

The federal records reviewed included the National Priority List (NPL); Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS); Emergency Response Notification System (ERNS); Toxic Chemical Release Inventory System (TRIS); the Permit Compliance System of Toxic Wastewater Discharges

(WWD); the USEPA Civil Enforcement Docket; and US EPA AIRS database. The federal listing of facilities which are subject to corrective action under the Resource Conservation and Recovery Act (CORRACTS) is discussed with the State databases of RCRA listings. The Project Site was not listed in any of these databases. The database results for the surrounding areas are summarized below:

National Priority List (NPL)

The NPL is the USEPA's database of some of the most serious uncontrolled or abandoned hazardous waste sites identified for probable remedial action under the Superfund Program. These sites may constitute an immediate threat to human health and the environment. Due to the amount of public attention focused on NPL sites, they pose a significant risk of stigmatizing surrounding properties and potentially impacting property values.

No listed or delisted NPL sites were identified within a one-mile radius of the Project Site.

Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS)

CERCLIS is a compilation of known or suspected, uncontrolled or abandoned hazardous waste sites which the USEPA has investigated, or plans to investigate, for a release, or threatened release, of hazardous substances pursuant to the Superfund Act of 1980 (CERCLA). Some of these sites may constitute a potential threat to human health and the environment. While it has been determined by the USEPA that some CERCLIS sites may be designated as no further remedial action planned (NFRAP), others could pose a real or perceived environmental threat to neighboring properties, thus affecting property values.

No CERCLIS sites were identified within a 1/2-mile radius of the Project Site.

Emergency Response Notification System (ERNS)

This federal database, compiled by the Emergency Response Notification System, records and stores information on reported releases of petroleum and other potentially hazardous substances.

The Project Site was not listed as an ERNS site.

Toxic Chemical Release Inventory System (TRIS)

The TRIS contains information reported to the USEPA and/or NYSDEC by a variety of industries on their annual estimated releases of certain chemicals to the environment. The TRIS was mandated by Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986. Available information includes the maximum amount of chemicals stored on-site; the estimated quantity emitted into the air, discharged into bodies of water, injected underground, or released to land; methods used in waste treatment and their efficiency; and data on the transfer of chemicals off-site.

No TRIS sites were identified within a 1/4-mile radius of the Project Site.

Permit Compliance System of Toxic Wastewater Discharge (WWD)

This federal- and state-maintained database contains a listing of sites which discharge wastewater containing potentially hazardous chemicals.

No WWD facilities were reported within a ¼-mile radius of the Project Site.

United States Environmental Protection Agency Civil Enforcement Docket

This database is the USEPA's system for tracking civil judiciary cases filed on behalf of the agency by the Department of Justice.

No USEPA Civil Enforcement Docket sites were located within a ¼-mile radius of the Project Site.

Air Discharge Facilities Index (ADF)

This listing of sites tracked by the US EPA AIRS Database includes address information on each facility and the source of its associated air emissions.

No ADF sites were identified within a ¼-mile radius of the Project Site.

### **6.2.2 State**

The state records reviewed included the listings of hazardous material spills (SPILLS); Resource Conservation and Recovery Act (RCRA) Notifiers; Chemical Bulk Storage (CBS); Solid Waste Facilities (SWF); Petroleum Bulk Storage (PBS); State Inactive Hazardous Waste Disposal Sites (SHWS); Major Oil Storage Facilities (MOSF); Environmental Restoration Program; Voluntary Cleanup Program; and Brownfield Cleanup Program (BCP).

New York SPILLS Database

The New York SPILLS database includes a list of releases reported to the NYSDEC, including those attributed to tank test failures and tank failures. The tank test failures list only covers tanks that are below ground, while the tank failures list includes those that are either below or above ground. This database also lists spills that occur during the transportation of chemicals.

There were approximately seven closed status spills located within ½-mile radius of the Project Site. There were also several unmapped listings for closed tank and tank test failures at the Concord Resort Hotel property, which is located over a mile away from the Project Site. No spills were located within a ¼-mile of the Project Site. Based upon the details, distance, and direction of the spills, none of the off-site spills would likely have affected soil or groundwater beneath the Project Site.

Details from all spills are included in Appendix E.

Resource Conservation and Recovery Act (RCRA) Notifiers Listings

The NYSDEC's Bureau of Hazardous Waste Facility Compliance regulates hazardous waste from the point of generation to the point of disposal. The identified sites tracked on this list are those which have filed notification forms in accordance with the Resource Conservation and Recovery Act requirements regarding their hazardous waste activity. These sites include treatment, storage and disposal facilities (TSDs); small-quantity and large-quantity generators; and transporters of hazardous waste regulated under RCRA. The discussion below includes any CORRACTS listings of facilities which are subject to corrective action under RCRA. The Project Site was not listed in the RCRA database search.

There was one RCRA Generator listed within a ½-mile radius of the Project Site. A NYS DOT facility, located on Thompsonville Road near NYS Route 17, generated 36,000 pounds of cadmium and 44,000 pounds of lead in 2005. No violations or releases were noted for the site.

Based on details, distance, and direction, potential discharges from this RCRA Generator would not likely affect groundwater beneath the Project Site.

*Chemical Bulk Storage (CBS) Database*

The New York CBS is a list of facilities that store regulated non-petroleum substances in aboveground tanks with capacities greater than 185 gallons and/or in underground tanks of any size.

No CBS facilities were listed within a ¼-mile radius of the Project Site.

*Solid Waste Facilities (SWF)*

This database includes a listing of landfills, incinerators, transfer stations, recycling centers, and other sites which manage solid waste.

No SWF sites were listed within a ½-mile radius of the subject Project Site.

*Petroleum Bulk Storage (PBS) Database*

The New York State PBS lists commercial facilities with registered petroleum tanks located either above or below ground in excess of 1,100 gallons and less than 400,000 gallons.

The Project Site was not listed in the PBS database.

No PBS sites were listed within a ¼-mile radius of the Project Site.

*State Inactive Hazardous Waste Disposal Site Registry (SHWS)*

This database maintains information and aids decision-making regarding the investigation and clean-up of hazardous sites. The Registry's information includes the clean-up status, type of clean-up, types and quantities of contaminants involved, and the assessment of health and environmental concerns.

One SHWS site was listed within a one-mile radius of the Property. The Village of Monticello landfill was located on Waverly Road, approximately 4,736 feet south-southwest of the Property. Based on details, distance, and direction, potential discharges from this site would not likely affect groundwater or soil beneath the Project Site.

*State Hazardous Substance Waste Disposal Site Study (SHSWDS)*

This database tracks waste disposal sites that may pose threats to public health or the environment, but that cannot be remediated using monies from the Hazardous Waste Remediation Fund.

No SHSWDS were identified within a one-mile radius of the Project Site.

*Major Oil Storage Facilities (MOSF) Database*

These facilities may be on-shore facilities or vessels with petroleum storage capacities of 400,000 gallons or more.

There were no MOSF reported within a ⅛-mile radius of the Project Site.

*Environmental Restoration Program*

These sites (which are generally municipally-owned) are receiving New York State funding, through the Clean Water/Clean Air Bond Act of 1996, to reimburse costs for site investigation and remediation. Some sites in this program have known extensive contamination, whereas others have more limited contamination or have not had sufficient investigation to determine whether or not contamination is present.

No Environmental Restoration Programs were identified within a ½-mile radius of the Project Site.

*Voluntary Cleanup Program*

In contrast to the Environmental Restoration Program, the Voluntary Cleanup Program (VCP) is a NYSDEC program for investigation and remediation of generally privately-owned sites. It allows volunteers to obtain NYSDEC liability releases following cleanup. New sites are no longer accepted into this program (see the Brownfield Cleanup Program, below) though existing sites may continue to be addressed. Some sites in this program have known extensive contamination, whereas others have more limited contamination or have not had sufficient investigation to determine whether or not contamination is present.

No VCP sites were listed within a ½-mile radius of the Project Site.

*Brownfield Cleanup Program*

In 2003, a New York State law established this successor to the Voluntary Cleanup Program. In addition to liability releases, it established a variety of tax credits for sites remediated through the program. Some sites in this program have known extensive contamination, whereas others have more limited contamination or have not had sufficient investigation to determine whether or not contamination is present.

A BCA exists between CALP (property owner northwest adjacent to the EPT Concord Resort property) and the NYSDEC for five Brownfield cleanup areas; four areas are located on the EPT Concord Resort property, and one area is located on the CALP property. A review of the Brownfield site is included in Section 4.0.

### **6.2.3 Local**

Several Freedom Of Information Law (FOIL) requests were sent to the Village of Monticello Clerk's Office, Town of Thompson Building Department, Sullivan County Department of Health, New York State Department of Health (NYSDOH), New York State Department of Environmental Conservation (NYSDEC), and the United States Environmental Protection Agency (USEPA) in order to review documents which may help determine the potential presence of hazardous materials. The Sullivan County Department of Health had no relevant records available. Results from the Village of Monticello, NYSDOH, NYSDEC, and USEPA are still pending. The summarized results from the Town of Thompson are listed below:

- A Town of Thompson Building Permit was issued for logging activities in Tax Lot 53 dated March 29, 1995.
- Several copies of correspondence between the NYSDOH and Mr. Henry Zabatta regarding the Breezy Corners Bungalow Community listing sewage discharge and building violations were available from 1998, 2000, 2002 and 2006 related to

inspections performed on the same calendar years. No fines or other penalties were mentioned in the correspondence.

- A copy of a NYSDEC SPDES permit for Breezy Corners Bungalow Colony was available, dated June 23, 1999, indicated effluent limitations and monitoring requirements. The SPDES permit was valid from July 1, 1999 to July 1, 2004.

Copies of the local records obtained are included in Appendix F.

#### **6.2.4 Additional Environmental Record Sources**

To enhance the search, additional local records should be checked when, in judgment of the environmental professional, such records are: 1) reasonably ascertainable; 2) useful, accurate and complete in light of the objective of the records review; and 3) are obtained in initial Environmental Site Assessments. These records included:

- Local brownfields lists
- Local lists of landfill/solid waste disposal sites
- Local lists of hazardous waste/contaminated sites
- Local lists of registered tanks
- Local land records (for activity use limitations)
- Records of emergency release reports
- Records of contaminated public wells

Sources for these records include:

- Department of Health/Environmental Division
- Fire Department
- Building Permit/Inspection Department
- Local/Regional Pollution Control Agency
- Local/Regional Water Quality Agency
- Local Electric Utility (for PCB records)

Thorough and complete information about potential off-site impacts and recognized environmental conditions on-site was available from regulatory databases and the Town of Thompson Building Department. Given that is unlikely that further significant information exists in additional environmental record sources, and given that it is unlikely that it would materially change the findings of this Phase I assessment, no additional sources were reviewed.

### **6.3 Sensitive Receptor Survey**

A Sensitive Receptor Survey was performed by Toxics Targeting, Inc. to identify areas of population or facilities that would be more susceptible to the adverse effects of exposure to toxic chemicals, pesticides, and other pollutants. A copy of the survey is included in Appendix G. The following features were identified as sensitive receptors:

- NYSDEC Water Well No. SV2654, located approximately 2,280 feet west-northwest of the Project Site, is a domestic water supply well.

- NYSDEC Water Well No. SV3047, located approximately 2,430 feet south-southwest of the Project Site, is a domestic water supply well.
- Wetland ID MO-56, located within the Project Site, comprises approximately 55.8 acres and is listed as Class II wetland.
- Wetland ID MO-57, located adjacent to the south-southeast of the Project Site, comprises 24.2 acres and is listed as a Class III wetland.
- Wetland ID MO-58, located approximately 250 feet southwest of the Project Site, comprises 41.9 acres and is listed as a Class II wetland.

Based on distance and inferred groundwater flow direction, it is unlikely that the Project Site affected the above domestic supply water wells. Any future redevelopment of the Project Site should be done in accordance with applicable NYSDEC Part 663 through Part 665 wetland regulations.

## **7.0 INTERVIEWS**

### **7.1 Interview with Owner and Site Managers**

Mr. Chris Hummel of The Monster Golf Club accompanied AKRF personnel throughout the site inspection and answered pertinent questions. This information is summarized in Section 2.1. Additionally, Mr. Timothy C. Lies, Executive for the Owner of EPT Concord II, LLC submitted a site owner questionnaire. Mr. Lies relevant answers are summarized in Section 5.4.

An Environmental Site Assessment Questionnaire was submitted to Mr. Chris Hummel, superintendent for The Monster Golf Club. Mr. Hummel has been employed by The Monster Golf Club for thirty years. Mr. Hummel provided the following pertinent information:

- To his knowledge, no historic fill was used on-site.
- The vacant lot in Tax Lot 48 was once a chicken coop. The structure was torn down in 2001 with the concrete pad remaining. Following demolition of the chicken coop, the concrete pad was used as a staging ground for approximately 20 to 25 five-gallon creosote buckets. According to Mr. Hummel, he did not know the specific use for the creosote and the buckets were removed in 2004. Since then, the area has been used for storage of sand for the golf course sand traps.
- No environmental liens or violations exist for the Project Site.

An Environmental Site Assessment Questionnaire was submitted to Mr. Timothy C. Lies, Executive for the Owner of EPT Concord II, LLC. Mr. Lies has been associated with the site for five years. Mr. Lies provided the following pertinent information:

- Previous hydrogeological and/or geotechnical reports are available for the Project Site and are described in section 5.5.

Copies of the questionnaires are included in Appendix H.

### **7.2 Interview with Occupants**

The site was vacant and there were no occupants to be interviewed.



### 7.3 Interview with Local Government Officials

Federal, state and local regulatory databases were consulted for identifying recognized environmental conditions (RECs) on the property due to on-site or off-site conditions. Given that is unlikely that further significant information would be available from local government officials, and given that it is unlikely that such information would materially change the findings of this Phase I assessment, local government officials were not interviewed.

## 8.0 LIMITATIONS

This assessment met the requirements of the American Society for Testing and Materials (ASTM) as established by ASTM Standard E1527-05. The following limitations should be noted:

- Results of this investigation are valid as of the dates on which the investigation was performed.
- A FOIL request was submitted to the Village of Monticello Clerk's Office, Town of Thompson Building Department, Sullivan County DOH, NYSDOH, NYSDEC, and USEPA to review records pertaining to relevant activities and construction with environmental impacts. Responses are pending from the Village of Monticello, NYSDOH, NYSDEC, and USEPA.

## 9.0 DEVIATIONS

The User did not request any deviations from the ASTM Standard.

## 10.0 DATA GAPS

Section 3.3.20 of ASTM Standard E 1527-05 defines a data gap as the inability to obtain information required by the ASTM Standard despite good faith efforts to obtain applicable data. Data gaps may result from incompleteness in any of the activities required by the by the ASTM Standard. The following data gaps occurred in connection with this report:

**Table 2**  
**Data Gaps Identified**

<b>Data Gap</b>	<b>Explanation</b>	<b>Relevance of Gap</b>
Property Area History	The data for property area history was not available in 5-year intervals.	This data gap is not likely to alter the conclusions of the report.
Interviews	Past owners, operators, and occupants of the Project Site, or adjacent property owners per ASTM standards, could not be located for interviews.	This data gap is not likely to alter the conclusions of the report.

## 11.0 CONCLUSIONS

This Phase I Environmental Site Assessment was performed in accordance with customary principles and practices in the environmental consulting industry, and in conformance with the scope and limitations of ASTM Standard E1527-05, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Practice*. Any exceptions to, or deletions from, this practice are described in Section 8.0 of this report.

The Phase I ESA was performed for environmental due diligence purposes prior to the leasing of the Project Site.

This assessment revealed the following evidence of Recognized Environmental Conditions (RECs):

- The Breezy Corners Bungalow Community operated a sewage discharge system under NYSDEC SPDES Permit No. NY0147982. The discharge area was located in the eastern section of Parcel 1. The bungalows property was also the location of historical dumping of white goods and household equipment. Although waste removal efforts were completed and no hazardous material releases were reported, household sanitary lines may have been used for discharge of oils, paints, solvents, and other hazardous materials, and these may be present at the Project Site at the discharge point or any areas where leaks or breaks in the sewer lines occurred.
- The former chicken coop area in Tax Lot 48 was reported to store approximately 20 to 25 five-gallon buckets of creosote until 2004. Prior to storage of creosote, the chick coop area was reported to be used for storage of equipment and outdoor furniture. Details related to the former chick coop, including potential heating systems, were not known. No signs of spills or staining on the concrete pad were observed during the site visit. However, undocumented releases of creosote or other undisclosed materials may be present in soil surrounding or beneath the concrete pad.
- Electrical transformers along the Project Site may include polychlorinated biphenyl (PCB)-containing components (e.g., capacitors).
- Historical topographic maps indicated that former structures, consistent with small commercial or residential dwellings, were once present on the Project Site along Thompsonville Road. No signs of the structures were present, but buried materials, including debris and/or USTs, may be associated with the former structures.

The following off-site concerns were also noted:

- Three, 500 to 1,000-gallon fuel oil under-ground storage tanks (USTs) and three 275-gallon fuel oil above-ground storage tanks (ASTs) were located within the Breezy Corners Bungalow Community. No spills associated with the tanks have been reported, and no signs of leaks or staining were observed during the site visit. However, undocumented releases, as well as undocumented USTs, could affect groundwater at the Project Site.

AKRF understands that the Project Site is being evaluated for redevelopment. Based on the conclusions of this Phase I assessment, AKRF recommends the following:

- A limited subsurface (Phase II) investigation should be conducted to ascertain environmental conditions in the areas where soil disturbance is anticipated for the proposed and future development of the Project Site. The septic discharge and creosote storage/chicken coop areas should be targeted to determine whether contamination has been released to soil, and the golf course fairways should be targeted to determine whether pesticides and/or herbicides exist as a result of golf course maintenance and for general soil characterization during construction.

- Soil excavated as part of any future site development activities should be managed in accordance with all applicable regulations. If areas of contamination are discovered, they should be delineated and remediated in accordance with all applicable regulations. If unforeseen USTs are discovered during site development, they should be removed in accordance with all applicable regulations. Soil intended for off-site disposal should be tested in accordance with the requirements of the intended receiving facility. Transportation of material leaving the Project Site for off-site disposal must be in accordance with federal, state and local requirements covering licensing of haulers and trucks, placarding, truck routes, manifesting, etc.
- If future development plans for the Project Site require dewatering, it should be conducted in accordance with all applicable regulations and permitting requirements.
- Unless there is labeling or test data that indicates that electrical equipment are not PCB-containing, if disposal is required, it should be performed in accordance with applicable federal, state and local regulations and guidelines.

## 12.0 SIGNATURE PAGE

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 312.

I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have performed all the appropriate inquiries in conformance with standards and practices set forth in 40 CFR Part 312.



---

Marc S. Godick, LEP  
Senior Vice President

### 13.0 QUALIFICATIONS

The purpose of this assessment was to convey a professional opinion about the potential presence or absence of contamination, or possible sources of contamination on the property, and to identify existing and/or potential environmental problems associated with the property.

The assessment was performed in accordance with customary principles and practices in the environmental consulting industry, and in accordance with ASTM Standard E1527-05, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Practice*. It is intended for use as a supplement to the property appraisal, and is only to be used as a guide in determining the possible presence or absence of hazardous materials on the subject property at the time of the inspection. This assessment is based upon the review of readily available records relating to previous use of both the Project Site and the surrounding area, as well as a visual inspection of the current condition of the property. Environmental characteristics at this site and surrounding sites may be subject to change in the future.

This Phase I Assessment is not, and should not be construed as, a guarantee, warranty, or certification of the presence or absence of hazardous substances, which can be made only with testing, and contains no formal plans or recommendations to rectify or remediate the presence of any hazardous substances which may be subject to regulatory approval. This report is not a regulatory compliance audit.

This report is based on services performed by AKRF, Inc. professional staff and observation of the site and its surrounding area. We represent that observations made in this assessment are accurate to the best of our knowledge, and that no findings or observations concerning the potential presence of hazardous substances have been withheld or amended. The research and inspections have been carried to a level that meets accepted industry and professional standards. Nevertheless, AKRF, Inc. and the undersigned shall have no liability or obligation to any party other than Hart Howerton, and their successors or assignees, and AKRF Inc.'s obligations and liabilities to the above, their successors or assignees is limited to fraudulent statements made, or negligent or willful acts or omissions.

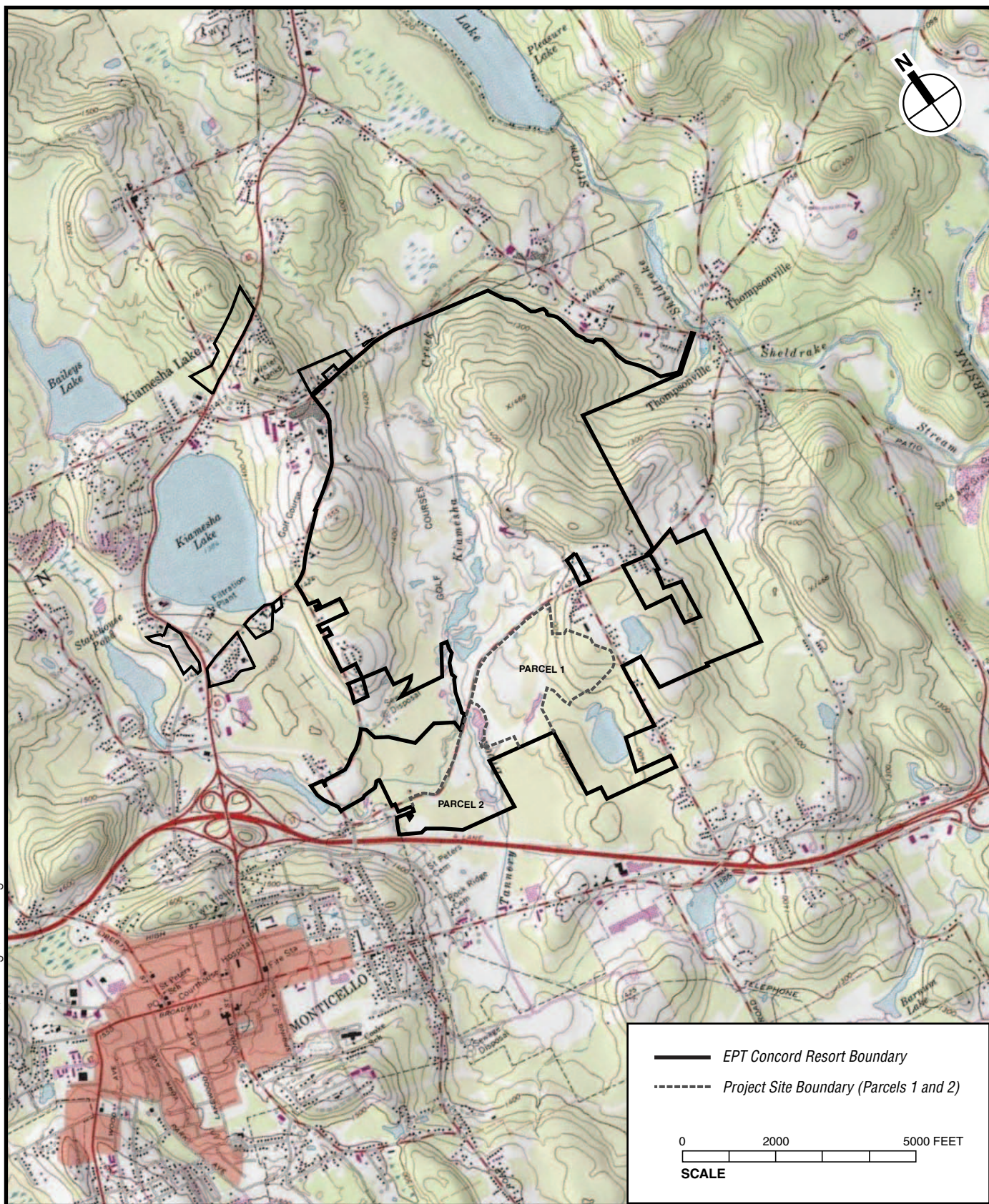
## 14.0 REFERENCES

1. Historical Aerial Photographs obtained from [historicaerials.com](http://historicaerials.com) and Toxics Targeting, Inc. (1963, 2001, 2004).
2. U.S. Geological Survey; Monticello, N.Y.-Quadrangle 1982; 7.5 Minute Series (Topographic); Scale 1:24,000. Historical topographic maps for 1911, 1916, 1925, 1931, 1938, 1944, 1946, 1956, 1961, 1964, 1966 and 1982 obtained from [historicaerials.com](http://historicaerials.com) and Toxics Targeting, Inc.
3. New York State Department of Health: Office of Public Health - Environmental Radiation Section; *Basement Radon Screening Data*; January 1997.
4. Melick-Tully and Associates, P.C.; Report Subsurface Investigation – Proposed Concord Resort Development, Thompson, Sullivan County, [New York], Concord Resort Development; May 1, 2012.
5. Melick-Tully and Associates, P.C.; Report Subsurface Investigation – Proposed Wetland Mitigation Sites, Thompson, Sullivan County, New York, Concord Resort Development; September 28, 2012.
6. Toxics Targeting, Inc.; ½ Mile Well and Sensitive Receptor Report, Parcel 1 and 2, Thompson, NY 12701; May 20, 2013
7. Toxics Targeting, Inc.; Parcel 1 and 2, Thompson, NY 12701; Regulatory Radius Search; May 21, 2013.
8. AKRF, Inc.; EPT Concord Resort Draft Generic Environmental Impact Statement (DGEIS) and Draft Environmental Impact Statement (DEIS) for Phase I; July 24, 2012.

## FIGURES



SOURCE: USGS Monticello and Woodridge Quadrangles



**EPT Concord Resort**  
Town of Thompson, Sullivan County, NY

**USGS SITE LOCATION**



**Environmental Consultants**  
34 South Broadway, White Plains, N.Y. 10601

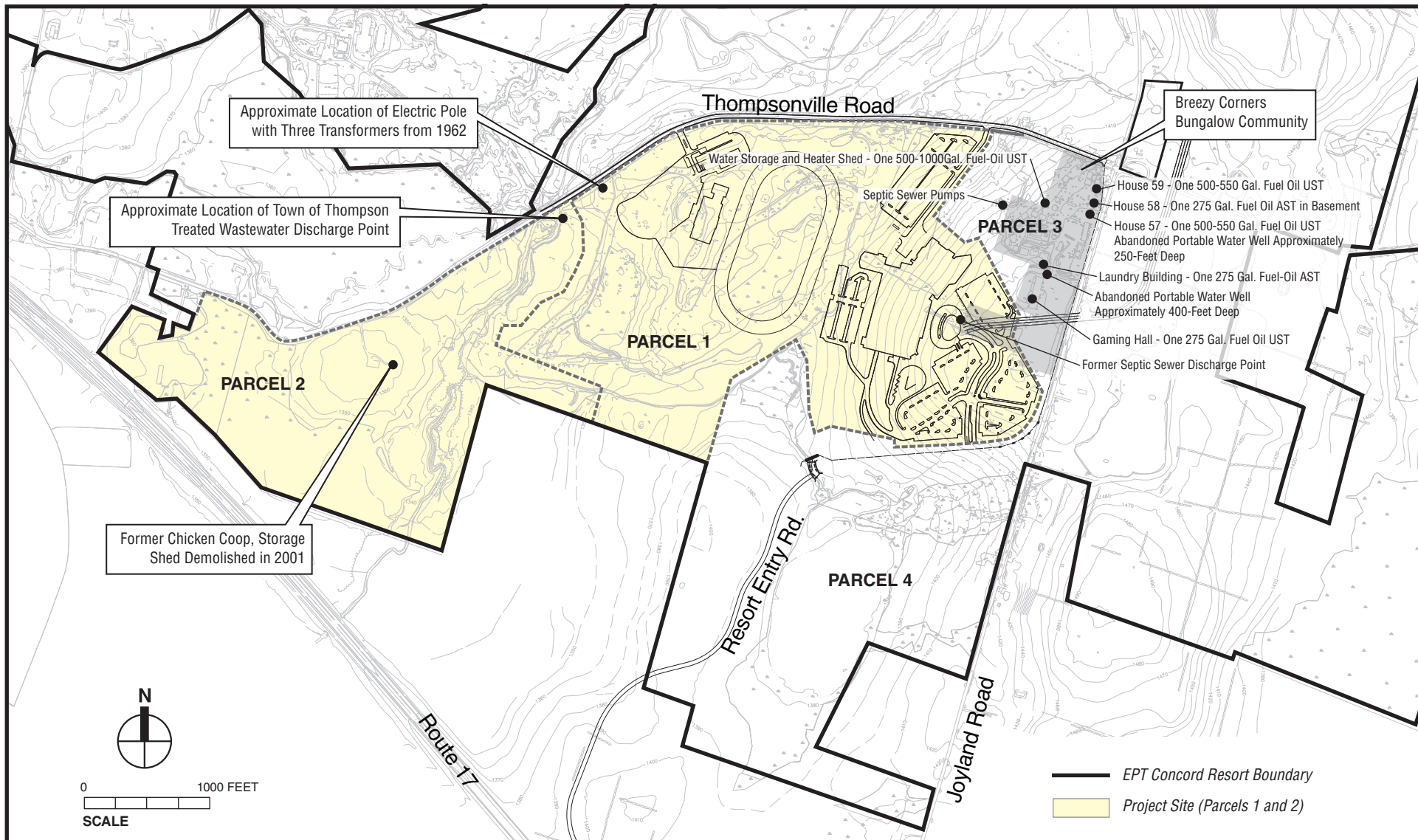
DATE  
6.13.2013

PROJECT No.  
40376

SCALE  
as shown

FIGURE  
1





**EPT Concord Resort**  
Town of Thompson, Sullivan County, NY

## SITE PLAN



**Environmental Consultants**  
34 South Broadway, White Plains, N.Y. 10601

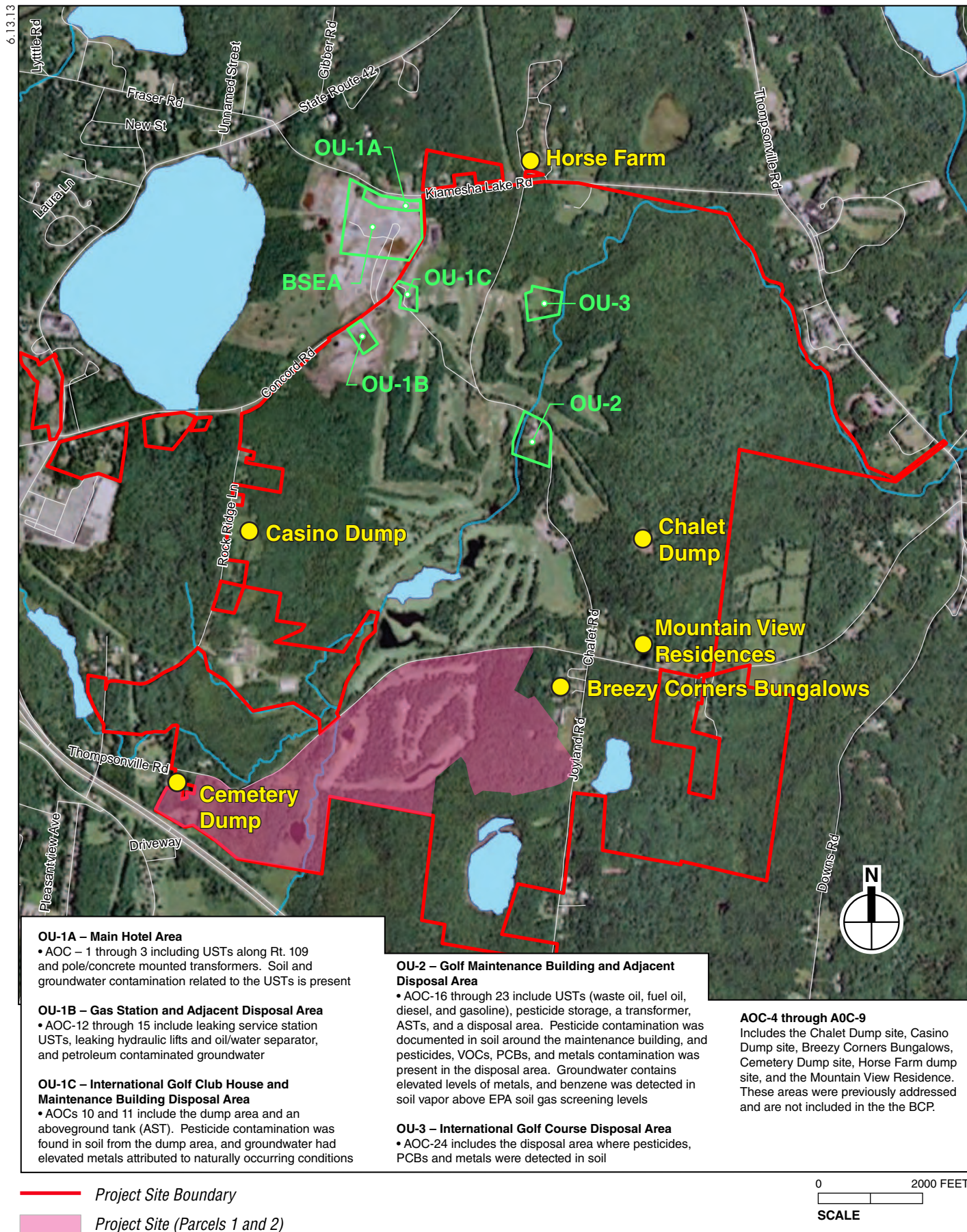
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40376

SCALE  
as shown

FIGURE  
2





**APPENDIX A**  
**PHOTOGRAPHIC DOCUMENTATION**





Photograph 1: Tanner Brook with golf course hole in background.



Photograph 2: UST vent and fill lines at Building 57 at Breezy Corners, east-adjacent to the project site.



Photograph 3: Water hazard at Concord Monster golf course near Hole 3.



Photograph 4: Municipal treatment system water discharge point near Hole 3.





Photograph 5: former sewage system pump house for Breezy Corners.



Photograph 6: former sewage system discharge area for Breezy Corners. Located on Parcel 1 of the project site.



Photograph 7: Concrete slab of former chicken coop in Tax Lot 47.



Photograph 8: Pole mounted transformers near Hole 3 along Thompsonville Road.

**APPENDIX B**  
**PREVIOUS REPORTS**

# *REPORT*

## *SUBSURFACE INVESTIGATION*

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PROPOSED CONCORD RESORT DEVELOPMENT  
TOWN OF THOMPSON, SULLIVAN COUNTY, NEW JERSEY  
CONCORD RESORT DEVELOPMENT

May 1, 2012

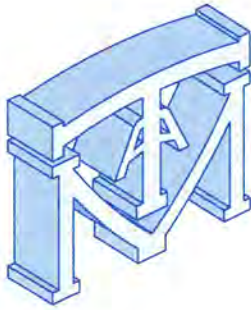
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Prepared By:  
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MTA Project No.: 8979-001\*1D





**MELICK-TULLY  
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**Senior Associates:**  
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JAMES H. BEATTIE, P.E.

**Associates:**  
CHRISTOPHER P. TANSEY, P.E.

May 1, 2012

Concord Resort Development  
c/o AKRF, Inc.  
440 Park Avenue South, 7<sup>th</sup> Floor  
New York, New York 10016

Attention: Ms. Karen E. Franz, P.E., LEED, AP  
Vice President

**Report  
Subsurface Investigation  
Proposed Concord Resort Development  
Town of Thompson, Sullivan County, New York  
Concord Resort Development**

**Introduction**

This report presents the results of a subsurface investigation performed by Melick-Tully and Associates, P.C. (MTA) for the proposed Concord Resort development to be constructed in the Town of Thompson, Sullivan County, New York. The portion of the resort currently slated for the first phase of development is primarily located south of and adjacent to Thompsonville Road, to the west of its intersection with Joyland Road, as shown on the Site Location Map, Plate 1. This report was prepared in general accordance with our proposal dated February 7, 2012.

**Proposed Construction**

We understand that the on-site Phase I portion of the proposed development would include the construction of approximately 4,500 linear feet of sanitary sewer line, a harness track, and paddock/maintenance buildings which will be located to the west of the harness track. The

Please Reply to:

☐ NJ OFFICE: 117 Canal Road, South Bound Brook, NJ 08880 / Phone: (732) 356-3400 Fax: (732) 356-9054  
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development would also include a nine-story hotel constructed as a part of a casino building with a total footprint of over 300,000 square feet in plan area, with up to three levels of below-grade parking and service facilities. A number of retail and commercial structures are proposed to be located north and east of the proposed casino structure. Automobile parking lots and access roadways would be situated to the north and east of the casino.

Structural loading information provided to us for the main casino structure indicates maximum interior column loads of up to 1,800 kips would be imposed where the parking levels will extend up to three levels below the main entry level, and column loads for the hotel tower would reportedly be up to approximately 1,200 kips. The entry level along the east side of the structure would be established at approximately Elevation +1,435 feet, requiring fills of up to 13 feet along the eastern edge of the structure to match the proposed exterior and slab-on-grade portion of the structure. Access to the lowest level parking area along the western side of the casino would be established at Elevation +1,399 feet, requiring fills of approximately 5 to 13 feet to reach the proposed lowest garage floor slab level. In addition, cuts of up to approximately 15 feet will be required to reach portions of the lowest floor slab levels. Although not provided to us at this time, we anticipate that the proposed paddock, maintenance building and retail structures would impose light to moderate column loads and light to moderate at-grade floor slab loads. At this time, grading plans for the surrounding parking, track and paddock areas were not provided to us.

### **Purpose and Scope of Work**

The purpose of our services was to:

- 1) explore the subsurface soil, rock and groundwater conditions along the proposed alignment of the new sanitary sewer and within the proposed track, building and parking areas at accessible locations;

- 2) estimate the relevant geotechnical engineering properties of the encountered materials;
- 3) evaluate the site foundation requirements considering the anticipated structural loads and encountered subsurface conditions;
- 4) recommend an appropriate type of foundation for support of the proposed structures, and provide geotechnical-related foundation design and installation criteria, including an estimate of the Site Class as defined by the Building Code of New York State, 2010 Edition, for seismic design purposes;
- 5) provide recommendations for the support and the need for subdrainage of the lowest level floor slabs;
- 6) estimate the post-construction settlements of the recommended floor and foundation systems;
- 7) provide estimated lateral earth pressure and drainage criteria for use in the design of below-grade building walls;
- 8) provide geotechnical-related parameters for use in pavement design;
- 9) collect tube samples from test pits performed in the areas proposed for automobile parking where the stormwater management system may be constructed and subject the samples to laboratory permeability testing; and
- 10) discuss appropriate earthwork considerations consistent with the proposed construction and encountered subsurface conditions.

To accomplish these purposes, a subsurface exploration program consisting of 48 test borings and 41 test pit explorations was performed at the site. Thirty-two borings were performed in the casino/hotel area and 16 borings along the route of the proposed new sanitary sewer line. Seven test pit explorations were performed in the vicinity of the proposed track and paddock areas, 25 test pits in the proposed parking areas, and 9 test pits in the portion of the development where the retail structures are proposed. The borings were advanced utilizing all-terrain vehicle and truck-mounted drilling equipment and extended to depths varying from approximately 8-1/2 to 51 feet below the existing surface grades. Piezometers were installed in Borings C-1, C-7 and C-12 to depths of 34 to

50 feet to allow periodic measurement of the water levels. The test pits were advanced using a track-mounted excavator (Caterpillar Model 315) and extended to depths ranging from approximately 4 to 13 feet below the existing surface grades. The approximate locations of the explorations are shown on the Plot Plan, Plate 2.

All work was performed under the direct technical observation of engineers and geologists from MTA. Our representatives located the explorations in the field utilizing limited survey control provided by others and the topographic information and existing site features shown on plans provided to us. Our representatives maintained continuous logs of the explorations as the work proceeded, supervised the soil sampling operations during the drilling operations, and obtained bulk samples of the encountered materials from the test pits. Numerous closely spaced soil samples were obtained from the borings using the general procedures of the Standard Penetration Test. Rock core samples were obtained from the borings using an NQ size core barrel. Several bulk samples and numerous tube samples were collected from the test pits for laboratory Proctor and permeability testing.

All soil and rock samples obtained from the explorations were brought to our office where they were further examined in our soil mechanics laboratory. Detailed descriptions of the materials encountered in the borings are shown on the individual boring logs, Plates 3-C-1 through 3-C-32 (casino borings) and 3-S-1 through 3-S-16 (sanitary line borings). The results of the test pit explorations are shown on Plates 4-T-1 through 4-T-7 (track/paddock test pits), 4-P-1 through 4-P-25 (parking area test pits) and 4-R-1 through 4-R-9 (retail area test pits). The soils were visually classified in general accordance with the Unified Soil Classification System presented on Plate 5 and the Engineering Rock Classification and Core Description Chart, Plate 6.

Numerous soil samples were subjected to laboratory testing consisting of grain-size analyses, modified Proctor compaction testing, and moisture content determinations to aid in their engineering classification and evaluation. The results of the grain-size tests are presented on Plates 7A through 7K, Gradation Curves, and the results of the modified Proctor tests on Plates 7L through 7Q, Gradation Curves and Compaction Test Reports. The results of the moisture content tests are presented on the Gradation Curves and on the appropriate exploration logs. In addition, 18 tube samples collected from the test pits performed in the automobile parking areas where below-grade stormwater management facilities may be situated were subjected to falling head tube permeameter permeability tests. A summary of the results of the tube permeameter tests are presented on Plate 8. The construction details for the piezometers installed at Borings 3-C-1, 3-C-7 and 3-C-12 are shown on Plates 9A through 9C, Piezometer Construction Details.

The results of our subsurface exploration program, our visual examination of the soil and rock samples, and our review of the laboratory test results have provided the basis for our engineering analyses and design recommendations. The following discussions of our findings are subject to the limitations attached as an Appendix to this report.

### **Site Conditions**

Published Geology: The proposed Concord Resort complex is located within the southern New York section of the Appalachian Plateau's Geomorphic Province. This province is characterized by a deeply dissected plateau underlain by Paleozoic Age clastic sedimentary rock.

According to the Geologic Map of New York, Map and Chart Series No. 15, published by the New York State Education Department, 1970, the site is underlain by rock of the Upper Walton Formation. This rock formation is Devonian in age and consists of greenish to reddish conglomerates, sandstones and shales.

The Soil Survey of Sullivan County, New York, USDA, 1989, maps the upper part of the site as containing Willsboro and Wurtsboro soils. The Willsboro and Wurtsboro Series are similar in nature, being gravelly loams to gravelly fine sand loams with a perched water table of approximately one and one-half to three feet. Bedrock is reported as being deeper than six feet. These soils consist of dense glacial till.

The lower portion of the site in the area of the track is mapped as containing Scriba loams, Navasink and Alden soils, Arnot-Oquaga Complex, Wayland silt loam and Wurtsboro loam. These materials are generally loamy soils and sandy loams formed from residual sandstone, shale or dense glacial till, with the exception of the Wayland soils which are silty loams formed from alluvial materials. These soils are mapped as having a perched water table of approximately 0.5 to 6 feet and bedrock deeper than 6 feet below grade.

Surface Features: The majority of the proposed casino/hotel and southern parking areas are currently moderately to heavily wooded with several areas identified as wetlands. The northeast portion of the property just west of Joyland Road is occupied by an abandoned summer camp with numerous one-story cottage structures and gravel access drives. The majority of the proposed track and paddock areas are currently occupied by portions of the Concord Golf Course with numerous fairways, water features, areas mapped as wetlands, and wooded areas scattered throughout.

Topographic information shown on plans provided to us indicates that the site generally slopes moderately to steeply downward from east to west from a high of approximately Elevation +1,456 feet in the eastern portion of the property adjacent to Joyland Road to a low of approximately Elevation +1,360 feet in the north central portion of the proposed track oval. Thompsonville Road slopes moderately to gently downward from its intersection with Joyland Road to the west from a high of approximately Elevation +1,434 feet at the intersection of Thompsonville Road and Joyland

Road to a low of approximately Elevation +1,344 feet in the area of Boring S-16 where our study for the sanitary line terminated.

Subsurface Conditions: The following generalized strata were encountered in the explorations and are listed in order of increasing depth:

- 1) Topsoil: A surficial layer of topsoil was encountered in 84 of the 89 explorations performed for this study. In general, the topsoil was found to be approximately 4 to 12 inches thick in the majority of the explorations, but ranged up to approximately 18 to 24 inches in thickness in 16 of the test pits.
- 2) Pavement/Fill: A two-inch thick layer of asphalt pavement was encountered in Test Pit P-8 and gravel pavement and fill materials were encountered in nine of the explorations, primarily in the area of the abandoned camp and adjacent to Thompsonville Road. The borings performed for Thompsonville Road were advanced adjacent to the existing pavement surface in order to minimize disturbance to the existing roadway. However, our visual observations indicate that Thompsonville Road and Joyland Roads are likely constructed by “chip seal” methods and do not consist of a true asphaltic concrete section. Although only shallow fill materials on the order of two feet or less were encountered in only about ten percent of the explorations, it should be anticipated that fill materials may be encountered once construction begins in previously developed areas such as the abandoned camp, along Thompsonville Road and in sections of the existing golf course.
- 3) Silty Sand: Below the surficial topsoil and fill materials, the natural soils typically consisted of sands and silty sands containing varying amounts of gravel, cobbles and boulders which were encountered in all of the explorations performed for this study. The sandy soils are believed to be glacial in nature and extended to the completion depths in the majority of the explorations performed. The upper one to two feet of the glacial sandy soils were found to be somewhat loose in relative density, probably the result of freeze-thaw cycles. Below the upper two feet, the glacial materials were observed to be dense to very dense in relative density for their full depth.
- 4) Silty/Gravelly Strata: The glacial sandy soils contained varying amounts of silts and gravels; however, in several samples subjected to laboratory grain-size testing, the silt and gravel percentages were high enough to classify the materials as silt and/or gravel, as indicated on the appropriate exploration logs.
- 5) Sandstone/Siltstone/Claystone Bedrock: In 11 of the 32 borings performed in the casino area, 4 of the 16 borings performed along the route of the proposed

sanitary sewerline on Thompsonville Road, and in 13 of the 41 test pit explorations, sandstone /siltstone/claystone bedrock was encountered at depths varying from approximately 4 to 45 feet below grade. For discussion purposes, the sandstone/siltstone/claystone will be referred to as sedimentary rock for the remainder of this report. In several of the explorations, it could not be determined if refusal to further drilling or excavation was encountered atop sedimentary bedrock or relatively large boulders. In general, the sedimentary rock was found to grade sounder with depth, where encountered.

It should be noted that the soil classification from the borings are based on the materials recovered in a standard SPT sample spoon which is approximately two inches in outside diameter. Our logs note the presence of gravel, cobbles and boulders, but these larger particles are not reflected on the grain-size curves.

Groundwater seepage was encountered in 15 of the 41 test pits and 36 of the 48 test borings performed for this study upon their completion. Three piezometers were installed in Borings No. C-1, C-7 and C-12. The stabilized groundwater levels in the piezometers installed in the deeper borings were at levels of approximately 24 to 30 feet below grade. The groundwater levels observed in the remainder of the explorations were shallow, typically on the order of 1 to 21 feet at most locations and could represent true groundwater levels in the lower elevated portions of the site or perched groundwater levels atop less pervious zones of the in-place materials in the higher portions of the site. In addition, mottling which is indicative of seasonal groundwater conditions or seasonally saturated soils, was observed in a number of the test pit explorations. "True" groundwater levels could be present at depths of 24 feet or greater below grade; however, it is apparent due to the numerous ponds, lakes and wetlands present at varying elevations throughout the area, as well as the seepage observed at varying levels in the explorations, that groundwater seepage could be encountered at variable elevations and intensities throughout the site, at least on a seasonal basis.

Cross-sections showing the generalized subsurface conditions are presented on Plates 10A through 10E.

### **Findings and Recommendations**

General: Based on the results of our study, it is our opinion that:

- 1) The proposed casino, paddock buildings and retail structures may derive their support from conventional shallow foundations established on the undisturbed natural soils, fractured or sound sedimentary bedrock, or controlled compacted fill placed to reach the desired levels. Pavements and floor slabs may also derive their support from these materials.
- 2) Relatively sound sedimentary bedrock was encountered at depths of approximately 20 to 46 feet below the existing surface grades in the casino, generally anticipated to be below the levels required to construct the planned lowest level of the casino structure. However, relatively large boulders were encountered in a number of the explorations and refusal to further excavation with the excavator atop sedimentary bedrock and/or large boulders was encountered at shallower levels throughout the site. Consequently, the use of relatively large excavation equipment and/or localized jackhammering with hydraulic hammers attached to large excavation equipment could be required for site excavations. Excavations which extend more than several feet below the surface of the refusal levels observed could require blasting.
- 3) The moisture levels observed in the majority of the materials subjected to laboratory testing indicate that the natural glacial soils appear to be at or close to moisture levels which would allow recompaction to 95 percent of their maximum dry density. Several samples contained high moisture contents. Due to the relatively high silt content of the materials, the soils are highly susceptible to disturbance due to slight changes in moisture content. Consequently, some aeration and drying of the shallower surficial materials and portions of the material which are wet or which are allowed to become wet should be anticipated to be required.
- 4) The relatively low permeability rates observed in the tube permeameter tests performed on the natural glacial soils, as well as the observation of perched groundwater at variable levels indicates that the existing site soils would provide very limited infiltration characteristics for stormwater recharge.
- 5) Stabilized groundwater levels in the three deep piezometers installed were observed at depths of approximately 24 to 30 feet below grade; however, slight to moderate groundwater seepage was encountered in a number of the explorations at variable levels across the site. Consequently, dewatering



during construction should be anticipated to be required, and drainage systems should be provided for below-grade portions of the structures.

Further discussion of these items and others considered relevant to the proposed development are presented in subsequent sections of this report.

Site Preparation and Earthwork: The development areas should be cleared and grubbed of all vegetation and any existing structures and existing subsurface elements such as foundations or utilities should be demolished and the resulting demolition rubble legally disposed of off-site. Any excavations resulting from demolition and utility removal should be backfilled with controlled compacted fill as described in subsequent sections of this report. After clearing, grubbing and demolition, the topsoil should be stripped for its full depth from within and at least 20 feet beyond the proposed casino building and track area. The topsoil should be stripped from within and up to ten feet beyond the limits of areas where minor cuts and fills may be required such as the limits of the proposed parking areas, paddock building and retail structures. We recommend that the site grades be identified and finalized prior to determining the limits of topsoil removal. The topsoil would not be suitable for reuse as controlled compacted fill or backfill in building or paved areas.

After clearing and stripping, any isolated pockets of fill and/or soft, wet soils should be located and removed. We believe that potentially compressible deposits could be encountered in wetland areas present where the new racetrack will be developed. However, due to the preliminary planning stages of the project, wetlands disturbance permits were not obtained at the time of our study and no explorations were completed in the wetlands. Consequently, pockets of soft, compressible organic soils and/or pockets of fill materials installed during the construction of the existing golf course would need to be located and removed prior to constructing the proposed track. Additional test pits should be performed when the site plans in this area are finalized.

After clearing and stripping and removal of any soft organic and/or uncontrolled fill materials, and prior to placement of controlled compacted fill in areas to be raised, the exposed subgrade materials should be proofrolled and compacted to a dense and unyielding consistency with several passes of a heavy, self-propelled, vibrating drum compactor with a minimum static drum weight of ten tons under the observation of a qualified geotechnical engineer. Any subgrade materials which appear to be soft or unstable should be further excavated to the surface of competent soils and backfilled with controlled compacted fill. We believe that the majority of the soils exposed after stripping of the topsoil will consist of glacial silty sand materials. For the most part, these materials are anticipated to be relatively dense; however, due to their high silt content and the relatively loose nature of the upper two feet of the materials encountered in the explorations and the presence of shallow perched groundwater, we anticipate that the surficial materials will be highly susceptible to softening and disturbance once subjected to construction equipment traffic.

In the lower elevated or poorly drained areas where the proposed racetrack will be constructed, it may be prudent to proofroll the exposed subgrade soils with the compactor in a “static” mode to help limit disturbance. This determination should be made at the time of construction by a qualified geotechnical engineer. Installation of an initial two foot thick lift of gravel, shot rock and/or similar free-draining material to bridge soft areas may help stabilize the subgrades prior to additional fill placement for the track.

The majority of the on-site soils in the cut areas of the casino building were observed to consist of silty sands with varying amounts of cobbles and boulders. Three bulk samples of the on-site soils which appear to be representative of materials anticipated to be generated from cut areas were subjected to laboratory modified Proctor (ASTM D-1557) compaction testing to estimate the moisture/density relationship of the soils. The moisture content tests performed on additional

samples obtained in the explorations indicated that the majority of the site materials were at moisture contents that would permit compaction to the required degree. However, several samples possibly impacted by freezing/thawing and inundation of surface water, were observed to be well above the levels required for compaction. Consequently, some aeration and drying should be anticipated. We recommend that the project be sequenced so that the majority of the earthwork operations are performed during periods of warm, dry weather in order to facilitate reuse of the on-site soils as structural fill. If the earthwork operations are performed during or following periods of wet or freezing weather, compaction of the on-site soils to the required degree may be difficult. We recommend that the earthwork contractor work in conjunction with a qualified geotechnical engineer familiar with the site conditions to selectively utilize the driest available materials from cut areas as fill in the building footprint and/or track area or other areas critical for completion of the project's construction schedule, and to utilize wetter soils over as large an area as possible in the parking areas where they could be allowed to dry prior to compaction, minimizing construction delays.

We recommend to the extent possible, that cobbles and boulders be utilized in areas requiring deeper fills where they would not interfere with future excavation for foundation and utility installation. Portions of the cobbles and boulders could be broken into smaller fragments where they may be reused to stabilize wetter areas prior to installation of granular controlled compacted fill. Care should be taken to provide sufficient soil to infill any voids between the cobbles and boulders to minimize the potential for migration of the upper fill soils into voids between the cobbles and boulders.

Any imported fill required to complete the site grading within the building and paved areas should consist of uncontaminated, relatively well-graded, granular soils containing less than 15 percent by weight of material passing a U.S. Standard No. 200 sieve and a maximum particle size of

six inches. The fill supplier should provide documentation of the environmental quality of all imported fill.

All materials placed in building or paved areas should be spread in layers on the order of twelve inches or less in loose thickness and uniformly compacted to at least 95 percent of its maximum dry density as determined by the ASTM D-1557 test procedure. Backfill placed in confined areas, such as foundation or utility trench excavations, should be spread in thinner layers and uniformly compacted to similar densities using manually operated compaction equipment.

All construction excavations should be performed in accordance with the most recent OSHA Excavation Guidelines and any state and local governing safety codes. Based on the results of our explorations, we believe that the existing site soils will be considered a Type "C" soil as defined by the latest OSHA Excavation Regulations. Excavation side slopes should be flattened as necessary to maintain safe excavations, or should be adequately braced.

Due to the high percentage of cobbles and boulders encountered in the glacial matrix soils, installation of driven sheeting for excavations which need sidewall support would be difficult or impossible. Consequently, excavation side slope support consisting of soldier piles and lagging could be required.

Bedrock consisting of fractured sedimentary bedrock was encountered in several of the borings at depths of approximately 19 to 45 feet below grade in the casino area, 15 to 20 feet in three of the borings performed along the route of the proposed sanitary line, and in a number of the test pits at depths as shallow as four feet below the existing surface grades. Rock cores utilizing an NQ size core barrel which extracts a rock core approximately two inches in diameter were advanced in nine of the casino borings and two of the borings performed along the route of the proposed sanitary line in Thompsonville Road. Approximately five to ten feet of rock was cored at each boring and

was observed to grade sounder with depth. We believe that excavations could extend a few feet below the surface of the highly weathered portions of the bedrock using rippers, or large excavators fitted with rock teeth. The transition between the highly weathered, fractured sedimentary rock and sounder, less jointed bedrock will vary across the site. Excavations below sounder portions of the bedrock could likely extend only a nominal depth below the sound rock using heavy construction equipment. In addition, large boulders could be encountered.

In confined areas such as foundation or utility trench excavations, it should be anticipated that some blasting or extensive hammering may be required to achieve the proposed construction subgrade levels. All we can really say is based on grades provided, we do not think rock will be encountered in the casino/hotel. No grades were provided in other areas.

Groundwater was encountered in the majority of the borings at depths of approximately 6 to 21 feet below grade upon their completion, and shallower perched water from runoff and snow melt was encountered in a number of the test pits at the time of our study. Groundwater levels were measured four to six times in Borings No. C-1, C-7 and C-12 where piezometers were installed to depths of 34 to 50 feet, and the stabilized groundwater levels were encountered at depths of approximately 24 to 30 feet below grade corresponding to elevations of +1,387 feet to 1,400 feet. The variable nature of the groundwater levels observed while the explorations were being performed indicates that groundwater seepage could be encountered in excavations at various levels due to seepage through more pervious zones of materials, and from surface water which percolates through the surficial soils. Surficial runoff through the topsoil into the test pit excavations was noted extensively at the time of our study, even when the lower strata in the test pits exhibited no infiltration. Consequently, controlling groundwater through drains and diversion trenches upgrade from the earthwork construction activities should be anticipated during construction. We believe

that perched water seepage will be variable in intensity, but that the majority of the site groundwater can be controlled by pumping from sumps and/or diversion and cutoff trenches. The contract documents should require the contractor to provide the equipment, labor and whatever means necessary to maintain relatively dry excavations at all times.

Groundwater seepage above the levels encountered in the explorations should be anticipated, at least on a seasonal basis. We recommend that the site stormwater utilities be installed as early as possible and be bedded in clean, three-quarter crushed stone in order to help intercept and divert groundwater seepage to the extent possible.

Foundation Design Criteria: Following the previously described site preparation procedures, the proposed casino, paddock area and retail structures could be supported by conventional shallow foundations which derive their support from the undisturbed, natural glacial soils, sedimentary bedrock, or controlled compacted fill installed to achieve the proposed floor slab subgrade levels. If the foundation excavations are allowed to remain open, it may be prudent to overexcavate the footings and place a four to six-inch thick layer of clean, three-quarter inch crushed stone, washed gravel, or flowable fill in the excavations to protect the exposed subgrade soils from the affects of moisture and/or foot traffic prior to the installation of concrete. We believe that foundations established a minimum of four feet below the existing surface grades on the dense glacial soils could be designed to impose allowable net bearing pressures of up to four tons per square foot. Foundations established on controlled compacted fill required to achieve the proposed lowest floor slab levels, which from our preliminary review of the existing topography appear to be required at the eastern upper entry level and along the west side of the casino structure for the proposed Level 3 entry to the below grade parking, could be designed to impose maximum allowable net bearing pressures of up to two tons per square foot. Bearing capacities of six tons per square foot or more

could be obtained from the fractured sedimentary bedrock. However, for ease of construction, it may be prudent to design all foundations for dense till or controlled compacted fill.

If higher bearing capacities are desired in the fill areas of the parking structure due to the relatively heavy column loads, the foundations could be constructed at deeper levels on the dense natural glacial till soils and the area backfilled to reach the proposed floor slab levels. Drilled piers or forms of ground improvement such as geopiers could also be considered to achieve higher bearing capacities. Further evaluation of these alternatives could be provided as the design progresses, if desired.

Although no structural loading or grading information was provided to us for the paddock area buildings or retail structures, we anticipate that relatively light to moderate foundation loads would be imposed. Consequently, for ease of construction, it may be prudent to design the paddock and retail buildings for maximum allowable bearing capacities of 4,000 pounds per square foot, which could be attained from the recompacted, in-place natural soils and/or controlled compacted fill required to achieve the proposed site grading.

Exterior foundations should be established at least four feet below the lowest adjacent exterior grades, or deeper if required by local building codes, to provide protection from frost penetration. Interior foundations located in permanently heated portions of the proposed buildings could be constructed at convenient depths below the ground floor slab, provided they reach the intended bearing stratum. Any foundations below unheated space should extend to four feet.

Foundation Settlement: Because of the wide variation in column loads and the footing sizes, as well as depths below existing grade, foundation settlements will be variable and additional analyses will be required when more detailed foundation plans and loading are available.

For preliminary purposes, we looked at a column load of 1,800 kips for a footing four feet below grade at a four ton per square foot bearing capacity which results in a footing size of 15 feet by 15 feet and total settlements estimated to be up to approximately one and one-half inches. Settlements will occur rapidly as the load is applied and post-construction settlements will be smaller.

Settlements for smaller size footings will be proportionally less, on the order of one-half of one inch, or less.

Seismic Design Criteria: Based on the subsurface conditions encountered in the explorations performed for this study, we estimate that the site would be a Site Class “C” as defined by the Building Code of the State of New York, 2010 Edition, for seismic design purposes. This estimate is based on the average Standard Penetration Test N-values obtained in the borings and the formula prescribed in the building code. To more accurately define the Site Class, shear wave velocity measurements could be made using geophysical methods.

Floor Slab Design Criteria: Following the previously described site preparation procedures, the ground floor slabs of the proposed structures may be supported at the indicated levels on the natural subgrade materials or properly placed controlled compacted fill. We recommend that the lowest level floor in the below-grade parking slab subgrades be underlain by a layer of coarse, free-draining material consisting of at least twelve inches of clean, three-quarter inch crushed stone or washed gravel. We recommend that subslab drains consisting of minimum four-inch diameter, perforated PVC pipes spaced 20 feet on center be installed below the proposed third level below grade parking area which would reportedly be established at Elevation +1,399 feet. The pipes should be surrounded by a minimum of four inches of clean, three-quarter inch crushed stone or



washed gravel and be connected to a manifold or header pipe where any water which accumulates in the stone may drain by gravity to daylight beyond the building limits or to the storm sewer system.

We recommend that floor slabs for the proposed paddock area and retail structures be underlain by a minimum of six inches of clean, three-quarter inch crushed stone or washed gravel to provide a capillary break between the floor slab and underlying subgrade soils. Depending upon the final elevations determined for the various retail and/or paddock area buildings, and especially if floor slabs are designed to step down to below grade levels, such as for a cinema, the final floor slab levels should be reviewed and recommendations be made to provide adequate drainage.

Immediately prior to at-grade slab construction, the exposed subgrade materials should be compacted to an unyielding condition under the observation of a qualified geotechnical engineer. Any subgrade materials which cannot be compacted as required should be excavated to the surface of suitable materials and replaced with controlled compacted fill or clean, three-quarter inch crushed stone.

We estimate that post-construction settlements of floor slabs supported by materials which are prepared in accordance with our recommendations would be less than one-quarter of one inch.

Below-Grade Walls: Significant retaining walls will be required to accommodate the difference in floor slab levels between the entrance level supported at-grade stepping down to the Parking Level 2 supported at-grade approximately 25 feet lower, and for the second step between the Lower Level 2 parking area and Lower Level 3 parking, an 11 foot change in elevation. Consequently, to accommodate the difference in floor slab levels, two retaining walls approximately 11 feet and 25 feet in height will be required along the entire length of the east-central portion of the structure where parking will be located. In addition, a single wall approximately 36 feet high will be required between the entry level in the area of the hotel and the office/training/service rooms west of

the hotel and north of the below-grade parking. We recommend that the below-grade walls be provided with a vertical drainage system to prevent the buildup of hydrostatic pressure behind the walls. The vertical drain should consist of a synthetic drainage material (Enkadrain, or equivalent) or a column of crushed stone which extends from the top of the wall foundation for the full height of the interior retaining walls. The vertical drainage layer should be connected to a foundation drain consisting of a minimum eight-inch diameter porous concrete or perforated ADS pipe surrounded on all sides by a minimum of six inches of free-draining crushed stone wrapped in filter fabric. The foundation drain should be sloped to drain by gravity to the storm sewer system or to daylight downslope.

All below-grade walls should be designed to resist lateral earth pressures imposed by the adjacent soils, as well as surcharge loads due to adjacent footings and surface improvements, as well as temporary construction traffic, material stockpiles, sloping backfills, etc. Walls which are free to rotate slightly during backfilling may be designed to resist lateral earth pressures assuming an active earth pressure condition. If the retaining walls are restrained, they should be designed assuming an at-rest earth pressure condition. If sandier portions of the on-site soils are used as backfill, a total unit weight of 145 to 150 pounds per cubic foot should be used, based on the Proctors obtained from the on-site soils compacted to 95 percent of their maximum dry density, and an approximate moisture content of 5 percent. A friction angle of 34 degrees may be used. We estimate that a friction factor between mass concrete and the on-site soils would be 0.40. If the footings are underlain by at least eight inches of crushed stone, the friction factor could be increased to 0.55.

Based on our previous experience with below-grade walls which accommodate interior steps between floor slabs greater than ten feet in height, such as those planned for the proposed casino, it is common practice for the structural engineer to require the framing of the upper level and upper floor

slab(s) to be in-place to brace the interior building wall before allowing backfilling. Significant construction delays could be encountered if backfilling of the proposed wall is delayed until the frame of the structure is complete and this would then dictate use of at-rest pressures for design of the walls.

Our conversations with the structural engineer indicated that due to the current plans requiring the decking for the proposed parking areas to be precast prior to installation, the below-grade walls would need to be tied back through the use of soil anchors. Based on our review of the Post Tensioning Institute (PTI) publication, "Recommendations for Pre-Stressed Rock and Soil Anchors" 2004 Edition, typical ultimate bond stresses between the soil and grouted portion of pressure grouted anchors for dense glacial till range from 43 to 75 psi. We suggest assuming 50 psi for preliminary design. However, since the actual anchor capacities will be dependent on the installation methods, we recommend a performance specification where an anchor capacity is specified and an experienced specialty contractor provides a design to achieve that capacity. All tie backs should be performance and proof tested in accordance with the PTI recommendations. In areas where fills are required for the walls, the use of tiebacks attached to deadmen installed before backfilling should be considered.

Pavement Design Criteria: We recommend that paved areas be prepared in general accordance with our prior discussions, including stripping of topsoil, proofrolling of subgrades, and placement and compaction of controlled compacted fill. Immediately prior to pavement construction, the exposed subgrade soils should be recompacted to a firm and unyielding consistency, and the upper two feet of the subgrade soils compacted to at least 95 percent of their maximum dry density as determined by the ASTM D-1557 test procedure. If the pavements are established on the natural soils consisting of silty sands, subgrade support conditions should be

considered “fair” with an estimated California Bearing Ratio (CBR) value of approximately five percent.

During the current study, detailed evaluation of the current condition of Joyland Road and Thompsonville Road which may need to be improved to access the proposed casino development was not performed. Our visual observations of the existing roadway surface indicate that the existing roads were constructed using a “chip-seal” method utilizing gravel and an asphalt emulsion which is reapplied and regraded every few years to restore the surface. Consequently, the existing pavement may not serve to be incorporated into a final pavement section.

We believe that the fill materials required to reach the proposed subgrade levels for the proposed track surface should be installed as described in previous sections of this report. The final site grades and the surface section required to accommodate horse racing has not been provided to us at this time. We recommend that the proposed section, once available, be provided for review to determine if materials generated on-site could provide the required support conditions if used within the racing surface section of the track.

Proposed Stormwater Management: Based on our ongoing discussions, you have indicated that it is currently desired to construct subsurface stormwater management systems below landscaped and/or parking areas as part of the overall site development. As part of our preliminary assessment of the permeability of the natural subgrade soils, tubes were driven into the test pit excavation sidewalls and the tube samples brought to our laboratory where they were saturated and subjected to falling head permeability tests. These results were transmitted to you in our correspondence of April 23, 2012. In general, the measured permeabilities were relatively low, likely due to the compactness and silty nature of the natural soils at the site. A summary of the tube permeameter results are included as Plate 8 to this report. As planning for the proposed stormwater

management systems on the site progress, we would be pleased to perform additional in-place permeability tests in accordance with NYDEC Appendix "D" in order to satisfy New York State requirements, or to discuss alternate groundwater management practices.

Proposed Sanitary Sewer Lines: Borings No. S-1 through S-16 were performed along a portion of the proposed new sanitary line route in the area of the proposed retail development between Joyland Road and Thompsville Road, and to the west along Thompsville Road for a total length of approximately 4,500 feet. Based on preliminary information provided to us, the borings performed along the proposed sanitary pipeline route were advanced to depths of between 15 and 20 feet below the existing surface grades. However, a boulder encountered in Boring S-8 terminated that exploration at a depth of eight and one-half feet below grade. In addition, bedrock was encountered at depths of approximately 15 to 20 feet below grade in Borings No. S-14 and S-16 located towards the eastern end of the proposed pipeline route included as part of this phase of the project. It should be anticipated that large boulders could be encountered in the excavations to install the proposed sanitary line which could require jackhammering and/or blasting for removal. Wider than anticipated excavations could be necessary in order to remove large boulders. In addition, any areas where the proposed sanitary line is anticipated to extend to depths of below 15 to 20 feet below grade could encounter sedimentary bedrock which would likely require blasting for removal.

### **Future Work**

Proposed floor slab levels were provided to us for the casino/hotel/garage structure for preparation of this report. However, grading plans and proposed floor levels were not provided for the remainder of the site. Consequently, the findings and recommendations presented in this report

may need to be revised based on the final design levels. We recommend that as plans are developed, they be provided to us for review to confirm that the items discussed in this report remain valid.

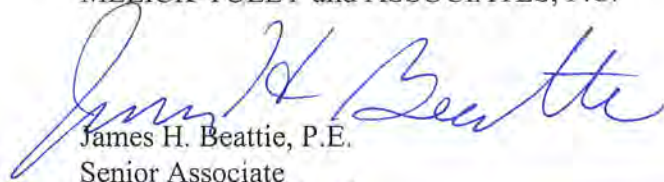
Please feel free to contact us if you have any questions regarding this report.

The following Plates are attached and complete this report:


Plate 1 – Site Location Map  
Plate 2 – Plot Plan  
Plates 3-C-1 through 3-C-32 – Logs of Borings (Casino)  
Plates 3-S-1 through 3-S-16 – Logs of Borings (Sanitary Line)  
Plates 4-T-1 through 4-T-7 – Logs of Test Pits (Track/Paddock Area)  
Plates 4-P-1 through 4-P-25 – Logs of Test Pits (Parking Area)  
Plates 4-R-1 through 4-R-9 – Logs of Test Pits (Retail Area)  
Plate 5 – Unified Soil Classification System  
Plate 6 – Engineering Rock Classification and Core Description Chart  
Plates 7A through 7K – Gradation Curves  
Plates 7L through 7Q – Gradation Curves/Compaction Test Reports  
Plate 8 – Summary of Tube Permeameter Test Results  
Plates 9A through 9C – Monitoring Well Details  
Plates 10A through 10E – Subsurface Profiles  
Appendix – Limitations

Respectfully submitted,

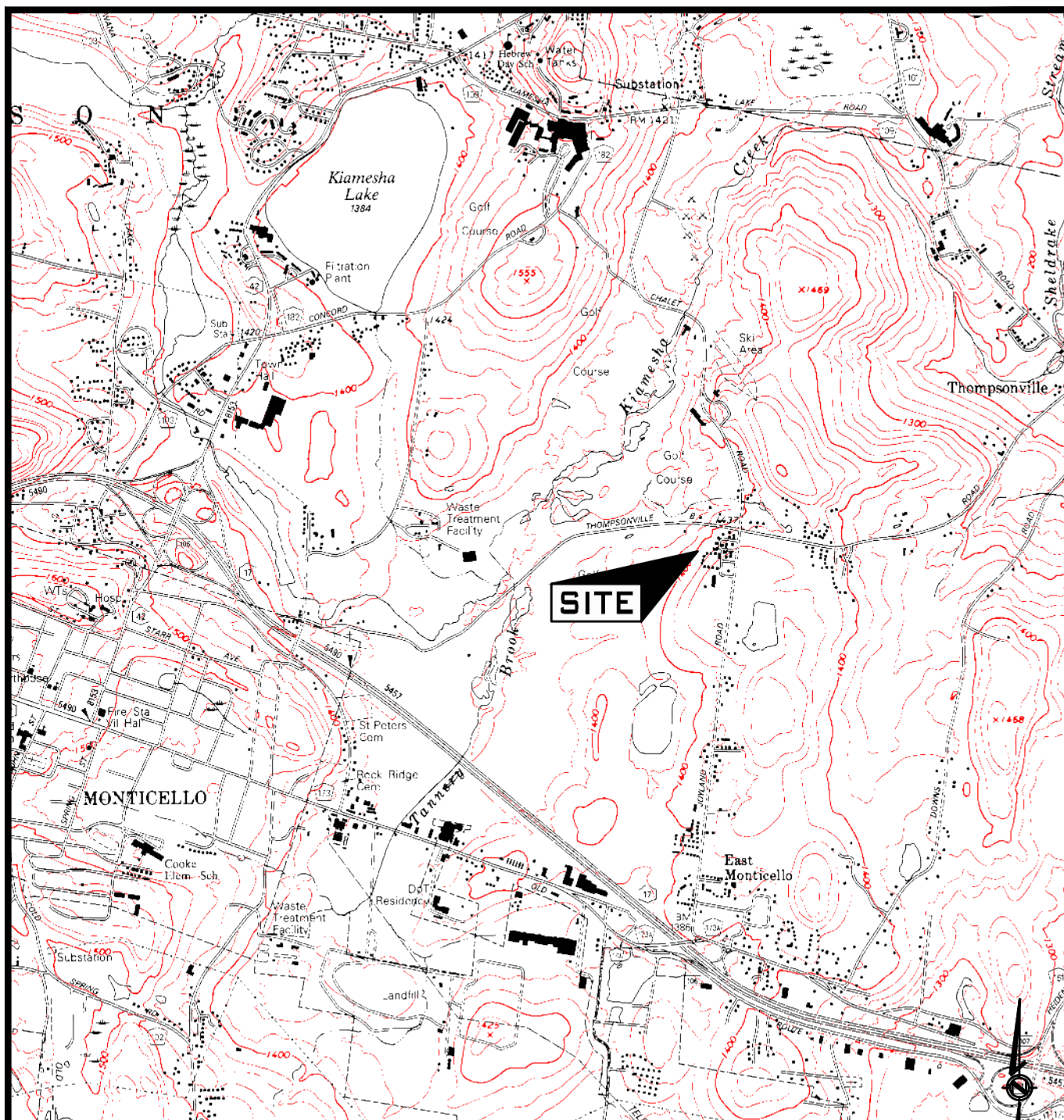
MELICK-TULLY and ASSOCIATES, P.C.



James H. Beattie, P.E.  
Senior Associate



Todd E. Horowitz, P.E.  
Vice President



FROM: "Digital Raster Quadrangles" at 1:24,000 scale provided by New York State GIS Clearinghouse website (<http://www.nysgis.state.ny.us/gisdata/quads/>).



**MELICK-TULLY AND ASSOCIATES, P.C.**

Geotechnical Engineers  
& Environmental Consultants  
117 Canal Road  
South Bound Brook, New Jersey 08880  
(732) 356-3400

## SITE LOCATION MAP

CONCORD RESORT DEVELOPMENT  
TOWN OF THOMPSON, NEW YORK  
CONCORD RESORT DEVELOPMENT

JOB NO. 8979-001\*1D

FILE NO. 25299

DR. BY  
VJD

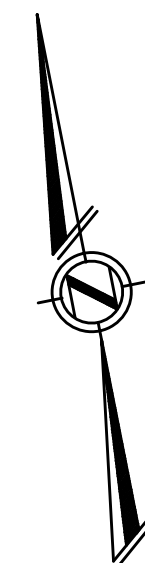
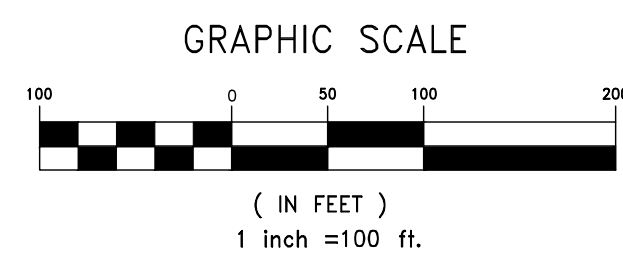
CHK. BY  
JHB

DATE  
4-23-12


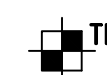

SCALE  
1"=2,000'

PLATE  
1





KEY:

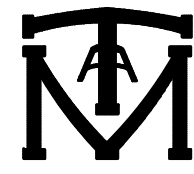
-  B-C-1 NUMBER AND APPROXIMATE LOCATION OF BORINGS PERFORMED FOR THIS STUDY
-  TP-1 NUMBER AND APPROXIMATE LOCATION OF TEST PITS PERFORMED FOR THIS STUDY
-  B-1 SURVEY CONTROL POINTS PROVIDED BY OTHERS



INDICATES NAME, APPROXIMATE LOCATION AND DIRECTION OF SUBSURFACE PROFILE

NOTES:

1. This drawing is part of Melick-Tully and Associates, P.C. Report No. 8979-001\*1D and should be read together with the report for complete evaluation.
2. General layout was obtained from an unlabeled drawing provided by the client.

PLOT PLAN					
CONCORD RESORT DEVELOPMENT TOWN OF THOMPSON, NEW YORK CONCORD RESORT DEVELOPMENT					
 MELICK-TULLY AND ASSOCIATES, P.C. Geotechnical Engineers & Environmental Consultants 117 Canal Road South Bound Brook, New Jersey 08880 (732) 356-3400					
JOB NO.		8979-001*1D		FILE NO.	
DR. BY		CHK. BY		DATE	
VJD		JHB		3-29-12	
SCALE		1"=100'		PLATE	
				2	



**LOG OF BORING**

BORING NO. C-1

COMPLETION DATE: 3/02/12

SURFACE ELEVATION: +1,421 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 3/02/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	6				8" Topsoil	
	S2	55	7.0		SM	Red-brown fine to coarse sand, some silt, little fine gravel (moist)(loose to very dense)	
5						- driller notes boulder @ 4'	5
	S3	50	9.3				
10						Red-brown fine to coarse sand, and silt, little fine gravel (moist)(dense to very dense)	10
	S4	46	8.3			- driller notes boulder @ 8'	
15					SM		15
	S5	50/5"				- grading with cobbles and boulders	
20							20
	S6	94					
25							25
	S7	68					
30							30

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

- TRACE 0 - 10%  
 LITTLE 10 - 20%  
 SOME 20 - 35%  
 AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 2 PLATE: 3-C-1

**LOG OF BORING**

BORING NO. C-1

COMPLETION DATE: 3/02/12

SURFACE ELEVATION: +1,421 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 3/02/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S8	62				Red-brown fine to coarse sand, some silt, little fine gravel (moist)(dense to very dense)	
35	S9	39					35
40	S10	54			SM		40
45	S11	40					45
50	S12	50/5"				- piezometer installed to 50'	50
55						Boring completed @ 50'-11"	55
						Date      Water Level 3/09/12      19'-0" 3/23/12      24'-0" 4/04/12      28'-7" 4/13/12      24'-4"	
60							60

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH  
 2. INDICATES THE NUMBER OF BLOWS TO  
 ADVANCE A 2" OD SAMPLER A DISTANCE  
 OF 12 INCHES USING A 140 POUND  
 WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%  
 LITTLE 10 - 20%  
 SOME 20 - 35%  
 AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 2 of 2 PLATE: 3-C-1

# LOG OF BORING

BORING NO. C-2

COMPLETION DATE: 3/01/12

SURFACE ELEVATION: +1,425 ft (±)

WATER LEVEL: 9'

JOB NUMBER: 8979-001\*1D

READING DATE: 3/01/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	4				12" Topsoil	
	S2	32	9.2			Red-brown fine to coarse sand, and silt, trace fine gravel (wet)(loose to dense)	
5	S3	39	8.9		SM	- grading to little fine gravel	5
						- driller notes boulder @ 9'	
10	S4	52	3.1		SM	Light gray fine to coarse sand, little silt, some fine gravel (moist)(very dense)	10
15	S5	81			SM	Red-brown fine to coarse sand, and silt, some fine to coarse gravel (wet)(very dense)	15
20	S6	64/9"				- driller notes boulder @ 23'	20
25	S7	94/8"			SM	Gray fine to medium sand, little silt, some fine to coarse gravel (moist)(very dense)	25
						- grading with frequent cobbles and boulders	
30							30

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

- TRACE 0 - 10%  
 LITTLE 10 - 20%  
 SOME 20 - 35%  
 AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 2 PLATE: 3-C-2

**LOG OF BORING**

BORING NO. C-2

COMPLETION DATE: 3/01/12

SURFACE ELEVATION: +1,425 ft (±)

WATER LEVEL: 9'

JOB NUMBER: 8979-001\*1D

READING DATE: 3/01/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S8	67				Red-brown fine to medium sand, and silt, little fine to coarse gravel (moist)(very dense)	
35	S9	42			SM	- grading (wet)(dense)	35
40	S10	90/11"				- grading (very dense) with frequent cobbles and boulders	40
						- auger refusal @ 43' on boulder	
45	CORE RUN NO. 1			3	SM	Red-brown fine to coarse sand, and silt, little fine to coarse gravel, frequent cobbles and boulders (wet)(very dense)	45
				3		CORE RUN NO. 1: 43' to 48'	
				4			
				4			
	NO. 2			3		CORE RUN NO. 2: 48' TO 50'	
50				3			50
55						Boring completed @ 50'	55
						Groundwater encountered @ 9'	
60							60

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

- TRACE 0 - 10%  
 LITTLE 10 - 20%  
 SOME 20 - 35%  
 AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 2 of 2 PLATE: 3-C-2

# LOG OF BORING

BORING NO. C-3

COMPLETION DATE: 2/29/12

SURFACE ELEVATION: +1,424 ft (±)

WATER LEVEL: 2'

JOB NUMBER: 8979-001\*1D

READING DATE: 2/29/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	6	3.0			6" Topsoil	
	S2	43			SM	Red-brown fine to coarse sand, and silt, trace fine gravel (moist)(loose to dense)	
5	S3	92/9"			SM	Gray fine to medium sand, little silt, little fine gravel, occasional cobbles and boulders (moist)(very dense)	5
10	S4	35			SM	Red-brown fine to coarse sand, some silt, and fine to coarse gravel (wet)(dense)	10
15	S5	76/11"				Red-brown fine to coarse sand, and silt, some fine to coarse gravel (wet)(very dense)	15
20	S6	50/5"			SM	- grading with frequent cobbles and boulders	20
25	S7	50/3"					25
30							30

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

- TRACE 0 - 10%  
 LITTLE 10 - 20%  
 SOME 20 - 35%  
 AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 2 PLATE: 3-C-3

# LOG OF BORING

BORING NO. C-3

COMPLETION DATE: 2/29/12

SURFACE ELEVATION: +1,424 ft (±)

WATER LEVEL: 2'

JOB NUMBER: 8979-001\*1D

READING DATE: 2/29/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S8	70				Red-brown fine to coarse sand, and silt, some fine to coarse gravel, frequent cobbles and boulders (wet)(very dense)	
35	S9	50/3"			SM		35
40	S10	52					40
45	S11	50/3"					45
	CORE RUN NO. 1			3		Green-gray medium grained, poor quality, closely jointed sandstone bedrock	
				4			
				4		ROCK CORE RUN NO. 1: 46' to 51'	
50				5		REC = 97%	50
				5		RQD = 28%	
55						Boring completed @ 51'	55
						Groundwater encountered @ 2'	
60							60

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

- TRACE 0 - 10%  
 LITTLE 10 - 20%  
 SOME 20 - 35%  
 AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 2 of 2 PLATE: 3-C-3

# LOG OF BORING

BORING NO. C-4

COMPLETION DATE: 2/27/12

SURFACE ELEVATION: +1,424 ft (±)

WATER LEVEL: 10'

JOB NUMBER: 8979-001\*1D

READING DATE: 2/27/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	4			SM	6" Topsoil	
	S2	55	8.8			Red-brown fine to medium sand, and silt, little fine to coarse gravel (moist)(loose)	
5	S3	87	6.2		SM	Red-brown fine to coarse sand, some to and silt, little fine gravel (moist)(very dense)	5
10	CORE RUN 1	68		5		Red-brown fine to medium sand, some silt, little fine gravel (wet)(very dense)	10
	CORE RUN 2			5		NQ CORE RUN NO. 1: 10' to 12'	
	CORE RUN NO. 3			6		NQ CORE RUN NO. 2: 12' to 15'	
15				6		- driller coring from 10' to 42' anticipating rock	15
	CORE RUN NO. 4			10		- no rock, glacial till with frequent cobbles and boulders	
				10	SM	NQ CORE RUN NO. 3: 15' to 20'	
20				4			20
	CORE RUN NO. 5			4		NQ CORE RUN NO. 4: 20' TO 25'	
				5			
25	S5	82		5		Red-brown fine to coarse sand, and silt, some fine to coarse gravel, occasional cobbles and boulders (moist)(very dense)	25
	CORE RUN NO. 5			3	SM	NQ CORE RUN NO. 5: 25' to 30'	
				4			
				4			
30				4			30

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

- TRACE 0 - 10%  
 LITTLE 10 - 20%  
 SOME 20 - 35%  
 AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 2 PLATE: 3-C-4

# LOG OF BORING

BORING NO. C-4

COMPLETION DATE: 2/27/12

SURFACE ELEVATION: +1,424 ft (±)

WATER LEVEL: 10'

JOB NUMBER: 8979-001\*1D

READING DATE: 2/27/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
35	S6 CORE RUN NO. 6	39		5 5 6 6 5	SM	NQ CORE RUN NO. 6: 30' to 35'	35
40	S7 CORE RUN NO. 7	82		6 4 4 5 5		NQ CORE RUN NO. 7: 35' to 40'	40
45	S8 CORE RUN NO. 8	53		6 4 4 5 6		NQ CORE RUN NO. 8: 40' to 45' - rock encountered @ 42' REC = 100% RQD = 63% Red-brown, fair quality, medium grained, closely jointed sandstone bedrock	45
50	S9 CORE RUN NO. 9			6 6 7 6 6		NQ RUN NO. 9: 45 to 50' REC = 100% RQD = 90% - grading to green-gray sandstone rock, excellent quality	50
55						Boring completed @ 50' Groundwater encountered @ 10'	55
60							60

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

- TRACE 0 - 10%  
LITTLE 10 - 20%  
SOME 20 - 35%  
AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 2 of 2 PLATE: 3-C-4



**LOG OF BORING**

COMPLETION DATE: 3/12/12  
 JOB NUMBER: 8979-001\*1D

BORING NO. C-5  
 SURFACE ELEVATION: +1,426 ft (±)

WATER LEVEL: 15'  
 READING DATE: 3/09/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	5				12" Topsoil	
	S2	42	8.0		SM	Red-brown fine to coarse sand, and silt, little fine gravel (moist)(loose to dense)	
5	S3	41	9.4				5
10	S4	73				Red-brown fine to coarse sand, and silt, little fine to coarse gravel (moist)(very dense to dense)	10
15	S5	50/1"			SM		15
20	S6	38					20
25	S7	63				- grading (very dense)	25
30							30

**NOTES FOR COLUMNS:**

1. SAMPLE AT AVERAGE SAMPLING DEPTH  
 2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

**SOIL DESCRIPTION MODIFIERS:**

TRACE 0 - 10%  
 LITTLE 10 - 20%  
 SOME 20 - 35%  
 AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 2 PLATE: 3-C-5

**LOG OF BORING**

BORING NO. C-5

COMPLETION DATE: 3/12/12

SURFACE ELEVATION: +1,426 ft (±)

WATER LEVEL: 15'

JOB NUMBER: 8979-001\*1D

READING DATE: 3/09/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
35	S8	68				Red-brown fine to coarse sand, and silt, little fine to coarse gravel (moist)(very dense)	35
	S9	92			SM		
40	S10	50/4"					40
45	—					- auger refusal @ 45' atop sandstone bedrock	45
	CORE RUN NO. 1			2 2 3 3 4		Red-brown fair quality, fine grained, closely jointed sandstone bedrock NQ ROCK CORE RUN NO. 1: 45' to 50' REC = 70% RQD = 60%	
50	—						50
55						Boring completed @ 50' Groundwater encountered @ 15'	55
60							60

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

- TRACE 0 - 10%  
LITTLE 10 - 20%  
SOME 20 - 35%  
AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 2 of 2 PLATE: 3-C-5

**LOG OF BORING**

BORING NO. C-6

COMPLETION DATE: 3/02/12

SURFACE ELEVATION: +1,428 ft (±)

WATER LEVEL: 18'

JOB NUMBER: 8979-001\*1D

READING DATE: 3/02/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	8				8" Topsoil	
5	S2	68/11"		7.4	SM	Red-brown fine to coarse sand, and silt, little fine gravel (moist)(loose to very dense)	5
	S3	64					
10	S4	44		7.2		Red-brown fine to coarse sand, and silt, little fine to coarse gravel (moist)(dense to very dense)	10
15	S5	50					15
20	S6	86			SM	- grading with frequent cobbles and boulders	20
25	S7	50/4"					25
30							30

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

- TRACE 0 - 10%  
 LITTLE 10 - 20%  
 SOME 20 - 35%  
 AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 2 PLATE: 3-C-6

**LOG OF BORING**

BORING NO. C-6

COMPLETION DATE: 3/02/12

SURFACE ELEVATION: +1,428 ft (±)

WATER LEVEL: 18'

JOB NUMBER: 8979-001\*1D

READING DATE: 3/02/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
35	S8	100/6"			SM	Red-brown fine to coarse sand, and silt, little fine to coarse gravel (moist)(very dense)	35
40	S9	50/4"				Green to red-brown medium to fine grained, good quality, closely jointed sandstone bedrock NQ ROCK CORE NO. 1: 39' to 44' REC = 97% RQD = 80%	40
45							45
50							50
55						Boring completed @ 44' Groundwater encountered @ 18'	55
60							60

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

- TRACE 0 - 10%  
LITTLE 10 - 20%  
SOME 20 - 35%  
AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 2 of 2 PLATE: 3-C-6

**LOG OF BORING**

BORING NO. C-7

COMPLETION DATE: 3/14/12

SURFACE ELEVATION: +1,430 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 3/14/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	8				12" Topsoil	
	S2	44				Red-brown fine to coarse sand, some to and silt, some fine to coarse gravel (moist)(loose to very dense)	
5	S3	74					5
10	S4	88					10
15	S5	42			SM	- grading (dense)	15
20	S6	50/1"				- grading (very dense)	20
25	S7	54					25
30						Red-brown decomposed sandstone bedrock	30

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH  
 2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%  
 LITTLE 10 - 20%  
 SOME 20 - 35%  
 AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 2 PLATE: 3-C-7

# LOG OF BORING

BORING NO. C-7

COMPLETION DATE: 3/14/12

SURFACE ELEVATION: +1,430 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 3/14/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
35	S8	50/1"				Red-brown decomposed sandstone bedrock	35
40	S9	50/1"		3		Green-gray, good quality, medium grained, medium jointed, sandstone bedrock	40
	CORE RUN NO. 1			4		NQ CORE RUN NO. 1: 35' to 40'	
				4		REC = 90%	
				5		RQD = 75%	
	CORE RUN NO. 2			5		NQ CORE RUN NO. 2: 40' to 45'	
				4		REC = 92%	
				5		RQD = 73%	
				7		- grading to red-brown claystone bedrock from 44'-10" to 45'	
				5		- piezometer installed to 40'	
50				5		Boring completed @ 44'	50
55						Date      Water Level	55
						3/14/12      18'-0"	
						3/15/12      26'-2"	
						3/19/12      27'-6"	
						3/23/12      30'-0"	
						4/04/12      29'-7"	
						4/13/12      29'-9"	
60							60

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

- TRACE 0 - 10%  
LITTLE 10 - 20%  
SOME 20 - 35%  
AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 2 of 2 PLATE: 3-C-7

**LOG OF BORING**

BORING NO. C-8

COMPLETION DATE: 3/05/12

SURFACE ELEVATION: +1,410 ft (±)

WATER LEVEL: 7'-6"

JOB NUMBER: 8979-001\*1D

READING DATE: 3/05/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	32				8" Topsoil	
	S2	45				Red-brown fine to coarse sand, some silt, little fine to coarse gravel (moist)(dense to very dense)	
5	S3	50/5"			SM	- grading with occasional cobbles and boulders @ 5'	5
10	S4	37				Red-brown fine to coarse sand, and silt, some fine to coarse gravel, occasional cobbles and boulders (moist)(dense)	10
15	S5	48					15
20	S6	24			SM	- grading to trace fine gravel (medium dense)	20
25	S7	50/5"				- grading (very dense) - driller notes boulder from 26' to 27'-6"	25
30							30

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

- TRACE 0 - 10%  
 LITTLE 10 - 20%  
 SOME 20 - 35%  
 AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 2 PLATE: 3-C-8

**LOG OF BORING**

BORING NO. C-8

COMPLETION DATE: 3/05/12

SURFACE ELEVATION: +1,410 ft (±)

WATER LEVEL: 7'-6"

JOB NUMBER: 8979-001\*1D

READING DATE: 3/05/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
35	S8	37			SM	Red-brown fine to coarse sand, and silt, some fine to coarse gravel, occasional cobbles and boulders (moist)(dense to very dense)	35
40	S9	50/1"					40
45						Boring completed @ 37' Groundwater encountered @ 7'-6"	45
50							50
55							55
60							60

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

- TRACE 0 - 10%  
LITTLE 10 - 20%  
SOME 20 - 35%  
AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 2 of 2 PLATE: 3-C-8



**LOG OF BORING**

BORING NO. C-9

COMPLETION DATE: 3/01/12

SURFACE ELEVATION: +1,414 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 3/01/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	5				8" Topsoil	
	S2	41			SM	Red-brown fine to medium sand, some silt, little fine gravel (moist)(loose to dense)	
5	S3	47	7.8		SM	Red-brown fine to coarse sand, and silt, little fine gravel, occasional cobbles and boulders (moist)(dense)	5
10	S4	50/4"				Red-brown fine to coarse sand, and silt, some fine to coarse gravel, frequent cobbles and boulders (moist)(very dense)	10
15	S5	50			SM		15
20	S6	71					20
25	S7	38	8.3		SM	Red-brown fine to coarse sand, and silt, little fine to coarse gravel (wet)(dense)	25
30							30

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH  
 2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%  
 LITTLE 10 - 20%  
 SOME 20 - 35%  
 AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 2 PLATE: 3-C-9

# LOG OF BORING

COMPLETION DATE: 3/01/12  
JOB NUMBER: 8979-001\*1D

BORING NO. C-9  
SURFACE ELEVATION: +1,414 ft (±)

WATER LEVEL: \*  
READING DATE: 3/01/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
35	S8	41			SM	Red-brown fine to coarse sand, and silt, little fine to coarse gravel (wet)(dense)	35
40	S9	40					40
45							45
50						Boring completed @ 37'	50
55						* Perched groundwater seepage encountered @ 2'-6"	55
60							60

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%  
LITTLE 10 - 20%  
SOME 20 - 35%  
AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 2 of 2 PLATE: 3-C-9

**LOG OF BORING**

BORING NO. C-10

COMPLETION DATE: 3/07/12

SURFACE ELEVATION: +1,414 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 3/07/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	25				12" Topsoil	
	S2	80			SM	Red-brown fine to coarse sand, and silt, some fine to coarse gravel (moist)(medium dense to very dense)	
5	S3	36				Red-brown fine to coarse sand, and silt, little fine to coarse gravel, occasional cobbles and boulders (moist)(dense to very dense)	5
10	S4	40					10
15	S5	48			SM		15
20	S6	95					20
25	S7	50/1"					25
						- driller notes boulder from 26' to 30'	
30	S8	43					30

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH  
 2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%  
 LITTLE 10 - 20%  
 SOME 20 - 35%  
 AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 2 PLATE: 3-C-10

**LOG OF BORING**

BORING NO. C-10

COMPLETION DATE: 3/07/12

SURFACE ELEVATION: +1,414 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 3/07/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
					SM	Red-brown fine to coarse sand, and silt, little fine to coarse gravel, occasional cobbles and boulders (moist)(dense to very dense)	
35	CORE NO. 1			2 3		NQ ROCK CORE RUN NO. 1: 33' to 35' REC = 92% RQD = 42% - green poor quality, medium grained, closely jointed, sandstone bedrock	35
40							40
45							45
50						Boring completed @ 35' *Groundwater not encountered	50
55							55
60							60

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

- TRACE 0 - 10%  
LITTLE 10 - 20%  
SOME 20 - 35%  
AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 2 of 2 PLATE: 3-C-10

# LOG OF BORING

BORING NO. C-11

COMPLETION DATE: 3/08/12

SURFACE ELEVATION: +1,410 ft (±)

WATER LEVEL: 21'

JOB NUMBER: 8979-001\*1D

READING DATE: 3/08/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	17				12" Topsoil	
5	S2	47	5.4		SM	Red-brown fine to coarse sand, some silt, and fine gravel (moist)(medium dense to very dense)	5
	S3	89					
10	S4	31	9.7		SM	Red-brown fine to coarse sand, and silt, little fine gravel (moist)(dense to very dense)	10
15	S5	70					15
20	S6	31			SM	- grading with cobbles and boulders @ 20'	20
25	S7	70					25
30	S8	50/5"					30
35						Boring completed @ 30'-5" Groundwater encountered @ 21'	35

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH  
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%  
LITTLE 10 - 20%  
SOME 20 - 35%  
AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 3-C-11

# LOG OF BORING

BORING NO. C-12

COMPLETION DATE: 3/12/12

SURFACE ELEVATION: +1,416 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 3/12/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	4				12" Topsoil	
5	S2	26			SM	Red-brown fine to medium sand, little fine to coarse gravel (moist)(loose to dense)	5
	S3	49					
10	S4	62			SM	Red-brown fine to coarse sand, and silt, some fine to coarse gravel (moist)(very dense)	10
15	S5	63					15
20	S6	45				Red-brown fine to coarse sand, and silt, some fine to coarse gravel, occasional cobbles and boulders (moist)(dense)	20
25	S7	23			SM	- grading (medium dense)	25
30							30

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

- TRACE 0 - 10%  
 LITTLE 10 - 20%  
 SOME 20 - 35%  
 AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 2 PLATE: 3-C-12

**LOG OF BORING**

BORING NO. C-12

COMPLETION DATE: 3/12/12

SURFACE ELEVATION: +1,416 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 3/12/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S8	81			SM	Red-brown fine to coarse sand, and silt, some fine to coarse gravel, occasional cobbles and boulders (moist)(dense)	
35	S9	50/0"				Decomposed sandstone bedrock - auger and sampler refusal encountered @ 35' - piezometer installed to 34'	35
40							40
45							45
50							50
55							55
60							60

Boring completed @ 35'

Date	Water Level
3/12/12	15'-0"
3/13/12	15'-0"
3/19/12	27'-0"
3/23/12	28'-8"
4/04/12	29'-2"
4/13/12	29'-2"

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%  
 LITTLE 10 - 20%  
 SOME 20 - 35%  
 AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 2 of 2 PLATE: 3-C-12

# LOG OF BORING

COMPLETION DATE: 3/13/12  
JOB NUMBER: 8979-001\*1D

BORING NO. C-13  
SURFACE ELEVATION: +1,416 ft (±)

WATER LEVEL: 16'  
READING DATE: 3/13/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	18				12" Topsoil	
	S2	65			SM	Red-brown fine to coarse sand, some silt, little fine to coarse gravel (moist)(medium dense)	
5	S3	57			SM	Red-brown fine to coarse sand, and silt, some fine to coarse gravel (moist)(very dense)	5
10	S4	52	7.7		SM	Red-brown fine to coarse sand, some silt, little fine gravel, occasional cobbles and boulders (moist)(very dense)	10
15	S5	50			SM		15
20	S6	50/4"			SM	Red-brown fine to coarse sand, and silt, some fine to coarse gravel, occasional cobbles and boulders (moist)(very dense to dense)	20
25	S7	38					25
30						Highly fractured sandstone bedrock	30

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

- TRACE 0 - 10%  
LITTLE 10 - 20%  
SOME 20 - 35%  
AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 2 PLATE: 3-C-13



**LOG OF BORING**

BORING NO. C-13

COMPLETION DATE: 3/13/12

SURFACE ELEVATION: +1,416 ft (±)

WATER LEVEL: 16'

JOB NUMBER: 8979-001\*1D

READING DATE: 3/13/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
35	CORE RUN NO. 1			4 4 5 6 7		Red-brown, good quality, closely jointed, siltstone bedrock NQ CORE RUN NO. 1: 30' to 35' REC = 100% RQD = 75%	35
40							40
45							45
50						Boring completed @ 35' Groundwater encountered @ 16'	50
55							55
60							60

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

- TRACE 0 - 10%  
LITTLE 10 - 20%  
SOME 20 - 35%  
AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 2 of 2 PLATE: 3-C-13

# LOG OF BORING

BORING NO. 14

COMPLETION DATE: 3/14/12

SURFACE ELEVATION: +1,416 ft (±)

WATER LEVEL: 18'

JOB NUMBER: 8979-001\*1D

READING DATE: 3/14/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	3				8" Topsoil	
	S2	48				Red-brown fine to coarse sand, and silt, some fine to coarse gravel, occasional cobbles and boulders (moist)(loose to very dense)	
5	S3	71					5
10	S4	68					10
15	S5	74			SM		15
20	S6	50/1"				- driller notes boulder from 22' to 24'	20
25	S7						25
30	CORE RUN NO. 1 S8			3 2 3 4 4		NQ CORE RUN NO. 1: 27' to 32' Bedrock encountered @ 28': Red-brown poor quality, closely jointed claystone REC = 88% RQD = 35%	30
35						Boring completed @ 32' Groundwater encountered @ 18'	35

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

- TRACE 0 - 10%  
LITTLE 10 - 20%  
SOME 20 - 35%  
AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 3-C14

**LOG OF BORING**

BORING NO. C-15

COMPLETION DATE: 3/05/12

SURFACE ELEVATION: +1,399 ft (±)

WATER LEVEL: 15'

JOB NUMBER: 8979-001\*1D

READING DATE: 3/05/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	3				8" Topsoil	
	S2	58			SM	Red-brown fine to coarse sand, and silt, little fine gravel (moist)(loose to very dense)	
5	S3	38				Red-brown fine to medium sand, and silt, little fine gravel (moist)(dense)	5
10	S4	44			SM	- grading to little fine to coarse gravel	10
15	S5	50/5"	5.4			- grading (very dense) with cobbles and boulders	15
20	S6	50/5"				- driller notes boulder from 20'-6" to 22'	20
25	S7	27				- grading (medium dense)	25
30							30

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

- TRACE 0 - 10%  
 LITTLE 10 - 20%  
 SOME 20 - 35%  
 AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 2 PLATE: 3-C-15

**LOG OF BORING**

BORING NO. C-15

COMPLETION DATE: 3/05/12

SURFACE ELEVATION: +1,399 ft (±)

WATER LEVEL: 15'

JOB NUMBER: 8979-001\*1D

READING DATE: 3/05/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S8	75			SM	Red-brown fine to medium sand, and silt, little fine to coarse gravel (moist)(very dense)	
35							35
40							40
45						Boring completed @ 31'-11"	45
						*Groundwater encountered @ 15'	
50							50
55							55
60							60

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

- TRACE 0 - 10%  
LITTLE 10 - 20%  
SOME 20 - 35%  
AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 2 of 2 PLATE: 3-C-15

# LOG OF BORING

BORING NO. C-16

COMPLETION DATE: 3/06/12

SURFACE ELEVATION: +1,404 ft (±)

WATER LEVEL: 8'

JOB NUMBER: 8979-001\*1D

READING DATE: 3/06/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	13				8" Topsoil	
5	S2	50/5"			SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel (moist)(medium dense to very dense)	5
	S3	35				- grading (dense)	
10	S4	62				- grading (very dense) with occasional cobbles and boulders @ 10'	10
15	S5	58			SM	Red-brown fine sand, and silt, some fine to coarse gravel (moist to wet)(very dense)	15
20	S6	85/8"					20
25	S7	50/3"				- grading to little fine to coarse gravel @ 25' - driller notes frequent cobbles and boulders @ 27'	25
30	S8	50/3"					30
35						Boring completed @ 30'-3" Groundwater encountered @ 8'	35

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

- TRACE 0 - 10%  
LITTLE 10 - 20%  
SOME 20 - 35%  
AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 3-C-16

# LOG OF BORING

BORING NO. C-17

COMPLETION DATE: 3/07/12

SURFACE ELEVATION: +1,404 ft (±)

WATER LEVEL: 17'

JOB NUMBER: 8979-001\*1D

READING DATE: 3/07/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	11				12" Topsoil	
5	S2	60			SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel (moist)(medium dense to very dense)	5
	S3	29				- grading (medium dense)	
10	S4	46			SM	Red-brown fine to coarse sand, and silt, little fine to coarse gravel (moist)(dense to very dense)	10
15	S5	65				- grading (medium dense)	15
20	S6	26				- grading (very dense) with frequent cobbles and boulders	20
25	S7	50/4"					25
30	S8	50/3"					30
35						Boring completed @ 30'-3" Groundwater encountered @ 17'	35

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

- TRACE 0 - 10%  
LITTLE 10 - 20%  
SOME 20 - 35%  
AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 3-C-17

# LOG OF BORING

COMPLETION DATE: 3/08/12  
JOB NUMBER: 8979-001\*1D

BORING NO. C-18  
SURFACE ELEVATION: +1,401 ft (±)

WATER LEVEL: \*  
READING DATE: 3/08/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	6				12" Topsoil	
	S2	31				Red-brown fine to coarse sand, and silt, some fine to coarse gravel (moist)(loose to medium dense)	
5	S3	37					5
10	S4	61			SM	- grading (very dense) with frequent cobbles and boulders	10
15	S5	46				- grading (dense)	15
20	S6	25			SM	Red-brown fine to coarse sand, and clayey silt, little fine to coarse gravel (moist)(medium dense)	20
25	S7	83			SM	Brown fine to medium sand, and silt, little fine to coarse gravel (decomposed sandstone)(moist)(very dense)	25
30	S8	75/3"					30
35						Boring completed @ 30'-3" *Groundwater not encountered	35

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH  
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%  
LITTLE 10 - 20%  
SOME 20 - 35%  
AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 3-C-18

MELICK-TULLY AND ASSOCIATES, P.C.  
Geotechnical Engineers and Environmental Consultants

# LOG OF BORING

BORING NO. C-19

COMPLETION DATE: 3/16/12

SURFACE ELEVATION: +1,409 ft (±)

WATER LEVEL: 17'

JOB NUMBER: 8979-001\*1D

READING DATE: 3/16/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	7				12" Topsoil	
	S2	44				Red-brown fine to coarse sand, some silt, some fine to coarse gravel (moist)(loose to very dense)	
5	S3	70			SM		5
10	S4	79			SM	Red-brown fine to coarse sand, and silt, little fine gravel (moist)(very dense)	10
15	S5	56	8.1				15
20	S6	50/1"				Red-brown fine to coarse sand, and silt, some fine to coarse gravel (moist)(very dense)	20
25	S7	50/1"			SM	- grading with increased sandstone fragments @ 25'	25
30	S8	50/1"					30
35						Boring completed @ 30' Groundwater encountered @ 17'	35

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH  
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%  
LITTLE 10 - 20%  
SOME 20 - 35%  
AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 3-C-19

MELICK-TULLY AND ASSOCIATES, P.C.  
Geotechnical Engineers and Environmental Consultants



# LOG OF BORING

COMPLETION DATE: 3/13/12  
JOB NUMBER: 8979-001\*1D

BORING NO. C-20  
SURFACE ELEVATION: +1,409 ft (±)

WATER LEVEL: 17'  
READING DATE: 3/13/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	3				8" Topsoil	
	S2	27				Red-brown fine to coarse sand, and silt, some fine to coarse gravel (moist)(loose to dense)	
5	S3	41			SM		5
10	S4	34					10
15	S5	68			SM	Red-brown fine to coarse sand, some silt, little fine to coarse gravel (moist)(very dense)	15
20	S6	50/1"					20
25	CORE RUN 1			3		Red-brown, good quality, medium jointed claystone - grading to siltstone	25
				2		NQ ROCK CORE RUN NO. 1: 22' to 25'	
				3		REC = 89%	
				4		RQD = 78%	
	CORE RUN NO. 2			4		Red-brown, good quality, medium jointed siltstone - grading to sandstone	
				5		NQ ROCK CORE RUN NO. 2: 25' to 30'	
30				4		REC = 97%	30
						RQD = 80%	
35						Boring completed @ 30'	35
						Groundwater encountered @ 17'	

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH  
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%  
LITTLE 10 - 20%  
SOME 20 - 35%  
AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 3-C-20

# LOG OF BORING

COMPLETION DATE: 3/06/12  
JOB NUMBER: 8979-001\*1D

BORING NO. C-21  
SURFACE ELEVATION: +1,388 ft (±)

WATER LEVEL: 11'  
READING DATE: 3/06/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	6				8" Topsoil	
	S2	49			SM	Red-brown fine to medium sand, some silt, little fine to coarse gravel (very moist)(loose to dense)	
5	S3	29				Red-brown fine to medium sand, and silt, little fine to coarse gravel (moist)(medium dense)	5
10	S4	30			SM		10
15	S5	32				- grading (dense) with occasional cobbles and boulders	15
20	S6	44				- driller notes boulder @ 18' to 19'	20
25						Boring completed @ 22' Groundwater encountered @ 11'	25
30							30

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

- TRACE 0 - 10%  
LITTLE 10 - 20%  
SOME 20 - 35%  
AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 3-C-21

# LOG OF BORING

COMPLETION DATE: 3/06/12  
JOB NUMBER: 8979-001\*1D

BORING NO. C-22  
SURFACE ELEVATION: +1,394 ft (±)

WATER LEVEL: \*  
READING DATE: 3/06/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	2				8" Topsoil	
	S2	50				Red-brown fine to coarse sand, some clayey silt, little fine to coarse gravel (moist)(loose to very dense)	
5	S3	36			SM	- grading (dense)	5
10	S4	67				Red-brown fine to medium sand, and silt, little fine to coarse gravel (moist)(very dense)	10
15	S5	50/2"			SM	- driller notes boulder from 14' to 15'	15
20	S6	74					20
25						Boring completed @ 22' *Groundwater not encountered	25
30							30

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH  
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%  
LITTLE 10 - 20%  
SOME 20 - 35%  
AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 3-C-22

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## LOG OF BORING

BORING NO. C-23

COMPLETION DATE: 3/07/12

SURFACE ELEVATION: +1,393 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 3/07/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	2				12" Topsoil	
	S2	50				Red-brown fine to coarse sand, some to and silt, some fine to coarse gravel (moist)(loose to dense)	
5	S3	36					5
10	S4	67			SM	- grading (very dense) with frequent cobbles and boulders @ 10'	10
15	S5	50/2"				- driller notes boulder from 15' to 19'	15
20	S6	74				Highly decomposed sandstone bedrock	20
25						Boring completed @ 20'-3"	25
						*Groundwater not encountered	
30							30

**NOTES FOR COLUMNS:**

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND

WEIGHT FALLING 30 INCHES

**SOIL DESCRIPTION MODIFIERS:**

- TRACE 0 - 10%  
 LITTLE 10 - 20%  
 SOME 20 - 35%  
 AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 3-C-23

# LOG OF BORING

BORING NO. C-24

COMPLETION DATE: 3/08/12

SURFACE ELEVATION: +1,386 ft (±)

WATER LEVEL: 12'

JOB NUMBER: 8979-001\*1D

READING DATE: 3/08/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	5				12" Topsoil	
5	S2	26			SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel (moist)(loose to dense)	5
	S3	40					
10	S4	49					10
15	S5	53			SM	Red-brown fine to coarse sand, and silt, little fine to coarse gravel, frequent cobbles and boulders (moist)(very dense)	15
20	S6	50/1"					20
25						Boring completed @ 20'-7" Groundwater encountered @ 12'	25
30							30

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

- TRACE 0 - 10%  
LITTLE 10 - 20%  
SOME 20 - 35%  
AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 3-C-24

**LOG OF BORING**

BORING NO. C-25

COMPLETION DATE: 3/16/12

SURFACE ELEVATION: +1,397 ft (±)

WATER LEVEL: 17'

JOB NUMBER: 8979-001\*1D

READING DATE: 3/16/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	8				8" Topsoil	
	S2	75				Red-brown fine to coarse sand, some to and silt, some fine to coarse gravel (moist)(loose to very dense)	
5	S3	88					5
10	S4	47			SM	- grading (dense)	10
						- driller notes boulder @ 13'	
15	S5	58				- grading (very dense)	15
						- driller notes boulder @ 19'	
20	S6	50/0"					20
25						Boring completed @ 20'	25
						Groundwater encountered @ 17'	
30							30

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH  
 2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%  
 LITTLE 10 - 20%  
 SOME 20 - 35%  
 AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 3-C-25

# LOG OF BORING

BORING NO. C-26

COMPLETION DATE: 3/14/12

SURFACE ELEVATION: +1,398 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 3/14/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	15				8" Topsoil	
5	S2	45			SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel (moist)(medium dense to dense)	5
	S3	44					
10	S4	36			SM	Red-brown fine to coarse sand, and silt, little fine gravel (moist)(dense)	10
15	S5	63			SM	Red-brown fine to coarse sand, and silt, little fine to coarse gravel (moist)(very dense)	15
20	S6	52					20
25						Boring completed @ 22'	25
						*Groundwater not encountered	
30							30

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

- TRACE 0 - 10%  
 LITTLE 10 - 20%  
 SOME 20 - 35%  
 AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 3-C-26

**LOG OF BORING**

BORING NO. C-27

COMPLETION DATE: 3/14/12

SURFACE ELEVATION: +1,380 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 3/14/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
5	S1	4			SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel (moist)(loose to very dense)	5
	S2	57					
10	S3	52			SM	Red-brown fine to coarse sand, and silt, little fine to coarse gravel (moist)(very dense)	10
	S4	50/5"				- driller notes boulder @ 10'	
15	S5	28				- grading (medium dense)	15
20	S6	22					20
25						Boring completed @ 22'	25
						*Groundwater not encountered	
30							30

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH  
 2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%  
 LITTLE 10 - 20%  
 SOME 20 - 35%  
 AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 3-C-27



# LOG OF BORING

BORING NO. C-28

COMPLETION DATE: 3/06/12

SURFACE ELEVATION: +1,381 ft (±)

WATER LEVEL: 9'

JOB NUMBER: 8979-001\*1D

READING DATE: 3/09/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	4				12" Topsoil	
	S2	22			SM	Red-brown fine to coarse sand, some silt, little fine gravel (moist)(loose to medium dense)	
5	S3	50				Red-brown fine to coarse sand, and silt, little fine to coarse gravel (moist)(very dense)	5
10	S4	50/5"			SM	- grading with cobbles and boulders	10
15	S5	22			SM	Red-brown fine to coarse sand, and silt, little fine gravel (moist)(medium dense)	15
20	S6	50/1"				Decomposed sandstone bedrock	20
25						Boring completed @ 20'-1"	25
						Groundwater encountered @ 9'	
30							30

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

- TRACE 0 - 10%  
 LITTLE 10 - 20%  
 SOME 20 - 35%  
 AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 3-C-28

**LOG OF BORING**

BORING NO. C-29

COMPLETION DATE: 3/16/12

SURFACE ELEVATION: +1,381 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 3/16/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	5				8" Topsoil	
	S2	60				Red-brown fine to coarse sand, and silt, some fine to coarse gravel (moist)(loose to very dense)	
5	S3	38				- grading (dense)	5
10	S4	50/3"				- grading (very dense) with frequent cobbles and boulders	10
15	S5	50/3"					15
20	S6	50/0"					20
25						Boring completed @ 20'	25
						*Groundwater not encountered	
30							30

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH  
 2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%  
 LITTLE 10 - 20%  
 SOME 20 - 35%  
 AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 3-C-29

# LOG OF BORING

COMPLETION DATE: 3/19/12  
JOB NUMBER: 8979-001\*1D

BORING NO. C-30  
SURFACE ELEVATION: +1,376 ft (±)

WATER LEVEL: 13'  
READING DATE: 3/19/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	9				8" Topsoil	
	S2	57				Red-brown fine to coarse sand, some silt, some fine to coarse gravel (moist)(loose to very dense)	
5	S3	47				- grading (dense)	5
10	S4	38			SM		10
15	S5	50				- grading (very dense) with frequent cobbles and boulders	15
20	S6	50/3"					20
25						Boring completed @ 20'-3" Groundwater encountered @ 13'	25
30							30

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH  
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%  
LITTLE 10 - 20%  
SOME 20 - 35%  
AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 3-C-30

# LOG OF BORING

BORING NO. C-31

COMPLETION DATE: 3/06/12

SURFACE ELEVATION: +1,374 ft (±)

WATER LEVEL: 7'

JOB NUMBER: 8979-001\*1D

READING DATE: 3/09/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	15				8" Topsoil	
5	S2	49			SM	Red-brown fine to medium sand, and silt, little fine to coarse gravel (moist)(medium dense to dense)	5
	S3	50					
10	S4	52			SM	Red-brown fine to medium sand, some clayey silt, little fine to coarse gravel, occasional cobbles and boulders (wet)(very dense to dense)	10
15	S5	34					15
20	S6	50/1"				Decomposed sandstone bedrock	20
25						Boring completed @ 20'-1" Groundwater encountered @ 9'	25
30							30

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

- TRACE 0 - 10%  
LITTLE 10 - 20%  
SOME 20 - 35%  
AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 3-C-31

**LOG OF BORING**

COMPLETION DATE: 3/06/12  
 JOB NUMBER: 8979-001\*1D

BORING NO. C-32  
 SURFACE ELEVATION: +1,371 ft (±)

WATER LEVEL: 7'  
 READING DATE: 3/09/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	5				12" Topsoil	
	S2	35			SM	Red-brown fine to medium sand, and silt, little fine to coarse gravel (moist)(loose to medium dense)	
5	S3	56				Red-brown fine to coarse sand, some to and silt, some fine to coarse gravel, occasional cobbles and boulders (moist)(very dense)	5
10	S4	45			SM	- grading (dense)	10
15	S5	37					15
20	S6	65				- grading (very dense)	20
25						Boring completed @ 22' Groundwater encountered @ 7'	25
30							30

**NOTES FOR COLUMNS:**

1. SAMPLE AT AVERAGE SAMPLING DEPTH  
 2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

**SOIL DESCRIPTION MODIFIERS:**

TRACE 0 - 10%  
 LITTLE 10 - 20%  
 SOME 20 - 35%  
 AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 3-C-32

**LOG OF BORING**

BORING NO. S-1

COMPLETION DATE: 2/27/12

SURFACE ELEVATION: +1,455 ft (±)

WATER LEVEL: 10'

JOB NUMBER: 8979-001\*1D

READING DATE: 2/27/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	6			SM	8" Topsoil	
	S2	60	5.3			Red-brown fine to coarse sand, and silt, little fine to coarse gravel (moist)(loose)	
5	S3	46	5.9			Red-brown fine to coarse sand, some to and silt, little to some fine gravel (moist)(very dense to dense)	5
	S4	85/11"					
10	S5	43			SM		10
15	S6	68					15
20							20
25							25
30							30
						Boring completed @ 17' Groundwater encountered @ 10'	

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH  
2. INDICATES THE NUMBER OF BLOWS TO  
ADVANCE A 2" OD SAMPLER A DISTANCE  
OF 12 INCHES USING A 140 POUND  
WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%  
LITTLE 10 - 20%  
SOME 20 - 35%  
AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 3-S-1

**LOG OF BORING**

BORING NO. S-2

COMPLETION DATE: 2/19/12

SURFACE ELEVATION: +1,455 ft (±)

WATER LEVEL: 15'

JOB NUMBER: 8979-001\*1D

READING DATE: 2/19/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	9				8" Topsoil	
					SM	Red-brown fine to medium sand, and silt, little fine to coarse gravel (moist)(loose)	
5	S2	62				Red-brown fine to coarse sand, and silt, some fine to coarse gravel (moist)(very dense)	5
10	S3	50/0"			SM	- driller notes boulder @ 10'	10
15	S4	50/5"					15
20							20
25						Boring completed @ 15'-11" Groundwater encountered @ 15'	25
30							30

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH  
 2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%  
 LITTLE 10 - 20%  
 SOME 20 - 35%  
 AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 3-S-2

**LOG OF BORING**

COMPLETION DATE: 2/27/12      BORING NO. S-3      WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D      SURFACE ELEVATION: +1,452 ft (±)      READING DATE: 2/27/12

COMPLETION DATE: 2/27/12  
JOB NUMBER: 8979-001\*1D

BORING NO. S-3  
SURFACE ELEVATION: +1,452 ft (±)

WATER LEVEL: \*  
READING DATE: 2/27/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	5				8" Topsoil	
	S2	32	8.7		ML	Red-brown silt, and fine to coarse sand, trace fine gravel (moist)(medium to hard)	
5	S3	52					5
10	S4	52			SM	Red-brown fine to coarse sand, some to and silt, some fine to coarse gravel (moist)(very dense) - driller notes boulder @ 7'-6"	10
15	S5	98/10"					15
20							20
25						Boring completed @ 16'-4" *Groundwater not encountered	25
30							30

1. SAMPLE AT AVERAGE SAMPLING DEPTH  
2. INDICATES THE NUMBER OF BLOWS TO  
ADVANCE A 2" OD SAMPLER A DISTANCE  
OF 12 INCHES USING A 140 POUND  
WEIGHT FALLING 30 INCHES

TRACE 0 - 10%  
LITTLE 10 - 20%  
SOME 20 - 35%  
AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1    PLATE: 3-S-3



**LOG OF BORING**

BORING NO. S-4

COMPLETION DATE: 3/19/12

SURFACE ELEVATION: +1,445 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 3/19/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
5	S1	18	32.2		SM	Red-brown fine to coarse sand, some silt, little to some fine gravel, occasional cobbles and boulders (moist)(medium dense)	5
10	S2	24	8.8				10
15	S3	64	7.6		SM	Red-brown fine to coarse sand, and silt, some fine to coarse gravel (moist)(very dense)	15
20	S4	75					20
25						Boring completed @ 16'-10" *Groundwater not encountered	25
30							30

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH  
 2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%  
 LITTLE 10 - 20%  
 SOME 20 - 35%  
 AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 3-S-4

# LOG OF BORING

BORING NO. S-5

COMPLETION DATE: 2/27/12

SURFACE ELEVATION: +1,435 ft (±)

WATER LEVEL: 10'

JOB NUMBER: 8979-001\*1D

READING DATE: 2/27/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	8	24.4		SM	6" Topsoil	
	S2	36	7.9			Red-brown fine to coarse sand, and silt, some fine to coarse gravel (moist)(loose to dense)	
5	S3	60	8.4			Red-brown fine to coarse sand, some silt, some fine to coarse gravel (moist)(dense to very dense)	5
10	S4	35			SM		10
15	S5	66					15
20	S6	50/2"					20
25						Boring completed @ 20'-8"	25
30						Perched groundwater encountered @ 10'	30

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

- TRACE 0 - 10%  
LITTLE 10 - 20%  
SOME 20 - 35%  
AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 3-S-5

**LOG OF BORING**

BORING NO. S-6

COMPLETION DATE: 3/19/12

SURFACE ELEVATION: +1,412 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 3/19/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	5				8" Topsoil	
5	S2	42				Red-brown fine to coarse sand, and silt, little to some fine to coarse gravel, occasional cobbles and boulders (moist)(loose to very dense)	5
10	S3	65			SM		10
15	S4	50/1"				- driller notes numerous cobbles and boulders @ 15'	15
20	S5	50/1"					20
25						Boring completed @ 20'-1" *Groundwater not encountered	25
30							30

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

- TRACE 0 - 10%  
LITTLE 10 - 20%  
SOME 20 - 35%  
AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 3-S-6

# LOG OF BORING

BORING NO. S-7

COMPLETION DATE: 2/27/12

SURFACE ELEVATION: +1,383 ft (±)

WATER LEVEL: 10'

JOB NUMBER: 8979-001\*1D

READING DATE: 2/27/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	4	22.8			6" Topsoil	
	S2	17	12.6			Red-brown fine to coarse sand, and silt, some fine to coarse gravel (loose to very dense)	
5	S3	43	7.3				5
10	S4	87/10"	4.8		SM		10
15	S5	75/10"				- driller notes boulder @ 14'	15
						- driller notes boulder @ 16'	
20	S6	50/1"				Highly fractured sandstone bedrock	20
25						Boring completed @ 20'-7"	25
						Perched groundwater encountered at 10'	
30							30

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

- TRACE 0 - 10%  
 LITTLE 10 - 20%  
 SOME 20 - 35%  
 AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 3-S-7

# LOG OF BORING

BORING NO. S-8

COMPLETION DATE: 3/15/12

SURFACE ELEVATION: +1,354 ft (±)

WATER LEVEL: 3'

JOB NUMBER: 8979-001\*1D

READING DATE: 3/15/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	12				4" Topsoil	
	S2	36				FILL - Fine to coarse sand, little silt, little fine to coarse gravel	
5	S3	45			SM	Red-brown fine to coarse sand, and silt, little fine to coarse gravel (wet)(dense) - grading with cobbles and boulders @ 6'	5
	S4	50/0"					
	S5	50/0"				- auger refusal atop boulder @ 8'-6"	
10							10
15							15
20						Boring completed @ 8'-6"	20
						Perched groundwater encountered @ 3'	
25							25
30							30

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH  
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%  
LITTLE 10 - 20%  
SOME 20 - 35%  
AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 3-S-8

# LOG OF BORING

BORING NO. S-9

COMPLETION DATE: 3/15/12

SURFACE ELEVATION: +1,350 ft (±)

WATER LEVEL: 6'

JOB NUMBER: 8979-001\*1D

READING DATE: 3/15/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	24				FILL - Red-brown fine to coarse sand, and silt, some fine to coarse gravel	
	S2	46					
5	S3	28			SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel (moist)(medium dense to dense)	5
	S4	50/1"					
	S5	61					
10	S6	47			SM	Red-brown fine to coarse sand, some to and silt, some fine to coarse gravel, occasional cobbles and boulders (wet)(dense to very dense)	10
	S7	86					
15	S8	50/2"					15
20						Boring completed @ 14'-8"	20
						*Groundwater encountered @ 6'	
25							25
30							30

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

- TRACE 0 - 10%  
 LITTLE 10 - 20%  
 SOME 20 - 35%  
 AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 3-S-9

MELICK-TULLY AND ASSOCIATES, P.C.  
 Geotechnical Engineers and Environmental Consultants

**LOG OF BORING**  
BORING NO. S-10

COMPLETION DATE: 3/15/12	SURFACE ELEVATION: +1,357 ft (±)	WATER LEVEL: 5'-6"
JOB NUMBER: 8979-001*1D		READING DATE: 3/15/12

WATER LEVEL: 5'-6"  
READING DATE: 3/15/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	9				4" Topsoil	
	S2	41				FILL - Brown fine to coarse sand, some silt, little fine gravel	
5	S3	86				Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles and boulders (moist to wet)(dense to very dense)	5
	S4	59					
	S5	81			SM		
10	S6	86					10
	S7	122					
15	S8	80					15
20						Boring completed @ 15'-10" Groundwater encountered @ 5'-6"	20
25							25
30							30

Sheet: 1 of 1    PLATE: 3-S-10

**MELICK-TULLY AND ASSOCIATES, P.C.**  
Geotechnical Engineers and Environmental Consultants

# LOG OF BORING

BORING NO. S-11

COMPLETION DATE: 3/15/12

SURFACE ELEVATION: +1,360 ft (±)

WATER LEVEL: 6'

JOB NUMBER: 8979-001\*1D

READING DATE: 3/15/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	10				6" Topsoil	
	S2	26			SM	Red-brown fine to coarse sand, and silt, some fine to coarse gravel (moist to wet)(medium dense to very dense)	
5	S3	47					5
	S4	35			SM	Red-brown fine to coarse sand, little silt, little fine to coarse gravel (wet)(dense)	
	S5	90				Red-brown fine to coarse sand, little to some silt, little fine to coarse gravel, occasional cobbles and boulders (wet)(very dense)	
10	S6	130					10
	S7	96					
15	S8	100/5"			SM		15
20	S9	100/4"				- driller noted cobbles @ 21'-6"	20
25						Boring completed @ 22' Groundwater encountered @ 6'	25
30							30

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

- TRACE 0 - 10%  
LITTLE 10 - 20%  
SOME 20 - 35%  
AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 3-S-11



# LOG OF BORING

BORING NO. S-12

COMPLETION DATE: 3/15/12

SURFACE ELEVATION: +1,352 ft (±)

WATER LEVEL: 6'

JOB NUMBER: 8979-001\*1D

READING DATE: 3/15/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	4				2" Topsoil and pine needles	
	S2	50/4"			SM	Brown to dark brown fine to coarse sand, little silt, trace fine to coarse gravel (moist)(loose to very dense)	
5	S3	56	39.0			- driller notes cobbles @ 3'	5
	S4	66			SM	Red-brown fine to coarse sand, and silt, trace fine gravel (wet)(very dense)	
10	S5	158/10"				Gray and red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional to frequent cobbles and boulders (moist)(very dense)	10
	S6	100/4"					
	S7	100/4"			SM		
15							15
20	S8	100/1"					20
25						Boring completed @ 20'-1"	25
						Groundwater encountered @ 6'	
30							30

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

- TRACE 0 - 10%  
LITTLE 10 - 20%  
SOME 20 - 35%  
AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 3-S-12

# LOG OF BORING

BORING NO. S-13

COMPLETION DATE: 3/15/12

SURFACE ELEVATION: +1,352 ft (±)

WATER LEVEL: 12'

JOB NUMBER: 8979-001\*1D

READING DATE: 3/15/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	4			SM	4" Topsoil	
	S2	70			ML	Red-brown fine to coarse sand, some silt, trace fine gravel (moist)(loose)	
5	S3	55				Red-brown clayey silt, and fine to medium sand, trace fine to coarse gravel (wet)(hard)	5
	S4	56				Red-brown fine to coarse sand, some to and silt, some fine to coarse gravel (moist to wet)(very dense)	
10	S5	69			SM		10
	S6	75					
	S7	104					
15	S8	100/3"				- grading with frequent cobbles and boulders	15
20							20
25						Boring completed @ 20'	25
						Groundwater encountered @ 12'	
30							30

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

- TRACE 0 - 10%  
 LITTLE 10 - 20%  
 SOME 20 - 35%  
 AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 3-S-13

# LOG OF BORING

BORING NO. S-14

COMPLETION DATE: 3/16/12

SURFACE ELEVATION: +1,352 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 3/16/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	28				3" Topsoil	
	S2	66				FILL - Fine to coarse gravel, and fine to coarse sand, trace silt	
5	S3	59	25.7			Red-brown fine to coarse sand, some silt, little fine gravel (moist)(very dense)	5
	S4	159/11"					
	S5	81			SM		
10	S6	112					10
	S7	100/4"					
15	S8	50/0"					15
	CORE RUN NO. 1			6		NQ ROCK CORE RUN NO. 1: 15' to 20'	
				2		REC = 97%	
				3		RQD = 77%	
				3		Red-brown good quality, closely jointed siltstone, grading to sandstone @ 16'	
20				3			20
25						Boring completed @ 20'	25
						*Groundwater not encountered	
30							30

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

- TRACE 0 - 10%  
 LITTLE 10 - 20%  
 SOME 20 - 35%  
 AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 3-S-14

**LOG OF BORING**

BORING NO. S-15

COMPLETION DATE: 3/16/12

SURFACE ELEVATION: +1,355 ft (±)

WATER LEVEL:

JOB NUMBER: 8979-001\*1D

READING DATE: 3/16/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	11				3" Topsoil	
	S2	59				FILL - Brown-dark gray fine to coarse sand, some silt, little fine gravel	
5	S3	83				Gray to red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles and boulders (moist)(very dense)	5
	S4	100/5"					
	S5	100/5"			SM		
10	S6	75/2"				- driller notes cobbles @ 10'-6"	10
	S7	100/5"				- possible bedrock @ 14'-5"	
15							15
20							20
25							25
30						Boring completed @ 14'-5"	30

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH  
 2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%  
 LITTLE 10 - 20%  
 SOME 20 - 35%  
 AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 3-S-15

# LOG OF BORING

BORING NO. S-16

COMPLETION DATE: 3/16/12

SURFACE ELEVATION: +1,344 ft (±)

WATER LEVEL: 7'-6"

JOB NUMBER: 8979-001\*1D

READING DATE: 3/16/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	41				3" Gravel pavement	
	S2	78				Red-brown fine to coarse sand, little to some silt, some fine to coarse gravel, occasional cobbles and boulders (moist to wet)(medium dense to very dense)	
5	S3	37					5
	S4	32	10				
	S5	40					
10	S6	192/11"			SM		10
	S7	28					
15	S8	66					15
20	CORE RUN NO. 1			6		NQ ROCK CORE RUN NO. 1: 20' to 25'	20
				3		REC = 90%	
				3		RQD = 83%	
				4		Light green-gray good quality, medium jointed, coarse grained sandstone, and conglomerate	
25				4			25
						Boring completed @ 25'	
						Groundwater encountered @ 7'-6"	
30							30

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

- TRACE 0 - 10%  
 LITTLE 10 - 20%  
 SOME 20 - 35%  
 AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 3-S-16

# LOG OF TEST PIT

TEST PIT NO: T-1

COMPLETION DATE: 2/28/12

SURFACE ELEVATION: +1,373 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 2/28/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				12" Topsoil	
	S1	9.9	SM	Red-brown fine to coarse sand, some silt, little fine gravel (wet)(dense)	
5	S2		SM	Red-brown fine to coarse sand, little silt, little fine to coarse gravel (moist)(medium dense)	5
	S3	8.7	SM	Red-brown fine to medium sand, and silt, some fine to coarse gravel (moist)(very dense)	
10				- grading with cobbles/boulders @ 9'	10
				- refusal @ 11' on dark green sandstone boulder, or bedrock	
15				Test pit completed @ 11' *Groundwater not encountered Mottling observed @ 3'	15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 4-T-1

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# LOG OF TEST PIT

COMPLETION DATE: 2/28/12  
JOB NUMBER: 8979-001\*1D

TEST PIT NO: T-2  
SURFACE ELEVATION: +1,366 ft (±)

WATER LEVEL: \*  
READING DATE: 2/28/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				12" Topsoil	
	S1		SM	Red-brown fine to coarse sand, little silt, some fine to coarse gravel (moist)(dense)	
5	S2		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, frequent cobbles and boulders (moist)(very dense)	5
				- refusal @ 7' on sandstone bedrock	
10					10
				Test pit completed @ 7'	
				*Groundwater not encountered	
15					15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 4-T-2

MELICK-TULLY AND ASSOCIATES, P.C.  
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**LOG OF TEST PIT**

TEST PIT NO: T-3

COMPLETION DATE: 2/29/12

SURFACE ELEVATION: +1,367 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 2/29/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				8" Topsoil	
	S1			FILL - Orange-brown fine to medium sand, some silt, trace fine gravel	
	S2		SM	Red-brown fine to coarse sand, some silt, little fine to coarse gravel, occasional cobbles and boulders (moist)(dense)	
				- refusal @ 4' on dark gray/green sandstone bedrock	
5					5
10				Test pit completed @ 4' *Groundwater not encountered	10
15					15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 4-T-3



# LOG OF TEST PIT

COMPLETION DATE: 2/28/12  
JOB NUMBER: 8979-001\*1D

TEST PIT NO: T-4  
SURFACE ELEVATION: +1,368 ft (±)

WATER LEVEL: \*  
READING DATE: 2/29/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				8" Topsoil	
	S1		SM	Red-brown fine to coarse sand, little silt, some fine to coarse gravel (moist)(dense)	
5	S2		SM	Red-brown fine to coarse sand, and silt, some fine to coarse gravel, frequent cobbles and boulders (moist)(dense to very dense)	5
				- refusal @ 8' on green/gray sandstone bedrock	
10				Test pit completed @ 8'	10
				*Groundwater not encountered	
15					15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 4-T-4

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**LOG OF TEST PIT**

TEST PIT NO: T-5

COMPLETION DATE: 2/29/12

SURFACE ELEVATION: +1,356 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 2/29/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				24" Topsoil	
	S1	11.5	SM	Light brown fine to coarse sand, and silt, little fine gravel (moist)(dense)	
5	S2	7.4	SM	Red-brown fine to coarse sand, and silt, little fine gravel, frequent cobbles (moist)(very dense)	5
				- refusal @ 7'-6" on green/gray sandstone bedrock	
10					10
				Test pit completed @ 7'-6"	
				*Groundwater not encountered	
				Mottling observed @ 3.5'	
15					15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 4-T-5

**LOG OF TEST PIT**

TEST PIT NO: T-6

COMPLETION DATE: 2/29/12

SURFACE ELEVATION: +1,361 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 2/29/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				18" Topsoil	
	S1		SM	Red-brown fine to medium sand, and silt (moist)(medium dense)	
	S2	16.6	ML	Red-brown silt, trace fine sand (moist)(hard)	
5				- refusal @ 7'-6" on sandstone bedrock	5
10				Test pit completed @ 7'-6" *Groundwater not encountered Mottling observed @ 1'-6"	10
15					15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 4-T-6

**LOG OF TEST PIT**

TEST PIT NO: T-7

COMPLETION DATE: 2/29/12

SURFACE ELEVATION: +1,367 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 2/29/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				18" Topsoil	
	S1		SM	Red-brown fine to medium sand, and silt, trace fine gravel (very moist)(medium dense)	
5	S2		SM	Red-brown fine to coarse sand, and silt, some fine to coarse gravel, occasional cobbles and boulders (moist)(dense to very dense)	5
				- refusal @ 8' on gray/green sandstone bedrock	
10				Test pit completed @ 8'	10
				*Groundwater not encountered	
15					15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 4-T-7

# LOG OF TEST PIT

COMPLETION DATE: 3/05/12      TEST PIT NO: P-1      WATER LEVEL: \*  
 JOB NUMBER: 8979-001\*1D      SURFACE ELEVATION: +1,385 ft (±)      READING DATE: 3/05/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				12" Topsoil	
	S1	11.3		Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles (moist)(dense)	
5	S2		SM	- grading with and fine to coarse gravel	5
				- backhoe refusal encountered @ 7'-6" on nested boulders	
10				Test pit completed @ 7'-6"	10
				*Groundwater not encountered	
15					15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 4-P-1

**LOG OF TEST PIT**

TEST PIT NO: P-2

COMPLETION DATE: 3/05/12

SURFACE ELEVATION: +1,414 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 3/05/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				12" Topsoil	
	S1		SM	Red-brown fine to coarse sand, some silt, little fine to coarse gravel (moist)(dense)	
5	S2		SM	Red-brown fine to coarse sand, some to and silt, some fine to coarse gravel, occasional cobbles and boulders (moist)(very dense)	5
	S3				
10			ML	Red-brown clayey silt, and fine to coarse sand, little fine to coarse gravel (moist)(hard) - backhoe refusal encountered at 10' on sandstone bedrock	10
				Test pit completed @ 10' *Groundwater not encountered	
15					15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 4-P-2

# LOG OF TEST PIT

TEST PIT NO: P-3

COMPLETION DATE: 3/05/12

SURFACE ELEVATION: +1,442 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 3/05/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				6" Topsoil	
	S1	21.5	SM	Red-brown fine to coarse sand, and silt, some fine gravel (moist)(medium dense)	
5	S2		SM	Red-brown fine to coarse sand, and silt, some fine to coarse gravel (moist)(dense)	5
				- grading (very dense) with cobbles and boulders	
10	S3				10
				Test pit completed @ 12'	
				*Groundwater not encountered	
15					15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 4-P-3

MELICK-TULLY AND ASSOCIATES, P.C.  
Geotechnical Engineers and Environmental Consultants

# LOG OF TEST PIT

TEST PIT NO: P-4

COMPLETION DATE: 3/02/12

SURFACE ELEVATION: +1,448 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 3/02/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				8" Topsoil	
	S1			Red-brown fine to coarse sand, some silt, trace fine to coarse gravel (moist)(medium dense)	
5	S2		SM	- grading to some fine to coarse sand, some fine to coarse gravel (very dense)	5
10	S3			Red-brown highly fractured, weathered sandstone	10
				- backhoe refusal encountered @ 11' atop sandstone bedrock	
15				Test pit completed @ 11' *Groundwater not encountered Mottling observed @ 4'-6"	15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1

PLATE: 4-P-4

MELICK-TULLY AND ASSOCIATES, P.C.

Geotechnical Engineers and Environmental Consultants



**LOG OF TEST PIT**

TEST PIT NO: P-5

COMPLETION DATE: 3/05/12      SURFACE ELEVATION: +1,440 ft (±)      WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D      READING DATE: 3/05/12

COMPLETION DATE: 3/05/12  
JOB NUMBER: 8979-001\*1D

TEST PIT NO: P-5  
SURFACE ELEVATION: +1,440 ft (±)

WATER LEVEL: \*  
READING DATE: 3/05/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				8" Topsoil	
	S1	12.5	SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles (moist)(dense)	
5	S2				5
	S3		SM	Red-brown fine to coarse sand, and silt, some fine to coarse gravel, frequent cobbles and boulders (moist)(dense)	
10	S4				10
				Test pit completed @ 12' *Groundwater not encountered	
15					15

### 1. SAMPLE AT AVERAGE SAMPLING DEPTH

TRACE 0 - 10%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1      PLATE: 4-P-5

**MELICK-TULLY AND ASSOCIATES, P.C.**  
Geotechnical Engineers and Environmental Consultants

# LOG OF TEST PIT

TEST PIT NO: P-6

COMPLETION DATE: 3/02/12

SURFACE ELEVATION: +1,448 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 3/02/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				6" Topsoil	
	S1			Red-brown fine to coarse sand, and silt, little to some fine to coarse gravel, occasional to frequent cobbles and boulders (moist)(dense to very dense)	
5	S2		SM		5
10	S3				10
15				Test pit completed @ 12' *Groundwater not encountered	15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1

PLATE: 4-P-6

MELICK-TULLY AND ASSOCIATES, P.C.

Geotechnical Engineers and Environmental Consultants

**LOG OF TEST PIT**

TEST PIT NO: P-7

COMPLETION DATE: 3/05/12

SURFACE ELEVATION: +1,446 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 3/05/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				8" Topsoil	
	S1	15.4	SM	Red-brown fine to coarse sand, some silt, some fine gravel (wet)(medium dense)	
	S2		SM	Red-brown fine to coarse sand, and silt, some fine to coarse gravel (moist)(dense to very dense)	
5				- refusal @ 5' on red sandstone bedrock	5
10				Test pit completed @ 5'	10
				*Groundwater not encountered	
				Mottling observed @ 2'	
15					15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 4-P-7

# LOG OF TEST PIT

TEST PIT NO: P-8

COMPLETION DATE: 3/05/12

SURFACE ELEVATION: +1,450 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 3/05/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				2" Asphalt over 8" of sandy fill	
	S1			Red-brown fine to coarse sand, some silt, little fine to coarse gravel, occasional to frequent cobbles and boulders (moist)(dense)	
5	S2		SM		5
10	S3				10
15				Test pit completed @ 12'	15
				*Perched groundwater seepage encountered @ 10"	
				Mottling observed from 4' to 6'	

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 4-P-8

MELICK-TULLY AND ASSOCIATES, P.C.  
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# LOG OF TEST PIT

COMPLETION DATE: 3/02/12      TEST PIT NO: P-9      WATER LEVEL: 12'  
 JOB NUMBER: 8979-001\*1D      SURFACE ELEVATION: +1,448 ft (±)      READING DATE: 3/02/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				8" Topsoil	
	S1			Red-brown fine to coarse sand, some silt, little fine to coarse gravel (moist)(medium dense)	
5	S2		SM	- grading with some fine to coarse gravel, frequent cobbles and boulders (very dense)	5
10	S3				10
	S4			- backhoe refusal encountered @ 13' on sandstone bedrock	
15				Test pit completed @ 13' Groundwater encountered @ 12' Mottling observed from 2' to 3'	15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1

PLATE: 4-P-9

MELICK-TULLY AND ASSOCIATES, P.C.  
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**LOG OF TEST PIT**

TEST PIT NO: P-10

COMPLETION DATE: 3/05/12

SURFACE ELEVATION: +1,450 ft (±)

WATER LEVEL: 7.5'

JOB NUMBER: 8979-001\*1D

READING DATE: 3/05/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				8" Topsoil	
	S1			Red-brown fine to coarse sand, and silt, some fine to coarse gravel, frequent cobbles (moist)(dense to very dense)	
5			SM	- bulk sample taken from 5' to 6'	5
	S2			- backhoe refusal encountered @ 9' on sandstone bedrock	
10					10
				Test pit completed @ 9'	
				Perched water encountered @ 7'-6"	
15					15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 4-P-10

**LOG OF TEST PIT**

TEST PIT NO: P-11

COMPLETION DATE: 3/06/12

SURFACE ELEVATION: +1,368 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 3/06/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				24" Topsoil	
	S1			Red-brown fine to coarse sand, some silt, some fine to coarse gravel (moist)(dense)	
5			SM		5
	S2			- grading with cobbles/boulders @ 6'	
10					10
				Test pit completed @ 8'	
				*Groundwater not encountered	
15					15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1

PLATE: 4-P-11

**LOG OF TEST PIT**

TEST PIT NO: P-12

COMPLETION DATE: 3/06/12

SURFACE ELEVATION: +1,365 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 3/06/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				18" Topsoil	
	S1			Red-brown fine to coarse sand, some silt, some fine to coarse gravel (moist)(dense)	
5	S2		SM	- grading with frequent cobbles and boulders @ 6'	5
10				Test pit completed @ 7'-6" *Groundwater not encountered Mottling observed @ 3'	10
15					15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1

PLATE: 4-P-12

MELICK-TULLY AND ASSOCIATES, P.C.

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**LOG OF TEST PIT**

TEST PIT NO: P-13

COMPLETION DATE: 3/06/12

SURFACE ELEVATION: +1,375 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 3/06/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				24" Topsoil	
	S1	10.0	SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, frequent cobbles and boulders (moist)(very dense)	
5	S2	10.5	SM	Red-brown fine to coarse sand, and silt, some fine gravel, frequent cobbles and boulders (moist)(very dense)	5
				- backhoe refusal encountered @ 8'-6" on nested boulders	
10				Test pit completed @ 8'-6"	10
				*Groundwater not encountered	
15					15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 4-P-13

**LOG OF TEST PIT**

TEST PIT NO: P-14

COMPLETION DATE: 3/06/12

SURFACE ELEVATION: +1,388 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 3/06/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				18" Topsoil	
	S1		SM	Brown fine to coarse sand, some silt, little fine to coarse gravel (moist)(dense)	
5	S2	7.8	GM	Red-brown fine to coarse gravel, and fine to coarse sand, some silt (moist)(very dense) - bulk sample taken from 5'-6" to 6'-6"	5
10				Green gray highly fractured weathered sandstone - backhoe refusal encountered @ 10' on sandstone bedrock	10
15				Test pit completed @ 10' *Groundwater not encountered	15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 4-P-14

# LOG OF TEST PIT

TEST PIT NO: P-15

COMPLETION DATE: 3/06/12

SURFACE ELEVATION: +1,380 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 3/06/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				18" Topsoil	
	S1		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, frequent cobbles (moist)(dense)	
5	S2		SM	Red-brown fine to coarse sand, and silt, some fine to coarse gravel, frequent cobbles and boulders (moist)(very dense)	5
10					10
15				Test pit completed @ 8' *Groundwater not encountered	15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1

PLATE: 4-P-15

MELICK-TULLY AND ASSOCIATES, P.C.

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**LOG OF TEST PIT**

TEST PIT NO: P-16

COMPLETION DATE: 3/08/12

SURFACE ELEVATION: +1,448 ft (±)

WATER LEVEL: 1'-6"

JOB NUMBER: 8979-001\*1D

READING DATE: 3/08/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				12" Topsoil	
	S1	8.4		Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional to frequent cobbles and boulders (moist)(dense to very dense)	
				- mottling observed from 3' to 5'	
5	S2		SM		5
10	S3				10
15				Test pit completed @ 12'	15
				Slight perched groundwater seepage encountered @ 1'-6"	
				Mottling observed from 3' to 5'	

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1

PLATE: 4-P-16

# LOG OF TEST PIT

TEST PIT NO: P-17

COMPLETION DATE: 3/08/12

SURFACE ELEVATION: +1,455 ft (±)

WATER LEVEL: 6"

JOB NUMBER: 8979-001\*1D

READING DATE: 3/08/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				12" Topsoil	
	S1		SM	Red-brown fine to coarse sand, and clayey silt, little fine to coarse gravel, occasional cobbles and boulders (moist)(dense to very dense)	
5	S2	4.0	GM	Red-brown fine to coarse gravel, some fine to coarse sand, some silt (moist)(very dense)	5
10	S3				10
15				Test pit completed @ 11'	15
				Slight perched groundwater seepage encountered from 6" to 12"	
				Mottling observed from 3' to 4'	

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1

PLATE: 4-P-17

MELICK-TULLY AND ASSOCIATES, P.C.

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**LOG OF TEST PIT**

TEST PIT NO: P-18

COMPLETION DATE: 3/07/12

SURFACE ELEVATION: +1,434 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 3/07/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				18" Topsoil	
	S1		SM	Red-brown fine to coarse sand, some silt, little fine to coarse gravel, occasional cobbles and boulders (moist)(dense)	
5	S2		SM	Red-brown fine to coarse sand, and silt, some fine to coarse gravel, frequent cobbles and boulders (moist)(very dense)	5
10	S3			- backhoe refusal encountered @ 10' atop nested boulders	10
15				Test pit completed @ 10' *Groundwater not encountered	15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1

PLATE: 4-P-18

**LOG OF TEST PIT**

TEST PIT NO: P-19

COMPLETION DATE: 3/08/12      SURFACE ELEVATION: +1,447 ft (±)      WATER LEVEL: 1'

JOB NUMBER: 8979-001\*1D      READING DATE: 3/08/12

**LOG OF TEST PIT**

TEST PIT NO: P-19

COMPLETION DATE: 3/08/12      SURFACE ELEVATION: +1,447 ft (±)      WATER LEVEL: 1'

JOB NUMBER: 8979-001\*1D      READING DATE: 3/08/12

**LOG OF TEST PIT**

TEST PIT NO: P-19

COMPLETION DATE: 3/08/12      SURFACE ELEVATION: +1,447 ft (±)      WATER LEVEL: 1'

JOB NUMBER: 8979-001\*1D      READING DATE: 3/08/12

**LOG OF TEST PIT**

TEST PIT NO: P-19

COMPLETION DATE: 3/08/12      SURFACE ELEVATION: +1,447 ft (±)      WATER LEVEL: 1'

JOB NUMBER: 8979-001\*1D      READING DATE: 3/08/12

**LOG OF TEST PIT**

TEST PIT NO: P-19

COMPLETION DATE: 3/08/12      SURFACE ELEVATION: +1,447 ft (±)      WATER LEVEL: 1'

JOB NUMBER: 8979-001\*1D      READING DATE: 3/08/12

**LOG OF TEST PIT**

TEST PIT NO: P-19

COMPLETION DATE: 3/08/12      SURFACE ELEVATION: +1,447 ft (±)      WATER LEVEL: 1'

JOB NUMBER: 8979-001\*1D      READING DATE: 3/08/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				12" Topsoil	
	S1		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel (moist)(dense)	
	S2				
5	S3		SM	Red-brown fine to coarse sand, and silt, some fine to coarse gravel, frequent cobbles and boulders (moist)(very dense)	5
10	S4				10
15				Test pit completed @ 12' Slight perched groundwater seepage encountered @ 1'	15

Typist/Date: kt/mh 3/12

**MELICK-TULLY AND ASSOCIATES, P.C.**  
Geotechnical Engineers and Environmental Consultants

# LOG OF TEST PIT

COMPLETION DATE: 3/08/12      TEST PIT NO: P-20      SURFACE ELEVATION: +1,454 ft (±)      WATER LEVEL: 1'-6"      READING DATE: 3/08/12  
 JOB NUMBER: 8979-001\*1D

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				12" Topsoil	
	S1		SM	Red-brown fine to coarse sand, some silt, little fine to coarse gravel, occasional cobbles (moist)(dense)	
5	S2		SM	Red-brown fine to coarse sand, and silt, some fine to coarse gravel, frequent cobbles and boulders (moist)(very dense)	5
10	S3				10
15				Test pit completed @ 13' Slight perched groundwater seepage encountered @ 1'-6" Mottling observed from 4' to 8'	15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 4-P-20

MELICK-TULLY AND ASSOCIATES, P.C.  
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**LOG OF TEST PIT**

TEST PIT NO: P-21

COMPLETION DATE: 3/08/12

SURFACE ELEVATION: +1,417 ft (±)

WATER LEVEL: 3'

JOB NUMBER: 8979-001\*1D

READING DATE: 3/08/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				18" Topsoil	
5	S1	8.8	SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles and boulders (moist)(very dense)	5
	S2				
	S3	8.3	SM	Red-brown and gray fine to coarse sand, and silt, some fine to coarse gravel, few cobbles (moist)(very dense)	
10					10
				Test pit completed @ 10'	
				Slight perched groundwater seepage encountered @ 3' to 4'	
15					15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1

PLATE: 4-P-21

**LOG OF TEST PIT**

TEST PIT NO: P-22

COMPLETION DATE: 3/07/12

SURFACE ELEVATION: +1,428 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 3/07/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				18" Topsoil	
	S1		SM	Red-brown fine to coarse sand, some silt, little fine to coarse gravel (moist)(dense)	
5	S2		SM	Red-brown fine to coarse sand, and silt, some fine to coarse gravel, frequent cobbles and boulders (moist)(very dense)	5
10	S3				10
15				Test pit completed @ 12' *Groundwater not encountered Mottling observed from 4' to 6'	15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1

PLATE: 4-P-22

MELICK-TULLY AND ASSOCIATES, P.C.

Geotechnical Engineers and Environmental Consultants

**LOG OF TEST PIT**

TEST PIT NO: P-23

COMPLETION DATE: 3/07/12

SURFACE ELEVATION: +1,433 ft (±)

WATER LEVEL: 1'-6"

JOB NUMBER: 8979-001\*1D

READING DATE: 3/07/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				18" Topsoil	
	S1		SM	Red-brown fine to coarse sand, some silt, little fine gravel (moist)(dense)	
5	S2				5
	S3				
			SM	Brown fine to coarse sand, and silt, some fine to coarse gravel, frequent cobbles and boulders (moist)(very dense)	
	S4				
10					10
				Test pit completed @ 11'	
				Slight perched groundwater seepage encountered @ 1'-6"	
				Mottling observed from 8' to 9'-6"	
15					15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1

PLATE: 4-P-23

MELICK-TULLY AND ASSOCIATES, P.C.

Geotechnical Engineers and Environmental Consultants

**LOG OF TEST PIT**

TEST PIT NO: P-24

COMPLETION DATE: 3/07/12

SURFACE ELEVATION: +1,442 ft (±)

WATER LEVEL: 1'-6"

JOB NUMBER: 8979-001\*1D

READING DATE: 3/07/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				18" Topsoil	
	S1				
			SM	Red-brown fine to coarse sand, some silt, little fine to coarse gravel (moist)(dense)	
5					5
	S2				
			SM	Red-brown fine to coarse sand, and silt, some fine to coarse gravel, frequent cobbles and boulders (moist)(very dense)	
10					10
	S3				
				Test pit completed @ 11'	
				Slight perched groundwater seepage encountered @ 1'-6"	
				Mottling observed from 5'-6" to 8'	
15					15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1

PLATE: 4-P-24

MELICK-TULLY AND ASSOCIATES, P.C.

Geotechnical Engineers and Environmental Consultants

**LOG OF TEST PIT**

TEST PIT NO: P-25

COMPLETION DATE: 3/07/12

SURFACE ELEVATION: +1,410 ft (±)

WATER LEVEL: 2'

JOB NUMBER: 8979-001\*1D

READING DATE: 3/07/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				18" Topsoil	
	S1			Red-brown fine to coarse sand, and silt, some fine to coarse gravel, occasional cobbles (moist)(very dense)	
5	S2		SM	- grading with frequent cobbles and boulders	5
	S3				
10	S4				10
				Test pit completed @ 12'	
				Slight perched groundwater seepage encountered @ 2'	
				Mottling observed from 8' to 10'	
15					15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 4-P-25

# LOG OF TEST PIT

TEST PIT NO: R-1

COMPLETION DATE: 3/05/12

SURFACE ELEVATION: +1,427 ft (±)

WATER LEVEL: 2'-3'

JOB NUMBER: 8979-001\*1D

READING DATE: 3/05/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				6" Topsoil	
	S1	9.4	SM	Red-brown fine to coarse sand, and silt, some fine to coarse gravel, occasional cobbles (moist)(dense)	
				- grading (wet)	
5	S2	4.7	GM	Red-brown fine to coarse gravel, and fine to coarse sand, some silt, frequent cobbles and boulders (moist)(very dense)	5
10					10
15				Test pit completed @ 10'	15
				Perched groundwater seepage encountered from 2' to 3'	

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1

PLATE: 4-R-1

MELICK-TULLY AND ASSOCIATES, P.C.

Geotechnical Engineers and Environmental Consultants

**LOG OF TEST PIT**

TEST PIT NO: R-2

COMPLETION DATE: 3/05/12

SURFACE ELEVATION: +1,410 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 3/05/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				12" Topsoil	
5	S1		SM	Red-brown fine to coarse sand, some silt, little fine to coarse gravel, occasional cobbles and boulders (moist)(dense)	5
	S2		SM	Red-brown fine to coarse sand, and silt, trace fine to coarse gravel, frequent cobbles and boulders (moist)(very dense)	
10	S3			- backhoe refusal encountered @ 10'-6" on sandstone bedrock	10
15				Test pit completed @ 10'-6" *Groundwater not encountered	15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 4-R-2

**LOG OF TEST PIT**

TEST PIT NO: R-3

COMPLETION DATE: 3/05/12

SURFACE ELEVATION: +1,439 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 3/05/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				6" Topsoil	
				FILL - Light brown silt, little fine to coarse sand, trace fine gravel	
	S1		SM	Red-brown fine to coarse sand, some silt, little fine gravel (moist)(dense)	
5				Red-brown fine to coarse sand, and silt, some fine to coarse gravel, frequent cobbles and boulders (moist)(very dense)	5
	S2		SM		
10				- backhoe refusal encountered @ 11' on nested boulders	10
				Test pit completed @ 11'	
				*Groundwater not encountered	
15					15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 4-R-3



**LOG OF TEST PIT**

TEST PIT NO: R-4

COMPLETION DATE: 3/06/12

SURFACE ELEVATION: +1,432 ft (±)

WATER LEVEL: 2'

JOB NUMBER: 8979-001\*1D

READING DATE: 3/06/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				24" Topsoil	
5	S1	7.8	SM	Red-brown fine to coarse sand, and silt, little fine to coarse gravel, occasional cobbles (moist)(dense)	5
10	S2	8.3	SM	Red-brown fine to coarse sand, and silt, little fine gravel, frequent cobbles and boulders (moist)(very dense)	10
	S3				
15				Test pit completed @ 12'  Perched groundwater seepage encountered @ 2'	15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 4-R-4

**LOG OF TEST PIT**

TEST PIT NO: R-5

COMPLETION DATE: 3/06/12

SURFACE ELEVATION: +1,442 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 3/06/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				18" Topsoil	
	S1		SM	Red-brown fine to coarse sand, some silt, little fine to coarse gravel, occasional cobbles (moist)(dense)	
5	S2		SM	Red-brown fine to coarse sand, and silt, some fine to coarse gravel, frequent cobbles and boulders (moist)(very dense)	5
10	S3				10
15				Test pit completed @ 12'  Slight perched groundwater seepage encountered @ 18"  Mottling observed @ 3'	15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 4-R-5

**LOG OF TEST PIT**

TEST PIT NO: R-6

COMPLETION DATE: 3/06/12

SURFACE ELEVATION: +1,432 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 3/06/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				18" Topsoil	
	S1			Red-brown fine to coarse sand, some to and silt, little fine to coarse gravel, occasional cobbles (moist)(very dense)	
5	S2		SM	- grading with frequent cobbles and boulders @ 7'	5
10	S3				10
15				Test pit completed @ 12' *Groundwater not encountered Mottling observed from 4' to 6'	15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 4-R-6

**LOG OF TEST PIT**

TEST PIT NO: R-7

COMPLETION DATE: 3/05/12	SURFACE ELEVATION: +1,448 ft (±)	WATER LEVEL: *
JOB NUMBER: 8979-001*1D		READING DATE: 3/05/12

WATER LEVEL: \*

READING DATE: 3/05/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				12" Topsoil	
	S1	8.9	ML	Red-brown silt, some fine to coarse sand (moist)(medium)	
5	S2	6.8	SM	Red-brown fine to coarse sand, and silt, some fine gravel, frequent cobbles and boulders (moist)(very dense)	5
	S3				
10					10

SOIL DESCRIPTION MODIFIERS:

- TRACE 0 - 10%

SOME 20 - 35%

AND OVER 35%

Sheet: 1 of 1      PLATE: 4-R-7

MELICK-TULLY AND ASSOCIATES, P.C.  
Geotechnical Engineers and Environmental Consultants

**LOG OF TEST PIT**

TEST PIT NO: R-8

COMPLETION DATE: 3/05/12

SURFACE ELEVATION: +1,453 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-001\*1D

READING DATE: 3/05/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				12" Topsoil	
	S1		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles (moist)(dense)	
5	S2		SM	Red-brown fine to coarse sand, and silt, some fine to coarse gravel, frequent cobbles and boulders (moist)(very dense)	5
10	S3			- backhoe refusal encountered @ 10' on nested boulders	10
15				Test pit completed @ 10' *Groundwater not encountered	15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 4-R-8

# LOG OF TEST PIT

TEST PIT NO: R-9

COMPLETION DATE: 3/05/12

SURFACE ELEVATION: +1,453 ft (±)

WATER LEVEL: 7'-8'

JOB NUMBER: 8979-001\*1D

READING DATE: 3/05/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				8" Topsoil	
5	S1		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles and boulders (moist)(very dense)	5
	S2		SM	Red-brown fine to coarse sand, and silt, some fine to coarse gravel, frequent cobbles and boulders (moist)(very dense)	
10				- backhoe refusal encountered @ 9' on nested boulders	10
15				Test pit completed @ 9'	15
				Slight perched groundwater seepage encountered from 7' to 8'	
				Mottling observed @ 6'	

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1

PLATE: 4-R-9

MELICK-TULLY AND ASSOCIATES, P.C.

Geotechnical Engineers and Environmental Consultants

MAJOR DIVISIONS			LETTER SYMBOL	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS  More than 50% of material is <u>LARGER</u> than No. 200 Sieve	GRAVEL & GRAVELLY SOILS  More than 50% of coarse fraction <u>RETAINED</u> on No. 4 Sieve	CLEAN GRAVELS  (Little or no fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines.
		GRAVELS WITH FINES  (Appreciable amount of fines)	GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines
			GM	Silty gravels, gravel-sand-silt mixtures.
			GC	Clayey gravels, gravel-sand-clay mixtures.
	SAND AND SANDY SOILS  More than 50% of coarse fraction <u>PASSING</u> a No. 4 Sieve	CLEAN SAND  (Little or no fines)	SW	Well-graded sands, gravelly sands, little or no fines.
			SP	Poorly-graded sands, gravelly sands, little or no fines.
		SANDS WITH FINES  (Appreciable amount of fines)	SM	Silty sands, sand-silt mixtures
			SC	Clayey sands, sand-clay mixtures.
FINE GRAINED SOILS  More than 50% of material is <u>SMALLER</u> than No. 200 Sieve.	SILTS AND CLAYS  Liquid limit LESS than 50		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
			OL	Organic silts and organic silty clays of low plasticity.
	SILTS AND CLAYS  Liquid limit GREATER than 50		MH	Inorganic silts, micaceous or diatomaceous fine sand or silty soils.
			CH	Inorganic clays of high plasticity, fat clays.
			OH	Organic clays of medium to high plasticity, organic silts.
HIGHLY ORGANIC SOILS			PT	Peat, humus, swamp soils with high organic contents

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS.

GRADATION*		COMPACTNESS*		CONSISTENCY*	
		sand and/or gravel		clay and/or silt	
% Finer by Weight		Relative Density		Range of Shearing Strength in Pounds per Square Foot	
Trace	0% to 10%	Loose	0% to 40%	Very Soft	less than 250
Little	10% to 20%	Medium Dense	40% to 70%	Soft	250 to 500
Some	20% to 35%	Dense	70% to 90%	Medium	500 to 1000
And	35% to 50%	Very Dense	90% to 100%	Stiff	1000 to 2000
				Very Stiff	2000 to 4000
				Hard	Greater than 4000

\*Values are from laboratory or field test data, where applicable. When no testing was performed, values are estimated.

## UNIFIED SOIL CLASSIFICATION SYSTEM

### SOIL CLASSIFICATION CHART

**ENGINEERING ROCK CLASSIFICATION  
AND CORE DESCRIPTION CHART (1)**

**DESCRIPTIVE TERMINOLOGY FOR JOINT SPACING**

<u>Description Term</u>	<u>Spacing of Joints</u>
Very Close	Less than 2 inches
Close	2 inches to 1 foot
Moderately Close	1 foot to 3 feet
Wide	3 feet to 10 feet
Very Wide	Greater than 10 feet

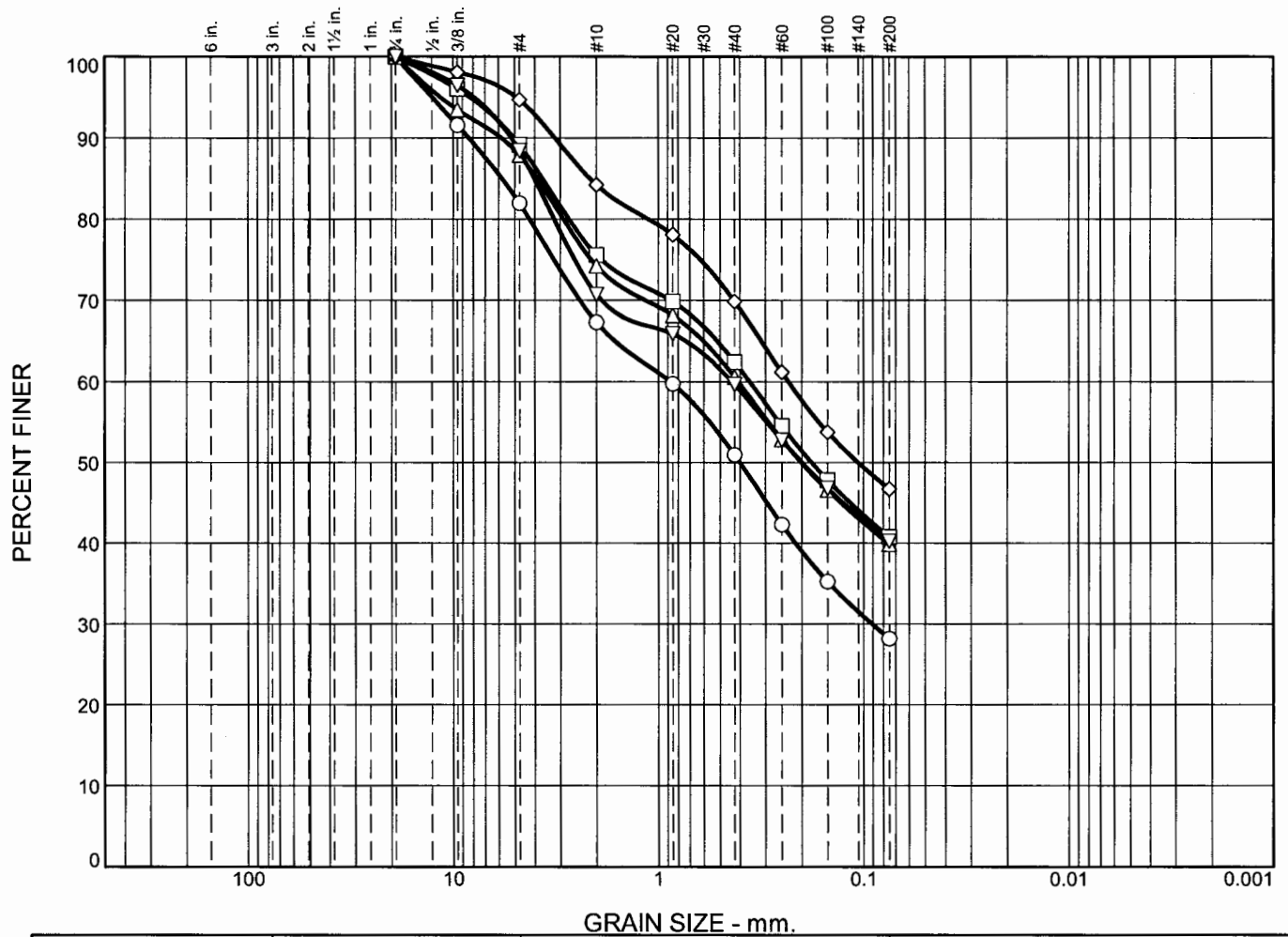
**RELATIONSHIP OF RQD AND ROCK QUALITY**

<u>Rock Quality Designation (RQD) (2)</u>	<u>Description of Rock Quality</u>
0 - 25%	Very Poor
25 - 50%	Poor
50 - 75%	Fair
75 - 90%	Good
90 - 100%	Excellent

- (1) Core description system is based on a suggested system proposed in the ASCE Rock Mechanics Seminar in April and May of 1968 entitled "Geologic Considerations of Rock Mechanics" as presented by Don V. Deere.
- (2) "Rock Quality Designation" is defined as a modified core recovery ratio which considers only pieces of core that are at least 4 inches long. Obvious fractures induced by drilling are ignored in this system.



# Gradation Curve(s)



	% +3"	% Gravel		% Sand			% Fines
		Coarse	Fine	Coarse	Medium	Fine	
○	0.0	0.0	18.0	14.7	16.3	22.8	28.2
□	0.0	0.0	10.8	13.6	13.1	21.7	40.8
Δ	0.0	0.0	12.1	13.6	13.7	20.7	39.9
◇	0.0	0.0	5.3	10.5	14.3	23.2	46.7
▽	0.0	0.0	11.6	17.7	11.0	19.5	40.2

SOIL DATA					
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	C-1	S-2	2-4	Fine to coarse Sand, some Silt, little fine Gravel. (MC=7.0%)	SM
□	C-1	S-4	10-12	Fine to coarse Sand, and Silt, little fine Gravel. (MC=9.3%)	SM
Δ	C-1	S-7	25-27	Fine to coarse Sand, and Silt, little fine Gravel. (MC=8.3%)	SM
◇	C-2	S-2	2-4	Fine to coarse Sand, and Silt, trace fine Gravel. (MC=9.2%)	SM
▽	C-2	S-3	5-7	Fine to coarse Sand, and Silt, little fine Gravel. (MC=8.9%)	SM

**Melick-Tully & Associates, P.C.**

**South Bound Brook, NJ**

**Client:** Concord Resort Development

**Project:** Concord Resort Development, Thompson, NY

**Project No.:** 8979-001

**Plate** 7A

# Gradation Curve(s)



	% +3"	% Gravel		% Sand			% Fines
		Coarse	Fine	Coarse	Medium	Fine	
○	0.0	0.0	23.0	15.1	26.0	17.8	18.1
□	0.0	0.0	8.7	12.5	14.2	21.7	42.9
Δ	0.0	0.0	10.0	15.3	13.4	18.6	42.7
◇	0.0	0.0	19.7	14.7	17.2	20.8	27.6
▽	0.0	0.0	19.3	13.5	11.7	18.0	37.5

SOIL DATA					
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	C-2	S-4	10-12	F-c Sand, some fine Gravel, little Silt. (MC=3.1%)	SM
□	C-3	S-1	0-2	Fine to coarse Sand, and Silt, trace fine Gravel. (MC=3.0%)	SM
Δ	C-4	S-2	2-4	Fine to coarse Sand, and Silt, little fine Gravel. (MC=8.8%)	SM
◇	C-4	S-3	5-7	Fine to coarse Sand, some Silt, little fine Gravel. (MC=6.2%)	SM
▽	C-5	S-2	2-4	Fine to coarse Sand, and Silt, little fine Gravel. (MC=8.0%)	SM

**Melick-Tully & Associates, P.C.**

**South Bound Brook, NJ**

**Client:** Concord Resort Development

**Project:** Concord Resort Development, Thompson, NY

**Project No.:** 8979-001

**Plate** 7B

# Gradation Curve(s)



	% +3"	% Gravel		% Sand			% Fines
		Coarse	Fine	Coarse	Medium	Fine	
○	0.0	0.0	15.3	11.7	10.5	19.7	42.8
□	0.0	0.0	10.7	14.0	14.6	20.2	40.5
Δ	0.0	10.3	6.4	11.0	14.4	19.6	38.3
◇	0.0	0.0	10.9	9.8	16.1	26.3	36.9
▽	0.0	9.2	9.0	12.5	12.2	16.4	40.7

SOIL DATA					
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	C-5	S-3	5-7	Fine to coarse Sand, and Silt, little fine Gravel. (MC=9.4%)	SM
□	C-6	S-3	5-7	Fine to coarse Sand, and Silt, little fine Gravel. (MC=7.4%)	SM
Δ	C-6	S-4	10-12	Fine to coarse Sand, and Silt, little f-c Gravel. (MC=7.2%)	SM
◇	C-9	S-3	5-7	Fine to coarse Sand, and Silt, little fine Gravel. (MC=7.8%)	SM
▽	C-9	S-7	25-27	Fine to coarse Sand, and Silt, little f-c Gravel. (MC=8.3%)	SM

**Melick-Tully & Associates, P.C.**

**South Bound Brook, NJ**

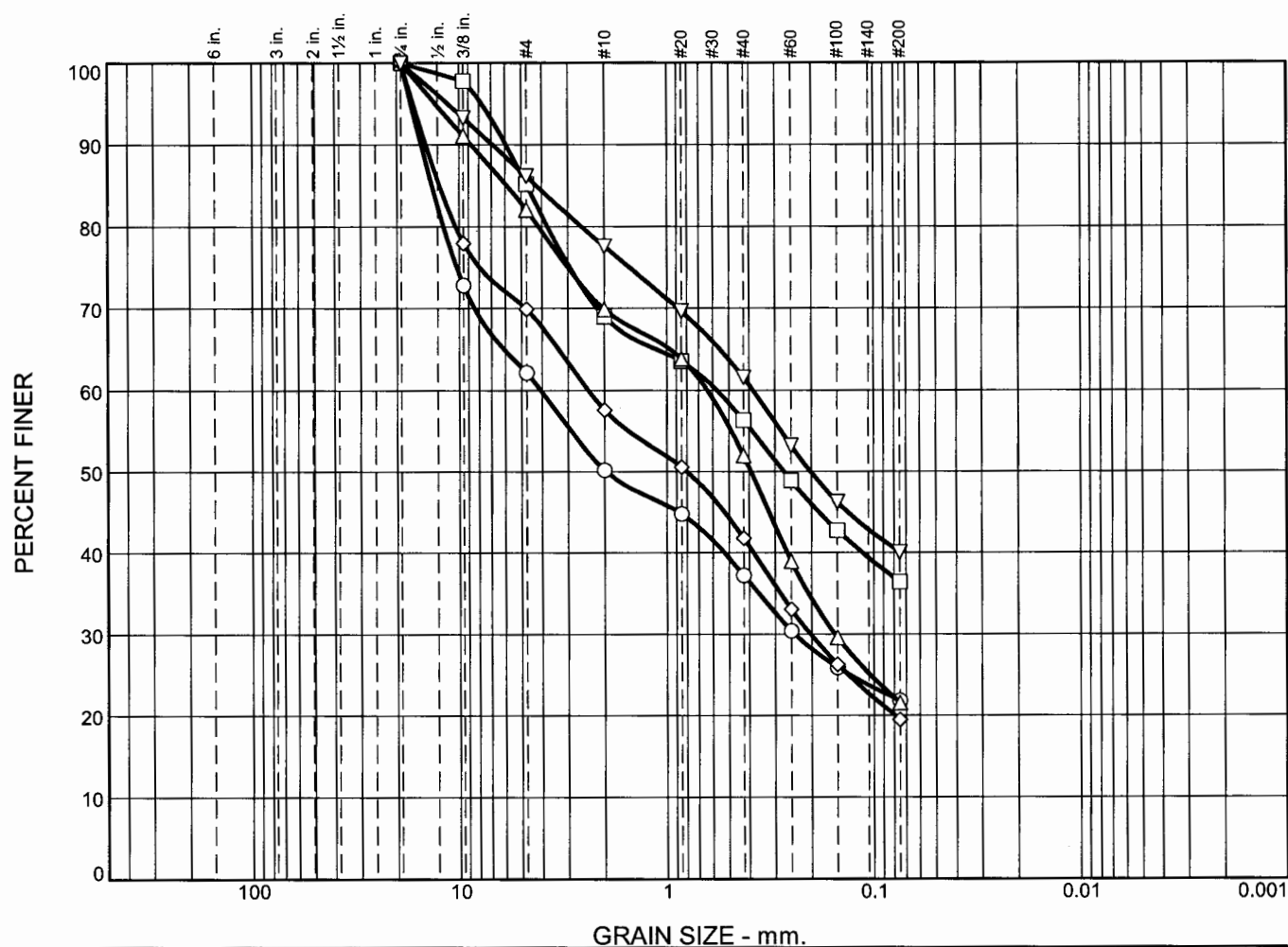
**Client:** Concord Resort Development

**Project:** Concord Resort Development, Thompson, NY

**Project No.:** 8979-001

**Plate** 7C

# Gradation Curve(s)



	% +3"	% Gravel		% Sand			% Fines
		Coarse	Fine	Coarse	Medium	Fine	
○	0.0	0.0	37.9	11.9	13.0	15.4	21.8
□	0.0	0.0	14.8	16.2	12.7	19.9	36.4
Δ	0.0	0.0	17.9	12.2	17.9	30.4	21.6
◇	0.0	0.0	30.1	12.3	15.8	22.3	19.5
▽	0.0	0.0	13.8	8.6	16.1	21.4	40.1

SOIL DATA					
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	C-11	S-2	2-4	Fine to coarse Sand, and fine Gravel, some Silt. (MC=5.4%)	SM
□	C-11	S-4	10-12	Fine to coarse Sand, and Silt, little fine Gravel. (MC=9.7%)	SM
Δ	C-13	S-4	10-12	Fine to coarse Sand, some Silt, little fine Gravel. (MC=7.7%)	SM
◇	C-15	S-5	15-17	Fine to coarse Sand, some fine Gravel, little Silt. (MC=5.4%)	SM
▽	C-19	S-5	15-17	Fine to coarse Sand, and Silt, little fine Gravel. (MC=8.1%)	SM

**Melick-Tully & Associates, P.C.**

**South Bound Brook, NJ**

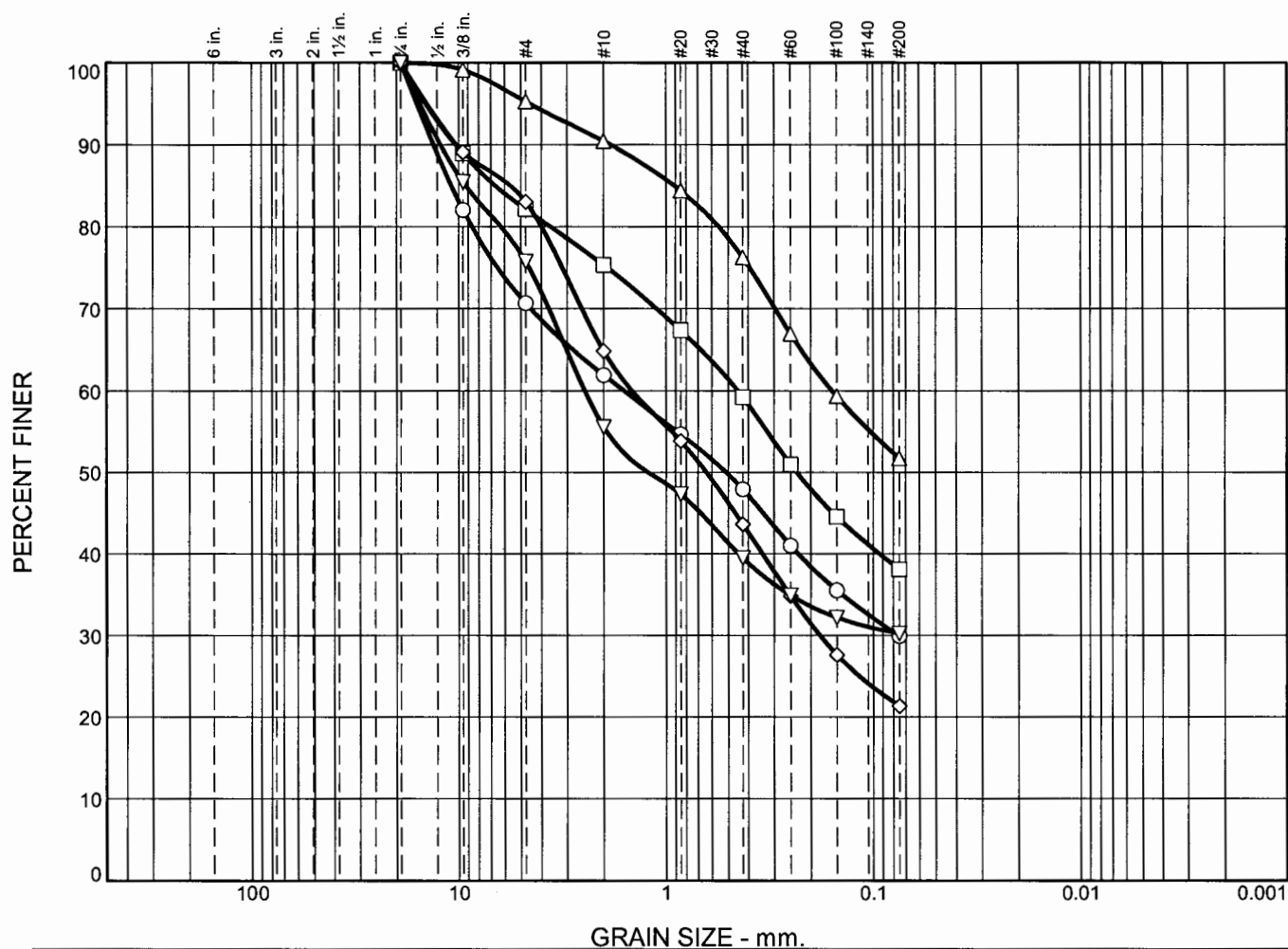
**Client:** Concord Resort Development

**Project:** Concord Resort Development, Thompson, NY

**Project No.:** 8979-001

**Plate** 7D

# Gradation Curve(s)



	% +3"	% Gravel		% Sand			% Fines
		Coarse	Fine	Coarse	Medium	Fine	
○	0.0	0.0	29.3	8.8	14.0	18.0	29.9
□	0.0	0.0	17.9	6.7	16.2	21.1	38.1
△	0.0	0.0	4.7	4.9	14.1	24.6	51.7
◇	0.0	0.0	16.9	18.2	21.3	22.3	21.3
▽	0.0	0.0	24.2	20.2	16.1	9.3	30.2

SOIL DATA					
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	S-1	S-2	2-4	Fine to coarse Sand, some Silt, some fine Gravel. (MC=5.3%)	SM
□	S-1	S-3	4-6	Fine to coarse Sand, and Silt, little fine Gravel. (MC=5.9%)	SM
△	S-3	S-2	2-4	Silt, and fine to coarse Sand, trace fine Gravel. (MC=8.7%)	ML
◇	S-4	S-1	0-2	Fine to coarse Sand, some Silt, little fine Gravel. (MC=32.2%)	SM
▽	S-4	S-2	5-7	Fine to coarse Sand, some Silt, some fine Gravel. (MC=8.8%)	SM

**Melick-Tully & Associates, P.C.**

**South Bound Brook, NJ**

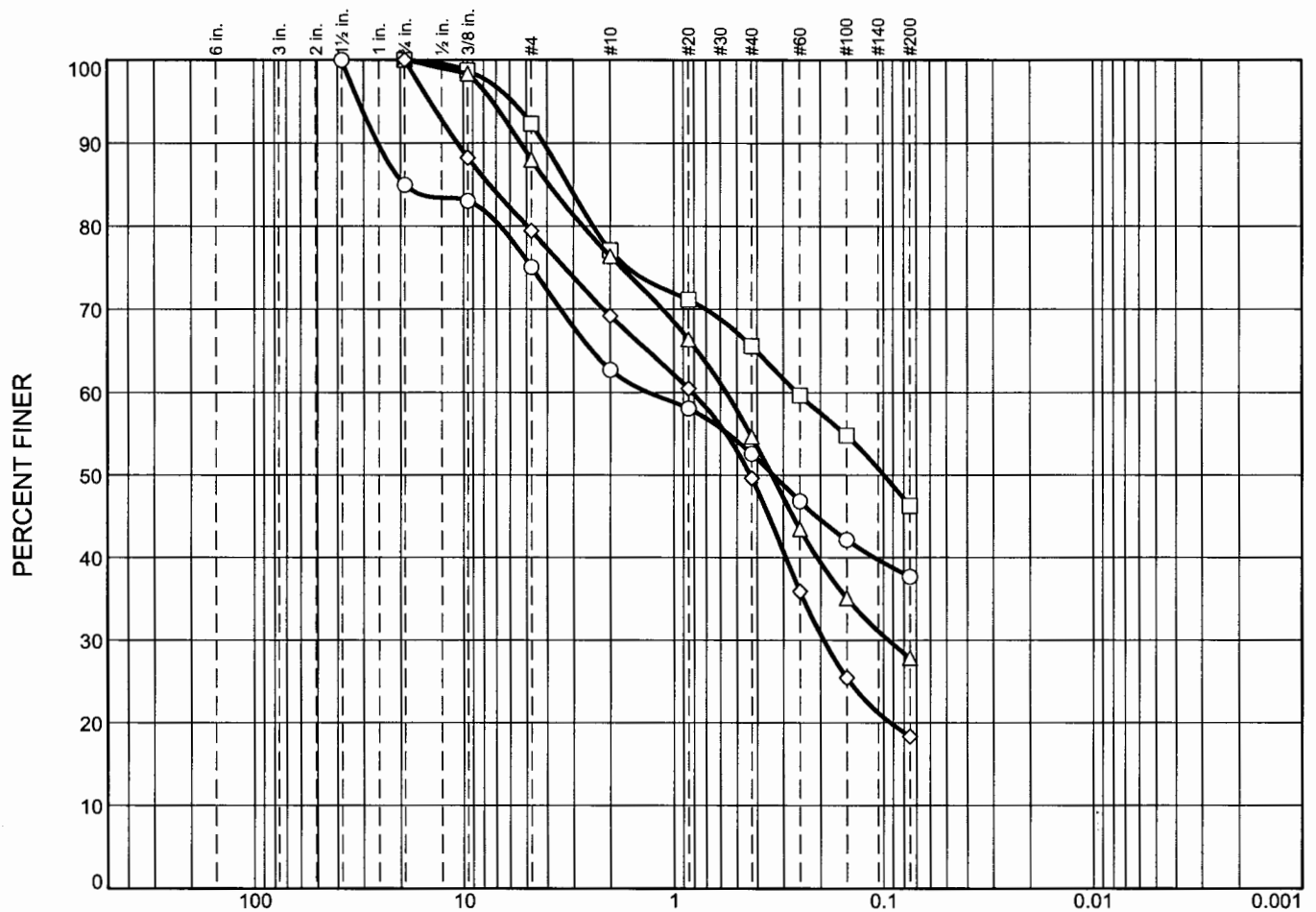
**Client:** Concord Resort Development

**Project:** Concord Resort Development, Thompson, NY

**Project No.:** 8979-001

**Plate** 7E

# Gradation Curve(s)



GRAIN SIZE - mm.

	% +3"	% Gravel		% Sand			% Fines
		Coarse	Fine	Coarse	Medium	Fine	
○	0.0	15.0	9.9	12.4	10.1	14.9	37.7
□	0.0	0.0	7.7	15.2	11.5	19.3	46.3
△	0.0	0.0	12.0	11.6	21.7	26.9	27.8
◇	0.0	0.0	20.5	10.3	19.6	31.3	18.3

## SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	S-4	S-3	10-12	Fine to coarse Sand, and Silt, some f-c Gravel. (MC=7.6%)	SM
□	S-12	S-3	4-6	Fine to coarse Sand, and Silt, trace fine Gravel. (MC=39.0%)	SM
△	S-14	S-3	4-6	Fine to coarse Sand, some Silt, little fine Gravel. (MC=25.7%)	SM
◇	S-16	S-4	6-8	Fine to coarse Sand, some fine Gravel, little Silt. (MC=10.0%)	SM

**Melick-Tully & Associates, P.C.**

**South Bound Brook, NJ**

**Client:** Concord Resort Development

**Project:** Concord Resort Development, Thompson, NY

**Project No.:** 8979-001

**Plate** 7F

# Gradation Curve(s)



	% +3"	% Gravel		% Sand			% Fines
		Coarse	Fine	Coarse	Medium	Fine	
○	0.0	0.0	19.6	15.7	16.7	19.2	28.8
□	0.0	7.8	13.2	1.4	12.7	18.8	46.1
Δ	0.0	0.0	15.3	8.5	10.5	22.3	43.4
◇	0.0	0.0	14.8	7.9	16.0	24.6	36.7
▽	0.0	0.0	0.0	0.0	0.1	3.0	96.9

SOIL DATA					
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	TP-T-1	S-1	3	Fine to coarse Sand, some Silt, little fine Gravel. (MC=9.9%)	SM
□	TP-T-1	S-3	6.5	Fine to medium Sand, and Silt, some f-c Gravel. (MC=8.7%)	SM
Δ	TP-T-5	S-1	3	Fine to coarse Sand, and Silt, little fine Gravel. (MC=11.5%)	SM
◇	TP-T-5	S-2	6	Fine to coarse Sand, and Silt, little fine Gravel. (MC=7.4%)	SM
▽	TP-T-6	S-2	4.5	Silt, trace fine Sand. (MC=16.6%)	ML

**Melick-Tully & Associates, P.C.**

**South Bound Brook, NJ**

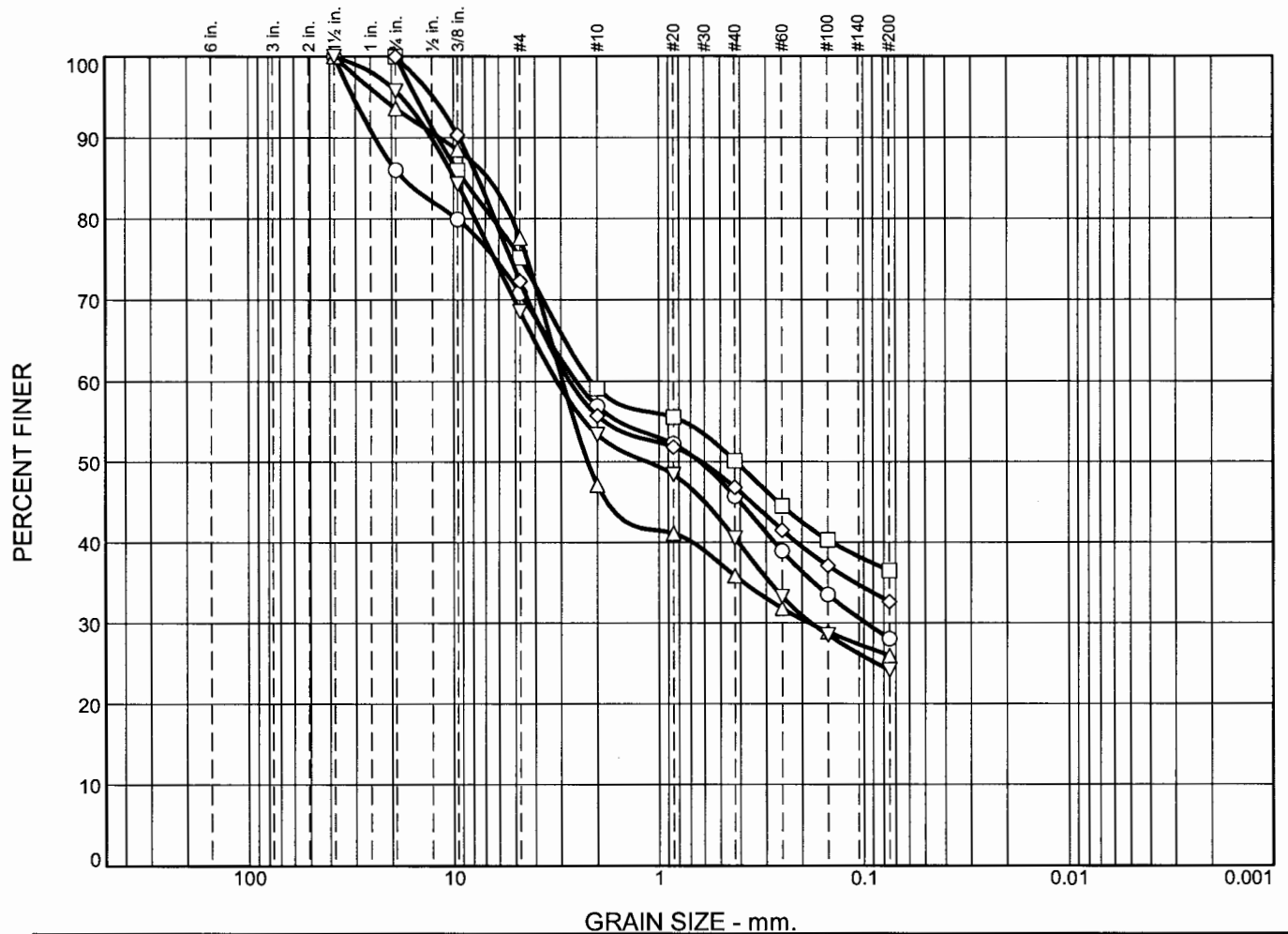
**Client:** Concord Resort Development

**Project:** Concord Resort Development, Thompson, NY

**Project No.:** 8979-001

**Plate** 7G

# Gradation Curve(s)



	% +3"	% Gravel		% Sand			% Fines
		Coarse	Fine	Coarse	Medium	Fine	
○	0.0	14.0	15.2	13.9	11.2	17.7	28.0
□	0.0	0.0	24.8	16.1	9.0	13.6	36.5
△	0.0	6.4	15.9	30.6	11.3	9.8	26.0
◇	0.0	0.0	27.7	16.6	8.9	14.2	32.6
▽	0.0	4.2	27.2	15.2	12.9	16.4	24.1

SOIL DATA					
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	TP-P-1	S-1	3.5	Fine to coarse Sand, some Silt, some f-c Gravel. (MC=11.3%)	SM
□	TP-P-3	S-1	2	Fine to coarse Sand, and Silt, some fine Gravel. (MC=21.5%)	SM
△	TP-P-5	S-1	2	Fine to coarse Sand, some Silt, some f-c Gravel. (MC=12.5%)	SM
◇	TP-P-7	S-1	1.5	Fine to coarse Sand, some Silt, some fine Gravel. (MC=15.4%)	SM
▽	TP-P-13	S-1	3.5	Fine to coarse Sand, some Silt, some f-c Gravel. (MC=10.0%)	SM

**Melick-Tully & Associates, P.C.**

**South Bound Brook, NJ**

**Client:** Concord Resort Development

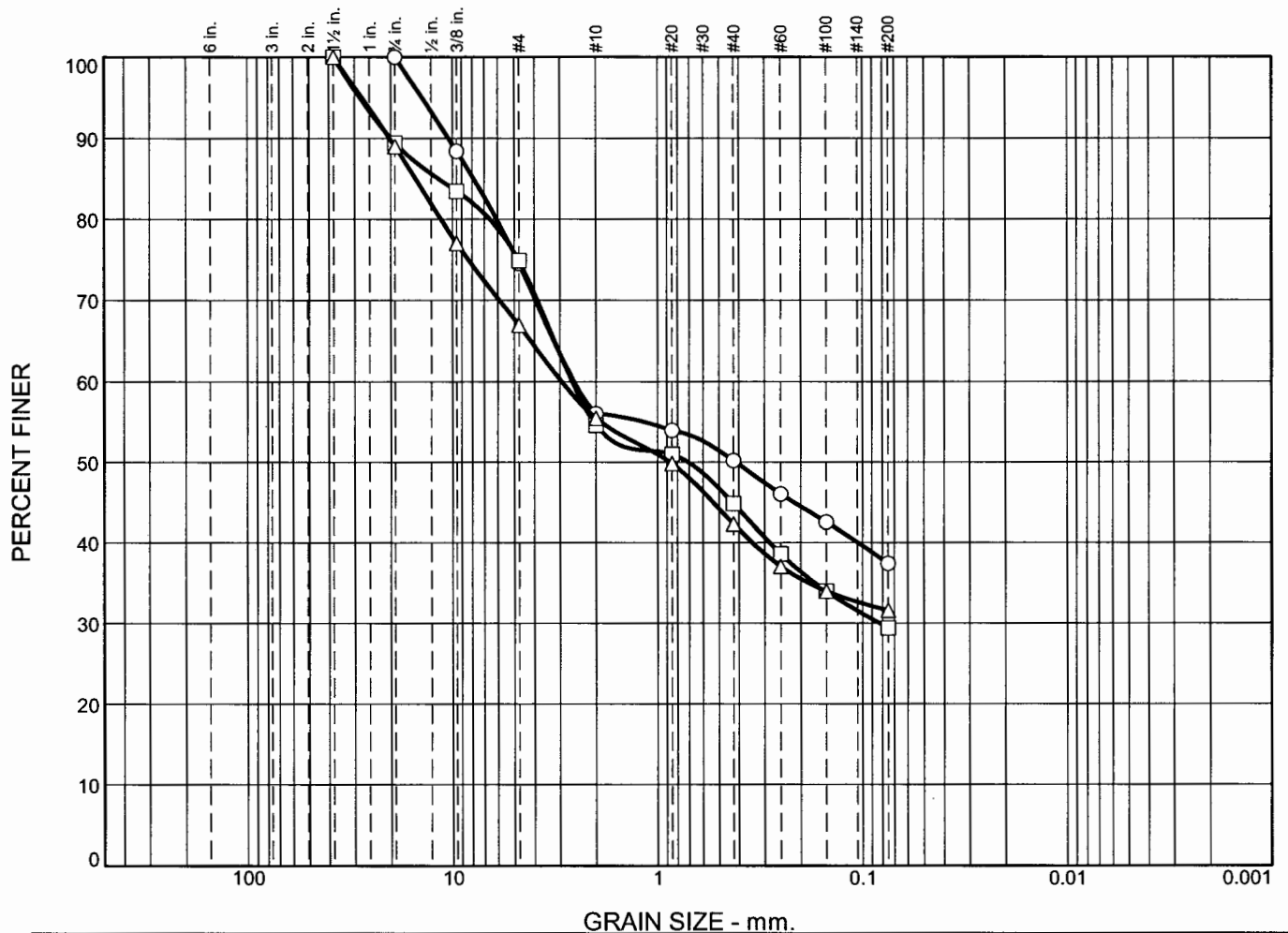
**Project:** Concord Resort Development, Thompson, NY

**Project No.:** 8979-001

**Plate** 7H



# Gradation Curve(s)



	% +3"	% Gravel		% Sand			% Fines
		Coarse	Fine	Coarse	Medium	Fine	
○	0.0	0.0	25.4	18.6	5.8	12.8	37.4
□	0.0	10.6	14.5	20.3	9.8	15.4	29.4
△	0.0	11.0	22.1	11.4	13.2	10.7	31.6

SOIL DATA					
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	TP-P-13	S-2	5	Fine to coarse Sand, and Silt, some fine Gravel. (MC=10.5%)	SM
□	TP-P-16	S-1	2	Fine to coarse Sand, some Silt, some f-c Gravel. (MC=8.4%)	SM
△	TP-P-21	S-1	3	Fine to coarse Sand, some Silt, some f-c Gravel. (MC=8.8%)	SM

**Melick-Tully & Associates, P.C.**

**South Bound Brook, NJ**

**Client:** Concord Resort Development

**Project:** Concord Resort Development, Thompson, NY

**Project No.:** 8979-001

**Plate** 71

# Gradation Curve(s)



	% +3"	% Gravel		% Sand			% Fines
		Coarse	Fine	Coarse	Medium	Fine	
○	0.0	4.2	16.3	9.8	11.8	14.0	43.9
□	0.0	11.2	26.9	11.4	13.9	12.7	23.9
△	0.0	5.4	12.7	8.2	13.7	22.5	37.5
◇	0.0	0.0	12.2	5.8	12.4	21.2	48.4
▽	0.0	0.0	0.0	3.6	8.3	21.1	67.0

SOIL DATA					
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	TP-R-1	S-1	1.5	Fine to coarse Sand, and Silt, some f-c Gravel. (MC=9.4%)	SM
□	TP-R-1	S-2	5.0	Fine to coarse Gravel, and f-c Sand, some Silt. (MC=4.7%)	GM
△	TP-R-4	S-1	3.0	Fine to coarse Sand, and Silt, little f-c Gravel. (MC=7.8%)	SM
◇	TP-R-4	S-2	8.0	Fine to coarse Sand, and Silt, little fine Gravel. (MC=8.3%)	SM
▽	TP-R-7	S-1	2.0	Silt, some fine to coarse Sand. (MC=8.9%)	ML

**Melick-Tully & Associates, P.C.**

**South Bound Brook, NJ**

**Client:** Concord Resort Development

**Project:** Concord Resort Development, Thompson, NY

**Project No.:** 8979-001

**Plate** 7J

# Gradation Curve(s)



	% +3"	% Gravel		% Sand			% Fines
		Coarse	Fine	Coarse	Medium	Fine	
○	0.0	0.0	24.8	7.3	9.4	17.2	41.3

SOIL DATA					
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	TP-R-7	S-2	4.0	Fine to coarse Sand, and Silt, some fine Gravel. (MC=6.8%)	SM

**Melick-Tully & Associates, P.C.**

**South Bound Brook, NJ**

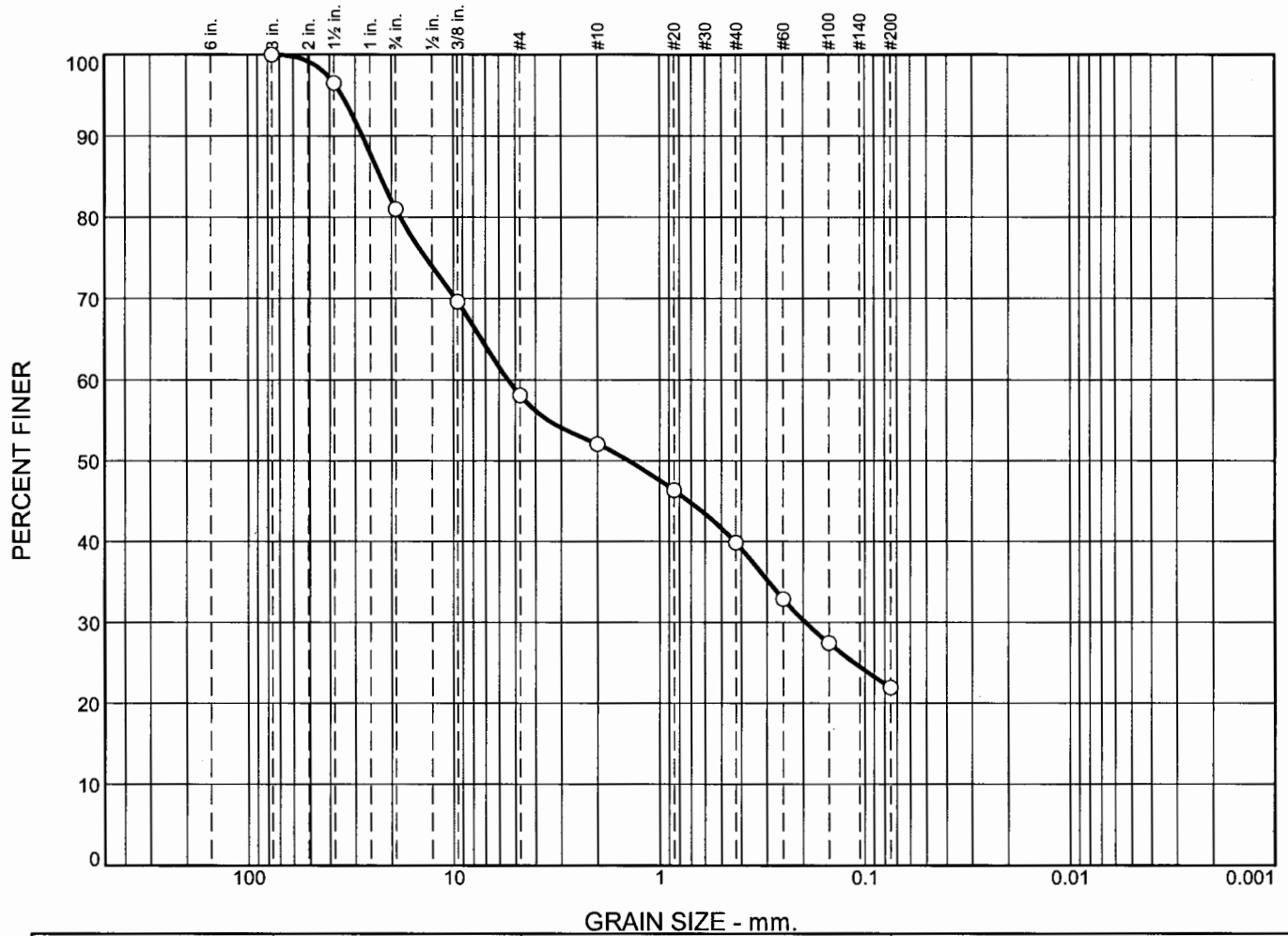
**Client:** Concord Resort Development

**Project:** Concord Resort Development, Thompson, NY

**Project No.:** 8979-001

**Plate** 7K

# Gradation Curve(s)



	% +3"	% Gravel		% Sand			% Fines
		Coarse	Fine	Coarse	Medium	Fine	
○	0.0	19.0	22.9	6.0	12.3	17.9	21.9

SOIL DATA					
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	TP-P-14		5.0-6.5	Fine to coarse Gravel, and f-c Sand, some Silt. (MC=7.8%)	GM

**Melick-Tully & Associates, P.C.**

**South Bound Brook, NJ**

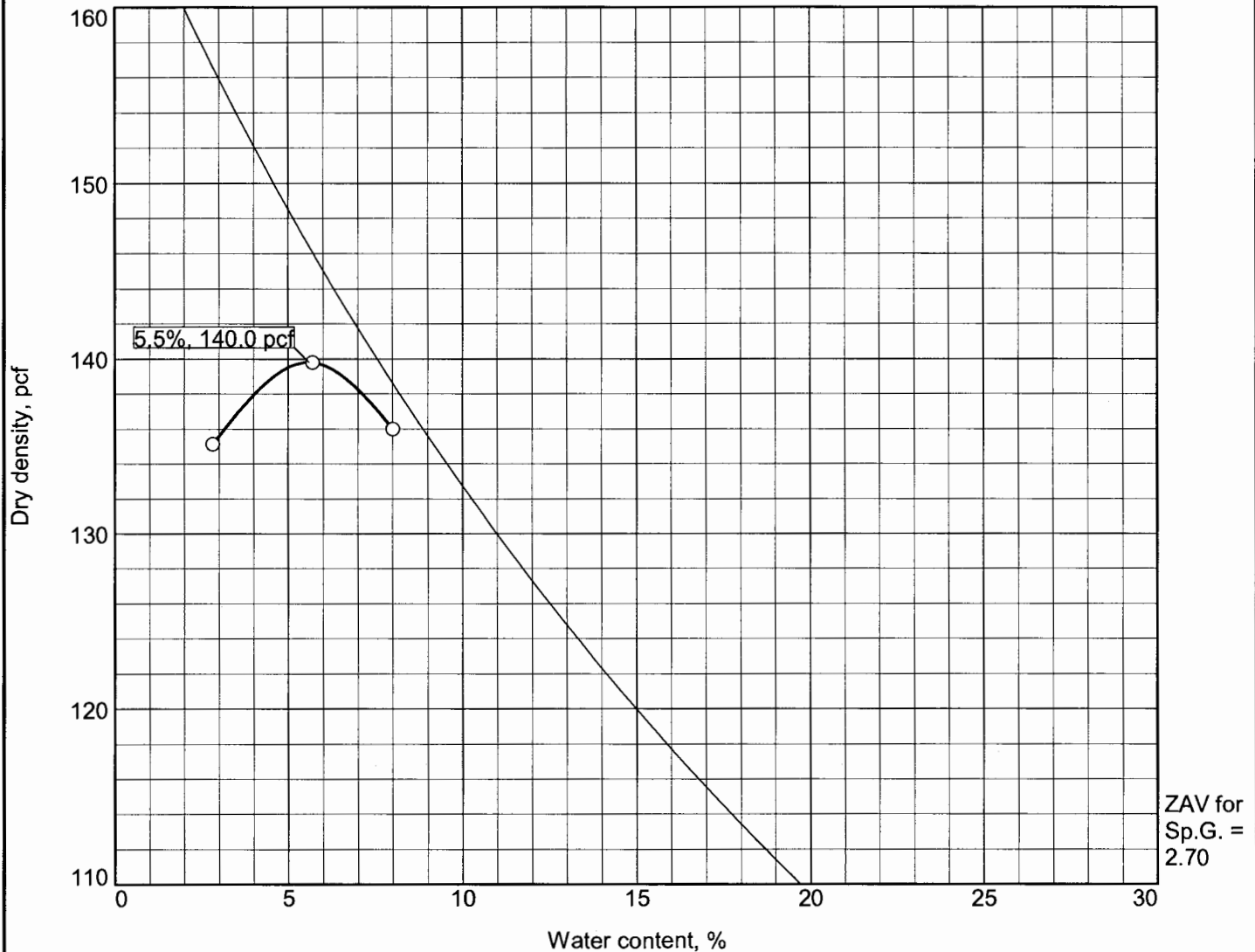
**Client:** Concord Resort Development

**Project:** Concord Resort Development, Thompson, NY

**Project No.:** 8979-001

**Plate** 7L

# COMPACTION TEST REPORT

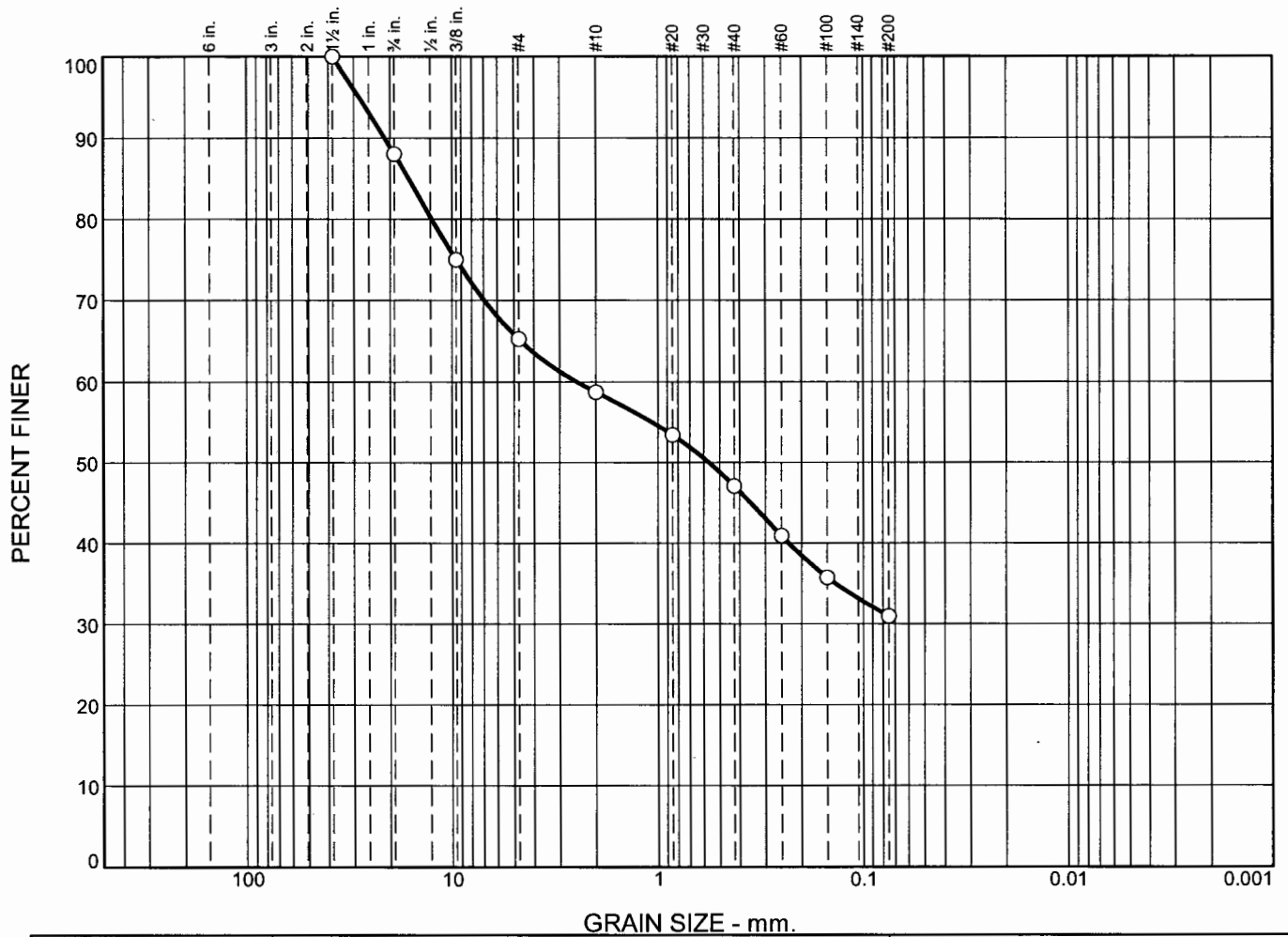


Test specification: ASTM D 1557-07 Method C Modified  
ASTM D 4718-87 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/4 in.	% < No.200
	USCS	AASHTO						
5.0-6.5	GM		7.8				19.0	21.9

ROCK CORRECTED TEST RESULTS		MATERIAL DESCRIPTION	
Maximum dry density = 140.0 pcf Optimum moisture = 5.5 %		Fine to coarse Gravel, and f-c Sand, some Silt. (MC=7.8%)	
Project No. 8979-001      Client: Concord Resort Development Project: Concord Resort Development, Thompson, NY  ○ Source of Sample: TP-P-14		Remarks:	
Melick-Tully & Associates, P.C.  South Bound Brook, NJ			
		Plate	7M

# Gradation Curve(s)



	% +3"	% Gravel		% Sand			% Fines
		Coarse	Fine	Coarse	Medium	Fine	
○	0.0	12.0	22.7	6.6	11.6	16.1	31.0

SOIL DATA					
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	TP-P-17		6.5-7.5	Fine to coarse Gravel, some f-c Sand, some Silt. (MC=4.0%)	GM

**Melick-Tully & Associates, P.C.**

**South Bound Brook, NJ**

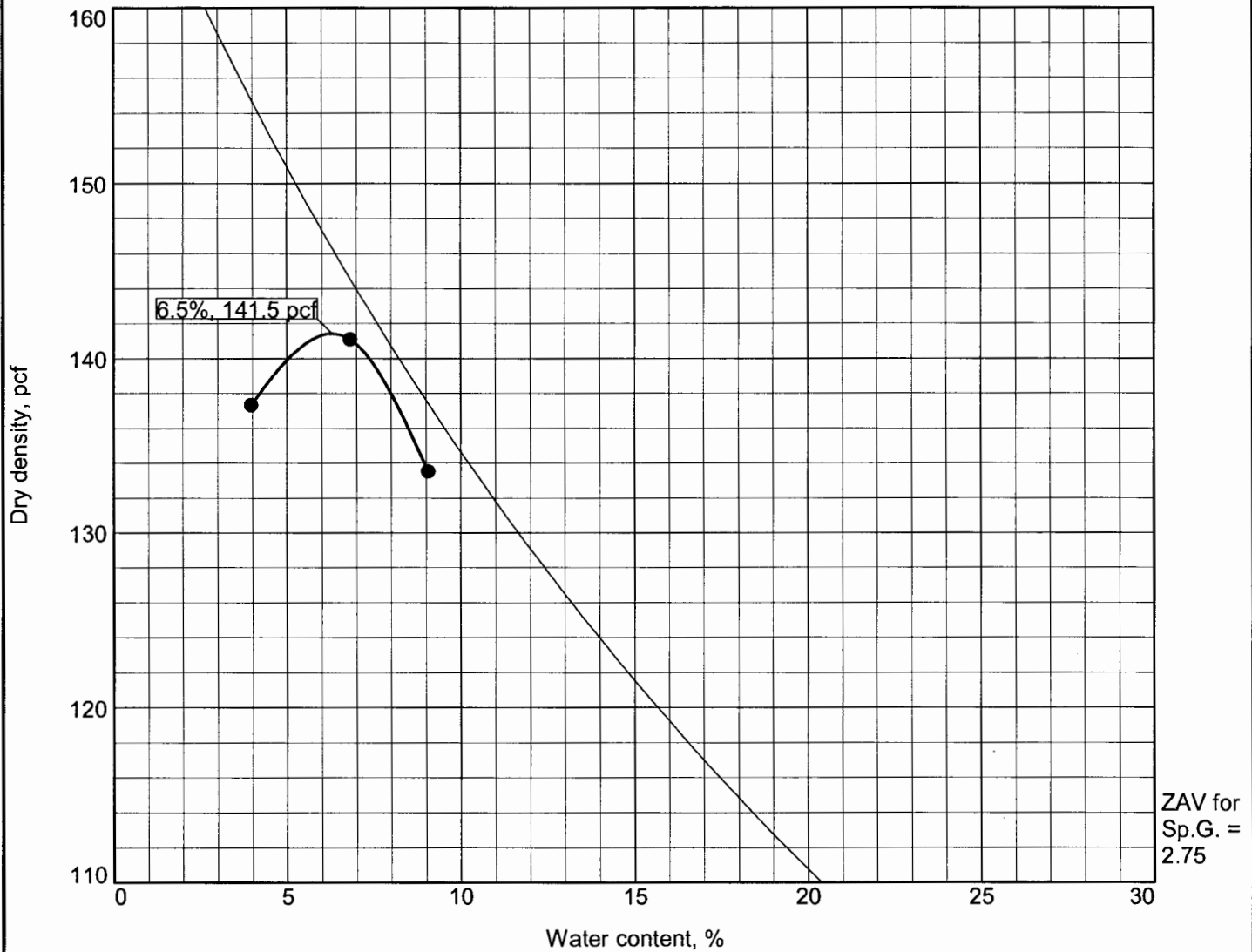
**Client:** Concord Resort Development

**Project:** Concord Resort Development, Thompson, NY

**Project No.:** 8979-001

**Plate** 7N

# COMPACTION TEST REPORT

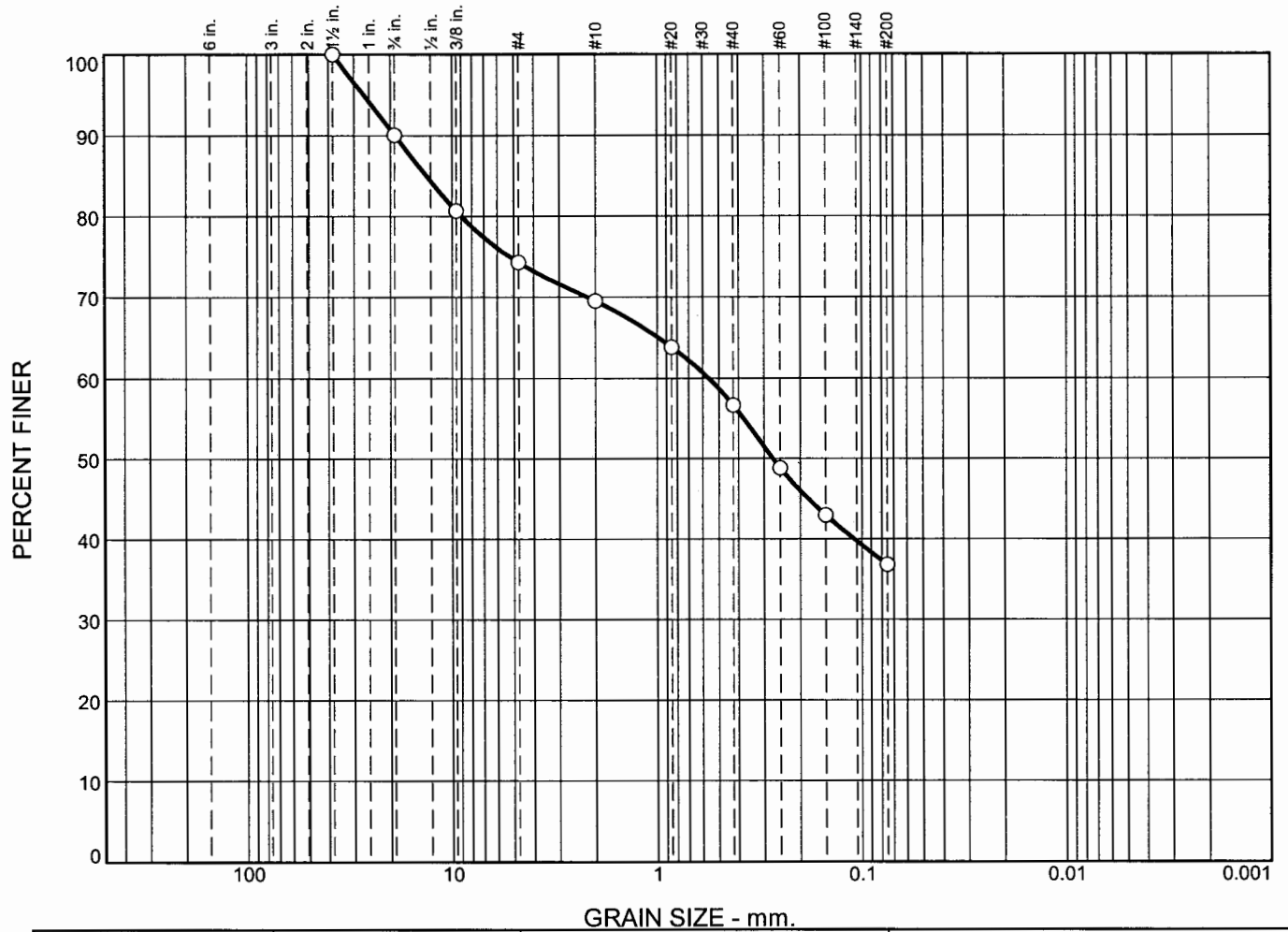


Test specification: ASTM D 1557-07 Method B Modified  
ASTM D 4718-87 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						
6.5-7.5	GM		4.0				25.0	31.0

ROCK CORRECTED TEST RESULTS		MATERIAL DESCRIPTION	
Maximum dry density = 141.5 pcf Optimum moisture = 6.5 %		Fine to coarse Gravel, some f-c Sand, some Silt. (MC=4.0%)	
<b>Project No.</b> 8979-001 <b>Client:</b> Concord Resort Development <b>Project:</b> Concord Resort Development, Thompson, NY  ○ <b>Source of Sample:</b> TP-P-17		<b>Remarks:</b>	
<b>Melick-Tully &amp; Associates, P.C.</b>  <b>South Bound Brook, NJ</b>			
		<b>Plate</b>	<b>70</b>

# Gradation Curve(s)



	% +3"	% Gravel		% Sand			% Fines
		Coarse	Fine	Coarse	Medium	Fine	
○	0.0	9.9	15.8	4.8	12.9	19.8	36.8

SOIL DATA					
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	TP-P-21		8.0	Fine to coarse Sand, and Silt, some f-c Gravel. (MC=8.3%)	SM

**Melick-Tully & Associates, P.C.**

**South Bound Brook, NJ**

**Client:** Concord Resort Development

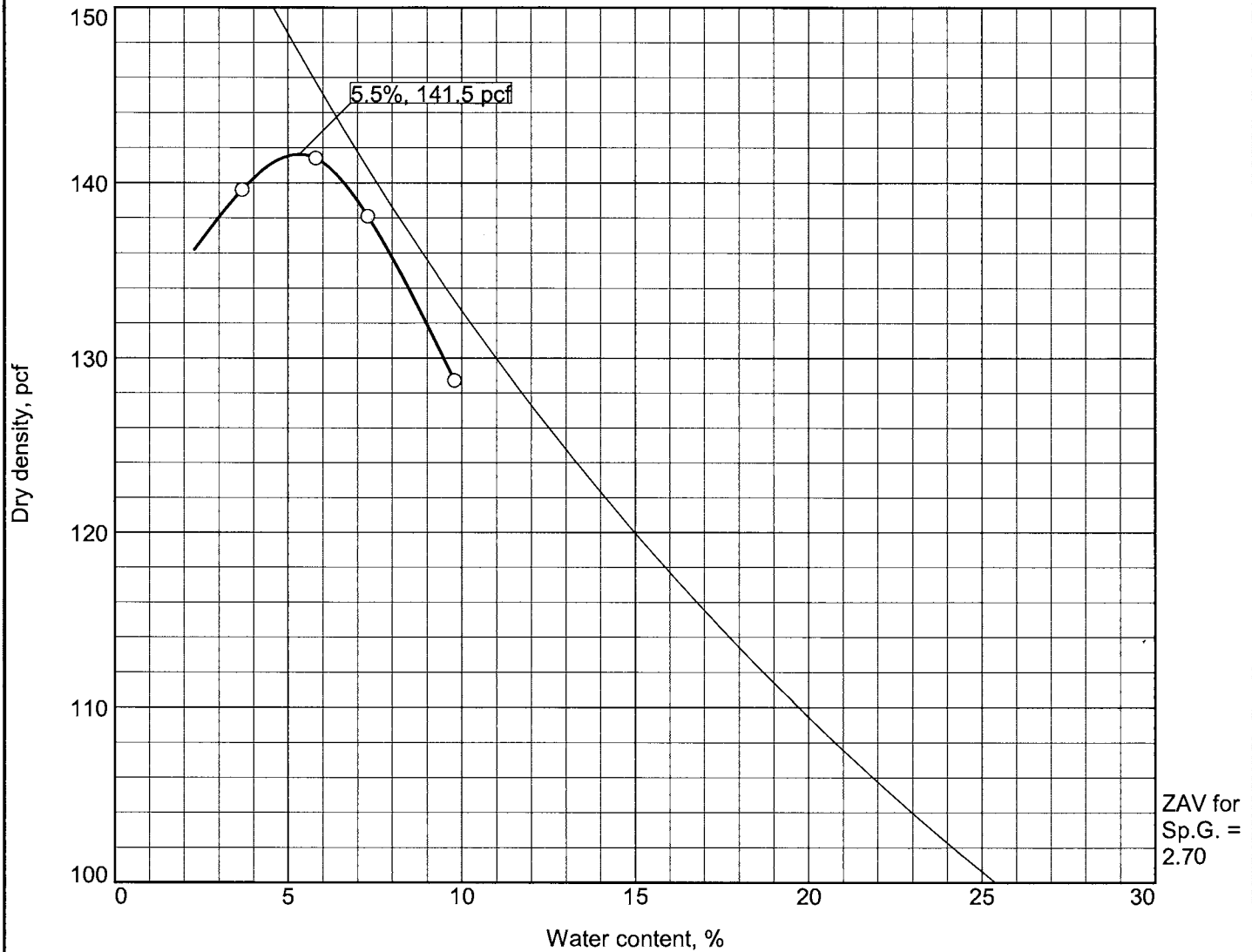
**Project:** Concord Resort Development, Thompson, NY

**Project No.:** 8979-001

**Plate** 7P



# COMPACTION TEST REPORT



Test specification: ASTM D 1557-07 Method B Modified  
 ASTM D 4718-87 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						
8.0	SM		8.3				19.3	36.8

ROCK CORRECTED TEST RESULTS		MATERIAL DESCRIPTION	
Maximum dry density = 141.5 pcf Optimum moisture = 5.5 %		Fine to coarse Sand, and Silt, some f-c Gravel. (MC=8.3%)	
<b>Project No.</b> 8979-001 <b>Client:</b> Concord Resort Development <b>Project:</b> Concord Resort Development, Thompson, NY  ○ <b>Source of Sample:</b> TP-P-21		<b>Remarks:</b>	
<b>Melick-Tully &amp; Associates, P.C.</b>  <b>South Bound Brook, NJ</b>			
		Plate	70

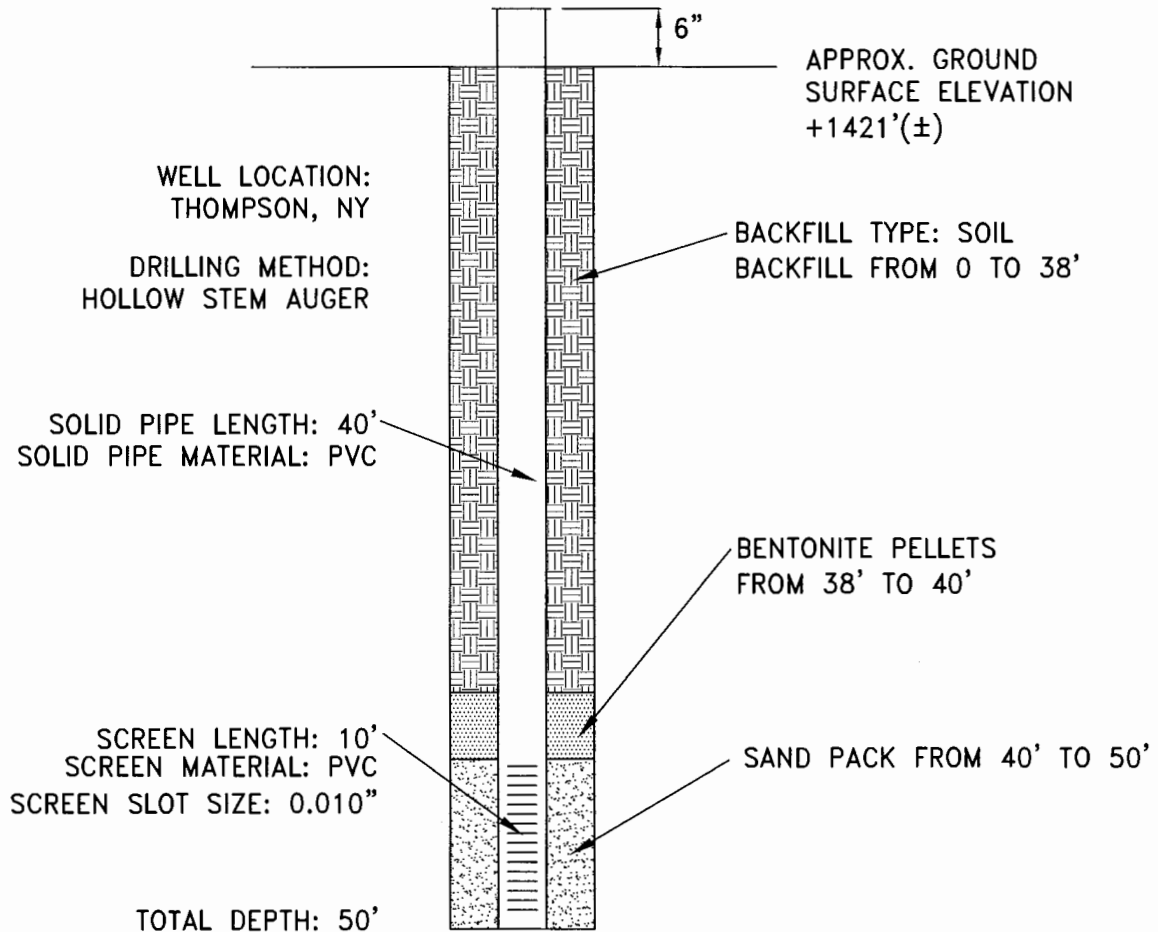
**SUMMARY OF TUBE PERMEAMETER RESULTS**  
**Thompson, New York**  
**Concord Development**

Exploration No.	Approximate Surface Elevation (ft)	Approximate Test Depth (ft)	Approximate Permeability (in/hr)
TP-P-1	1,385	2.0	1.3
TP-P-1	1,385	6.0	0.7
TP-P-2	1,414	2.0	0.06
TP-P-3	1,442	2.0	0.6
TP-P-4	1,448	2.0	0.5
TP-P-4	1,448	6.0	0.7
TP-P-5	1,440	1.5	1.9
TP-P-6	1,448	1.5	0.2
TP-P-7	1,446	1.5	0.4
TP-P-8	1,450	1.5	0.4
TP-P-9	1,448	2.0	0.05
TP-P-11	1,368	2.5	0.02
TP-P-12	1,365	2.0	0.1
TP-P-13	1,375	3.5	0.04
TP-P-14	1,388	2.0	0.04
TP-P-15	1,380	2.0	0.06
TP-P-18	1,434	2.0	0.02
TP-P-20	1,454	2.0	0.09

# PIEZOMETER CONSTRUCTION DETAIL

PIEZOMETER C-1

DATE OF CONSTRUCTION 3/2/12



DATE	3/9/12	3/23/12	4/4/12	4/13/12
WATER LEVEL	19'0"	24'0"	28'7"	24'4"



MELICK-TULLY AND ASSOCIATES, P.C.

Geotechnical Engineers  
& Environmental Consultants  
117 Canal Road  
South Bound Brook, New Jersey 08880  
(732) 356-3400

## TEMPORARY PIEZOMETER DETAIL

CONCORD RESORT DEVELOPMENT  
TOWN OF THOMPSON, NEW YORK  
CONCORD RESORT DEVELOPMENT

JOB NO. 8979-001\*1D

FILE NO. 25299

DR. BY  
JCB

CHK. BY  
JHB

DATE  
4-6-12

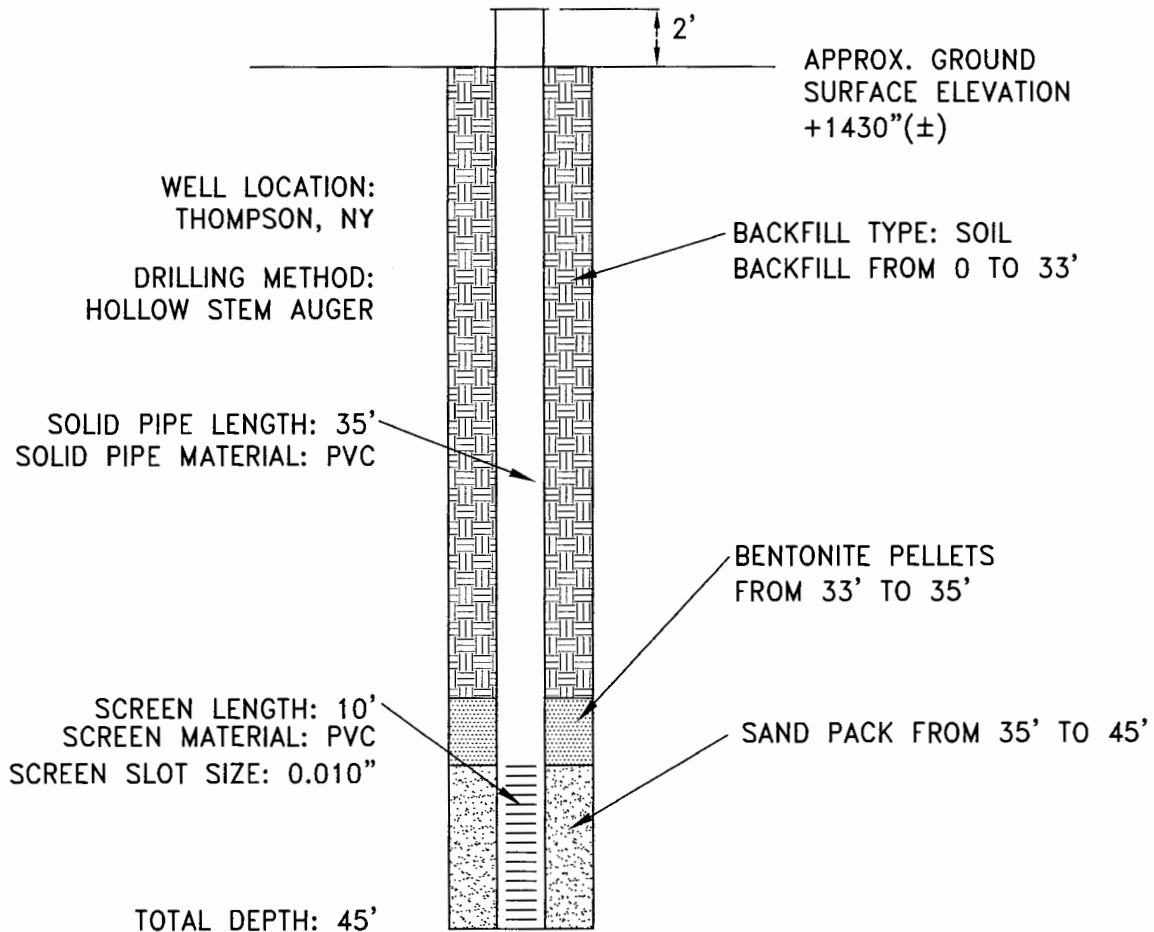
SCALE  
NTS

PLATE  
9A

# PIEZOMETER CONSTRUCTION DETAIL

PIEZOMETER C-7

DATE OF CONSTRUCTION 3/1/12



DATE	3/14/12	3/15/12	3/19/12	3/23/12	4/4/12	4/13/12
WATER LEVEL	18'0"	26'2"	27'6"	30'0"	29'7"	29'9"



MELICK-TULLY AND ASSOCIATES, P.C.

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& Environmental Consultants  
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South Bound Brook, New Jersey 08880  
(732) 356-3400

## TEMPORARY PIEZOMETER DETAIL

CONCORD RESORT DEVELOPMENT  
TOWN OF THOMPSON, NEW YORK  
CONCORD RESORT DEVELOPMENT

JOB NO. 8979-001\*1D

FILE NO. 25299

DR. BY  
VJD

CHK. BY  
JHB

DATE  
4-6-12

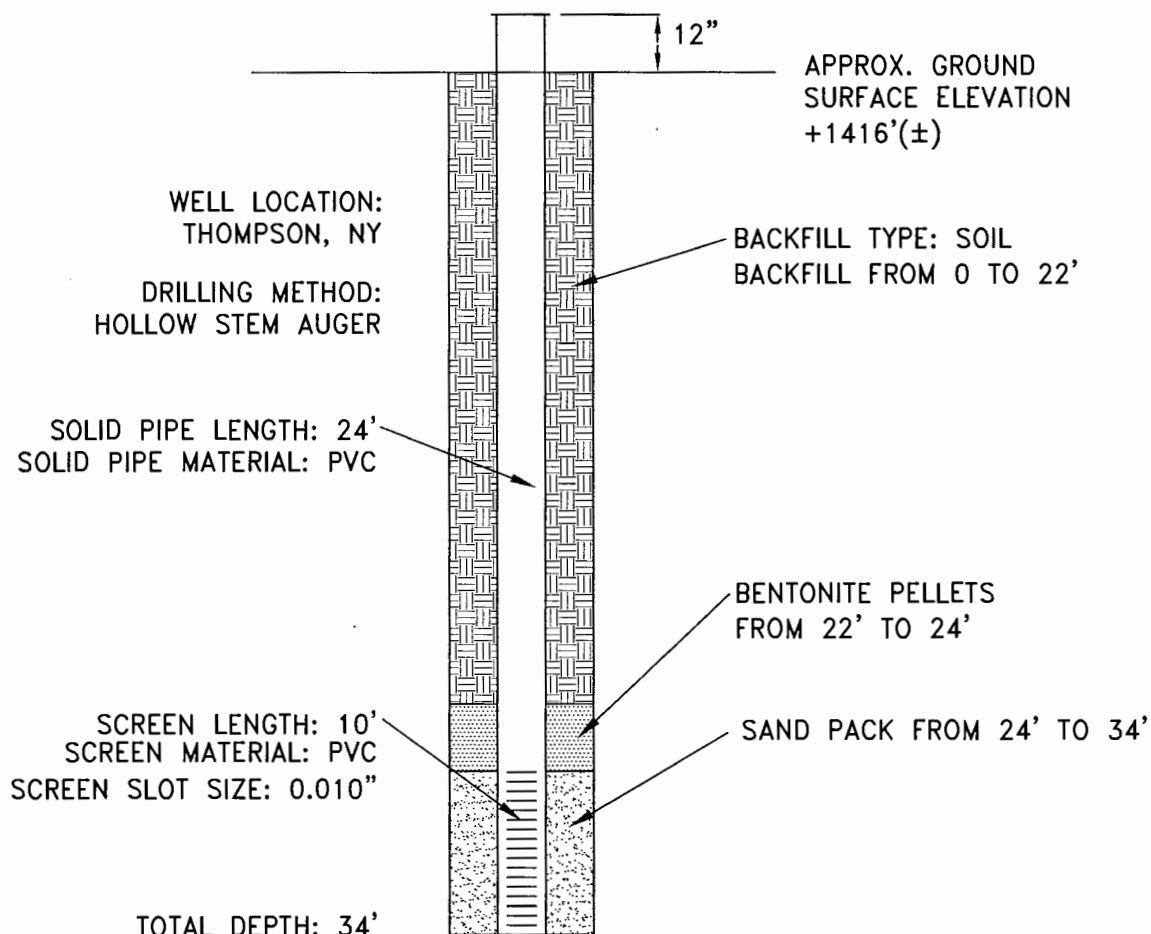
SCALE  
NTS

PLATE  
9B

# PIEZOMETER CONSTRUCTION DETAIL

PIEZOMETER C-12

DATE OF CONSTRUCTION 3/12/12



DATE	3/12/12	3/13/12	3/19/12	3/23/12	4/4/12	4/13/12
WATER LEVEL	15'0"	15'0"	27'0"	28'8"	29'2"	29'2"



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& Environmental Consultants  
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South Bound Brook, New Jersey 08880  
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## TEMPORARY PIEZOMETER DETAIL

CONCORD RESORT DEVELOPMENT  
TOWN OF THOMPSON, NEW YORK  
CONCORD RESORT DEVELOPMENT

JOB NO. 8979-001\*1D

FILE NO. 25299

DR. BY  
VJD

CHK. BY  
JHB

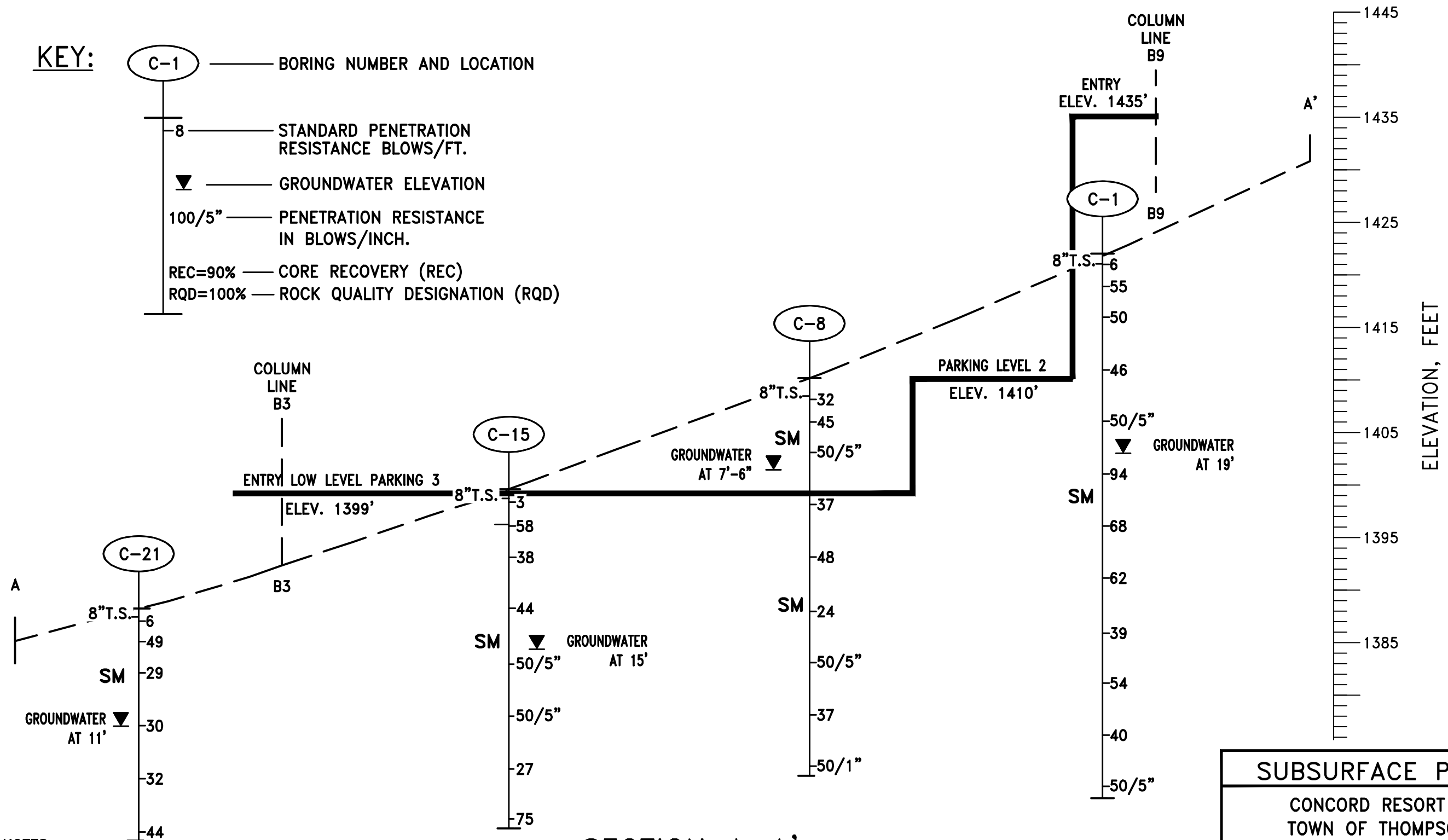
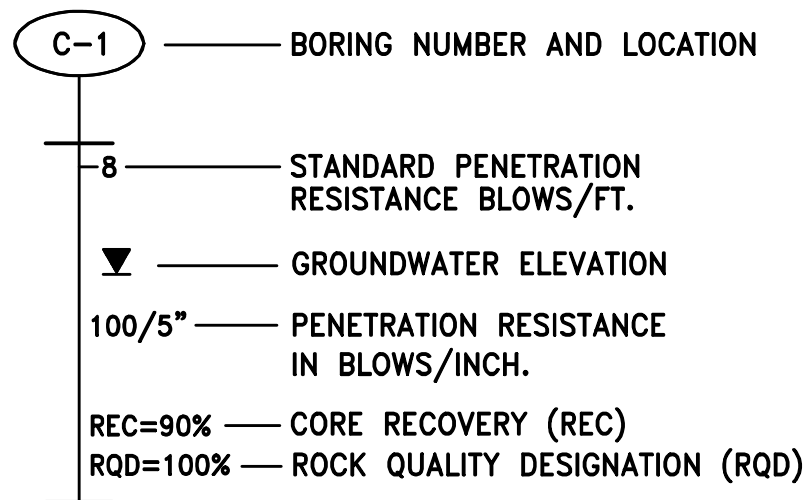
DATE  
4-6-12

SCALE  
NTS

PLATE  
9C



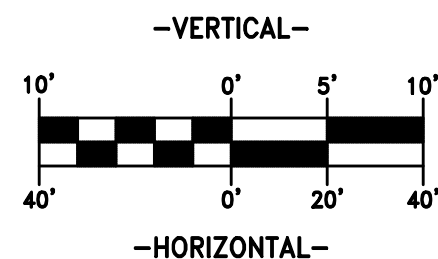
KEY:



# SECTION A-A'

## NOTES:

- This drawing is part of Melick-Tully and Associates, Inc. Report No. 8979-001\*1D and should be read together with the report for complete evaluation.
- The stratification lines are based upon interpolations between widely spaced test borings and thus represent the approximate boundaries between soil types. Actual transitions may vary from those shown.
- Stratum designations are generalized. See report for descriptions of each stratum and the test boring logs for detailed descriptions at specific locations.



## SUBSURFACE PROFILE A-A'

CONCORD RESORT DEVELOPMENT  
 TOWN OF THOMPSON, NEW YORK  
 CONCORD RESORT DEVELOPMENT

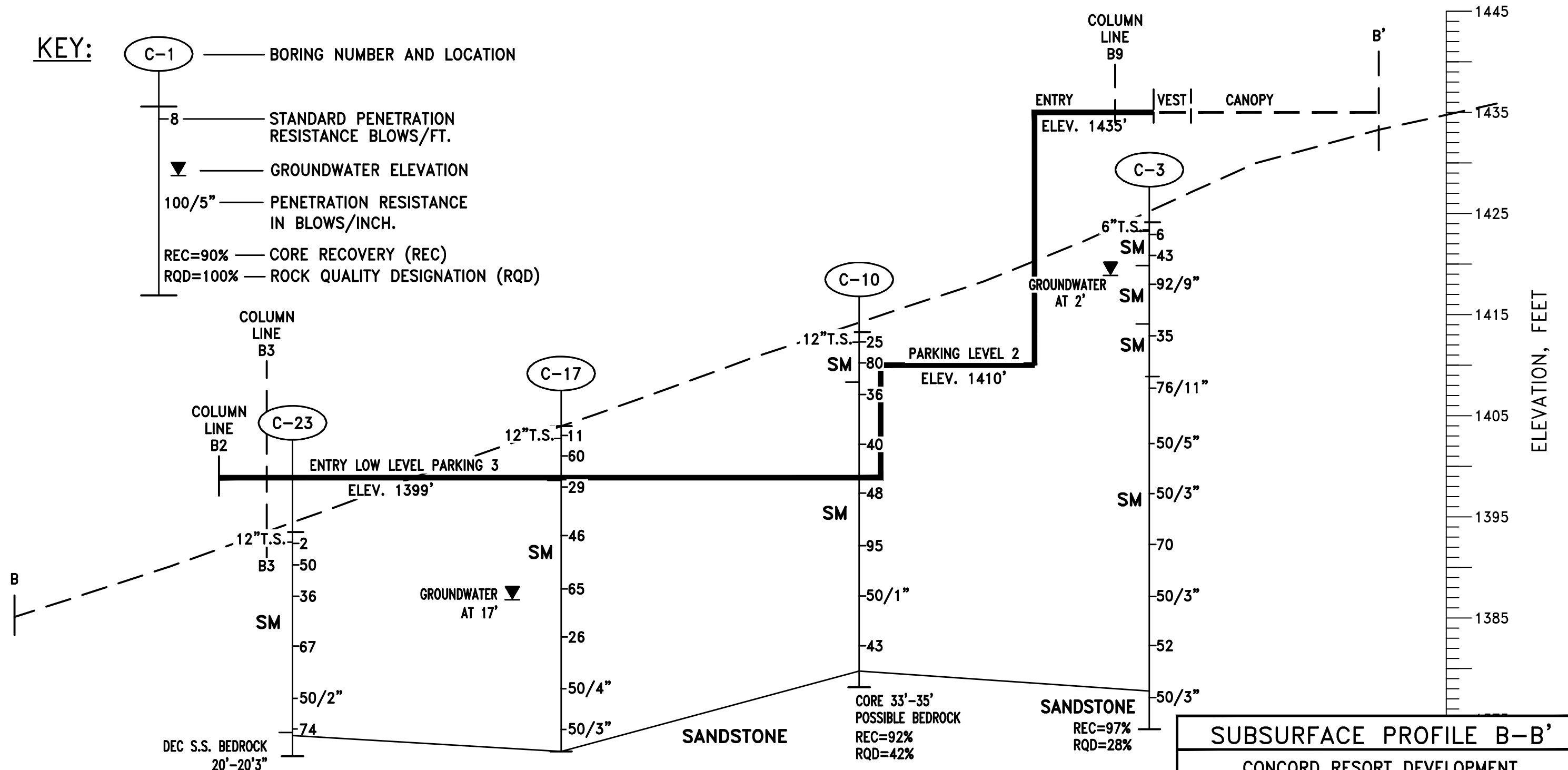


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 & Environmental Consultants  
 117 Canal Road  
 South Bound Brook, New Jersey 08880  
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JOB NO. 8979-001*1D		FILE NO. 25299		
DR. BY VJD	CHK. BY JHB	DATE 4-6-12	SCALE AS NOTED	PLATE 10A

# KEY:

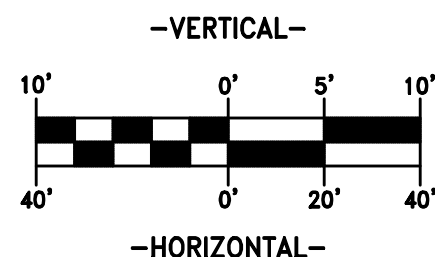
- C-1 — BORING NUMBER AND LOCATION
- 8— STANDARD PENETRATION RESISTANCE BLOWS/FT.
- ▼ — GROUNDWATER ELEVATION
- 100/5" — PENETRATION RESISTANCE IN BLOWS/INCH.
- REC=90% — CORE RECOVERY (REC)
- RQD=100% — ROCK QUALITY DESIGNATION (RQD)



## SECTION B-B'

### NOTES:

- This drawing is part of Melick-Tully and Associates, Inc. Report No. 8979-001\*1D and should be read together with the report for complete evaluation.
- The stratification lines are based upon interpolations between widely spaced test borings and thus represent the approximate boundaries between soil types. Actual transitions may vary from those shown.
- Stratum designations are generalized. See report for descriptions of each stratum and the test boring logs for detailed descriptions at specific locations.



## SUBSURFACE PROFILE B-B'

CONCORD RESORT DEVELOPMENT  
TOWN OF THOMPSON, NEW YORK  
CONCORD RESORT DEVELOPMENT

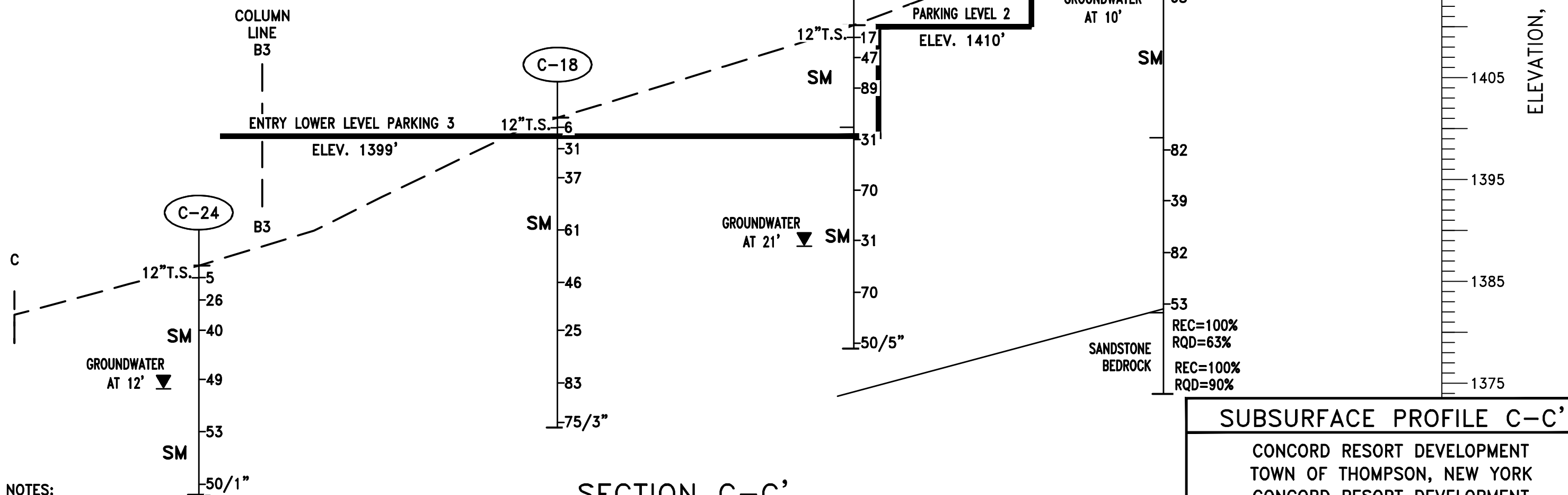
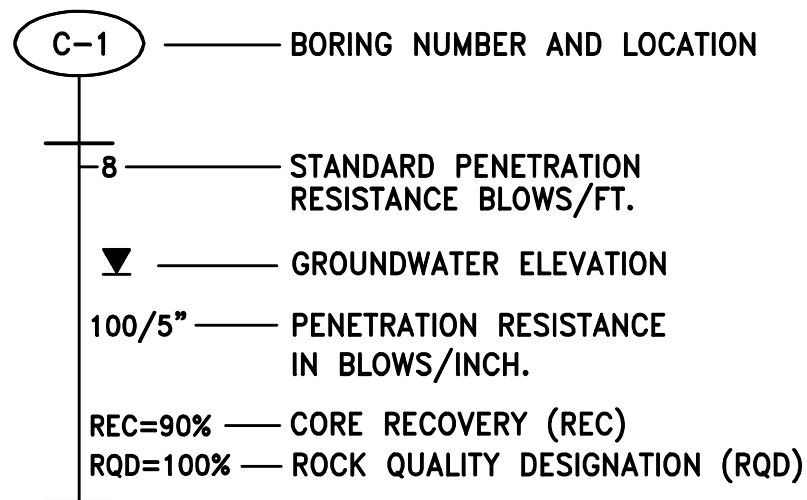


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& Environmental Consultants  
117 Canal Road  
South Bound Brook, New Jersey 08880  
(732) 356-3400

JOB NO. 8979-001*1D		FILE NO. 25299		
DR. BY VJD	CHK. BY JHB	DATE 4-6-12	SCALE AS NOTED	PLATE 10B



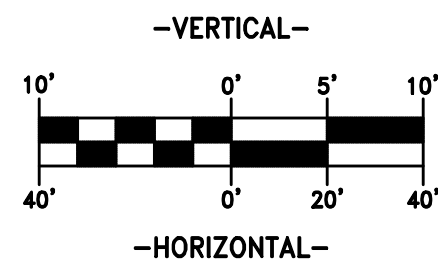
# KEY:



## SECTION C-C'

### NOTES:

- This drawing is part of Melick-Tully and Associates, Inc. Report No. 8979-001\*1D and should be read together with the report for complete evaluation.
- The stratification lines are based upon interpolations between widely spaced test borings and thus represent the approximate boundaries between soil types. Actual transitions may vary from those shown.
- Stratum designations are generalized. See report for descriptions of each stratum and the test boring logs for detailed descriptions at specific locations.



## SUBSURFACE PROFILE C-C'

CONCORD RESORT DEVELOPMENT  
 TOWN OF THOMPSON, NEW YORK  
 CONCORD RESORT DEVELOPMENT



MELICK-TULLY AND ASSOCIATES, P.C.

Geotechnical Engineers  
 & Environmental Consultants  
 117 Canal Road  
 South Bound Brook, New Jersey 08880  
 (732) 356-3400

JOB NO. 8979-001\*1D

FILE NO. 25299

DR. BY  
VJD

CHK. BY  
JHB

DATE  
4-6-12

SCALE  
AS NOTED

PLATE  
10C

**KEY:**

The diagram shows a vertical line representing a borehole log. At the top, an oval contains the text 'C-1'. Below this, a horizontal tick mark is followed by the number '8'. Further down, an inverted triangle symbol is shown. Below that, the text '100/5"' is followed by a horizontal line. At the bottom, two lines of text are shown: 'REC=90%' followed by a horizontal line, and 'RQD=100%' followed by a horizontal line.

C-1 — BORING NUMBER AND LOCATION

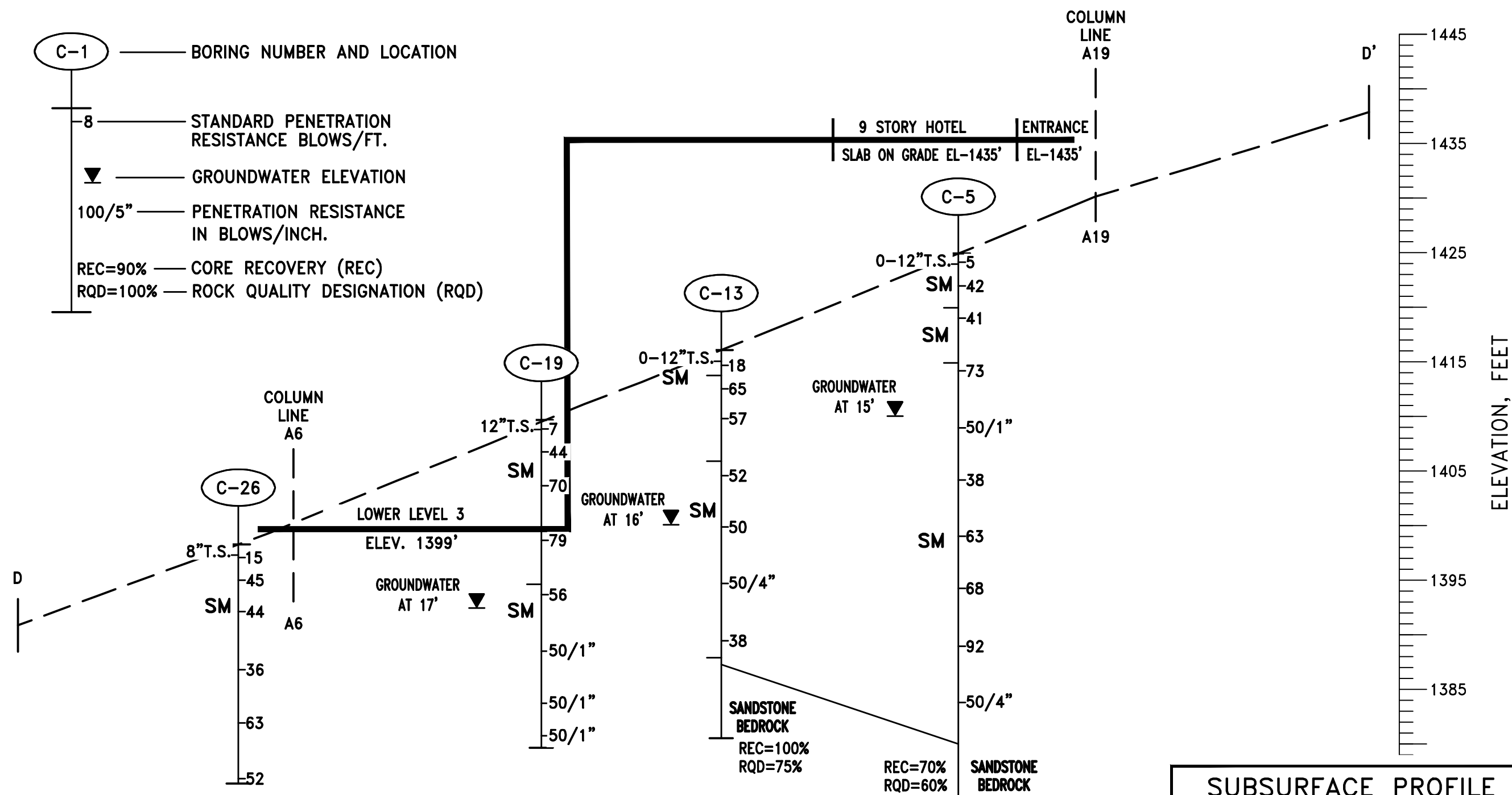
8 — STANDARD PENETRATION RESISTANCE BLOWS/FT.

▼ — GROUNDWATER ELEVATION

100/5" — PENETRATION RESISTANCE IN BLOWS/INCH.

REC=90% — CORE RECOVERY (REC)

RQD=100% — ROCK QUALITY DESIGNATION (RQD)



SECTION D-D'

SUBSURFACE PROFILE D-D'

CONCORD RESORT DEVELOPMENT  
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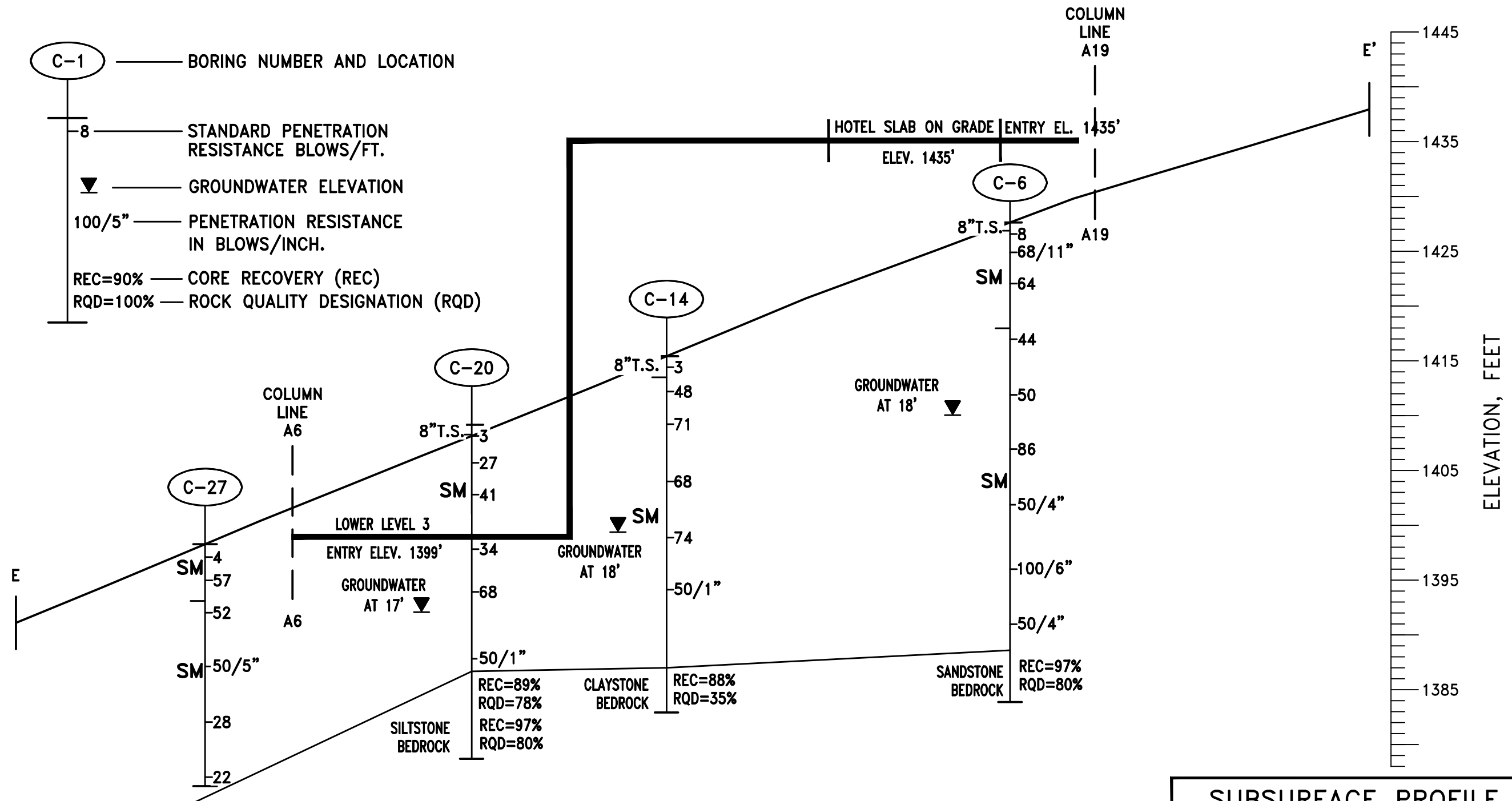
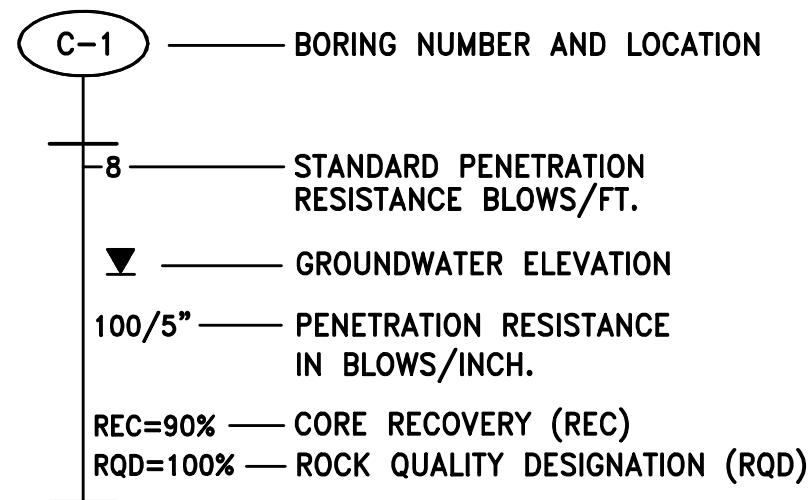
**SCALE  
AS NOTED**

**PLATE  
10D**

- NOTES:**

1. This drawing is part of Melick-Tully and Associates, Inc. Report No. 8979-001\*1D and should be read together with the report for complete evaluation.
2. The stratification lines are based upon interpolations between widely spaced test borings and thus represent the approximate boundaries between soil types. Actual transitions may vary from those shown.
3. Stratum designations are generalized. See report for descriptions of each stratum and the test boring logs for detailed descriptions at specific locations.

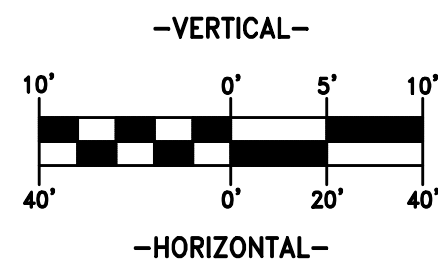
# KEY:



## SECTION E-E'

### NOTES:

1. This drawing is part of Melick-Tully and Associates, Inc. Report No. 8979-001\*1D and should be read together with the report for complete evaluation.
2. The stratification lines are based upon interpolations between widely spaced test borings and thus represent the approximate boundaries between soil types. Actual transitions may vary from those shown.
3. Stratum designations are generalized. See report for descriptions of each stratum and the test boring logs for detailed descriptions at specific locations.



## SUBSURFACE PROFILE E-E'

CONCORD RESORT DEVELOPMENT  
 TOWN OF THOMPSON, NEW YORK  
 CONCORD RESORT DEVELOPMENT



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JOB NO. 8979-001\*1D

FILE NO. 25299

DR. BY  
VJD

CHK. BY  
JHB

DATE  
4-6-12

SCALE  
AS NOTED

PLATE  
10E



## **APPENDIX**



## **APPENDIX**

### **Limitations**

#### **A. Subsurface Information**

Locations: The locations of the explorations were approximately determined by tape measurement from existing site features shown on an unlabeled plan provided to us by AKRF Engineers and survey control points provided by others in the area of the proposed casino. Elevations of the explorations were approximately determined by interpolation between contours shown on topographic plans provided to us by the site engineer. The locations and elevations of the explorations should be considered accurate only to the degree implied by the method used.

Interface of Strata: The stratification lines shown on the individual logs of the subsurface explorations represent the approximate boundaries between soil types, and the transitions may be gradual.

Field Logs/Final Logs: A field log was prepared for each exploration by a member of our staff. The field log contains factual information and interpretation of the soil conditions between samples. Our recommendations are based on the final logs as shown in this report and the information contained therein, and not on the field logs. The final logs represent our interpretation of the contents of the field logs, and the results of the laboratory observations and/or tests of the field samples.

Water Levels: Water level readings have been made in the explorations at times and under conditions stated on the individual logs. These data have been reviewed and interpretations made in the text of this report. However, it must be noted that fluctuations in the level of the groundwater will occur due to variations in rainfall, temperature, and other factors.

Pollution/Contamination: Unless specifically indicated to the contrary in this report, the scope of our services was limited only to investigation and evaluation of the geotechnical engineering aspects of the site conditions, and did not include any consideration of potential site pollution or contamination resulting from the presence of chemicals, metals, radioactive elements, etc. This report offers no facts or opinions related to potential pollution/contamination of the site.

Environmental Considerations: Unless specifically indicated to the contrary in this report, this report does not address environmental considerations which may affect the site development, e.g., wetlands determinations, flora and fauna, wildlife, etc. The conclusions and recommendations of this report are not intended to supersede any environmental conditions which should be reflected in the site planning.

## **B. Applicability of Report**

This report has been prepared in accordance with generally accepted soils and foundation engineering practices for the exclusive use of AKRF for specific application to the design of the proposed Concord Resort Development. No other warranty, expressed or implied, is made.

This report may be referred to in the project specifications for general information purposes only, but should not be used as the technical specifications for the work, as it was prepared for design purposes exclusively.

## **C. Reinterpretation of Recommendations**

Change in Location or Nature of Facilities: In the event that any changes in the nature, design or location of the facilities are planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and conclusions of this report modified or verified in writing.

Changed Conditions During Construction: The analyses and recommendations submitted in this report are based in part upon the data obtained from 48 widely-spaced test borings and 41 test pit excavations performed for this study. The nature and extent of variations between the explorations may not become evident until construction. If variations then appear evident, it will be necessary to reevaluate the recommendations of this report.

Changes in State-of-the-Art: The conclusions and recommendations contained in this report are based upon the applicable standards of our profession at the time this report was prepared.

## **D. Use of Report by Prospective Bidders**

This soil and foundation engineering report was prepared for the project by Melick-Tully and Associates, P.C. for design purposes and may not be sufficient to prepare an accurate bid. Contractors utilizing the information in the report should do so with the express understanding that its scope was developed to address design considerations. Prospective bidders should obtain the owner's permission to perform whatever additional explorations or data gathering they deem necessary to prepare their bid accurately.

## **E. Construction Observation**

We recommend that Melick-Tully and Associates, P.C. be retained to provide on-site soils engineering services during the earthwork construction and foundation phases of the work. This is to observe compliance with the design concepts and to allow changes in the event that subsurface conditions differ from those anticipated prior to the start of construction.



# ***REPORT***

## ***SUBSURFACE INVESTIGATION***

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**PROPOSED WETLAND MITIGATION SITES  
THOMPSON, SULLIVAN COUNTY, NEW YORK  
CONCORD RESORT DEVELOPMENT**

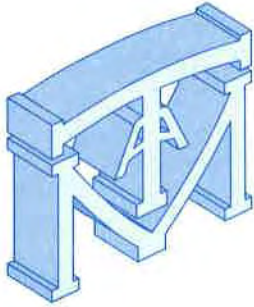
**SEPTEMBER 28, 2012**

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**Prepared By:**  
**Melick-Tully and Associates, P.C.**  
**117 Canal Road**  
**South Bound Brook, NJ 08880**  
**Tel: 732-356-3400 Fax: 732-356-9054**

---

**MTA Project No.: 8979-002\*1D**



**MELICK-TULLY  
AND ASSOCIATES, P.C.**  
GEOTECHNICAL ENGINEERS AND  
ENVIRONMENTAL CONSULTANTS

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**Senior Associates:**  
RICHARD D. LEV, CPG  
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**Associates:**  
CHRISTOPHER P. TANSEY, P.E.

September 28, 2012

AKRF, Inc.  
1307 Fellowship Road, Suite 214  
Mount Laurel, New Jersey 08054

Attention: Mr. Shandor Szalay  
Vice President, Water Resources

**Report  
Subsurface Investigation  
Proposed Wetland Mitigation Sites  
Thompson, New York  
Concord Resort Development**

**Introduction**

This report presents the results of a subsurface investigation performed by Melick-Tully and Associates, P.C. (MTA) for three potential wetland mitigation areas at the Concord Resort Development site located in the Town of Thompson, Sullivan County, New York. The areas of the proposed new wetlands mitigation are located north and south of Thompsonville Road, to the west of its intersection with Chalet/Joyland Road, as shown on the Site Location Map, Plate 1. This report was prepared in general accordance with our revised proposal dated July 25, 2012.

**Background Data**

MTA previously performed a subsurface investigation for the resort development, the results of which were presented in our report dated May 1, 2012. We understand, as the planning of the proposed development evolves, it is planned to create new wetland areas to replace those which may be developed. This report addresses additional subsurface explorations and

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laboratory testing performed to evaluate the subsurface conditions in three separate areas which may be converted to wetlands as part of the overall project.

### **Purpose and Scope of Work**

The purpose of our services was to perform a series of 7 test borings and 15 test pit explorations at locations identified to us by AKRF. The borings were advanced using hollow stem auger drilling equipment mounted on an all-terrain vehicle, and extended to depths ranging from approximately 9 to 22 feet below the existing surface grades. The test pits were advanced utilizing a rubber-tire backhoe and extended to depths ranging from approximately 7 to 10 feet below the existing surface grades. The approximate locations of the explorations performed for this study are shown on the Plot Plans, Plates 2A through 2C.

All work was performed under the direct technical observation of engineers and geologists from MTA. Our representatives located the explorations in the field utilizing topographic information and the existing site features in conjunction with representatives of the existing "Concord Monster" golf course and representatives of AKRF to minimize disturbance to existing site features and to adjust exploration locations to benefit the study. Our representatives maintained continuous logs of the explorations as the work proceeded, supervised the soil sampling procedures during the drilling operations, and obtained bulk samples of the encountered materials from the test pits. Numerous closely spaced soil samples were obtained from the borings using the general procedures of the Standard Penetration Test. As part of the test pit exploration program, our representative performed bulk density determinations of the encountered materials using a nuclear density gauge (ASTM D-6938-08a) and performed three modified double-ring infiltrometer permeability tests. ASTM D-3385 requires the use of 12 and

24 inch diameter steel rings. Our modified procedure used PVC rings 8 and 12 inches in diameter. For reference, this procedure is accepted by the Pennsylvania Department of Environmental Protection.

All soil samples obtained from the explorations were brought to our office where they were further examined in our soil mechanics laboratory. Detailed descriptions of the materials encountered in the borings are shown on the individual boring logs, Plates 3A through 3G. The results of the test pit explorations are shown on Plates 4A through 4O, Logs of Test Pits. The soils were visually classified in general accordance with the Unified Soil Classification System, presented on Plate 5.

Numerous soil samples were subjected to laboratory testing consisting of grain-size analyses (ASTM D-422), organic content testing (ASTM D-2974), and moisture content determinations (ASTM D-2216) to aid in their engineering classification and evaluation. The results of the grain-size tests are presented on Plates 6A through 6J, Gradation Curves. The results of the organic content testing, moisture content determinations, and bulk density tests are presented on the appropriate exploration logs and on Plate 7, Data Summary Sheet. The results of the modified double-ring infiltrometer testing performed in the field are shown on the appropriate test pit logs.

The results of our subsurface exploration program, our visual examination of the soil samples and the laboratory testing are presented in subsequent sections of this report. The following presentation of our field observations and test results are subject to the limitations attached as an Appendix to this report.

## Site Condition

Surface Features: The majority of the site is presently occupied by an active golf course which is primarily grass covered with sand and water hazards, and paved cart paths. The portion of the course where Borings 5 through 7 and Test Pits 5 through 7 were located, adjacent to and south of Chalet Road, west of Kiamesha Creek, is an unused overgrown portion of the golf course.

Topographic information shown on plans provided to us indicates that surface elevations across the area investigated for this study vary from approximately Elevation +1337 feet to Elevation +1358 feet.

Subsurface Conditions: The following generalized strata were encountered in the explorations and are listed in order of increasing depth:

- 1) Topsoil: A surficial layer of topsoil was encountered in six of the seven borings and 14 of the 15 test pit explorations. The topsoil was generally found to range from approximately four to eight inches in thickness; however, in Test Pits 5, 8, 12 and 13, the topsoil was observed to be approximately 11 to 24 inches thick.
- 2) Fill: Fill consisting of silty sands and sandy silts mixed with varying amounts of gravel, roots and topsoil was encountered below the topsoil in four of the borings and ten of the test pits, and is likely the result of grading operations to construct the existing golf course. The fill was generally found to be approximately 18 inches to 4-1/2 feet thick. In Test Pit No. 5, the fill was observed to extend to the completion depth of that test pit, ten feet below the existing ground surface.
- 3) Organic Silts/Peat: In six of the explorations, a distinct layer of organic silt and/or peat with varying amount of sandy silt was observed. The organic layer was encountered at 1.5 to 4.5 feet below grade and extended to depths of approximately 2 feet to 6.5 feet below the existing surface grades and ranged from approximately six inches to three feet in thickness.
- 4) Silty Sand: Below the surficial topsoil, fill and organic materials, the natural soils in most of the test pits typically consisted of sands and silty

sands containing varying amounts of gravel, cobbles and boulders. The sandy soils are believed to be glacial in nature and extended to the completion depths in the majority of the explorations performed.

- 5) Silt: The glacial sandy soils contain varying amounts of silt; however, in several of the samples subjected to laboratory grain-size testing, the silt percentages were high enough to classify the materials as silt, as indicated on the appropriate exploration logs.
- 6) Shale Bedrock: In Borings 3 and 4, the sandy soils were underlain by shale bedrock encountered at depths of approximately two to ten feet below the existing surface grades. In general, the shale bedrock was found to grade sounder with depth, and refusal to further penetration with the auger was encountered at a depth of 8'9" atop relatively sound shale bedrock in Boring No. 3.

Groundwater was observed in six of the borings at depths of approximately two to ten and one-half feet below grade, and in 14 of the 15 test pit explorations at depths of approximately two to six feet below the existing surface grades at the time of our study. Mottling was observed in 13 of the 22 explorations at shallower levels indicating seasonally high groundwater or seasonally saturated conditions.

### **Findings/Summary**

General: It appears that the majority of the areas in question have been developed by the construction of the existing "Monster" golf course. The results of the moisture content testing, bulk density testing, and organic content testing were somewhat variable in the fill soils as a result of the diverse nature of materials used during construction, placed to construct the course landscape, not as structural fill. In general, the relatively deeper natural materials were consistent with our previous explorations throughout the area, indicating relatively dense glacial materials with varying amounts of cobbles and boulders. It should be noted that the index testing to determine soil parameters excludes cobble and boulder size materials which should be taken into

account if the existing materials are used as a "blend" to create hydric soils in the creation of wetlands areas.


Feel free to contact us if you have any questions regarding this information.

The following Plates are attached and complete this report:

Plate 1 – Site Location Map  
Plates 2A through 2C – Plot Plan  
Plates 3A through 3G – Logs of Borings  
Plates 4A through 4O – Logs of Test Pits  
Plate 5 – Unified Soil Classification System  
Plates 6A through 6J – Gradation Curves  
Plate 7 – Data Summary Sheet  
Appendix – Limitations

Very truly yours,

MELICK-TULLY and ASSOCIATES, P.C.



James H. Beattie, P.E.  
Senior Associate



Todd E. Horowitz, P.E.  
Vice President

JHB/TEH/elm  
8979-002\*1D  
(3 copies submitted)





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## SITE LOCATION MAP

SUBSURFACE INVESTIGATION  
THOMPSON, NEW YORK  
CONCORD RESORTS

JOB NO. 8979-002\*1D

FILE NO. 25541

DR. BY  
VJD

CHK. BY  
JHB

DATE  
8-24-12

SCALE  
1"=2,000'

PLATE  
1





KEY:



B-1

NUMBER AND APPROXIMATE LOCATION OF BORINGS PERFORMED FOR THIS STUDY



TP-1

NUMBER AND APPROXIMATE LOCATION OF TEST PITS PERFORMED FOR THIS STUDY

NOTES:

1. This drawing is part of Melick-Tully and Associates, P.C. Report No. 8979-002\*1D and should be read together with the report for complete evaluation.
2. General layout was obtained from an unlabeled drawing provided by the client.

PLOT PLAN

SUBSURFACE INVESTIGATION  
THOMPSON, NEW YORK  
CONCORD RESORTS



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JOB NO.

8979-002\*1D

FILE NO.

25541

DR. BY  
VJD

CHK. BY  
JHB

DATE  
8-23-12

SCALE  
1"=100'

PLATE  
2A





**KEY:**




**B-1** NUMBER AND APPROXIMATE LOCATION OF BORINGS PERFORMED FOR THIS STUDY



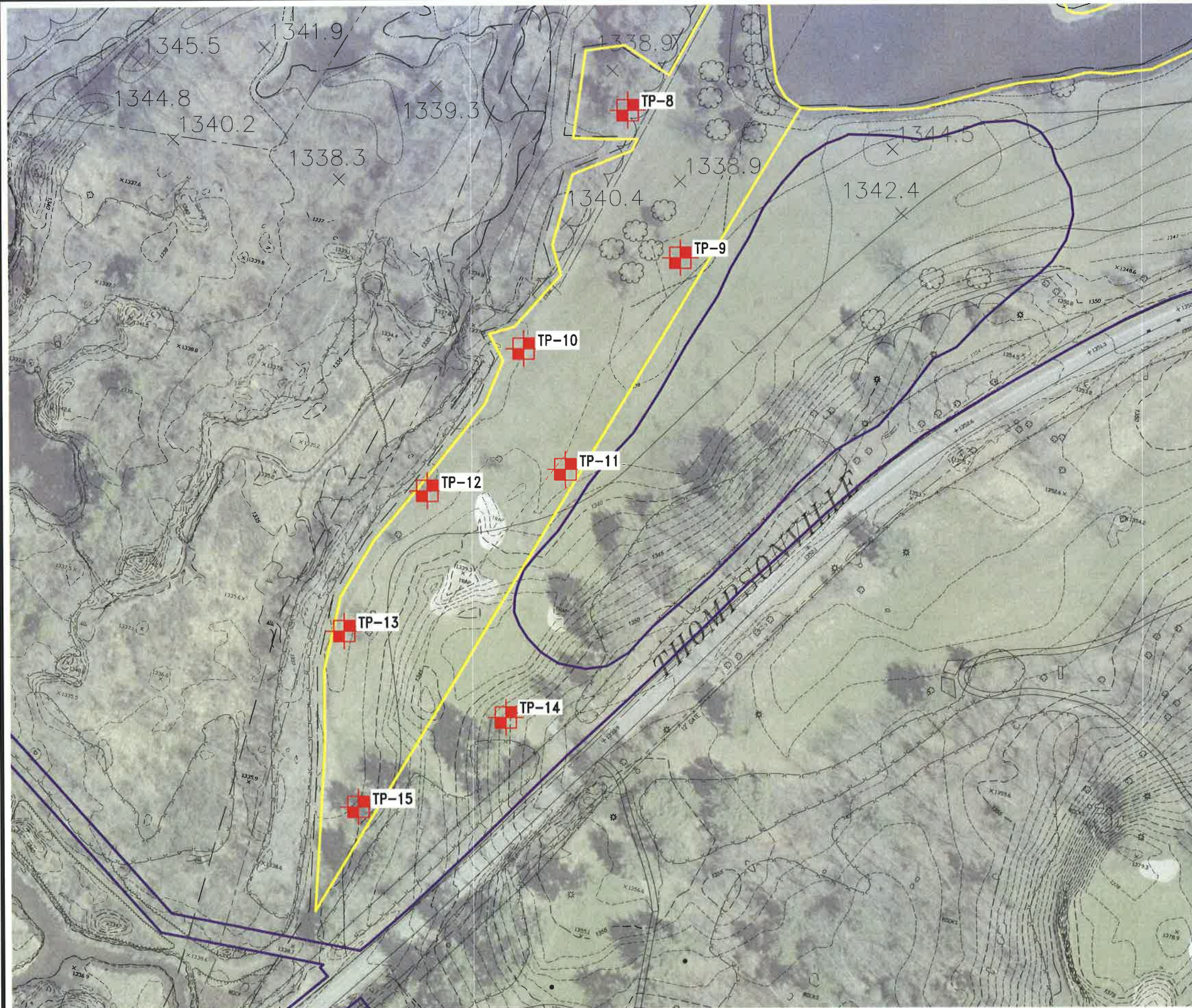
**TP-1** NUMBER AND APPROXIMATE LOCATION OF TEST PITS PERFORMED FOR THIS STUDY

**NOTES:**

1. This drawing is part of Melick-Tully and Associates, P.C. Report No. 8979-002\*1D and should be read together with the report for complete evaluation.
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PLOT PLAN				
SUBSURFACE INVESTIGATION THOMPSON, NEW YORK CONCORD RESORTS				
 MELICK-TULLY AND ASSOCIATES, P.C. Geotechnical Engineers & Environmental Consultants 117 Canal Road South Bound Brook, New Jersey 08880 (732) 356-3400				
JOB NO.	8979-002*1D	FILE NO.	25541	
DR. BY VJD	CHK. BY JHB	DATE 8-23-12	SCALE 1"=100'	PLATE 2B





**KEY:**



**B-1** NUMBER AND APPROXIMATE LOCATION OF BORINGS PERFORMED FOR THIS STUDY



**TP-1** NUMBER AND APPROXIMATE LOCATION OF TEST PITS PERFORMED FOR THIS STUDY

**NOTES:**

1. This drawing is part of Melick-Tully and Associates, P.C. Report No. 8979-002\*1D and should be read together with the report for complete evaluation.
2. General layout was obtained from an unlabeled drawing provided by the client.

**PLOT PLAN**

**SUBSURFACE INVESTIGATION  
THOMPSON, NEW YORK  
CONCORD RESORTS**



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JOB NO. 8979-002*1D		FILE NO. 25541		
DR. BY VJD	CHK. BY JHB	DATE 8-23-12	SCALE 1"=100'	PLATE 2C



**LOG OF BORING**

BORING NO. 1

COMPLETION DATE: 8/6/12

SURFACE ELEVATION: +1,341.5 ft (±)

WATER LEVEL: 5'

JOB NUMBER: 8979-002\*1D

READING DATE: 8/6/12

DEPTH (ft.)	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH (ft.)
	S1	9	21.8		6" Topsoil	
					FILL - Gray-brown silt, and fine to medium sand, trace fine gravel	
	S2	7	10.3		FILL - Brown fine to coarse sand, some silt, little fine gravel	
5	S3	18	108.4		Dark brown organic peat - organic matter = 16.7% @ 5'	5
10	S4	12		ML	Red-brown clayey silt, some to little fine to coarse sand, trace fine gravel (moist)(very stiff to stiff)	10
15	S5	19		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel (wet)(medium dense)	15
20	S6	80/6"				20
25					Boring completed @ 21' Mottling observed @ 1'-6" Groundwater encountered @ 5'	25

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH  
 2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%  
 LITTLE 10 - 20%  
 SOME 20 - 35%  
 AND OVER 35%

Typist/Date: jhb/mh 8/12

Sheet: 1 of 1 PLATE: 3A

**LOG OF BORING**

BORING NO. 2

COMPLETION DATE: 8/7/12

SURFACE ELEVATION: +1,344 ft (±)

WATER LEVEL: 2'

JOB NUMBER: 8979-002\*1D

READING DATE: 8/7/12

DEPTH (ft.)	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH (ft.)
					6" Topsoil	
	S1	13			FILL - Brown fine to medium sand, some silt, some roots and wood	
	S2	5	23.0		FILL - Brown fine sand, and silt	
5	S3	16	29.9	OL	Dark brown organic clayey silt, trace roots (moist)(stiff) - organic matter = 6.5% @ 5'	5
	S4	33		SM	Red-brown fine to medium sand, some clayey silt, some fine to coarse gravel (wet)(dense)	
10	S5	36		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles and boulders (wet)(dense)	10
15	S6	19		SM	Red-brown fine to coarse sand, little to some silt, some fine to coarse gravel (wet)(medium dense to very dense)	15
	S7	100/4"				
20					Boring completed @ 18'-4" Groundwater encountered @ 2'	20
25						25

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH  
 2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%  
 LITTLE 10 - 20%  
 SOME 20 - 35%  
 AND OVER 35%

Typist/Date: jhb/mh 8/12

Sheet: 1 of 1 PLATE: 3B

**LOG OF BORING**

BORING NO. 3

COMPLETION DATE: 8/7/12

SURFACE ELEVATION: +1,355.5 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-002\*1D

READING DATE: 8/7/12

DEPTH (ft.)	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH (ft.)
	S1	22	16.0	SM	6" Topsoil	
	S2	86			Red-brown fine to coarse sand, some silt, some fine to coarse gravel (moist)(medium dense)	
5	S3	75/3"			Highly fractured weathered shale	5
	S4	100/3"			- auger refusal @ 8'-9" atop shale bedrock	
10						10
15						15
20					Boring completed @ 8'-9"	20
					Faint mottling observed @ 4'	
					*Groundwater not encountered	
25						25

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH  
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%  
LITTLE 10 - 20%  
SOME 20 - 35%  
AND OVER 35%

Typist/Date: jhb/mh 8/12

Sheet: 1 of 1 PLATE: 3C

**LOG OF BORING**

BORING NO. 4

COMPLETION DATE: 8/7/12  
JOB NUMBER: 8979-002\*1D

SURFACE ELEVATION: +1,358 ft (±)

WATER LEVEL: 10.5'  
READING DATE: 8/7/12

DEPTH (ft.)	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH (ft.)
					6" Topsoil	
	S1	11	10.1		FILL - Red-brown fine to coarse sand, and silt, little fine gravel	
	S2	17	17.0			
5	S3	99		SM	Red-brown fine to coarse sand, little silt, and shale fragments (moist)(medium dense to very dense)	5
10	S4	100/6"			Highly fractured weathered shale	10
15	S5	80/6"				15
20					Boring completed @ 17'	20
					Mottling observed @ 4'	
					Groundwater encountered @ 10'-6"	
25						25

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH  
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%  
LITTLE 10 - 20%  
SOME 20 - 35%  
AND OVER 35%

Typist/Date: jhb/mh 8/12

Sheet: 1 of 1 PLATE: 3D

**LOG OF BORING**

BORING NO. 5

COMPLETION DATE: 8/6/12

SURFACE ELEVATION: +1,350.5 ft (±)

WATER LEVEL: 4'

JOB NUMBER: 8979-002\*1D

READING DATE: 8/6/12

DEPTH (ft.)	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH (ft.)
	S1	8	62.9		FILL - Topsoil with layers of fine to coarse sand - organic matter = 13.0% @ 12"	
	S2	27				
5	S3	16		SM	Brown fine to medium sand, little silt (wet)(medium dense)	5
10	S4	8		ML	Red-brown clayey silt, and fine sand (wet)(stiff to very stiff)	10
15	S5	10				15
20	S6	17				20
25					Boring completed @ 22' Groundwater encountered @ 4'	25

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH  
2. INDICATES THE NUMBER OF BLOWS TO  
ADVANCE A 2" OD SAMPLER A DISTANCE  
OF 12 INCHES USING A 140 POUND  
WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%  
LITTLE 10 - 20%  
SOME 20 - 35%  
AND OVER 35%

Typist/Date: jhb/mh 8/12

Sheet: 1 of 1 PLATE: 3E



**LOG OF BORING**

BORING NO. 6

COMPLETION DATE: 8/6/12

SURFACE ELEVATION: +1,350 ft (±)

WATER LEVEL: 6'-6"

JOB NUMBER: 8979-002\*1D

READING DATE: 8/6/12

DEPTH (ft.)	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH (ft.)
					4" Topsoil	
	S1	14	9.2		FILL - Red-brown fine to coarse sand, little silt, some fine to coarse gravel	
5	S2	22			Gray fine to medium sand, little silt, trace fine to coarse gravel, with occasional silty clay layers (moist to wet)(medium dense)	5
	S3	18				
10	S4	10		SM		10
15	S5	9				15
20	S6	12				20
25					Boring completed @ 22' Motting observed @ 6'-6" Groundwater encountered @ 4'	25

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH  
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%  
LITTLE 10 - 20%  
SOME 20 - 35%  
AND OVER 35%

Typist/Date: jhb/mh 8/12

Sheet: 1 of 1 PLATE: 3F

**LOG OF BORING**

BORING NO. 7

COMPLETION DATE: 8/6/12

SURFACE ELEVATION: +1,344 ft (±)

WATER LEVEL: 4'

JOB NUMBER: 8979-002\*1D

READING DATE: 8/6/12

DEPTH (ft.)	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH (ft.)
	S1	14	37.1	SM	5" Topsoil	
	S2	14	24.8		Red-brown fine sand, and clayey silt, with occasional silt layers (moist to wet)(medium dense) - organic matter = 12.5% @ 0.3'	
5	S3	11				5
	S4	15				
	S5	9				
10	S6	21				10
				SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles (wet)(medium dense)	
15	S7	21				15
20	S8	65				20
25					Boring completed @ 22' Motting observed @ 2' Groundwater encountered @ 4'	25

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH  
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%  
LITTLE 10 - 20%  
SOME 20 - 35%  
AND OVER 35%

Typist/Date: jhb/mh 8/12

Sheet: 1 of 1 PLATE: 3G

# LOG OF TEST PIT

TEST PIT NO: 1

COMPLETION DATE: 7/31/12

SURFACE ELEVATION: +1,338 ft (±)

WATER LEVEL: 6'

JOB NUMBER: 8979-002\*1D

READING DATE: 7/31/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
	S1	154.1		6" Topsoil - Organic root mat, with fine to medium sand, trace silt - organic matter = 34.1%, bulk density = 116.4 pcf 0"-8"	
	S2	23.6			
	S3	79.2		FILL - Brown fine to medium sand, and silt - organic matter = 5.6%, bulk density = 101.4 pcf 8"-16"	
	S4	249.6	PT	FILL - Gray-brown topsoil and wood, intermixed with fine to coarse sand, some silt, trace fine gravel - organic matter = 7.6%, bulk density = 63.5 pcf 16"-24"	
				Black peat, with fine to medium sand layers, little organic silt - organic matter = 37.5%	
5	S5		SM	Red-brown fine to coarse sand, and silt, some fine to coarse gravel, occasional cobbles and boulders (moist)(very dense)	5
	S6				
10					10
				Test pit completed @ 8'-6"	
				Mottling observed @ 4'	
				Slight groundwater seepage encountered @ 6'	
15					15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: jhb/mh 8/12

Sheet: 1 of 1

PLATE: 4A

MELICK-TULLY AND ASSOCIATES, P.C.  
Geotechnical Engineers and Environmental Consultants

TEST PIT NO: 2  
COMPLETION DATE: 7/31/12 SURFACE ELEVATION: +1,341 ft (±) WATER LEVEL: 5'  
JOB NUMBER: 8979-002\*1D READING DATE: 7/31/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
	S1	46.1		6" Topsoil - fine to coarse sand, some silt, trace fine gravel	
	S2	27.3		- organic matter = 12.1%, bulk density = 99.4 pcf 0"-8"	
	S3	23.7		FILL - Gray fine to medium sand, and silt, trace fine gravel little roots	
			SM	- organic matter = 3.1%, bulk density = 102.6 pcf 8"-16"	
				Light brown fine to medium sand, and silt (wet)(medium dense)	
				- organic matter = 1.7%, bulk density = 114.3 pcf 16"-24"	
				Red-brown fine to coarse sand, and silt, some fine to coarse gravel, occasional cobbles (moist to wet)(dense)	
5	S4		SM		5
	S5				
10				Test pit completed @ 8'-0"	10
				Rapid groundwater seepage encountered @ 5'	
15					15

PLATE: 4B

**MELICK-TULLY AND ASSOCIATES, P.C.**  
Geotechnical Engineers and Environmental Consultants

**LOG OF TEST PIT**

TEST PIT NO: 3

COMPLETION DATE: 7/31/12

SURFACE ELEVATION: +1,341 ft (±)

WATER LEVEL: 4'-6"

JOB NUMBER: 8979-002\*1D

READING DATE: 7/31/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
	S1	21.4		6" Topsoil - fine to medium sand, some silt	
	S2	18.9		- organic matter = 5.0%, bulk density = 107.5 pcf 0"-8"	
	S3	14.0		FILL - Gray fine to medium sand, and silt, trace roots	
				- organic matter = 2.8%, bulk density = 113.2 pcf 8"-16"	
			ML	FILL - Gray clayey silt, intermixed with topsoil	
				- organic matter = 6.9%, bulk density = 135.4 pcf 16"-24"	
				Gray clayey silt, some fine to medium sand (moist)(very stiff)	
	S4		SM	Red-brown fine to coarse sand, and silt, some fine to coarse gravel (moist)(very dense)	
5				Red-brown fine to coarse sand, some silt, little fine to coarse gravel (wet)(very dense)	5
	S5		SM		
10					10
				Test pit completed @ 8'	
				Mottling observed @ 18"	
				Moderate groundwater seepage encountered @ 4'-6"	
15					15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: jhb/mh 8/12

Sheet: 1 of 1

PLATE: 4C

# LOG OF TEST PIT

TEST PIT NO: 4

COMPLETION DATE: 7/31/12

SURFACE ELEVATION: +1,340 ft (±)

WATER LEVEL: 6'-0"

JOB NUMBER: 8979-002\*1D

READING DATE: 7/31/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
	S1	11.3		4" Topsoil - fine to medium sand, some silt, trace fine gravel - organic matter = 11.1%, bulk density = 128.1 pcf 0"-8"	
	S2 S3 S4	13.0		FILL - Red-brown fine to coarse sand, and silt, little fine gravel - organic matter = 1.5%, bulk density = 119.8 pcf 8"-16"	
	S5		SM	Light brown fine to medium sand, and silt (wet)(medium dense)	
5	S6	228.8	PT	Black organic fibrous peat, with fine to coarse sand, little silt (moist)(soft) - organic matter = 57.1%	5
	S7		ML	Gray clayey silt, some fine to medium sand (moist)(very stiff)	
	S8		ML	Red-brown silt, some fine to medium sand, trace fine to coarse gravel (wet)(very stiff)	
10				Test pit completed @ 8'-6"	10
				Slight groundwater seepage encountered @ 6'-0"	
15					15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: jhb/mh 8/12

Sheet: 1 of 1

PLATE: 4D

MELICK-TULLY AND ASSOCIATES, P.C.

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# LOG OF TEST PIT

TEST PIT NO: 5

COMPLETION DATE: 8/2/12

SURFACE ELEVATION: +1,340 ft (±)

WATER LEVEL: 3'-0"

JOB NUMBER: 8979-002\*1D

READING DATE: 8/2/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
	S1	22.9		12" Topsoil - fine to medium sand, some silt, trace fine gravel - organic matter = 4.4%, bulk density = 100.7 pcf 0"-8"	
	S2	34.6		FILL - Black fine to coarse sand, and silt, little fine gravel, intermixed with topsoil pockets	
	S3	88.1		- organic matter = 20.7%, bulk density = 93.3 pcf 8"-16", bulk density = 88.0 pcf 16"-24"	
5				FILL - Black fine to medium sand, topsoil, roots and stumps	5
10	S4				10
15				Test pit completed @ 10'-0"  Rapid groundwater seepage encountered @ 3'-0"	15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: jhb/mh 8/12

Sheet: 1 of 1

PLATE: 4E

MELICK-TULLY AND ASSOCIATES, P.C.

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# LOG OF TEST PIT

TEST PIT NO: 6

COMPLETION DATE: 8/2/12

SURFACE ELEVATION: +1,340 ft (±)

WATER LEVEL: 4'-0"

JOB NUMBER: 8979-002\*1D

READING DATE: 8/2/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
	S1	29.6		8" Topsoil - fine to medium sand, and silt, trace fine gravel	
	S2	15.2		- organic matter = 11.9%, bulk density = 115.2 pcf 0"-8"	
				FILL - Red-brown silt, and fine to medium sand, trace fine gravel	
	S3	18.3		- organic matter = 1.0%, bulk density = 108.8 pcf 8"-16"	
				FILL - Gray-brown fine to medium sand, and silt, little fine gravel, trace roots	
				- organic matter = 2.1%, bulk density = 125.5 pcf 16"-24"	
	S4	21.0		Red-brown fine to medium sand, and silt, trace fine gravel (wet)(medium dense to dense), bulk density = 142.3 pcf 48"-58"	
5			SM		5
	S5				
10					10
				Test pit completed @ 10'-0"	
				Mottling observed @ 3'-6"	
				Slight groundwater seepage encountered @ 4'-0"	
				Modified double ring infiltrometer test performed at a depth of 1'-0".	
				Measured infiltration rate = 0.25 in/hr	
15					15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: jhb/mh 8/12

Sheet: 1 of 1

PLATE: 4F

MELICK-TULLY AND ASSOCIATES, P.C.

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**LOG OF TEST PIT**

TEST PIT NO: 7

COMPLETION DATE: 8/2/12

SURFACE ELEVATION: +1,340 ft (±)

WATER LEVEL: 3'-6"

JOB NUMBER: 8979-002\*1D

READING DATE: 8/2/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
	S1	46.5		7" Topsoil - fine to medium sand, some silt, trace fine gravel	
	S2	16.0		- organic matter = 13.7%, bulk density = 96.8 pcf 0"-8"	
	S3	20.9		FILL - Brown fine to coarse sand, some silt, little fine gravel, trace roots	
				- organic matter = 5.3%, bulk density = 136.1 pcf 8"-16"	
			ML	Red-brown silt, some fine sand, trace fine gravel (wet)(stiff)	
				- organic matter = 0.5%, bulk density = 127.4 pcf 16"-24"	
	S4				
5				Red-brown fine to medium sand, and silt, trace fine gravel (moist to wet)(medium dense to dense)	5
	S5		SM		
	S6				
10					10
				Test pit completed @ 10'-0"	
				Mottling observed @ 1'-6"	
				Moderate groundwater seepage encountered @ 3'-6"	
				Modified double ring infiltrometer test performed @ a depth of 16"	
				Measured infiltration rate = 0.5 in/hr	
15					15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: jhb/mh 8/12

Sheet: 1 of 1

PLATE: 4G

# LOG OF TEST PIT

TEST PIT NO: 8

COMPLETION DATE: 8/1/12

SURFACE ELEVATION: +1,339 ft (±)

WATER LEVEL: 3'-6"

JOB NUMBER: 8979-002\*1D

READING DATE: 8/1/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
	S1	28.8		18" Topsoil - fine to medium sand, some silt - organic matter = 7.1%, bulk density = 105.3 pcf 0"-8"	
	S2	109.1	PT	Black organic peat, with fine to medium sand, and silt - organic matter = 20.1%, bulk density = 103.8 pcf 16"-24"	
	S3			Gray-brown fine to coarse sand, some silt, trace fine gravel (wet)(medium dense)	
5	S4		SM		5
	S5		SM	Red-brown fine sand, and silt (wet)(medium dense)	
10				Test pit completed @ 7'-6"	10
				Rapid groundwater seepage encountered @ 3'-6"	
15					15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: jhb/mh 8/12

Sheet: 1 of 1

PLATE: 4H

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**LOG OF TEST PIT**

TEST PIT NO: 9

COMPLETION DATE: 8/1/12

SURFACE ELEVATION: +1,339 ft (±)

WATER LEVEL: 4'

JOB NUMBER: 8979-002\*1D

READING DATE: 8/1/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
	S1	41.4		5" Topsoil - fine to medium sand, and silt	
	S2	38.7		- organic matter = 10.8%, bulk density = 110.5 pcf 0"-8"	
	S3	26.1	ML	Gray silt, and fine to medium sand, trace roots (moist)(stiff)	
	S4			- organic matter = 2.9%, bulk density = 119.5 pcf 8"-16", bulk density = 108.7 pcf 16"-24"	
	S5			Gray-brown fine to medium sand, some silt, little fine gravel (wet)(medium dense)	
5	S6		SM		5
	S7				
10				Test pit completed @ 10'	10
				Rapid groundwater seepage encountered @ 4'	
15					15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: jhb/mh 8/12

Sheet: 1 of 1

PLATE: 4I

MELICK-TULLY AND ASSOCIATES, P.C.

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# LOG OF TEST PIT

TEST PIT NO: 10

COMPLETION DATE: 8/1/12  
JOB NUMBER: 8979-002\*1D

SURFACE ELEVATION: +1,337 ft (±)

WATER LEVEL: 5'  
READING DATE: 8/1/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
	S1	10.8		4" Topsoil - fine to coarse sand, little silt, little fine gravel - organic matter = 1.8%, bulk density = 128.4 pcf 0"-8"	
	S2	27.4		FILL - Red-brown fine to coarse sand, little silt, some fine gravel - organic matter = 1.5%, bulk density = 115.6 pcf 8"-16"	
	S3	27.2			
	S4		SM	Gray fine to coarse sand, and silt, trace fine gravel (moist)(medium dense), bulk density = 108.2 pcf 16"-24"	
	S5				
5	S6	10.0	OL	Black silt, and fine to medium sand, trace peat fragments (wet)(medium) - organic matter = 4.9%	5
	S7		SP/SM	Gray-brown fine to coarse sand, little silt, trace fine gravel (wet)(medium dense)	
	S8		SM	Red-brown fine sand, and silt (wet)(dense)	
10				Test pit completed @ 10'	10
				Mottling observed @ 1'-6"	
				Rapid groundwater seepage encountered @ 5'	
15					15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: jhb/mh 8/12

Sheet: 1 of 1

PLATE: 4J

# LOG OF TEST PIT

TEST PIT NO: 11

COMPLETION DATE: 8/1/12  
JOB NUMBER: 8979-002\*1D

SURFACE ELEVATION: +1,338 ft (±)

WATER LEVEL: 5'  
READING DATE: 8/1/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
	S1	23.8		FILL - Brown fine to medium sand, and silt, trace fine gravel, intermixed with topsoil	
	S2	138.5		- organic matter = 6.4%, bulk density = 109.0 pcf 0"-8"	
	S3	55.0	SM	FILL - Brown fine to coarse sand, and silt, intermixed with topsoil	
	S4		ML	- organic matter = 35.3%, bulk density = 72.3 pcf 8"-16"	
				Gray fine to medium sand, some silt (moist)(medium dense)	
				- organic matter = 3.5%, bulk density = 99.0 pcf 16"-24"	
				Gray clayey silt, some fine to medium sand (moist)(stiff)	
	S5	457.1	PT	Organic peat, with gray fine to medium sand, and silt seams (wet)(loose)	
				- organic matter = 75.4%	
	S6		ML	Red-brown clayey silt (wet)(medium dense)	
5					5
10					10
15					15

Test pit completed @ 8'-6"

Groundwater seepage  
encountered @ 5'

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: jhb/mh 8/12

Sheet: 1 of 1

PLATE: 4K

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**LOG OF TEST PIT**

TEST PIT NO: 12

COMPLETION DATE: 8/1/12

SURFACE ELEVATION: +1,338 ft (±)

WATER LEVEL: 2'

JOB NUMBER: 8979-002\*1D

READING DATE: 8/1/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
	S1			11" Topsoil	
	S2	17.6			
	S3	18.2	ML	Gray clayey silt, little fine sand (moist)(very stiff) - bulk density = 125.4 pcf 8"-12" - bulk density = 125.0 pcf 12" to 24"	
			SM	Gray fine to coarse sand, little silt, little fine to coarse gravel (moist to wet)(medium dense)	
5					5
	S4		SM	Red-brown fine to medium sand, and silt (wet)(dense)	
10					10
				Test pit completed @ 10'	
				Mottling observed @ 1'	
				Moderate groundwater seepage encountered @ 2'	
15					15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: jhb/mh 8/12

Sheet: 1 of 1

PLATE: 4L

# LOG OF TEST PIT

TEST PIT NO: 13

COMPLETION DATE: 8/1/12

SURFACE ELEVATION: +1,338 ft (±)

WATER LEVEL: 2'

JOB NUMBER: 8979-002\*1D

READING DATE: 8/1/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
	S1	55.0		24" Topsoil - fine to medium sand, and silt - organic matter = 11.4% @ 6", bulk density = 89.3 pcf 0"-8" - organic matter = 7.5% @ 12", bulk density = 82.2 pcf 8"-16" - organic matter = 0.6% bulk density = 83.7 pcf 16"-24"	
	S2	52.2			
	S3	25.0		FILL - Brown fine to medium sand, trace silt	
	S4		SM	Gray-brown fine to coarse sand, little silt (wet)(medium dense)	
5			SM	Red-brown fine to medium sand, and silt (wet)(medium dense)	5
10	S5				10
15				Test pit completed @ 9'-6"  Rapid groundwater seepage encountered @ 2'-0"	15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: jhb/mh 8/12

Sheet: 1 of 1

PLATE: 4M

# LOG OF TEST PIT

TEST PIT NO: 14

COMPLETION DATE: 7/31/12

SURFACE ELEVATION: +1,349 ft (±)

WATER LEVEL: \*

JOB NUMBER: 8979-002\*1D

READING DATE: 7/31/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
	S1	16.8		5" Topsoil - fine to medium sand, some silt, trace fine gravel	
	S2	9.1		- organic matter = 5.1%, bulk density = 83.3 pcf 0"-8"	
	S3	14.1	SM	Gray fine to medium sand, some silt, trace fine gravel (moist)(loose)	
	S4			- organic matter = 6.1% 8"-16"	
			SM	- organic matter = 4.1%, bulk density = 117.2 pcf 16"-24"	
				Yellow-brown fine to coarse sand, some silt (moist)(medium dense)	
				Brown fine to coarse sand, some silt, little fine to coarse gravel, occasional cobbles and boulders (moist)(medium dense to dense)	
5			SM		5
	S5			- backhoe refusal encountered atop boulders @ 7'	
10				Test pit completed @ 7'-0"	10
				Mottling observed @ 4'-6"	
				*Groundwater not encountered	
				Modified double ring infiltrometer test performed @ 2'-0"	
				Measured infiltration rate = 12 in/hr	
15					15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: jhb/mh 8/12

Sheet: 1 of 1

PLATE: 4N

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# LOG OF TEST PIT

TEST PIT NO: 15

COMPLETION DATE: 7/31/12

SURFACE ELEVATION: +1,339 ft (±)

WATER LEVEL: 5'

JOB NUMBER: 8979-002\*1D

READING DATE: 7/31/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
	S1	13.3		7" Topsoil - fine to coarse sand, some silt, little fine gravel - organic matter = 4.3%, bulk density = 140.2 pcf 0"-8"	
	S2	10.2			
	S3	8.1	SM	Brown fine to medium sand, and silt (moist)(medium dense) - organic matter = 1.4%, bulk density = 154.4 pcf 8"-16"	
	S4		SM	Brown fine to coarse sand, little silt, little fine to coarse gravel (moist)(very dense)	
5	S5		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles and boulders (wet)(very dense)  - backhoe refusal atop boulders encountered @ 7'	5
10				Test pit completed @ 7'-0"  Mottling observed @ 1'  Groundwater seepage encountered @ 5'	10
15					15

## NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

## SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%

LITTLE 10 - 20%

SOME 20 - 35%

AND OVER 35%

Typist/Date: jhb/mh 8/12

Sheet: 1 of 1

PLATE: 40

MAJOR DIVISIONS			LETTER SYMBOL	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS  More than 50% of material is <u>LARGER</u> than No. 200 Sieve	GRAVEL & GRAVELLY SOILS  More than 50% of coarse fraction <u>RETAINED</u> on No. 4 Sieve	CLEAN GRAVELS  (Little or no fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines.
		GRAVELS WITH FINES  (Appreciable amount of fines)	GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines
			GM	Silty gravels, gravel-sand-silt mixtures.
			GC	Clayey gravels, gravel-sand-clay mixtures.
	SAND AND SANDY SOILS  More than 50% of coarse fraction <u>PASSING</u> a No. 4 Sieve	CLEAN SAND  (Little or no fines)	SW	Well-graded sands, gravelly sands, little or no fines.
			SP	Poorly-graded sands, gravelly sands, little or no fines.
		SANDS WITH FINES  (Appreciable amount of fines)	SM	Silty sands, sand-silt mixtures.
			SC	Clayey sands, sand-clay mixtures.
FINE GRAINED SOILS  More than 50% of material is <u>SMALLER</u> than No. 200 Sieve.	SILTS AND CLAYS  Liquid limit LESS than 50		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
			OL	Organic silts and organic silty clays of low plasticity.
	SILTS AND CLAYS  Liquid limit GREATER than 50		MH	Inorganic silts, micaceous or diatomaceous fine sand or silty soils.
			CH	Inorganic clays of high plasticity, fat clays.
			OH	Organic clays of medium to high plasticity, organic silts.
			HIGHLY ORGANIC SOILS	

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS.

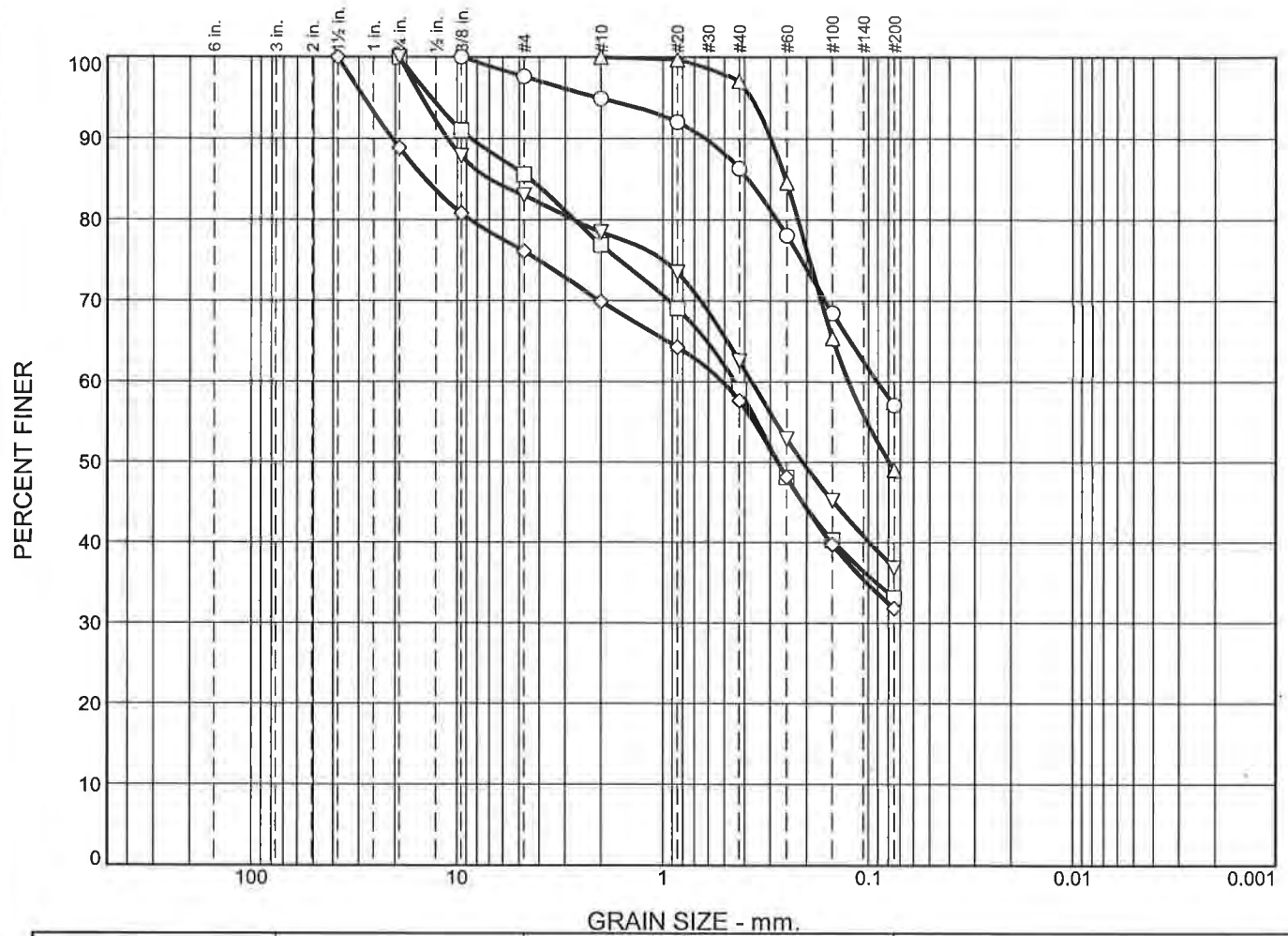
GRADATION*		COMPACTNESS*		CONSISTENCY*	
		sand and/or gravel		clay and/or silt	
% Finer by Weight		Relative Density		Range of Shearing Strength in Pounds per Square Foot	
Trace	0% to 10%	Loose	0% to 40%	Very Soft	less than 250
Little	10% to 20%	Medium Dense	40% to 70%	Soft	250 to 500
Some	20% to 35%	Dense	70% to 90%	Medium	500 to 1000
And	35% to 50%	Very Dense	90% to 100%	Stiff	1000 to 2000
				Very Stiff	2000 to 4000
				Hard	Greater than 4000

\*Values are from laboratory or field test data, where applicable. When no testing was performed, values are estimated.

## UNIFIED SOIL CLASSIFICATION SYSTEM

### SOIL CLASSIFICATION CHART

# Gradation Curve(s)



	% Cobbles	% Gravel		% Sand			% Fines
		Coarse	Fine	Coarse	Medium	Fine	
○	0.0	0.0	2.4	2.7	8.6	29.2	57.1
□	0.0	0.0	14.4	8.7	17.9	25.9	33.1
△	0.0	0.0	0.0	0.0	3.0	48.0	49.0
◇	0.0	11.2	12.7	6.2	12.3	25.8	31.8
▽	0.0	0.0	17.0	4.6	15.9	25.7	36.8

SOIL DATA					
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	B-1	S-1	0-2	Silt, and fine to medium Sand, trace fine Gravel. (MC=21.8%)	ML
□	B-1	S-2	2-4	Fine to coarse Sand, some Silt, little fine Gravel. (MC=10.3%)	Fill
△	B-2	S-2	2-4	Fine Sand, and Silt. (MC=23.0%)	Fill
◇	B-3	S-1	0-2	Fine to coarse Sand, some Silt, some f-c Gravel. (MC=16.0%)	SM
▽	B-4	S-1	0-2	Fine to coarse Sand, and Silt, little fine Gravel. (MC=10.1%)	Fill

**Melick-Tully & Associates, P.C.**

**South Bound Brook, NJ**

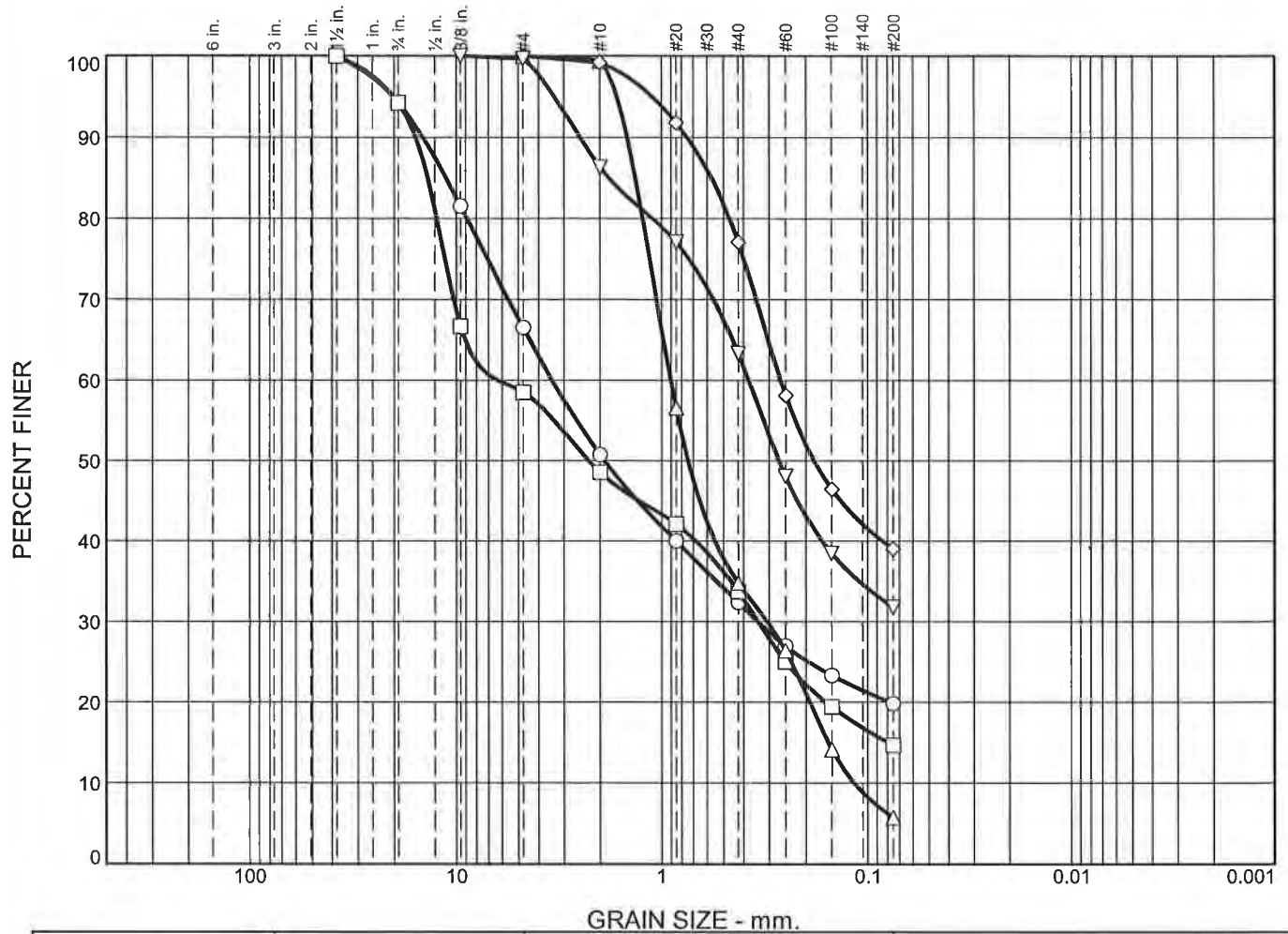
**Client:** Concord Resort Development

**Project:** Concord Resort Development, Thompson, NY

**Project No.:** 8979-002

**Plate** 6A

# Gradation Curve(s)



	% Cobbles	% Gravel		% Sand			% Fines
		Coarse	Fine	Coarse	Medium	Fine	
○	0.0	5.7	27.8	15.8	18.4	12.5	19.8
□	0.0	5.8	35.7	10.0	14.8	19.1	14.6
Δ	0.0	0.0	0.0	0.6	64.6	29.1	5.7
◇	0.0	0.0	0.0	0.8	22.1	38.1	39.0
▽	0.0	0.0	0.3	13.4	23.0	31.5	31.8

SOIL DATA					
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	B-4	S-2	2-4	Fine to coarse Sand, some f-c Gravel, little Silt. (MC=17.0%)	SM
□	B-6	S-1	0-2	Fine to coarse Sand, and f-c Gravel, little Silt. (MC=9.2%)	Fill
Δ	TP-1	S-1	0.3	Topsoil/Fine to medium Sand, trace Silt. (MC=154.1%)	SP-SM
◇	TP-1	S-2	1.1	Fine to medium Sand, and Silt. (MC=23.6%)	Fill
▽	TP-1	S-3	1.7	Fine to coarse Sand, some Silt, trace fine Gravel. (MC=38.3%)	Fill

**Melick-Tully & Associates, P.C.**

**South Bound Brook, NJ**

**Client:** Concord Resort Development

**Project:** Concord Resort Development, Thompson, NY

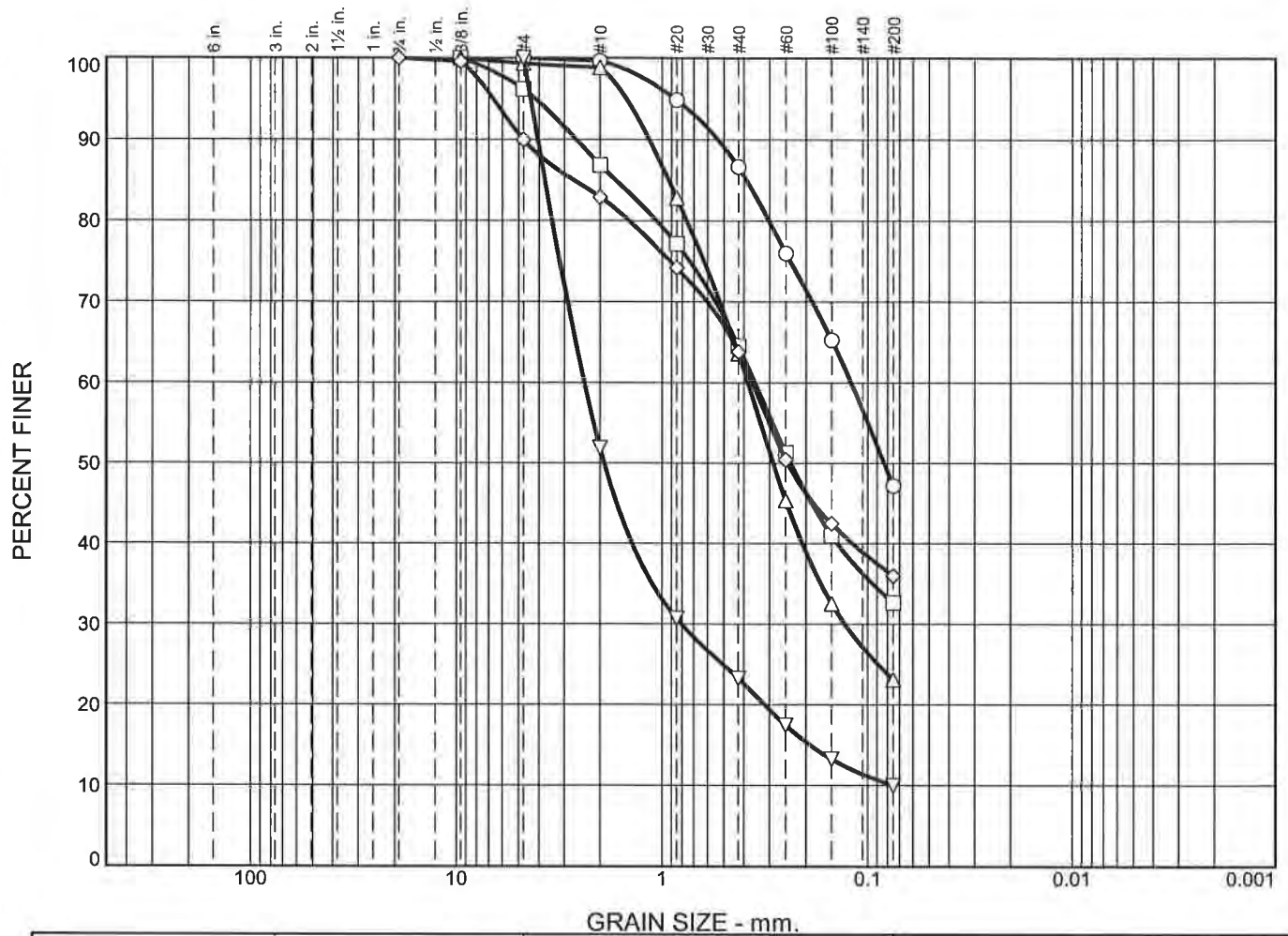
**Project No.:** 8979-002

**Plate** 6B

SOIL DATA					
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	TP-1	S-4	3	Peat with fine to medium Sand, little Silt. (MC=249.6%)	PT/SM
□	TP-2	S-1	0.3	Fine to coarse Sand, some Silt, trace fine Gravel. (MC=46.1%)	Fill
△	TP-2	S-2	0.7	Fine to medium Sand, and Silt, trace fine Gravel. (MC=18.5%)	Fill
◇	TP-2	S-3	1.6	Fine to medium Sand, and Silt. (MC=23.7%)	SM
▽	TP-3	S-1	0.25	Fine to medium Sand, some Silt. (MC=21.4%)	Fill

Plate 6C

# Gradation Curve(s)





# Gradation Curve(s)



	% Cobbles	% Gravel		% Sand			% Fines
		Coarse	Fine	Coarse	Medium	Fine	
○	0.0	0.0	3.9	1.8	19.0	45.5	29.8
□	0.0	0.0	16.9	9.3	17.5	21.2	35.1
Δ	0.0	0.0	0.5	2.1	16.7	41.7	39.0
◇	0.0	0.0	0.8	1.3	5.3	33.9	58.7
▽	0.0	0.0	13.2	2.6	7.7	34.3	42.2

SOIL DATA					
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	TP-5	S-1	0.3	Fine to medium Sand, some Silt, trace fine Gravel. (MC=22.9%)	SM
□	TP-5	S-3	2	Fine to coarse Sand, and Silt, little fine Gravel. (MC=88.1%)	SM
Δ	TP-6	S-1	0.3	Topsoil/F-m Sand, and Silt, trace fine Gravel. (MC=29.6%)	SM
◇	TP-6	S-2	0.7	Silt, and fine to medium Sand, trace fine Gravel. (MC=15.2%)	ML
▽	TP-6	S-3	1.5	Fine to medium Sand, and Silt, little fine Gravel. (MC=18.3%)	SM

**Melick-Tully & Associates, P.C.**

**South Bound Brook, NJ**

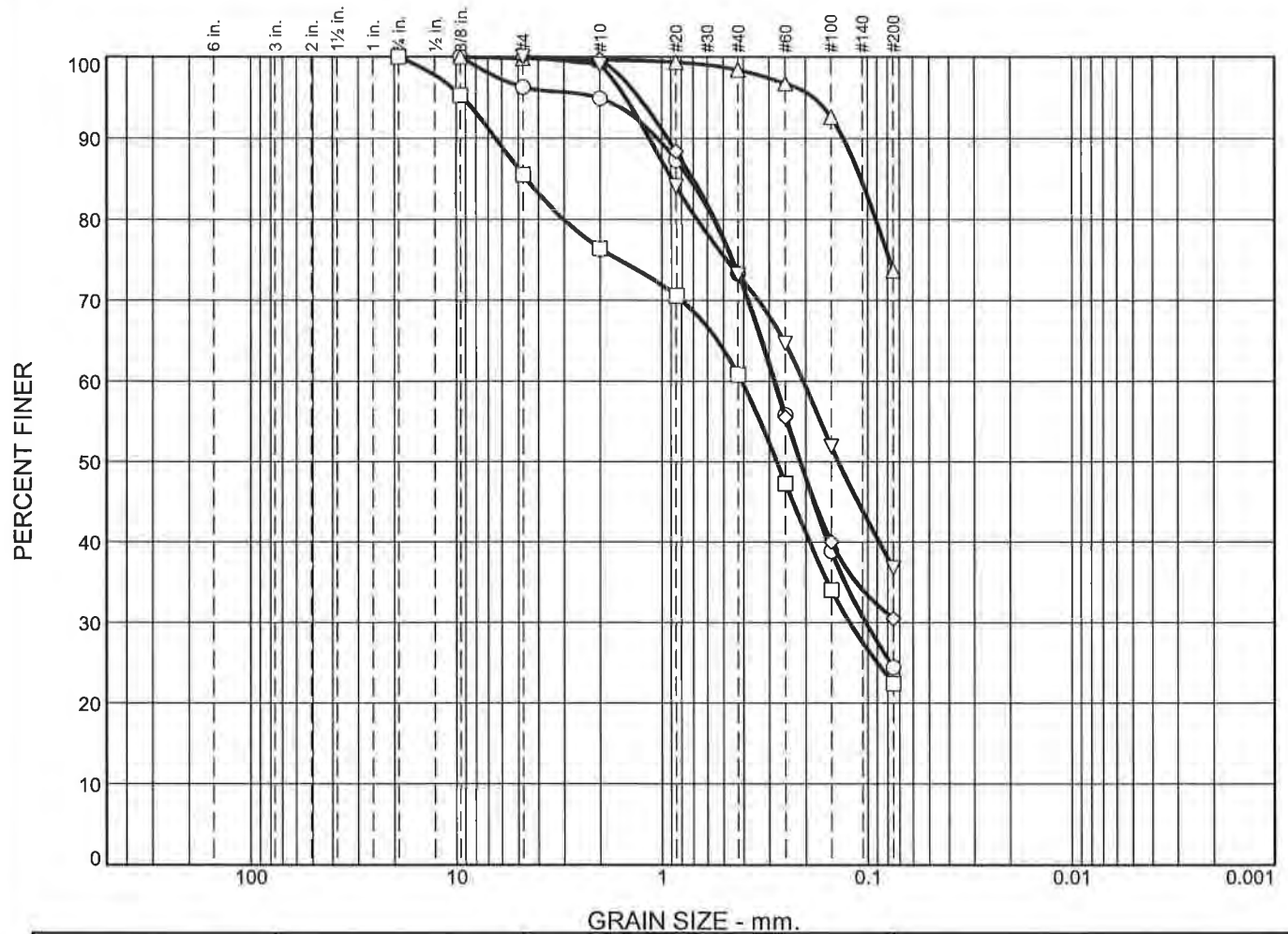
**Client:** Concord Resort Development

**Project:** Concord Resort Development, Thompson, NY

**Project No.:** 8979-002

**Plate** 6E

## Gradation Curve(s)





# Gradation Curve(s)



	% Cobbles	% Gravel		% Sand			% Fines
		Coarse	Fine	Coarse	Medium	Fine	
○	0.0	0.0	3.7	1.4	21.6	48.9	24.4
□	0.0	0.0	14.5	9.1	15.6	38.4	22.4
△	0.0	0.0	0.2	0.2	1.2	24.7	73.7
◇	0.0	0.0	0.0	0.3	26.4	42.8	30.5
▽	0.0	0.0	0.0	0.9	25.9	36.4	36.8

SOIL DATA					
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	TP-7	S-1	0.3	Fine to medium Sand, some Silt, trace fine Gravel. (MC=46.5%)	Fill
□	TP-7	S-2	0.67	Fine to coarse Sand, some Silt, little fine Gravel. (MC=27.6%)	Fill
△	TP-7	S-3	1.7	Silt, some fine Sand, trace fine Gravel. (MC=20.9%)	ML
◇	TP-8	S-1	0.5	Fine to medium Sand, some Silt. (MC=28.8%)	Fill
▽	TP-8	S-2	1.5	Peat with fine to medium Sand, and Silt. (MC=109.1%)	SM/PT

**Melick-Tully & Associates, P.C.**

**South Bound Brook, NJ**

**Client:** Concord Resort Development

**Project:** Concord Resort Development, Thompson, NY

**Project No.:** 8979-002

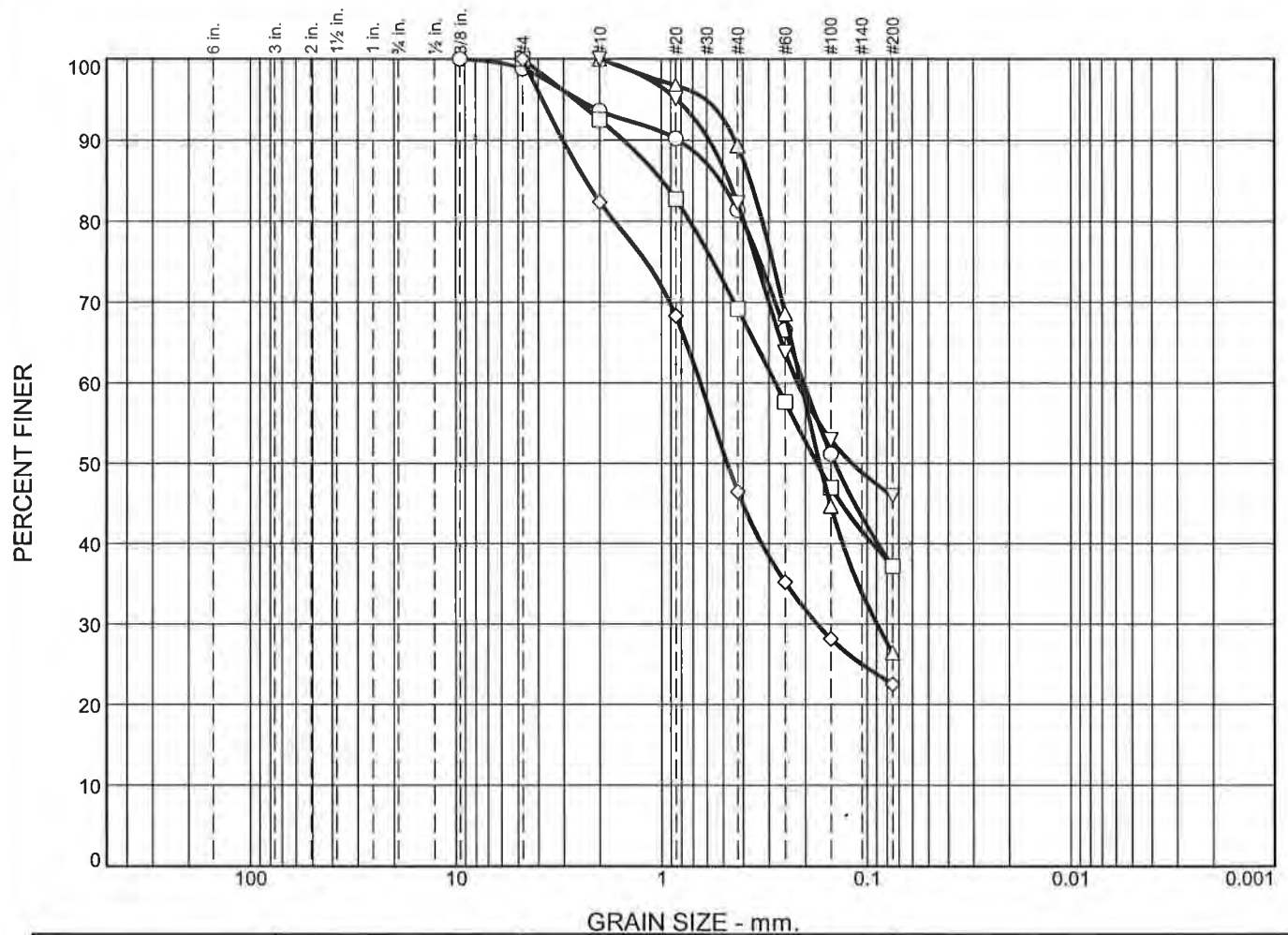
**Plate** 6F

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SOIL DATA					
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	TP-9	S-1	0.25	Fine to medium Sand, and Silt. (MC=41.4%)	Fill
□	TP-9	S-3	1.5	Silt, and fine to medium Sand. (MC=26.1%)	ML
△	TP-10	S-1	0.25	Fine to coarse Sand, little Silt, little fine Gravel. (MC=10.8%)	Fill
◇	TP-10	S-2	1	Fine to coarse Sand, some fine Gravel, little Silt. (MC=7.7%)	Fill
▽	TP-10	S-6	5	Silt, and fine to medium Sand. (MC=10.0%)	ML

Plate 6G

# Gradation Curve(s)



	% Cobbles	% Gravel		% Sand			% Fines
		Coarse	Fine	Coarse	Medium	Fine	
○	0.0	0.0	1.2	5.2	12.2	44.3	37.1
□	0.0	0.0	0.0	7.5	23.3	32.0	37.2
△	0.0	0.0	0.0	0.0	10.7	62.9	26.4
◇	0.0	0.0	0.0	17.6	35.9	24.0	22.5
▽	0.0	0.0	0.0	0.0	17.7	36.4	45.9

SOIL DATA					
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	TP-11	S-1	0.5	Fine to medium Sand, and Silt, trace fine Gravel. (MC=23.8%)	Fill
□	TP-11	S-2	1	Fine to coarse Sand, and Silt. (MC=138.5%)	Fill
△	TP-11	S-3	2	Fine to medium Sand, some Silt. (MC=25.3%)	SM
◇	TP-11	S-5	4.5	Peat/Fine to coarse Sand, some Silt. (MC=457.1%)	PT/SM
▽	TP-13	S-1	.5	Fine to medium Sand, and Silt. (MC=55.0%)	Fill

**Melick-Tully & Associates, P.C.**

**South Bound Brook, NJ**

**Client:** Concord Resort Development

**Project:** Concord Resort Development, Thompson, NY

**Project No.:** 8979-002

**Plate** 6H

# Gradation Curve(s)



	% Cobbles	% Gravel		% Sand			% Fines
		Coarse	Fine	Coarse	Medium	Fine	
○	0.0	0.0	0.0	0.0	15.4	38.6	46.0
□	0.0	0.0	0.0	0.0	65.1	30.8	4.1
△	0.0	0.0	4.6	2.7	11.3	47.2	34.2
◇	0.0	0.0	1.3	1.0	12.3	51.8	33.6
▽	0.0	0.0	0.0	0.3	18.7	58.2	22.8

SOIL DATA					
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	TP-13	S-2	1.5	Fine to medium Sand, and Silt. (MC=52.2%)	Fill
□	TP-13	S-3	2	Fine to medium Sand, trace Silt. (MC=25.0%)	Fill
△	TP-14	S-1	0.25	Fine to medium Sand, some Silt, trace fine Gravel. (MC=16.8%)	SM
◇	TP-14	S-2	0.5	Fine to medium Sand, some Silt, trace fine Gravel. (MC=9.1%)	SM
▽	TP-14	S-3	1.5	Fine to coarse Sand, some Silt. (MC=14.1%)	SM

**Melick-Tully & Associates, P.C.**

**South Bound Brook, NJ**

**Client:** Concord Resort Development

**Project:** Concord Resort Development, Thompson, NY

**Project No.:** 8979-002

**Plate** 6I

# Gradation Curve(s)



**DATA SUMMARY SHEET**  
**Concord Resort Development**  
**Thompson, New York**

Explorations No.	Depth	Moisture Content (%)	Organic Matter (%)	Total Density (pcf)	Gradation Test	In-Place Permeability Test
B-1	0-2'	21.8	-	-	*	
B-1	2-4'	10.3	-	-	*	
B-1	4-6'	108.4	16.7	-		
B-2	2-4'	23.0	-	-	*	
B-2	4-5'	29.9	6.5	-		
B-3	0-2'	16.0	-	-	*	
B-4	0-2'	10.1	-	-	*	
B-4	2-4'	17.0	-	-	*	
B-5	0-2'	62.9	13.0	-		
B-6	0-2'	9.2	-	-	*	
B-7	0-2'	37.1	12.5	-		
B-7	2-4'	24.8	-	-		
TP-1	0-8"	154.1	34.1	116.4	*	
TP-1	8-16"	23.6	5.6	101.4	*	
TP-1	16-24"	79.2	7.6	63.5	*	
TP-1	3'	249.6	37.5	-	*	
TP-2	6-8"	46.1	12.1	99.4	*	
TP-2	8-16"	27.3	3.1	102.6	*	
TP-2	16-24"	23.7	1.7	114.3	*	
TP-3	0-8"	21.4	5.0	107.5	*	
TP-3	8-16"	18.9	2.8	113.2	*	
TP-3	16-24"	14.0	6.9	135.4	*	
TP-4	0-8"	11.3	11.1	128.1	*	
TP-4	8-16"	13.0	1.5	119.8	*	
TP-5	0-8"	22.9	4.4	100.7	*	
TP-5	8-16"	34.6	20.7	93.3		
TP-5	16-24"	88.1	-	88.0	*	
TP-6	0-8"	29.6	11.9	115.2	*	
TP-6	8-16"	15.2	1.0	108.8	*	*
TP-6	16-24"	18.3	2.1	125.4	*	
TP-7	0-8"	46.5	13.7	96.8	*	
TP-7	8-16"	16.0	5.3	136.1	*	
TP-7	16-24"	20.9	0.5	127.4	*	*
TP-8	0-16"	28.8	7.1	105.3	*	
TP-8	16-24"	109.1	20.1	103.8	*	



**DATA SUMMARY SHEET**  
**Concord Resort Development**  
**Thompson, New York**

Explorations No.	Depth	Moisture Content (%)	Organic Matter (%)	Total Density (pcf)	Gradation Test	In-Place Permeability Test
TP-9	0-8"	41.4	10.8	110.5	*	
TP-9	8-16"	38.7	2.9	119.5		
TP-9	16-24"	26.1	-	108.7	*	
TP-10	0-8"	10.8	1.8	128.4	*	
TP-10	8-16"	27.4	1.5	115.6	*	
TP-10	16-24"	27.2	-	108.2		
TP-10	5'	10.0	4.9	-	*	
TP-11	0-8"	23.8	6.4	109.0	*	
TP-11	8-16"	138.5	35.3	72.3	*	
TP-11	16-24"	55.0	3.5	99.0	*	
TP-11	4'-6"	457.1	75.4	-	*	
TP-12	8-12"	17.6	-	125.4		
TP-12	12-24"	18.2	-	125.0		
TP-13	0-8"	55.0	11.4	89.3	*	
TP-13	8-16"	52.2	7.5	82.2	*	
TP-13	16-24"	25.0	0.6	83.7	*	
TP-14	0-8"	16.8	5.1	83.3	*	
TP-14	8-16"	9.1	6.1	-	*	
TP-14	16-24"	14.1	4.1	117.2	*	*
TP-15	0-8"	13.3	4.3	140.2	*	
TP-15	8-16"	10.2	1.4	154.4	*	
TP-15	16-24"	8.1	-	-		

## **APPENDIX**



## **APPENDIX**

### **Limitations**

#### **A. Subsurface Information**

Locations: The locations of the explorations were approximately determined by tape and compass measurement from untitled plans provided to us by AKRF. Elevations of the explorations were approximately determined by interpolation between contours shown on topographic plans provided to us by the site engineer. The locations and elevations of the explorations should be considered accurate only to the degree implied by the method used.

Interface of Strata: The stratification lines shown on the individual logs of the subsurface explorations represent the approximate boundaries between soil types, and the transitions may be gradual.

Field Logs/Final Logs: A field log was prepared for each exploration by a member of our staff. The field log contains factual information and interpretation of the soil conditions between samples. Our recommendations are based on the final logs as shown in this report and the information contained therein, and not on the field logs. The final logs represent our interpretation of the contents of the field logs, and the results of the laboratory observations and/or tests of the field samples.

Water Levels: Water level readings have been made in the explorations at times and under conditions stated on the individual logs. These data have been reviewed and interpretations made in the text of this report. However, it must be noted that fluctuations in the level of the groundwater will occur due to variations in rainfall, temperature, and other factors.

Pollution/Contamination: Unless specifically indicated to the contrary in this report, the scope of our services was limited only to investigation and evaluation of the geotechnical engineering aspects of the site conditions, and did not include any consideration of potential site pollution or contamination resulting from the presence of chemicals, metals, radioactive elements, etc. This report offers no facts or opinions related to potential pollution/contamination of the site.

Environmental Considerations: Unless specifically indicated to the contrary in this report, this report does not address environmental considerations which may affect the site development, e.g., wetlands determinations, flora and fauna, wildlife, etc. The conclusions and recommendations of this report are not intended to supersede any environmental conditions which should be reflected in the site planning.

## **B. Applicability of Report**

This report has been prepared in accordance with generally accepted soils and foundation engineering practices for the exclusive use of The Concord Resort Development for specific application to the design of the proposed development. No other warranty, expressed or implied, is made.

A more detailed subsurface investigation should be performed at the site prior to proceeding with final design. This investigation should consider the final locations and design features of the proposed facilities and should serve to confirm and/or further define the subsurface conditions and recommendations discussed in this preliminary study.

## **C. Reinterpretation of Recommendations**

Change in Location or Nature of Facilities: In the event that any changes in the nature, design or location of the facilities are planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and conclusions of this report modified or verified in writing.

Changed Conditions During Construction: The analyses and recommendations submitted in this report are based in part upon the data obtained from seven widely-spaced test borings and 15 test pit excavations performed for this study. The nature and extent of variations between the explorations may not become evident until construction. If variations then appear evident, it will be necessary to reevaluate the recommendations of this report.

Changes in State-of-the-Art: The conclusions and recommendations contained in this report are based upon the applicable standards of our profession at the time this report was prepared.

## **D. Use of Report by Prospective Bidders**

This soil and foundation engineering report was prepared for the project by Melick-Tully and Associates, P.C. for design purposes and may not be sufficient to prepare an accurate bid. Contractors utilizing the information in the report should do so with the express understanding that its scope was developed to address design considerations. Prospective bidders should obtain the owner's permission to perform whatever additional explorations or data gathering they deem necessary to prepare their bid accurately.

#### **E. Construction Observation**

We recommend that Melick-Tully and Associates, P.C. be retained to provide on-site soils engineering services during the earthwork construction and foundation phases of the work. This is to observe compliance with the design concepts and to allow changes in the event that subsurface conditions differ from those anticipated prior to the start of construction.

## **APPENDIX E – TECHNICAL APPENDIX**

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- 1. Phase I Environmental Site Assessment**, Prepared for: CIBC World Markets Corporation. Prepared by IVI International Inc., July 16, 2006
- 2. Draft Remedial Investigation and Interim Remedial Measure (RI/IRM) Work Plan**, Prepared for: Concord Associates, LP. Prepared by JM Associates, Inc., October 2004. – Summary Included. Back up files on CD.

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# **PHASE I ENVIRONMENTAL SITE ASSESSMENT**

**Concord Abandoned Hotel & Golf Course  
Route 42 & Concord Road  
Kiamesha Lake, New York 12751**

**Prepared for  
CIBC World Markets Corporation  
Chicago, Illinois**

**By  
IVI International, Inc.  
White Plains, New York**

**IVI Project No.: 40614112  
July 16, 2004**

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**New York**  
105 Corporate Park Drive  
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(301) 907-3352 (fax)

**Los Angeles**  
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Suite 1520  
Los Angeles, California 90017  
(213) 896-0300 (tel)  
(213) 896-0149 (fax)

**Miami**  
444 Brickell Avenue  
Suite 1030  
Miami, Florida 33131  
(305) 358-1776 (tel)  
(305) 358-1797 (fax)

**Dallas**  
5220 Spring Valley Road  
Suite 540  
Dallas, Texas 75240  
(972) 716-9300 (tel)  
(972) 716-9311 (fax)



July 16, 2004

Mr. David Slade  
CIBC World Markets Corporation  
200 West Madison, 26<sup>th</sup> Floor  
Chicago, Illinois  
(312) 855-3209 (tel)  
[david.slade@us.cibc.com](mailto:david.slade@us.cibc.com)

Sent by email

Re: IVI Project No.: 30611720  
Concord Abandoned Hotel & Golf Course  
Route 42 & Concord Road  
Kiamesha Lake, New York 12751

Dear Mr. Slade:

IVI International, Inc. ("IVI") is pleased to submit this final color copy of our Phase I Environmental Site Assessment on the above-referenced property. This report outlines the findings of IVI's site reconnaissance, historical land use research, review of governmental records, interviews, and our Pre-survey Questionnaire.

Please call the undersigned at **914.694.9600 (x-365)** should you have any questions.

Sincerely,

IVI International, Inc.

Charles Montgomery, CEM  
Senior Project Manager

Reviewed by: \_\_\_\_\_  
Douglas A. Olson, P.E.  
Phase I Department Manager

CM/lp

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## 1.0 EXECUTIVE SUMMARY

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This report documents IVI's findings from our Phase I Environmental Site Assessment on the Concord Abandoned Hotel & Golf Course (the "Subject"), centered around Concord Road, Kiamesha Lake, New York. The property is situated in a rural area characterized by vacant land, commercial retail and residential development, as well as resorts and hotels. The Subject consists of a main hotel complex, consisting of an approximately 160-acre parcel on the northwest portion of the Concord Resort. The Concord Resort totals approximately  $\pm 1,755$  acres, and is not part of the scope of this investigation. The scope of this investigation includes only the afore-mentioned approximately 160-acre parcel which includes an abandoned hotel complex and associated buildings constructed in phases since the early 1960s, several houses constructed in phases since approximately 1946, most of which are vacant, a house converted to offices and used as the main office for the Concord Resort, an abandoned gasoline station, and an abandoned International Golf Clubhouse, and an abandoned golf course.

The Subject historically was vacant land with scattered residences since at least 1911. The Subject began development as a resort in 1946 with the construction of an 88-room main house. The main hotel complex was developed in phases through the early 1970's and was abandoned in the early 1990's.

The purpose of this Phase I Environmental Site Assessment was to assess existing site conditions and render an opinion as to the identified or potential presence of recognized environmental conditions in connection with the property within the scope and limitations of CIBC's Scope of Work and the limitations identified herein. Exceptions to or deletions from the scope of work are described in Section 2.0.

This assessment has revealed of the following recognized environmental conditions in connection with the Subject:

### **Suspected Contamination & Transition from Voluntary Cleanup Program (VCP) to the Brownfield Cleanup Program (BCP)**

Numerous areas of environmental uncertainty exist at the Subject. These include numerous abandoned underground storage tanks (USTs), (some of which have been confirmed to be leaking) and an abandoned gasoline service station. As a result of these issues, the Subject had originally entered into an agreement through the VCP of the New York State Department of Environmental Conservation (NYSDEC), and recently requested and was granted transition into the BCP. The pending BCP agreement date with the NYSDEC is August 25, 2004... A copy of the agreement has not been provided for our review. However based on our review of documentation associated with the transition, the terms of the Agreement require an investigation/remediation of the numerous UST sites located throughout the property. A description of these concerns as well as other environmental issues at the Subject apparently not included in the BCP work-plan are discussed below.



## **1.0 EXECUTIVE SUMMARY**

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### **Leaking Underground Storage Tanks (LUSTs) & Spills**

There are six LUST/Spill listings for the Subject within the NYSDEC database as a result of former tank test failures of some of USTs. Two of these listings have reportedly been granted a “Case Closed” status and do not require further action. However, confirmation and closure documentation was not provided for our review. The remaining four LUST/Spill listings are still “active”. IVI recommends that closure documentation be obtained for the listings with a “Closed” classification and that the active listings be brought to closure with the NYSDEC. Of note, based on IVI’s review of correspondence from the NYSDEC, the Subject’s petroleum bulk storage (PBS) facilities as well as the dump sites are to be addressed as part of the BCP.

### **Underground Storage Tanks (USTs)**

IVI identified one active (at the Robert Parker House, used as the office for the Concord Resort) and numerous abandoned USTs at the Subject, including: two 10,000-gallon abandoned gasoline USTs and a 350-gallon abandoned UST at the former service station; two 15,000-gallon and one 1,500-gallon abandoned fuel oil USTs at the main complex; as well as other active and abandoned fuel oil USTs associated with the residential improvements. IVI recommends that the abandoned USTs be removed or closed in accordance with governmental regulations, and that the active UST be tightness tested. In addition, inasmuch as the active UST is suspected to have exceeded its expected useful life, consideration should be given to replacing the active UST.

### **Dump Sites**

There are eight active former dumping areas associated with the Concord Resort, however only two of which are located on the Subject property. The two on the Subject are referred to as the Main Parking Area Dump and the Rear Gas Station Parking Area Dump and are in varying stages of investigation and/or remediation under the oversight of the NYSDEC. The dump areas were created between 1963 and 1983, and were composed of non-hazardous C&D waste generated by past hotel renovations.

According to correspondence from the NYSDEC, these sites have been incorporated into the BCP. Inasmuch as the Work plan for the BCP appears to be in preliminary development, it is unknown as to the full extent of cleanup to be stipulated by the NYSDEC, and/or ongoing monitoring that will be required.

### **Former Service Station**

In addition to the abandoned gasoline USTs at the former service station discussed above, there are additional areas around the building where USTs historically were located. Furthermore, there are 2 in-ground hydraulic lifts and an oil/water separator associated with the facility. Since the building is no longer in use, IVI recommends that the lifts and oil and water separator be removed. In addition a subsurface investigation is

## **1.0 EXECUTIVE SUMMARY**

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recommended in the area around the service station building to determine if there are impacts from former USTs, the existing lifts and the oil and water separator.

### **Drums of Waste**

Numerous (approximately 20) 55-gallon drums were identified in various locations of the basement of the main complex. Most appear to be associated with the abandoned heating and cooling system. Reportedly, removal of these drums is included with the asbestos abatement contract for the main complex, and the removal is included in the BCP Work Plan. IVI recommends that these drums' contents be characterized and that they be disposed of in accordance with governmental regulations.

In addition, the following items of environmental concern were noted and warrant mention:

### **Asbestos-Containing Material (ACM)**

Based on our review of a prior ACM survey by others of the main complex, and selected other on-site buildings, and our site reconnaissance of the Subject, friable and non-friable ACM exists at various locations within many of the Subject's improvements. Reportedly asbestos abatements had been partially completed in portions of the main complex in preparation for building demolition. In addition, asbestos abatement containments were constructed in one of the towers, but were abandoned prior to completing abatement in the contained areas via a site specific variance with the New York State Department of Labor. Other areas of the main complex that reportedly had removals completed have not had final air tests conducted, and are therefore not completed jobs. Asbestos materials identified in the above-referenced asbestos survey consisted primarily of resilient floor tile, as well as column plaster, ceiling fireproofing and limited areas of pipe insulation. Details of the locations of the materials were not provided.

IVI recommends that documentation of completed abatements be provided consisting at a minimum of final air testing results and asbestos waste disposal manifests.

Management of the Subject has stated that contract negotiations are pending for completion of the abatement in the main complex. Based on our review of a one page budget summary document provided by the Subject, abatements in the main complex are approximately 31% completed and approximately \$1,027,000 has been budgeted for the completion.

In addition, based on the age of the remaining improvements not included in the above-referenced survey, there is potential that friable and non-friable ACM exists within those buildings. IVI was not provided access to the interiors of most of the rental residences. However, asbestos-containing transite shingle siding was observed on some of the bungalow buildings. IVI recommends that the partially completed abatements be

## **1.0 EXECUTIVE SUMMARY**

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completed in accordance with governmental regulations, that documentation of completed abatements be provided, and that all remaining suspect and identified ACM be managed in-place under an Asbestos Operations & Maintenance Program.

## **1.0 EXECUTIVE SUMMARY**

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### **Lead-Based Paint (LBP)**

Based upon the age of the structures, the use of LBP is suspected. A majority of the interior and exterior painted surfaces of the abandoned structures were identified in poor condition with areas of significant peeling and flaking. Inasmuch as the paint could potentially be lead-based, IVI recommends that all future construction/demolition activities be conducted in accordance with New York State, OSHA and RCRA guidelines. IVI recommends that painted surfaces be maintained in good condition under an LBP Operations & Maintenance (O&M) Program.

### **Visible Mold**

Although beyond the scope of our ESA, mold growth was observed in numerous locations of the abandoned towers due to unsealed building conditions. Inasmuch as the buildings are scheduled for demolition, IVI recommends that proper worker protection be utilized such as respirators appropriate for mold aerosols, used in accordance with the selected contractor's written respiratory protection program, and that care be taken to prevent excessive dispersion of mold spores. Of note, there are no special requirements for disposing of mold-contaminated materials.

### **Review of Workplan**

Inasmuch as implementing the work plan for completion of the NYSDEC required remediation will likely be an on-going process of document submittals to the NYSDEC for review, IVI recommends that prior to submitting the documents to the NYSDEC, that they be reviewed to insure that all areas of environmental concern are addressed and the most efficient, cost-effective and acceptable methods are employed for closure and/or remediation of the environmental concerns.

## 2.0 INTRODUCTION

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### 2.1 General

IVI was retained by CIBC World Markets Corporation (“CIBC”) to prepare a Phase I Environmental Site Assessment, in conformance with CIBC’s Scope of Work on the Subject in accordance with our Agreement dated July 3, 2003.

### 2.2 Purpose and Scope

#### 2.2.1 Purpose

The purpose of this report is to identify Recognized Environmental Conditions in connection with the property, using the methodology recommended by the American Society for Testing and Materials (ASTM) in order to qualify for the innocent landowner defense to CERCLA liability and/or to help understand potential environmental conditions that could materially impact the operation of the business associated with the Subject. Specifically, this methodology is referred to as *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* Designation: E 1527-00.

Recognized Environmental Conditions are defined by the American Society for Testing and Materials (ASTM) Standard E 1527-00 as “...the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include *de minimis* conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.”

There are no exceptions to the ASTM Standard Practice Designation E 1527-00. However, although our historical research was conducted back to 1911, and when the site was sparsely developed with residences, it was not conducted back to when the site was totally undeveloped.

#### 2.2.2 Scope

In general, the scope of this assessment consisted of reviewing readily available information and environmental data relating to the property; interviewing readily available persons knowledgeable about the site; reviewing readily available maps, aerial photographs and records

## 2.0 INTRODUCTION

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maintained by federal, state, and local regulatory agencies; and conducting a site visit.

The specific scope of this assignment included the following:

**2.2.2.1** Performing a site reconnaissance to characterize on-site conditions and assess the site's location with respect to surrounding property uses and natural surface features. In addition, IVI conducted a reconnaissance of the surrounding roads and readily accessible adjacent properties to identify obvious potential environmental conditions on neighboring properties. Photographs taken as part of the site reconnaissance are provided in Appendix A.

The site visit was conducted on July 8, 2004 by Charles Montgomery, CEM and Mr. Sarmarepresenting IVI. The site was represented by Mr. Jim McDonough, of Hotel Maintenance, Mr. Neal Carpenter, of Hotel Maintenance, and Steve Boynton, of Golf Course Maintenance.

It was sunny and the temperature was approximately 80°F at the time of the site visit. IVI conducted the site reconnaissance in a systematic manner focusing initially on building exteriors, which were surveyed in a grid pattern. IVI also surveyed a representative sampling of the interior spaces in a systematic manner. Of importance, IVI did not access areas restricted by asbestos abatement containment nor areas that had undergone partial demolition and were deemed unsafe to enter. In addition, interiors of the private residences were not accessed and, accordingly, we make no representations with respect to same.

**2.2.2.2** Interviewing persons familiar with the property to obtain information on present and previous on-site activities potentially resulting in the environmental degradation of the site or adjoining properties. A Pre-survey Questionnaire to be filled out and returned to IVI by someone knowledgeable about the site was provided to Mr. Henry Zabatta. A copy of the Pre-survey Questionnaire is provided in Appendix B.

The following table presents a summary of the individuals contacted or to whom requests for documentation were made as part of IVI's assessment of the Subject:

## 2.0 INTRODUCTION

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Name	Affiliation	Telephone No.
Fire Chief	Monticello Fire Department	(845) 794-6330
Manfred Germann	Sullivan County Health Department	(845) 794-2045
Jim McDonough	Hotel Maintenance	(845) 794-4000
Henry Zabatta	Property Managing Director	(845) 794-4000
Chris Hummel	Golf Course Superintendent	(845) 794-4000
Andrew Lent	NYSDEC	(914) 332-1835
Jill Kenny	Sullivan County Planning Department	(845) 794-3000
Charlotte Oster	Sullivan County Historic Library	(845) 434-8044
Michael Kaplan, Esq.	Cappelli	(914) 874-4888

- 2.2.2.3** If provided, reviewing of information such as previously prepared building condition surveys, appraisals, building plans and specifications, and environmental assessment reports.
- 2.2.2.4** Reviewing readily available historical documents, such as topographic maps, aerial photographs, city directories, Sanborn Fire Insurance Maps and atlases, to identify previous activities on and in the vicinity of the Subject. Copies of these documents are included in Appendix C.
- 2.2.2.5** Reviewing readily available environmental databases maintained by federal, state, and local agencies within the approximate minimum search distances as described within the Regulatory Review Section 5.0 of this report. A copy of the Computerized Environmental Report (CER), provided by Environmental Data Resources, Inc. (EDR) can be referenced in Appendix D.
- 2.2.2.6** Conducting a visual survey of readily accessible common areas to identify suspect asbestos containing materials (ACM). Moreover, a limited number of suspect friable or damaged non-friable ACM bulk samples were collected from readily accessible homogeneous areas and were analyzed for asbestos using the “positive-stop method” by polarized light microscopy (PLM) in accordance with USEPA Method 600/M4-82-020. This limited survey is not to be construed as a comprehensive asbestos survey, which often entails destructive testing or the survey of areas behind walls, above ceilings, in tenant spaces and in other typically inaccessible areas. Moreover, IVI does not warrant that all asbestos containing materials at the Subject have been identified.

## **2.0 INTRODUCTION**

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- 2.2.2.7** Reviewing published radon occurrence maps to determine whether the subject site is located in an area with a propensity for elevated radon concentrations.
- 2.2.2.8** An analysis of mold and/or mold issues were beyond the scope of this report.
- 2.2.2.9** Assessing the age of the Subject to determine whether it is predisposed to contain lead-based paint. During our walkthrough survey, IVI noted the condition of the paint observed.



### 3.0 SALIENT ASSIGNMENT INFORMATION

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Concord Abandoned Hotel &  
Golf Course  
Kiamesha Lake, New York

<b>IVI Project No.:</b>	40614112
<b>Project Name</b>	Concord Abandoned Hotel & Golf Course
<b>Street Address:</b>	Route 42 & Concord Road
<b>City, State and Zip:</b>	Kiamesha Lake, New York 12751
<b>Primary Use:</b>	Abandoned Golf resort
<b>Year Built and Age of Improvements:</b>	Approximately 1925
<b>Reported Site Area:</b>	Approximately 150 acres

## 4.0 SITE DESCRIPTION

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### 4.1 Property Location

The site's main abandoned complex is located at on Concord Road; in Kiamesha Lake, in the Town of Thompson, Sullivan County, New York. Refer to the Site Plan provided within Appendix C.

### 4.2 Surrounding Land Use

The property is located in a rural setting characterized by golf courses, commercial retail and residential development and undeveloped land. The following is a tabulation of surrounding property usage.

Direction	Adjacent Properties	Surrounding Properties
North	To the north are residential dwellings, a NYSEG substation, and undeveloped woodlands.	Further to the north are scattered residential dwellings and undeveloped woodlands.
South	Vacant wooded land and the International Golf Course abut the southern boundary.	Bungalow colonies and residences are beyond the vacant woods and golf course. Further to the south along Route 17 are commercial retail buildings, residential dwellings, and undeveloped woodlands.
East	The International Golf Course and residences abut the east.	Further to the east the east are scattered residential dwellings and undeveloped woodlands.
West	Lake Kiamesha, residences and vacant land abut the west, and Leisure Time Ice I Spring Water distributing warehouse, Nob Hill Country Club, fur merchant store, a post office, a furniture store, Belgard Realty, a vacant commercial building, a residential dwelling, and Kiamesha Bowling Lanes abut the northwest.	Further to the west are scattered residential dwellings and undeveloped woodlands.

### 4.3 Physical Site Setting

#### 4.3.1 Size and Shape of Parcel

The property is irregular in shape and approximately 160 acres in size and exhibits road frontage along Route 42 to the west.

#### 4.3.2 Topography

According to the United States Geological Survey (USGS) *Monticello, New York 7.5 Minute Series* topographic map, the Subject's elevation ranges between 1,555' above mean sea level (msl) and 1,400' above msl. The topography of the site is highly variable and is best described as rolling hills. The topography generally slopes moderately downwards to the adjacent Kiamesha Lake.

## 4.0 SITE DESCRIPTION

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### 4.3.3 Surface Waters and Wetlands

#### Surface Waters

Kiamesha Lake is located on the northwestern border of the subject. The abandoned hotel complex's stormwater runoff discharges into the lake and Kiamesha Creek. Visual assessments of the water bodies accessed indicate that they are free of excessive debris and appear to support aquatic life.

#### Wetlands

IVI reviewed a document entitled *Assessment of Wetland Functions and Regulations, the Concord, Kiamesha Lake, NY*, prepared by Triton Environmental, Inc. on behalf of Concord Associates, LP, dated October 18, 2001. The scope of this investigation only includes the northwest portion of the site where the main complex is located. The document stated

*"...relatively low quality, wetlands and intermittent watercourses (which are federally and locally regulated) were identified in the northwestern and eastern areas of the property. Development activities in these areas will require review and approval by regulating agencies. No State wetlands were identified on the property."*

Although no state-regulated wetlands were identified in the above-referenced documentation, it only covered a portion of the site, specifically the approximately 150-acre northwestern portion containing the main complex. Evidence of small wetland areas was identified in various and limited locations of the remainder of the undeveloped portions of the site. Development of areas beyond the scope of the above-referenced documents would require additional wetland assessment.

### 4.3.4 Soils, Geology and Groundwater

#### Soils

According to the *Soil Survey of Sullivan County, New York*, dated July 1989 issued by the United States Department of Agriculture, Soil Conservation Service, the soils around the main hotel complex are classified as Udorthents smoothed, excessively-drained to moderately well-drained disturbed soils that have been altered by human activities.

Due to the extensive acreage and varied topography of the subject property, the soils over the rest of the site vary considerably and are generally classified under the following types: the Arnot-Oquaga loam (0-15% slopes) nearly level to strongly sloping excessively drained to well-drained soil with moderate permeability, the Wellsboro gravelly loam (3-8% slopes) a very deep, gently sloping, moderately well-drained soil with moderate permeability above the fragipan and slow in the fragipan; the Wellsboro

## 4.0 SITE DESCRIPTION

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gravelly loam (8-15% slopes) a very deep sloping, moderately well-drained soil with moderate permeability above the fragipan and slow in the fragipan, the Oquaga very channeled silt loam (3-8% slopes) a moderately deep, gently sloping, well-drained to excessively well-drained soil with moderate permeability; the Oquaga-Arnot loam (8-15% slopes), strongly sloping, well-drained to excessively well-drained soil with moderate permeability; the Morris loam (3-8% slopes) very deep, gently sloping, poorly-drained soil with moderate permeability in the upper part and slow or very slow in the subsoil.

### Geology

Outcroppings of shale were noted at various locations throughout the property. According to the above-referenced *Soil Survey of Sullivan County, New York*, Sullivan County lies within the Appalachian Plateaus province. The bedrock at the site is known as the Lower and Upper Katsberg Formations which are comprised of Middle and Upper Devonian age reddish sandstone and shale. Due to the varied topography of the subject property, depth to bedrock varies from exposed to depths greater than 60" below ground surface (bgs).

### Groundwater

Under natural, undisturbed conditions, shallow groundwater flow generally follows the topography of the land surface, and on this basis, the general direction of groundwater likely flow is suspected to be in a southwesterly-westerly direction. However, due to the varied topography of the site and surrounding properties, the specific direction of shallow groundwater flow across the site likely varies. Based on the presence of lakes, wetlands and streams throughout the Subject, depth to shallow groundwater on the Subject may be located within 10' of the surface. Based on a review of the above referenced *Soil Survey of Sullivan County, New York*, shallow groundwater may be perched above the shallow bedrock layer at about 10' to 12' bgs.

## 4.4 Site Improvements

### 4.4.1 Utilities

The Subject is served with the following utilities:

Water:	Kiamesha Lake Water District and on-site wells
Sanitary Sewer:	Kiamesha Lake Sewer District and on-site septic system
Storm Sewer:	Kiamesha Lake Water District
Electric:	NYSEG

## 4.0 SITE DESCRIPTION

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The Subject is served by the Kiamesha Lake Water District and on-site wells for potable water. The Main Complex was formerly served by the Kiamesha Lake Sewer District for sanitary sewer service, but has been disconnected. The Robert Parker House (Main Office) is served by a septic system.

### 4.4.2 Building Description

The Subject is a large complex spread over approximately 160 acres and with various improvements ranging in size and use from the abandoned high-rise hotel complex to the abandoned houses and abandoned automotive service center. Most of the individual improvements of significance and concern are discussed below:

#### Main Hotel Complex

The main hotel complex consists of high-rise towers, an indoor swimming pool, indoor ice skating rink, and tennis courts. The towers' superstructures are primarily of concrete framing with some concrete encased steel construction and the substructures are basements with cast-in-place and concrete block foundation walls. Roofs are flat and covered with built-up roofing systems. Interiors of the towers are in various stages of pre-demolition, with some areas gutted, and others with interior finishes of painted and papered wallboard, and carpeting remaining exposed to the elements via removed windows. The main complex was provided with an oil-fired heating system with a central plant in the basement. The remaining portions of the main complex consist of the following, named as per information provided by site contacts:

- **Building 400** This is an additional 8-story tower of concrete-and steel construction with a flat built-up roof and concrete basement. The interior has been gutted. This building was served by the central heating plant.
- **88 Section of Building 100/Pool/Health Club** This consists of a one-story concrete and steel building constructed in a semi-circle shape, connected to the main towers, and with a flat built-up roof. The interior has been gutted.
- **Ice Rink** The Ice Rink is a two-story wood, concrete and steel building with an exposed metal ceiling and a flat built-up roof. The interior has been gutted. This building was served by the central heating plant.
- **Refrigeration Plant** This is a one-story concrete block building with a flat tar-coated roof, adjacent to the ice rink.
- **Weinerick House** Wood-frame house with basement, provided with two 275-gallon aboveground storage tanks (AST) in the

## 4.0 SITE DESCRIPTION

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basement. Of note the basement was flooded at the time of our site visit.

- **White House** Wood frame house with a basement, provided with an underground storage tank.
- **Two Abandoned Houses** Wood frame houses with basements, each provided with a 275-gallon AST in the basement.
- **Abandoned Nightclub Across County Road 109** One-story slab-on-grade concrete block building with a flat built-up roof. Access to the interior was not available. This building was reportedly served by the heating plant in the main complex.
- **Staffing House** Three-story concrete block building with a flat built-up roof and stucco façade. This building was also reportedly served by the heating plant in the main complex.

### **Robert Parker House (Main Office)**

This is a two-story converted house located on Concord Road north of the main entrance to the main complex that serves as the offices for the Concord Resort & Golf Course. It is of wood-frame construction over a basement with an asphalt shingle roof. Interiors are of plaster and wallboard walls and ceilings. Floors finishes are wood, carpet, resilient floor tile, ceramic and quarry tile. It is provided with an oil-fired boiler fueled by a 1,000-gallon UST.

### **Ray/Naomi Parker House**

This is an abandoned house located adjacent to the Main Office. It consists of a two-story wood-frame house with a concrete block basement and brick siding. Interiors are of plaster and wallboard walls and ceilings. Floors finishes are wood, carpet, resilient floor tile, ceramic and quarry tile. It is provided with an oil-fired boiler fueled by a 1,000-gallon UST.

### **International Club House**

This is a former club house building now used for storage. It is two-stories, wood-frame, slab-on-grade, and has brick and wood siding. The flat roof is covered with a tar coating. It reportedly was served by a removed AST.

### **House at Top of Hill, Route 109**

A wood-frame house with a basement and wood siding. It reportedly has a 1,000-gallon UST and also has a 275-gallon AST in the basement.

## **4.0 SITE DESCRIPTION**

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### **House on Middle of Hill, route 109**

This is also a wood-frame house with wood siding. It is reportedly served by a 275-gallon AST in the basement.

### **Vacant Service Station Building**

This is a former automotive service building. It is single story concrete block and slab-on-grade. There are two in-ground hydraulic lifts and an oil-water separator. There are two 10,000-gallon abandoned gasoline USTs behind the building and two 550-gallon ASTs inside the building.

## **4.5 Current Property Use**

According to Mr. Jim McDonough, the hotel maintenance superintendent, the main hotel complex and the gasoline station have been abandoned for the past 8 years.

## **4.6 Environmental Permits**

The following environmental permits have been issued or are required at the Subject:

### **Petroleum Bulk Storage (PBS) Permits**

IVI identified three of the Subject's numerous PBS tanks on the NYSDEC list of registered PBS facilities. The Permit Number is 3-410225.

Of significance, this is only a partial listing of PBS tanks at the Subject. Numerous other active and abandoned PBS tanks, both aboveground and underground, in addition to the three listed PBS tanks were identified with the existing improvements.

## **4.7 Plans and Specifications**

Neither building drawings nor specifications were provided for our review.

## 5.0 HISTORICAL USE

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### 5.1 Historical Summary

The Subject historically was vacant land with scattered residences since at least 1911. The Subject began development as a resort in the early 1940's with the construction of an 88-room main house. The main hotel complex was developed over time through the early 1960's, and was abandoned in the early 1990s. Various dump sites were established primarily on portions of the site not within the scope of this investigation through its history as a resort complex, that are in current stages of investigation and/or remediation. In addition, abandoned USTs are associated with some of the vacant improvements, and an abandoned gasoline station exists on-site.

### 5.2 Topographic Maps

IVI reviewed the 1966 USGS *Monticello, NY* 7.5 Minute Series topographic map of the Subject, based on 1963 aerial photographs and photo revised in 1982. The main complex and numerous other smaller buildings are identified on the northwestern portion of the site. The largest section of the main complex is cross-hatched in black, and the other large buildings in the same vicinity are in purple. Additional smaller buildings in black and in purple are also identified in the vicinity of the main complex. The remainder of the site is identified as wooded vacant land or a golf course. The currently existing sewage disposal station is identified adjacent to the southwest portion of the Subject. Improvements identified in black are assumed to have been constructed prior to 1963, and improvements in purple are assumed to have been constructed between 1963 and 1982. No industrial facilities, landfills or wetlands were identified on or adjacent to the Subject.

In addition, IVI reviewed the USGS 1911 *Monticello, NY* 7.5 Minute Series topographic map of the Subject. The majority of the subject and surrounding properties consist of undeveloped land. However, scattered residential structures are featured throughout the subject property. No industrial facilities, landfills or wetlands were identified on or adjacent to the Subject.

### 5.3 Historical Maps

#### Sanborn Fire Insurance Maps (Sanborn Maps)

Sanborn Maps constitute a source of prior site uses of real property for many cities and towns in the United States. The maps were originally created to assist insurance underwriters in understanding the potential fire risk of structures requiring insurance; however, they are also useful in determining the previous uses of a property. Sanborn Maps often contain information relating to uses of individual structures, location of certain petroleum and chemical storage tanks,



## 5.0 HISTORICAL USE

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and the storage of other potentially toxic substances. Sanborn Maps begin their coverage in 1867 and continue through the 1990s.

IVI had a search of Sanborn Maps conducted. This search did not identify Sanborn Map coverage for the subject site. Searching an information source such as Sanborn Maps constitutes part of the due-diligence necessary for an Environmental Site Assessment. The lack of Sanborn Mapping suggests that there was no historical industrial activity on or in the immediate vicinity of the subject site.

### 5.4 Aerial Photographs

Aerial photographs frequently provide visual documentation of site conditions at the time of the photographs. Activities such as dumping or industrial use of a site can often be discerned through the examination of aerial photographs. IVI reviewed historic aerial photographs provided by the Sullivan County Planning Department, The Sullivan County Soil Survey, and TerraServer. The following is a synopsis of the aerial photographs reviewed:

Year	Subject Property	Adjacent and Surrounding Properties
1968	The main hotel complex is visible. The remainder of the Subject appears mostly as wooded land and a golf course, with a few residences.	Surrounding properties are characterized as rural residences to the north, east and west, and residential and commercial development to the south.
1977	Most of the existing improvements and golf course are visible. No significant changes are noted.	Surrounding properties are characterized as rural residences to the north, east and west, and residential and commercial development to the south.
1997	No significant changes are noted	With the exception of a few additional residences, and additional commercial development to the south, no significant changes are identified.

### 5.5 Chain-of-Ownership

A copy of the Subject's Chain-of-Title has not been provided to IVI for review.

### 5.6 Previous Reports

IVI reviewed several prior reports on the Subject. The information obtained was not verified for accuracy by IVI and a critique of the reports was beyond the scope of this assessment.

- *Volume I, Section I and II, Asbestos Survey and Limited Lead-Based Paint Survey of Concord Resort Hotel, Kiamesha Lake, New York*, prepared by Warren & Panzer Engineers, P.C. on behalf of Brennan Beer

## 5.0 HISTORICAL USE

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Gorman/Architects, dated January 1998. This was a report of an asbestos survey of the following buildings at the Subject:

- Main Building
- Wing 100
- Wing 200
- Wing 400
- Concord Towers
- Grounds Maintenance Barn
- International Club House
- Service Station

Various friable and non-friable materials were identified within the surveyed buildings as asbestos-containing materials (ACM). Although cost estimates were prepared for asbestos abatement, no conclusions or recommendations were provided regarding asbestos, and no specifications were provided regarding location of ACM within the improvements.

The lead-based paint (LBP) survey portion of the report stated that 74 testing combinations were sampled utilizing an x-ray florescence (XRF) LBP detector. Three readings were taken per combination. A testing combination consists of building components with the same substrate material and color. Of those 74 testing combinations, five testing combinations were identified as LBP. The LBP portion of the report concluded “The test results indicate the use of some lead-based paint throughout the hotel complex.” The report recommended maintaining the paint in good condition, and the consideration of LBP abatement for structures that will not be demolished.

- *Volume II, Section III, Phase I Environmental Site Assessment of Concord Resort Hotel, Kiamesha Lake, New York 12751*, prepared by Warren & Panzer Engineers, P.C., on behalf of Brennan Beer Gorman, dated January 1998. The report concluded that there were “...environmental concerns pertaining to underground and aboveground storage tanks, the presence of asbestos-containing materials, and other issues were identified at several locations on the subject property.” The report recommended either closing or replacing the abandoned underground storage tanks (USTs) and aboveground storage tanks (ASTs). The report also recommended that dump sites identified at the Subject be further investigated, and that the New York State Department of Environmental Conservation (NYSDEC) be consulted to determine what actions are needed.
- *Phase II Environmental Site Assessment, Kiamesha Concord, Inc., Concord resort Hotel (ECSI Project No. 4051.EA)*, prepared by Environmental Compliance Services, Inc. on behalf of Value Investors, Inc., dated February 11, 1998. The Phase II report identified eight dumpsites listed below:

## 5.0 HISTORICAL USE

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- 1 Golf Maintenance Dump – Section 15, block 1, Lot 50;
- 2 Chalet Dump – Section 15, Block 1, Lot 13;
- 3 Main Parking Area Dump – Section 15, Block 1, Lot 14;
- 4 Bailey Road Casino Dump – Section 13, Block 1, Lot 20;
- 5 Thompsonville Road Storage Building – Section 23, Block 1, Lot 48;
- 6 Concord Service Station Dump – Section 9, Block 1, Lot 35; and
- 7 50 Acre Horse Farm Along Route 109 – Section 60, Block 1, Lot 75

The Phase II report stated that the dump areas were determined to have been created between 1963 and 1983, and were composed of non-hazardous C&D waste generated by past hotel renovations.

Of significance, only the Main Parking Area Dump (3) and the Concord Service Station Dump (6) are located on the Subject.

- *Draft Work Plan for Underground Storage Tank Removal and Remediation at The Concord Resort*, (“Work Plan”) prepared by AIA Environmental on behalf of Value Investors, Inc., dated May 12, 1998. This Work Plan was only for the service station and the golf maintenance shop area, and details the proposed scope of work for removing USTs at those locations. Included as attachments to this document were correspondence from the NYSDEC to Bleakley Platt & Schmidt dated April 8, 1998 and tank testing certificates of some of the Subject’s USTs. The NYSDEC correspondence referred to an agreement between the owners of the Subject and the NYSDEC regarding testing, removal, and/or disposal and remediation of USTs associated with the former service station and golf maintenance area, sampling and analysis of well water, and the elimination or permitting of discharges from the Golf Maintenance Shop into Kiamesha Creek.
- IVI reviewed correspondence from the NYSDEC to Concord Associates LLP, dated April 19, 2000. This correspondence documented a NYSDEC inspection of the above-referenced dump sites, and summarized observed conditions at the dump sites. The correspondence concluded that an Environmental Remediation Plan was required to be submitted, signed by a professional engineer detailing the following:
  - The location of each area of environmental concern;
  - A description of each solid waste disposal area including the landfill location, aerial extent of the landfill, approximate total volume of solid waste disposal of, an accurate description of the solid waste, and the period of waste disposal activities;
  - A detailed remedy for each area of concern; and,
  - A schedule for implementing the remedy for each area of concern.

## 5.0 HISTORICAL USE

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The correspondence concluded stating "...timely remediation of petroleum bulk storage, solid waste, and other environmental concerns discussed above will [be] considered by the DEC regarding the outstanding violations and enforcement action against the facility.

IVI reviewed correspondence from JM Associates, Inc. to the NYSDEC, dated September 29, 2000, following up on the above-referenced NYSDEC correspondence. The September 29 correspondence stated that....

*"A multi-million dollar specification has been completed and is in the process of being awarded to a contractor. The contract is entitled "Environmental abatement and Demolition Contract". Included in this contract is the asbestos abatement of all of the main complex buildings, and the removal and disposal of all drums of hazardous waste left in the abandoned buildings along with all PCB containing light ballasts. The removal and the associated soil remediation of two inactive 10,000 gallon Underground Storage Tanks (USTs) locate at the Concord Service Station are included in this contract."*

The September 29 correspondence concluded that the owners of the Subject desired to enter into a Voluntary Cleanup Agreement (VCP) with the NYSDEC. Of note, although IVI has been provided with limited budget information regarding ACM removal contracts, although requested, management of the Subject has stated that budget information for dump site and UST remediation is not available.

- *The Concord Hotel Resort, Kiamesha Lake, NY, Summary Report of Site Clean-up Activities*, prepared by JM Associates, Inc. on behalf of NYSDEC, dated November 8, 2000. This correspondence summarized steps the current owners of the Subject have taken to comply with the NYSDEC's directives outlined in their April 19, 2000 correspondence.
- IVI reviewed correspondence from JM Associates to the NYSDEC dated June 2, 2003. This correspondence included survey maps of the dump sites, with written directions locating each dump site.
- IVI was forwarded a copy of the *Voluntary Cleanup Program (VCP) Application*. The cover letter attached to the various supporting documentation was dated July 29, 2003. The supporting documentation primarily consisted of the NYSDEC Voluntary Cleanup Program Application form, a tax map and break down of sites within the Subject by Tax Lot Identification Number, and excerpts from the above-referenced prior reports. Notes at the end of the VCP Application form stated "The master future development plans for all other areas has yet to be finalized. If in the future, any of the solid waste areas are to be developed, all remaining waste will be removed and relocated to another solid waste area within the Concord property." In addition, a summary paragraph of the "Property's

## 5.0 HISTORICAL USE

Environmental History over the past 50 years.” was provided. It stated the following:

*The Concord was originally opened as a Hotel and Resort by Mr. Ray Parker (previous owners) in the late 1930's and early 1940. The resort has two large golf courses that are still in operation today. It has remained a Hotel and Resort with extensive expansion since the original opening. The area was previously natural undisturbed woodland. Over the years the previous owners were issued violations by the agency on leaking USTs and for Part 360 Solid Waste Violations for dumping solid waste without a permit. This illegal dumping was prior to the issuance of the 6 NYCRR Part 360 Solid Waste Management Facilities 1995 Regulations. Inspection of the site has revealed that no hazardous materials have been found and the waste consists of normal Construction and Demolition (C&D) debris. Under the direction of the Department's solid Waste Representative the majority of the visible surface waste has been already voluntarily removed and properly disposed by the present owners.*

Of significance, there were USTs identified by IVI at the Subject are not included on the list of tanks attached to the VCP Application Form. Those USTs are identified as per the following table:

USTs Identified By IVI Not Included in the VCP Work Plan				
Location	Capacity (Gallons)	Status	Product	Testing Status
Main Complex	1,500	Abandoned	Fuel Oil	Failed 2/3/98
White House by Main Complex	Unknown	Abandoned	Fuel Oil	Unknown
House at Top of Hill, Route 109	Unknown	Abandoned	Fuel Oil	Unknown
Robert Parker House (Main Office)	1,000	Active	Fuel Oil	Unknown

- IVI conducted a prior Phase I Environmental Site Assessment of the Subject on behalf of GMAC Commercial Mortgage Corporation dated August 26, 2003. The scope of the prior investigation included the entire mostly contiguous, ±1,755-acre parcel of the Concord Resort and included all of the approximate 160 acres and associated improvements of IVI's 2004 investigation. The active portion of the prior investigation included the Monster Golf Course Club House, which consists of a 40-room, 3-story, ±30-year-old hotel adjacent to the Monster Golf Course and associated maintenance buildings located through the central portion of the property, Concord Resort & Golf Course office building (a converted house) and residential dwellings consisting of single-family homes and bungalow colonies at various locations throughout the Subject. Numerous

## **5.0 HISTORICAL USE**

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areas of environmental concern were identified including abandoned USTs, dump sites, and the asbestos concerns associated with the abandoned main complex. Of significance, according to Mr. Henry Zabata, no remediation has occurred at the Subject since IVI's prior investigation.

### **5.7 Interviews**

According to Jim McDonough, of Hotel Maintenance, who has been associated with the Subject for 23 years, there has never been any on-site dry cleaning at the Subject. He stated that all dry cleaning was taken to a cleaning plant located remote from the property. No evidence of abandoned dry cleaning equipment was identified in the laundry area of the main complex.

## 6.0 REGULATORY REVIEW

A copy of regulatory database information contained within a Computerized Environmental Report (CER) provided by Environmental Data Resources, Inc. (EDR) appears in Appendix D. The CER is a listing of sites identified on select federal and state standard source environmental databases within the approximate minimum search distance specified by ASTM Standard Practice for Environmental Site Assessments E 1527-00 and/or GMAC Commercial Mortgage Corporation's Scope of Work. IVI reviewed each environmental database to determine if certain sites identified in the CER are suspected to represent a material negative environmental impact to the Subject. The following table lists the number of sites by regulatory database within the prescribed minimum search distance appearing in the CER.

Databases Reviewed	Approximate Minimum Search Distance (AMSD)	Number of Sites Within AMSD
Federal National Priorities List (NPL)	One-Mile	0
Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)	One-Half Mile	0
CERCLIS No Further Remedial Action Planned (NFRAP) Sites	On-Site and Adjoining Properties	0
Federal Resource Conservation and Recovery Information System (RCRIS) Treatment, Storage, and Disposal (TSD) List	One-Half Mile	0
Federal RCRIS Generators List	On-Site and Adjoining Properties	1
Corrective Action Tracking System (CORRACTS)	One-Mile	0
Federal Emergency Response Notification System (ERNS) List	On-Site	0
Registry of Inactive Hazardous Waste Disposal Sites (IHWDS)	One-Mile	0
New York Landfills or Solid Waste Facilities List	One-Half Mile	1
New York Registered Petroleum Bulk Storage (PBS) Facility List	On-Site and Adjoining Properties	2
New York Leaking UST/Spill List	One-Half Mile	3
New York Voluntary Clean-up Program	On-Site	1

The CER identified 18 "Orphan Sites". "Orphan Sites" are those sites that could not be mapped or "geocoded" due to inadequate address information. Refer to the CER for a list of these "Orphan Sites". IVI attempted to locate these sites via a review of street maps, vehicular reconnaissance and/or interviews with people familiar with the area. "Orphan Sites" that were identified in this manner were analyzed in their respective regulatory database below. Of the 18 "Orphan Sites", 3 were identified within the prescribed search radius.



## 6.0 REGULATORY REVIEW

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A description of the databases reviewed by IVI and an analysis of sites identified within the prescribed search area are presented below.

### 6.1 Federal Databases

#### NPL

The NPL database is a listing of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or “Superfund”). A site must be on the NPL to receive money from the Trust Fund for Remedial Action.

*Analysis/Comment:* The CER did not identify NPL sites within a one-mile radius of the Subject.

#### CERCLIS

CERCLIS is the USEPA’s system for tracking potential hazardous-waste sites within the Superfund program. A site’s presence on CERCLIS does not imply a level of federal activity or progress at a site, nor does it indicate that hazardous conditions necessarily exist at the location. Within one year of being entered into CERCLIS, the USEPA performs a preliminary assessment of a site. Based upon the results of the preliminary assessment, the USEPA may conduct additional investigation, which could lead to a site being listed on the NPL.

*Analysis/Comment:* The CER did not identify CERCLA sites within the prescribed radius.

#### CERCLIS No Further Remedial Action Planned (NFRAP) Sites

As of February 1995, CERCLIS sites designated “No Further Remedial Action Planned” (NFRAP) have been removed from the CERCLIS list. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to warrant Federal Superfund Action or NPL consideration.

*Analysis/Comment:* The CER did not identify CERCLA NFRAP sites within the prescribed radius.

#### RCRIS TSD

The RCRIS TSD contains information pertaining to those facilities that treat, store, or dispose of hazardous waste. While these facilities represent some form of



## 6.0 REGULATORY REVIEW

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hazardous waste activity, they are most significant if determined to be out of compliance or to have violations.

*Analysis/Comment:* The CER did not identify RCRIS TSD facilities within the prescribed search radius.

### RCRIS Generators

IVI reviewed the list of sites, which have filed notification with the USEPA in accordance with RCRA requirements. These sites include generators of hazardous waste regulated under RCRA. Under RCRA, hazardous waste generators are classified by the quantity of hazardous waste generated in a calendar month into the following categories: Large Quantity Generator, greater than 1,000 kilograms (kg); Small Quantity Generator, 100 to 1,000 kg; and Conditionally-Exempt Small Quantity Generator, less than 100 kg. RCRA Generators, while they represent some form of hazardous waste activity, are most significant if they are determined to have Class I Violations or to be non-compliant.

*Analysis/Comment:* The CER identified the following RCRA Generator facility:

Property Name/ Address	EPA ID No.	Direction/ Direction	Presumed Hydrogeologic Relationship	Compliance Status
Concord Hotel Kiamesha	NYD077201226	Adjacent International Golf Maintenance Facility	On-site	No violations found

Although this facility is listed as the Concord Hotel, the location of the RCRA facility is actually approximately on-quarter mile from the Subject at the golf maintenance building for the west adjacent International Golf Course. Waste oil is generated via routine maintenance of vehicles and grounds equipment at the golf maintenance building for the west adjacent International Golf Course. The waste oil is stored on-site in 55-gallon drums outdoors on bare soil with no secondary containment, behind the Golf Maintenance building, which is located approximately one-quarter mile from the Subject. There is a potential that these storage conditions could result in impact to the underlying soil. However, based on its distance from the Subject it is unlikely to impact the Subject.

### Corrective Action Tracking System (CORRACTS)

CORRACTS is a list of facilities that are found to have had hazardous waste releases and require RCRA corrective action activity, which can range from site investigations to remediation.

## 6.0 REGULATORY REVIEW

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*Analysis/Comment:* The CER did not identify CORRACTS sites within a one-mile radius of the Subject.

### ERNS

The ERNS is a database of notifications of oil discharges and hazardous substance releases made to the Federal government. These notifications are used by “On-Scene Coordinators” to determine an emergency response and release prevention. When a call is made to the National Response Center or one of the 10 USEPA Regions, a report is created containing all of the release information that the caller provided. This report is transferred to an appropriate agency to evaluate the need for a response and the records are electronically transferred to the ERNS database. As such, if a reported release of oil or a hazardous substance is deemed to require a response, it should also be listed in the appropriate federal or state environmental database such as CERCLIS, state equivalent CERCLIS, or state leaking underground storage tank or spills lists.

*Analysis/Comment:* The CER did not identify the Subject on the ERNS database.

## 6.2 New York State Department of Environmental Conservation (NYSDEC) Databases

### Registry of Inactive Hazardous Waste Disposal Sites (IHWDS)

The IHWDS is an inventory of dumps, landfills, and other toxic sites listed by Environmental and Health Authorities. These sites are either under remediation, or are currently under evaluation for further action, if necessary.

*Analysis/Comment:* The CER did not identify IHWDS sites within a one-mile radius of the Subject.

### Solid Waste Facilities (SWF) List

The SWF list is an inventory of landfills, incinerators, transfer stations, and other sites that manage solid wastes.

*Analysis/Comment:* The neighboring site was identified as a SWF site in the “Orphan Listings”:

Property Name/ Address	Facility ID No.	Direction/ Direction	Presumed Hydrogeologic Relationship	Compliance Status
Camp Olympus Breezy Hill Road	53S10	Adjacent/ South	Downgradient	Inactive

## 6.0 REGULATORY REVIEW

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Based on this facility's downgradient position in relation to the Subject, it is not suspected to have impacted the subsurface of the Subject

### Registered Petroleum Bulk Storage (PBS) Tank Facility List

The PBS facility list is an inventory of registered liquid bulk storage tanks. Inclusion of a site on the PBS list does not necessarily constitute environmental contamination, but instead merely indicates the presence of registered bulk storage tanks.

**Analysis/Comment:** The CER identified the subject as a PBS facility with five registered PBS tanks. Of note, details regarding the specified PBS locations on the Subject were not provided. Following is a tabulation of the Subject's PBS tanks identified in the CER:

PBS No	Contents	Size (Gallons)	Status	Presumed Location
3-410225	Unleaded Gasoline	10,000	Temp. Out of Service	Former Service Station
3-410225	Unleaded Gasoline	10,000	Temp. Out of Service	Former Service Station
3-410225	Used Oil	550	Temp. Out of Service	Former Service Station
3-410225	Unleaded Gasoline	2,500	Temp. Out of Service	Adjacent Golf Maintenance Facility
3-410225	Diesel	2,000	Temp. Out of Service	Adjacent Golf Maintenance Facility

As indicated in the table above, two of the PBS tanks listed in the CER for the Subject are presumed to be on the adjacent golf maintenance facility that serves the International Golf Course.

Of note, not all of the potentially regulated PBS tanks identified by IVI are included in the CER, which indicates that not all regulated PBS tanks at the Subject are registered with the NYSDEC. Refer to section 7.2 for further discussion.

## 6.0 REGULATORY REVIEW

### Leaking Underground Storage Tanks (LUST) and Spill Lists

The LUST list is an inventory of spills and leaks, both active and inactive reported to regulatory authorities. They include stationary and non-stationary source spills reported to state and federal agencies, including remediated and contaminated leaking UST sites. The Spills list is a compilation of data collected on spills and reported to the NYSDEC pursuant to either Article 12 of the Navigation Law, or 6 NYCRR Section 595.2.

**Analysis/Comment:** The CER identified six Spill Numbers associated with the Subject property. In addition, two adjacent LUST sites were identified in the “Orphan Listings. On-site listings are tabulated below:

Property Name/ Address	Spill No.	Direction / Direction	Presumed Hydrogeologic Relationship	Status	Resource Affected
Concord Hotel Kiamesha	9009249	On-site	On-site	Closed	Land
	9712992	On-site	On-site	Active	Land
	9712993	On-site	On-site	Active	Land
	9712994	On-site	On-site	Active	Land
	9902378	On-site	On-site	Closed	Land
	9712307	On-site	On-site	Active	Land

The Spill listings are a result of tank test failures. The ones listed with a Closed Status indicate that those Spill cases have been remediated to the satisfaction of the NYSDEC. IVI has requested copies of closure documentation for the closed spills. According to Mr. Lent of the NYSDEC, the active Spill cases are to be addressed as part of the VCP agreement.

In addition, the following adjacent Spill listings were identified that area associated with portions of the Concord property that are not part of the Subject, but are also to be addressed as part of the VCP agreement:

Property Name/Address	Spill No.	Distance/ Direction	Presumed Hydrogeologic Relationship	Status
Concord Resort Hotel Chalet Road Golf Maintenance	9712340	One Quarter Mile/East	Different Drainage Basin	Closed
Concord Resort Hotel Chalet Road Golf Maintenance	9712339	One Quarter Mile/East	Different Drainage Basin	Closed

## 6.0 REGULATORY REVIEW

Property Name/Address	Spill No.	Distance/ Direction	Presumed Hydrogeologic Relationship	Status
Concord Resort Hotel Chalet Road Golf Maintenance	9712342	One Quarter Mile/East	Different Drainage Basin	Closed
Concord Resort Hotel Chalet Road Golf Maintenance	9712339	One Quarter Mile/East	Different Drainage Basin	Active

### Voluntary Cleanup Program Agreement (VCP)

The VCP is a voluntary remedial program that uses private monies to get contaminated sites remediated to levels allowing for the site's productive use. The VCP covers virtually any kind of site and contamination.

**Analysis/Comment:** The CER identified the Subject as a VCP site with a VCP ID No of V00651. However, based on documentation provided for our review, the Subject has transitioned from the VCP to the Brownfield Cleanup Program. Numerous areas of environmental uncertainty exist at the Subject. These include numerous abandoned underground storage tanks (USTs), (some of which have been confirmed to be leaking) and an abandoned gasoline service station. As a result of these issues, the Subject entered into an agreement through the VCP of the NYSDEC, and subsequently transitioned to the BCP. Documentation provided to IVI regarding the transition to the BCP include the following:

- Correspondence from Concord Associates, L.P. (CALP) to the NYSDEC, dated May 27, 2004 requesting approval by the NYSDEC for transition from the VCP to the BCP. Terms of the transition included creation of three brownfields. Brownfield Site 1 is inclusive of the entire Subject. Brownfield Sites 2 and 3 are not part of the Subject. A table of Sites on the Subject originally included in the VCP now included in Brownfield Site 1 included the Main Parking Area Dump Site, the Rear Gas Station Parking Area Dump Site, and the Parker Friedman residence.
- A Memorandum from JM Associates, Inc. ("JM") to CALP dated May 21, 2004 outlined the BCP Remediation work to be performed on Brownfield Site 1. This included the removal of all USTs and associated contaminated soils, removal of drums stored in the main complex, removal of ACM from the Main Complex, and cleanup of the Main Parking Lot Dump and the Service Station Dump.
- A Memorandum from JM to Bruce Berg dated June 24, 2004 summarized conversations and meetings with Andrew Lent of the NYSDEC and Henry Zabata of CALP. It Mr. Lent stated that there were numerous monetary and

## **6.0 REGULATORY REVIEW**

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logistical advantages for entering into the BCP rather than the VCP. JM concurred and advised that CALP request to transition into the BCP

- Correspondence from the NYSDEC to JM dated June 25, 2004 stated that the Subject is in the process of addressing environmental concerns regarding “...violations at several areas created by the facility’s previous owner.” However, the correspondence also stated that additional effort will be required to address some areas of concern, such as the dump site at the abandoned gasoline station, and concluded with a request to provide a remediation schedule for any areas of concern not identified in the pending BCP agreement with the NYSDEC, dated August 25, 2004.

A copy of the referenced pending BCP agreement has not been provided for our review.

### **6.3 Local Regulatory Agency Interviews and File Review**

#### **Fire Department**

IVI verified that the Subject is under the jurisdiction of the Monticello Fire Department and sent a request to the Monticello Fire Department for environmental information such as underground storage tank registration pertaining to the subject property. The Fire Department has responded to our request stating that they have no environmentally pertinent information.

#### **Health Department**

IVI has sent a request to the Sullivan County Health Department for environmental information pertaining to the subject property. As of this writing, the Health Department has not responded to our request. Should receipt of a response from the Health Department change the conclusions of this report, CIBC will be notified in writing by IVI.

## 7.0 SITE RECONNAISSANCE

### 7.1 Chemical Storage and Usage

No storage of virgin chemicals for routine maintenance was observed. However, numerous (approximately 20) 55-gallon drums were identified in various locations of the basement of the main complex, most appear to be associated with the heating and cooling system. Reportedly, removal of these drums is included with the asbestos abatement contract for the main complex, and they are included in the BCP Work plan.

### 7.2 Bulk Storage Tanks

#### Underground Storage Tanks (USTs)

The following underground storage tanks were identified on the subject. This list was compiled from our on-site observations, interviews with Jim McDonough and Neal Carpenter, of Hotel Maintenance, and Jim Hummel, Golf Course Superintendent, and review of correspondence from John Manfredi to Concord Associates, L.P. dated June 17, 2003:

Location	Capacity (Gallons)	Status	Product	Testing Status
Main Complex	15,000	Abandoned	Fuel Oil	Passed 2/3/98
Main Complex	15,000	Abandoned	Fuel Oil	Passed 2/3/98
Main Complex	1,500	Abandoned	Fuel Oil	Failed 2/3/98
White House by Main Complex	Unknown	Abandoned	Fuel Oil	Unknown
Robert Parker House (Main Office)	1,000	Active	Fuel Oil	Unknown
Ray/Naomi Parker House, adjacent to Main Office	1,000	Abandoned	Fuel Oil	Unknown
House at Top of Hill, Route 109	Unknown	Abandoned	Fuel Oil	Unknown
Vacant Service Station Building	10,000	Abandoned	Gasoline	Not Tested
Vacant Service Station Building	10,000	Abandoned	Gasoline	Not Tested
Vacant Service Station Building	550	Abandoned	Fuel Oil	Failed 2/3/98

IVI was provided with tank testing documentation for some of the USTs identified as failing tightness tests, but no documentation was provided for the USTs that passed tank testing, and no documentation was readily available for the remaining listed USTs that do not reference tightness testing.

## 7.0 SITE RECONNAISSANCE

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In addition, based on our review of previous investigations, other USTs have been removed from the former service station. No removal documentation has been provided for our review. There is a potential that these reported former tanks have impacted the subsurface.

### Aboveground Storage Tanks (ASTs)

Numerous 275-gallon fuel-oil ASTs associated with the improvements were identified. The following list of ASTs is compiled from IVI's observations and information provided by site management and review of correspondence from John Manfredi to Concord Associates, L.P. dated June 17, 2003. Of note, inasmuch as not all interiors of the residential buildings were accessed, additional ASTs may exist in addition to those listed below:

AST Location	Contents	Quantity	Size (Gallons)	Observed Condition
Weinerick House Basement	Fuel Oil	2	275	Satisfactory
Kinsburner House Basement	Fuel Oil	1	275	Satisfactory
Former Service Station	Fuel Oil	2	275	Unsatisfactory, in building with potential to impact floor drains
House on Middle of Hill, Route 109	Fuel Oil	2	275	Satisfactory

The ASTs appeared to be in generally good condition, located indoors within basements, and are not suspected to pose a significant impact to the Subject.

## 7.3 Site Waste and Wastewater

### Solid Waste

Non-hazardous solid waste is disposed of in dumpsters and is removed from the Subject on a regular basis by a private carting firm. Potential sources of contamination, such as waste oil or automobile batteries, were not observed in the vicinity of the dumpsters. Refer to Section 5.6 for further discussion of past solid waste dumping on the Subject.

### Sanitary Sewage

The Main Hotel Complex's sanitary sewage disposal was formerly provided to the property by Kiamesha Lake Sewer District. Due to its abandonment, the main complex has been disconnected from the municipal sewer. The Robert Parker House (Main Office) is served by a septic system. It is not suspected that waste other than sanitary sewage has been disposed to the septic system.



## 7.0 SITE RECONNAISSANCE

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### Hazardous Waste

Current activities at the Subject do not generate hazardous waste. However, The Golf Maintenance Building which is part of the Concord Resort, but not a part of the Subject, is a small quantity RCRA generator due to periodic disposal of waste oil, stored on-site as per the following schedule:

Product	Container Size	Quantity	Storage Conditions	Location
Waste Oil	275-gallon AST/ 55-gallon drums/ 5-gallon buckets	18	Unsatisfactory	Golf Maintenance Building

The waste oil generated by routine maintenance on the grounds equipment, is stored outdoors behind the Golf Maintenance building on bare soil with no secondary containment, and there is a potential that these storage conditions could result in impact to the underlying soils.

### 7.4 Stained Soil, Stained Pavement, or Stressed Vegetation

There was no evidence of significant soil staining, stained pavement, or stressed vegetation observed on-site. Of note, the soils beneath the above-referenced drums could not be assessed.

### 7.5 Liquid Discharges

Floor drains in the former service station building are connected to an on-site disposal system, and likely were impacted by petroleum contaminated runoff in the building.

### 7.6 Pools of Liquid

IVI did not observe significant standing surface water or pools containing liquids likely to be hazardous substances or petroleum products.

### 7.7 Pits, Ponds, or Lagoons

IVI did not observe any pits, ponds, or lagoons on the Subject.

### 7.8 Wells

The Robert Parker House is served by a private well. Sampling results indicate that the regulated well was tested for total Coliform and E. coli, and the targeted contaminants were not identified in the samples. IVI makes no representation as to the water quality in the unregulated and untested wells that may exist.

## **7.0 SITE RECONNAISSANCE**

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### **7.9 On-Site Fill**

Based on our observations, it does not appear that fill has been imported onto the subject property.

### **7.10 Drums and Containers for Storing Waste**

Numerous (approximately 20) 55-gallon drums were identified in various locations of the basement of the main complex, most appear to be associated with the heating and cooling system. Reportedly, removal of these drums is included with the asbestos abatement contract for the main complex, and they are included in the Work plan.

### **7.11 Floor Drains and Sumps**

With the exception of the previously mentioned floor drain in the Golf Maintenance building, and former service station building, and bathroom floor drains connected to septic systems, IVI did not identify any floor drains or sumps that were stained, emitting foul odors, or connected to an on-site sewage disposal system, or located adjacent to chemical storage areas.

### **7.12 Odors**

IVI identified a strong odor of petroleum in the basement of the Golf Maintenance building, due to stored vehicle maintenance fluids and incidental spills of same. In addition, a musty odor was noted in the basement of the main complex, and in partially demolished rooms of the 400 Building, associated with visible mold in those areas. Of significance, a survey for mold was beyond the scope of this investigation.

### **7.13 Air Emissions**

IVI did not identify processes or equipment that emit noticeable vapors or fumes.

### **7.14 Polychlorinated Biphenyls (PCBs)**

#### **Electrical Transformers**

IVI observed numerous telephone pole mounted electrical transformers and two concrete pad mounted electrical transformers throughout the property. Based on the age of the subject, the dielectric fluid within these transformers may contain PCBs. The transformers appeared to be in good condition with no evidence of significant staining or leaking.

Notwithstanding the foregoing, in accordance with *Title 40—Protection of Environment, Chapter 1—Environmental Protection Agency, Subchapter R—Toxic Substance Control Act (TSCA), Part 761—Polychlorinated Biphenyls (PCBs), Manufacturing, Processing, Distribution in Commerce, and Use*

## 7.0 SITE RECONNAISSANCE

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*Prohibitions*, the owner of the transformers, NYSEG, is responsible for the transformers' maintenance and remediation in the event of a leak.

### Hydraulic Lifts

There are two in-ground hydraulic lifts in the abandoned automotive service building. The hydraulic reservoir is located above-grade in the vicinity of the lifts. Based on the age of the lifts, there is a potential that the hydraulic fluid contains PCBs. Inasmuch as hydraulic lifts have a propensity to leak, there is a potential that these lifts have impacted the subsurface. The service history of the lifts was unavailable.

### 7.15 Asbestos-Containing Material (ACM)

IVI reviewed a previous asbestos survey of most of the existing improvements conducted in January 1998 by Warren & Panzer Engineers, P.C. The rental residences and bungalow colonies were not included in the survey. This survey identified various materials as ACM, such as resilient floor tile, ceiling finishes, pipe insulation, and unspecified types of fireproofing.

Reportedly asbestos abatements had been completed in portions of the main complex in preparation for building demolition. In addition, asbestos abatement containments were constructed in one of the towers, and abandoned prior to completing abatement in the contained areas via a site-specific variance with the New York State Department of Labor (NYSDOL). Other areas that reportedly had removals completed have not had final air tests conducted, and are therefore not considered completed jobs. Asbestos materials identified in the above-referenced asbestos survey consisted primarily of resilient floor tile, as well as column plaster, ceiling fireproofing and limited areas of pipe insulation. Details of the locations of the materials were not provided.

However, IVI was provided with a data sheet titled *Concord Associates, LP Asbestos Abatement Schedule of Values and Completion to Date as at July 31, 2003*. This document consisted of a listing of abated buildings and dollar amounts and percentage for work completed, with a dollar amount for cost to complete. Based solely on this document, the abatements in the main complex are approximately 37% completed.

The abatement was abandoned in accordance with a site-specific variance, File No 01-1375 for Concord Hotel Building 200, titled "Temporary Stopping of Demolition." The variance was in effect until November 30, 2003, and a renewal of the variance has been approved by the NYSDOL. According to paperwork left posted on the abandoned staging area of the decontamination ("decon") chamber, the "project was put on hold." The contractor was listed as Anderson & McCoy, Inc., Franklin Lakes, New Jersey. The work areas listed on the Asbestos Project Notification were for Concord Hotel, Bldg. 100, 150, and 200. Asbestos

## **7.0 SITE RECONNAISSANCE**

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materials identified in the above-referenced asbestos survey within the spaces listed on the notification form consisted primarily of resilient floor tile, as well as column plaster, ceiling fireproofing and limited areas of pipe insulation. Details of the locations of the materials were not provided.

In addition, based on the age of the remaining improvements not included in the above-referenced survey, there is potential that friable and non-friable ACM exists within these buildings. IVI was not provided access to the interiors of most of the residences.

In addition, the non-friable built-up roofing materials, roofing shingles, plasterboard, and vinyl floor tiles observed throughout the subject's buildings may contain asbestos. The non-friable materials have a low potential for fiber release in their current state. However, prior to building demolition, confirmation of asbestos content will be required.

### **7.16 Lead-in-Drinking Water**

According to Mr. Zabata, all potable water for the Robert Parker House is provided by a well, and all other potable water to the Subject is provided by the municipality. Based on information provide by Kiamesha Lake Water District, the water provided to the Subject is not suspected to contain elevated levels of lead.

### **7.17 Radon**

Based on statistical information maintained within the U.S. Department of the Interior and U.S. Geological Survey's *Geologic Radon Potential*, dated 1993, radon concentrations in Sullivan County average 3.1 picocuries per liter (pCi/L), which is below the 4.0 pCi/L action level established by the USEPA. Based solely on this data, it is unlikely that radon represents an environmental concern at this time.

### **7.18 Lead-Based Paint (LBP)**

Since the Subject was constructed prior to the Consumer Product Safety Commission's 1978 ban on the sale of lead-based paint to consumers and the use of lead-based paint in residences, there is a potential that lead-based paint may have been applied at the Subject. Furthermore, based on our review of a prior LBP survey by others (Reference Section 5.6) LBP was identified in various locations of areas surveyed. Of note however, the prior LBP survey did not include the rental residences or bungalows.

Lead from paint, paint chips, and dust can pose health hazards if not taken care of properly. Lead exposure is especially harmful to young children and pregnant

## 7.0 SITE RECONNAISSANCE

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women. The Residential Lead-Based Paint Hazard Act of 1992, also called Title X, required the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD) to develop regulations for disclosing lead-based paint hazards in homes built before 1978 that are offered for sale or lease. On March 6, 1996, these new regulations went into effect. They are known as 24 CFR Part 35 and 40 CFR Part 745, "Lead; Requirements for Disclosure of Known Lead-Based Paint and/or Lead-Based Paint Hazards in Housing; Final Rule". The law put in place by these regulations went into effect on September 6, 1996, for owners of buildings with more than four units, and December 6, 1996, for owners of buildings with four or fewer units (including single family homes).

Before renting pre-1978 housing, landlords must disclose the presence of known lead-based paint hazards in the dwelling. Tenants must also receive a federally approved pamphlet on lead poisoning prevention. Of note, landlords and owners are not required to inspect the property for lead before selling or renting a home, nor are they required to remove any lead hazards that exist there.

IVI was not provided access to interiors of most of the rental residences. However, in areas accessed, condition of painted surfaces in occupied buildings such as the Monster Golf Club House and the Main Office were in generally good condition with no pervasive peeling or flaking paint. However, painted surfaces in the abandoned buildings were in poor to fair condition.

## 8.0 FINDINGS AND CONCLUSIONS

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IVI has performed a *Phase I Environmental Site Assessment* in conformance with the scope and limitations of ASTM Standard Practice E1527-00 of the Concord Abandoned Hotel & Golf Course, located at Route 42 & Concord Road, Kiamesha Lake, New York. Any exceptions to, or deletions from, the standard practice are described within Section 2.0 of this report. This assessment has revealed no evidence of recognized environmental conditions in connection with the Subject except for the following:

### **Suspected Contamination & Transition from Voluntary Cleanup Program (VCP) to the Brownfield Cleanup Program (BCP)**

Numerous areas of environmental uncertainty exist at the Subject. These include numerous abandoned underground storage tanks (USTs), (some of which have been confirmed to be leaking) and an abandoned gasoline service station. As a result of these issues, the Subject had originally entered into an agreement through the VCP of the New York State Department of Environmental Conservation (NYSDEC), and recently requested and was granted transition into the BCP. The pending BCP agreement date with the NYSDEC is August 25, 2004. A copy of the agreement has not been provided for our review. However based on our review of documentation associated with the transition, the terms of the Agreement require an investigation/remediation of the numerous UST sites located throughout the property. A description of these concerns as well as other environmental issues at the Subject apparently not included in the BCP work-plan are discussed below.

### **Leaking Underground Storage Tanks (LUSTs) & Spills**

There are six LUST/Spill listings for the Subject within the NYSDEC database as a result of former tank test failures of some of USTs. Two of these listings have reportedly been granted a "Case Closed" status and do not require further action. However, confirmation and closure documentation was not provided for our review. The remaining four LUST/Spill listings are still "active". IVI recommends that closure documentation be obtained for the listings with a "Closed" classification and that the active listings be brought to closure with the NYSDEC. Of note, based on IVI's review of correspondence from the NYSDEC, the Subject's petroleum bulk storage (PBS) facilities as well as the dump sites are to be addressed as part of the BCP.

### **Underground Storage Tanks (USTs)**

IVI identified one active (at the Robert Parker House, used as the office for the Concord Resort) and numerous abandoned USTs at the Subject, including: two 10,000-gallon abandoned gasoline USTs and a 350-gallon abandoned UST at the former service station; two 15,000-gallon and one 1,500-gallon abandoned fuel oil USTs at the main complex; as well as other active and abandoned fuel oil USTs associated with the residential improvements. IVI recommends that the abandoned USTs be removed or closed in accordance with governmental regulations, and that the active UST be tightness tested.

## **8.0 FINDINGS AND CONCLUSIONS**

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In addition, inasmuch as the active UST is suspected to have exceeded its expected useful life, consideration should be given to replacing the active UST.

### **Dump Sites**

There are eight active former dumping areas associated with the Concord Resort, however only two of which are located on the Subject property. The two on the Subject are referred to as the Main Parking Area Dump and the Rear Gas Station Parking Area Dump and are in varying stages of investigation and/or remediation under the oversight of the NYSDEC. The dump areas were created between 1963 and 1983, and were composed of non-hazardous C&D waste generated by past hotel renovations.

According to correspondence from the NYSDEC, these sites have been incorporated into the BCP. Inasmuch as the Work plan for the BCP appears to be in preliminary development, it is unknown as to the full extent of cleanup to be stipulated by the NYSDEC, and/or ongoing monitoring that will be required.

### **Former Service Station**

In addition to the abandoned gasoline USTs at the former service station discussed above, there are additional areas around the building where USTs historically were located. Furthermore, there are 2 in-ground hydraulic lifts and an oil/water separator associated with the facility. Since the building is no longer in use, IVI recommends that the lifts and oil and water separator be removed. In addition a subsurface investigation is recommended in the area around the service station building to determine if there are impacts from former USTs, the existing lifts and the oil and water separator.

### **Drums of Waste**

Numerous (approximately 20) 55-gallon drums were identified in various locations of the basement of the main complex. Most appear to be associated with the abandoned heating and cooling system. Reportedly, removal of these drums is included with the asbestos abatement contract for the main complex, and the removal is included in the BCP Work Plan. IVI recommends that these drums' contents be characterized and that they be disposed of in accordance with governmental regulations.

In addition, the following items of environmental concern were noted and warrant mention:

### **Asbestos-Containing Material (ACM)**

Based on our review of a prior ACM survey by others of the main complex, and selected other on-site buildings, and our site reconnaissance of the Subject, friable and non-friable ACM exists at various locations within many of the Subject's improvements. Reportedly asbestos abatements had been partially completed in portions of the main complex in preparation for building demolition. In addition, asbestos abatement containments were constructed in one of the towers, but were abandoned prior to completing abatement in



## 8.0 FINDINGS AND CONCLUSIONS

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the contained areas via a site specific variance with the New York State Department of Labor. Other areas of the main complex that reportedly had removals completed have not had final air tests conducted, and are therefore not completed jobs. Asbestos materials identified in the above-referenced asbestos survey consisted primarily of resilient floor tile, as well as column plaster, ceiling fireproofing and limited areas of pipe insulation. Details of the locations of the materials were not provided.

IVI recommends that documentation of completed abatements be provided consisting at a minimum of final air testing results and asbestos waste disposal manifests.

Management of the Subject has stated that contract negotiations are pending for completion of the abatement in the main complex. Based on our review of a one page budget summary document provided by the Subject, abatements in the main complex are approximately 31% completed and approximately \$1,027,000 has been budgeted for the completion.

In addition, based on the age of the remaining improvements not included in the above-referenced survey, there is potential that friable and non-friable ACM exists within those buildings. IVI was not provided access to the interiors of most of the rental residences. However, asbestos-containing transite shingle siding was observed on some of the bungalow buildings. IVI recommends that the partially completed abatements be completed in accordance with governmental regulations, that documentation of completed abatements be provided, and that all remaining suspect and identified ACM be managed in-place under an Asbestos Operations & Maintenance Program.

### **Lead-Based Paint (LBP)**

Based upon the age of the structures, the use of LBP is suspected. A majority of the interior and exterior painted surfaces of the abandoned structures were identified in poor condition with areas of significant peeling and flaking. Inasmuch as the paint could potentially be lead-based, IVI recommends that all future construction/demolition activities be conducted in accordance with New York State, OSHA and RCRA guidelines. IVI recommends that painted surfaces be maintained in good condition under an LBP Operations & Maintenance (O&M) Program.

### **Visible Mold**

Although beyond the scope of our ESA, mold growth was observed in numerous locations of the abandoned towers due to unsealed building conditions. Inasmuch as the buildings are scheduled for demolition, IVI recommends that proper worker protection be utilized such as respirators appropriate for mold aerosols, used in accordance with the selected contractor's written respiratory protection program, and that care be taken to prevent excessive dispersion of mold spores. Of note, there are no special requirements for disposing of mold-contaminated materials.



## **8.0 FINDINGS AND CONCLUSIONS**

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### **Review of Workplan**

Inasmuch as implementing the work plan for completion of the NYSDEC required remediation will likely be an on-going process of document submittals to the NYSDEC for review, IVI recommends that prior to submitting the documents to the NYSDEC, that they be reviewed to insure that all areas of environmental concern are addressed and the most efficient, cost-effective and acceptable methods are employed for closure and/or remediation of the environmental concerns.

## 9.0 LIMITING CONDITIONS

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- 9.1** This report has been prepared in general compliance with the ASTM standard entitled “Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process”.
- 9.2** The observations described in this report were made under the conditions stated herein. The conclusions presented in the report were based solely upon the services described therein, and not on scientific tasks or procedures beyond the scope of described services within the constraints imposed by the client. The work described in this report was carried out in accordance with the Terms and Conditions of the contract.
- 9.3** In preparing this report, IVI has relied on certain information provided by federal, state, and local officials and other parties referenced therein, and on information contained in the files of governmental agencies, that were readily available to IVI at the time of this assessment. Although there may have been some degree of overlap in the information provided by these various sources, IVI did not attempt to independently verify the accuracy or completeness of all information reviewed or received during the course of this site assessment. Observations were made of the site and of the structures on the site as indicated in this report. Where access to portions of the site or to structures on the site was unavailable or limited, IVI renders no opinion as to the presence of direct or indirect evidence relating to petroleum substances, hazardous substances, or both, in that portion of the site and structure. In addition, IVI renders no opinion as to the presence of indirect evidence relating to hazardous material or oil, where direct observation of the ground surface, interior walls, floors, ceiling or a structure is obstructed by objects or materials, including snow, covering on or over these surfaces.
- 9.4** As part of this assessment, IVI submitted requests for information via the Freedom of Information Act (FOIA) to various governmental agencies. As of the preparation of this report these requests may not have been fulfilled. The conclusions of this report are subject to change upon receipt of a response from these FOIA requests.
- 9.5** IVI does not represent that the site referred to herein contains no petroleum or hazardous or toxic substances or other conditions beyond those observed by IVI during the site walkthrough.
- 9.6** IVI has produced this document under an agreement between IVI and CIBC World Markets Corporation. All terms and conditions of that agreement are included within this document by reference. Any reliance upon this document, or upon IVI’s performance of services in preparing this document, is conditioned upon the relying party’s acceptance and acknowledgement of the limitations, qualifications, terms, conditions and indemnities set forth in that agreement, and property ownership/management disclosure limitations, if any. It is not to be relied upon by any party other than GMAC Commercial Mortgage Corporation nor used for any purpose other than that specifically stated in our Agreement or within this Report’s Introduction section without IVI’s advance and express written consent.
- 9.7** Mold and indoor air quality issues are excluded from the scope of this report.

**REMEDIAL INVESTIGATION AND  
INTERIM REMEDIAL MEASURE  
(RI/IRM) WORK PLAN**

**THE CONCORD HOTEL & RESORT SITE  
Concord Road, Kiamesha Lake  
Thompson, NY 12751**

**October 2004**

**Prepared for:**

**Concord Associates, LP  
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Appendix A	ECSI Phase II Report
Appendix B	March 18, 2002 Memo
Appendix C	Quality Assurance Project Plan
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## **1.0 INTRODUCTION AND PURPOSE**

The purpose of this document is to outline the Remedial Investigation (RI) and Interim Remedial Measure (IRM) activities to be performed at the Concord Hotel & Resort Site ("Site") in Thompson, New York, Sullivan County. This RI/IRM Work Plan has been prepared as part of the Brownfield Cleanup Agreement executed between the owner of the site, Concord Associates, LP and the New York State Department of Environmental Conservation (NYSDEC). This Work Plan has been prepared in accordance with the NYSDEC Draft Brownfield Cleanup Program Guide dated May 2004 and the Draft DER-10 Technical Guidance for Site Investigation and Remediation dated December 2002.

The Site is currently improved with several hotel buildings, parking areas, recreational areas including tennis courts and golf courses, maintenance areas and unimproved areas. The Concord property occupies a total area of 1,729 acres and the Site consists of several separate areas that occupy a total of approximately 378 acres. Some of the buildings on the Site will be demolished and the Site will be redeveloped to contain a hotel and complex with retail establishments.

An IRM will be completed to remove underground storage tanks (USTs) located in several areas of the Site that have historically leaked and contaminated the surrounding soils with petroleum products. The RI is designed to investigate the extent of solid waste dump areas and to determine if groundwater at the Site has been impacted.

## **2.0 SITE HISTORY AND DESCRIPTION**

### **2.1 General Site Information**

The Concord Hotel & Resort Site is located in the Catskill Mountains, in the Town of Thompson, Sullivan County. The entire property is approximately 1,729 acres, with approximately 378 acres being the subject of this Work Plan.

The hotel at the site was once operated as a 1,200 room lodging facility with associated recreational facilities, including a swimming pool, tennis courts and golf courses. Two golf courses still remain active at the Site, the International and the Monster. A single club house remains active in close proximity to the golf courses and serves as a hotel, restaurant and retail store to support the golf courses.

The Site is located in a rural area and is surrounded by residential properties. A small shopping center, retail and food establishments are also located in the vicinity of the Site. Kiamasha Lake, a Class A waterbody, is located adjacent to the Site to the west, as shown on Figure 1. Kiamasha Creek and its tributaries flow through the Site. As outlined in the Phase II Report completed by Environmental Compliance Services, Inc. (ECSI), dated September 1998, the Leisure Time Water Company, a drinking water supply bottler, is located on the southwestern banks of Kiamasha Lake. Also noted in the Phase II is the existence of Kiamasha Artesian Spring Water Co. located at the northeast portion of the Lake. The Kiamasha Artesian Spring Water Co. provides potable water to nearby Village and Town residents and businesses, including the Concord facilities. The Phase II Report is attached as Appendix A.

### **2.2 Site History**

The Concord Hotel has existed since the 1920's with several additions to the Resort over the years. According to the Phase II Report, a 1960 survey completed for the Resort indicated that the Swiss Chalet, the Club House, the Concord Service Station and the Golf Maintenance garage all existed in 1960. Several of the Main Hotel Complex structure shown in the 1960 survey no longer exists, and according to the Phase II Report, some of the buildings were removed to construct the new Towers in 1972. The Phase II also states that the former buildings were demolished and buried on site, either at the Main Hotel Complex, or at other Concord owned parcels.

### **2.3 Planned Development**

The planned development for the site consists of the construction of a new hotel and recreation complex with retail establishments.

### **2.4 Previous Environmental Investigations**

Previous environmental investigations performed at the site include a Phase I and Phase II, both completed by ECSI. Both the Phase I information and the Phase II are contained



in one report, entitled Phase II Environmental Site Assessment Report, dated September 1998, and is attached as Appendix A. The Phase II was conducted in 1998 and included areas of the site needing further investigation based on information obtained during the Phase I. The Phase II activities involved an extensive test pit and boring investigation to define the areas of contamination at the Site. Several of the areas investigated in the Phase II are the subject of this Work Plan. The remaining areas of the Concord property are being addressed separately under the New York State Voluntary Cleanup Program and through the NYSDEC Solid Waste Program. The areas that are the focus of this Work Plan, and the information obtained about each area during the Phase I and Phase II is summarized below. For the purpose of this Work Plan, the Site has been divided into Zones, with each zone containing certain areas of concern throughout the Concord property. A map showing each Zone is included as Figure 2 and Figure 3 shows the areas within each Zone. The Phase II is included for reference only and some of the information in the Phase II is outdated.

#### **2.4.1 Zone 1**

Zone 1 consists of areas in the northwestern portion of the property and includes the Main Hotel Complex, the Main Parking Area Dump Site, the Gas Station and the International Golf Club House and Maintenance Building. The total area of Zone 1 is approximately 203 acres.

##### **2.4.1.1 Main Hotel Complex**

The Main Hotel Complex consists of several buildings on the northwest portion of the Site. According to the Phase II, three tanks exist in the complex, two active 15,000 gallon underground storage tanks (USTs) and one inactive 1,500 gallon UST. The two 15,000 gallon tanks are located near the intersection of Concord Road and Kiamesha Lake Road (County Route 109). The tank registration information with the NYSDEC indicates that both tanks were tightness tested in 1989 and results indicated both tanks were tight. The tanks were also tightness tested on February 3, 1998 as part of the Phase II and both tanks passed. The tanks are no longer active and are empty. The tanks will be closed in place after completion of the RI, as part of the final remedy for the Site. The 1,500 gallon tank is located at the rear of the former bakery. At the time of the Phase II, the tank contained waste oil. The tank was emptied and tightness tested and the tank failed. Due to the failure of the tank, two borings were installed around the tank by ECSI to determine if surrounding soils had been impacted. A Photoionization Detector (PID) was used to screen the samples for potential contamination, and the results showed that there were no indications of a release. However, this UST will be removed after the RI as part of the final remedy for the Site.

Chemicals including solvents and paints are located within the Main Hotel Complex Building. The chemicals require proper disposal. Asbestos containing material (ACM) has also been identified throughout the buildings. Removal of ACM in certain portions of the Complex was initiated in 2002. The removal project was not completed and needs to be addressed due to exposed ACM.

#### **2.4.1.2 Main Parking Area Dump Site**

The Main Parking Area Dump Site is located east of the Hotel main parking area and adjacent to an unnamed tributary of Kiamasha Creek and a federally regulated wetland. As determined from the test pit investigation conducted during the Phase II, the area of the dump site is approximately 0.53 acres with an estimated volume of 3,000 cubic yards of waste. Groundwater seeps were observed at three locations at the base of the waste during the Phase II. The material observed in the dump was also stained by leachate. The age of the waste was estimated to be from the 1980's through the early 1990's and consisted of white goods, drapes, cloth, glass bottles, carpeting, assorted wood, bricks, scrap metals and tires. The map of the Dump is shown in Figure 4.

A total of fifteen (15) test pits were installed during the Phase II. The depth of the test pits ranged from 4 feet to 16 feet. Soil samples were collected from the base of the waste from four (4) of the test pits. Two samples were collected at a depth of 15 feet and two from a depth of 16 feet. The samples included RCRA and TCLP tests to determine if the waste was hazardous or nonhazardous. All sample results indicated that the waste is non-hazardous. The locations of the test pits completed in the Phase II are shown in Figure 5.

In 2001 and 2002, surface cleanup of the dump area and removal of solid waste from the streambed was performed. Empty steel tanks located at the southern end of the landfill were also removed and properly disposed of. The cleanup work performed was summarized in a memo to Andrew Lent of the DEC dated March 18, 2002, attached as Appendix B. In late 2002, with NYSDEC oversight, additional surface cleanup was completed and the slope of the dump area was capped with two (2) feet of clean fill. Debris was also removed from the stream bed.

#### **2.4.1.3 Gas Station**

The Gas Station is located southeast of the main Hotel entrance and southwest of the Main Parking Area Dump. The gas station was at one time known as the Kiamasha Concord Service Station. Information obtained during the Phase II from the former operator of the gas station indicated that four tanks were located on the Site, three 6,000 gallon gasoline USTs and one 2,000 gallon UST for diesel fuel. The previous operator indicated that the tanks were removed in 1991, but did not have documentation. The site work during the Phase II indicated that two USTs exist at the service station, estimated to be 10,000 gallons each. The tanks were not tested, but soil borings were installed around the tanks. Based on screening results of the soils, it was believed that the upgradient tank may have had a release.

An inactive 550 gallon UST was also located at the service station and was previously used for space heating purposes. The 550 gallon tank was tested during the Phase II and failed. Eight borings were installed around the tank and soils were screened with a PID. There was no indication of a release. The tank was pumped out and the fill pipe was covered.

During the Phase II, a subsurface investigation was completed in areas known to be the location of prior tanks and/or product transfer lines. An area located northeast of the service station building where former USTs were located was investigated and found to contain petroleum contaminated soils and groundwater. Six (6) soil samples and two (2) groundwater samples were collected and analyzed. The results are summarized in Table 1. An area in front of the building where tank islands and USTs were once located was also investigated and determined to be contaminated with petroleum products. Six (6) soil samples were collected and analyzed from this area. Groundwater was not encountered and was not sampled. The results from this area are also summarized in Table 1.

The Phase II also indicated that drains within the service station building were connected to the Town's sewer treatment plant. Three (3) lifts were also discovered during the Phase II located within the building. On-site personnel at the time of the Phase II indicated that an underground hydraulic oil holding tank surrounding each lift did not leak according to inventory records, but an investigation was not performed.

Locations of samples and borings completed during the Phase II investigation at the Service Station are shown in Figure 6.

Containers of chemicals including solvents also remain within the gas station building that require proper disposal.

#### **2.4.1.4 International Golf Club House and Maintenance Building**

It is suspected that the International Golf Club House was serviced by a septic system consisting of an above ground trickling filter system located south of the International Golf Course Dump, adjacent to Kiamasha Creek. The trickling filter has been dismantled but no sampling has been completed.

There are two (2) aboveground storage tanks (ASTs) located outside of the Building. The Building also contains miscellaneous chemicals that need to be properly disposed of.

### **2.4.2 Zone 2**

Zone 2 consists of areas in the south/southeastern central portion of the site and includes the Monster Club House, the Chalet House and Chalet Dump Site and the Golf Maintenance Building and Golf Maintenance Dump Site. The total area of Zone 2 is approximately 170 acres.

#### **2.4.2.1 Monster Club House**

There is one active 12,000 gallon UST located outside of the Club House Building. The tank currently contains #4 Fuel Oil. The tank was tightness tested in 1989 and was due again in 1994, but no report of a 1994 test was found during the Phase II. The tank was tightness tested during the Phase II and passed. Information obtained during the Phase II indicated that the fuel oil from the tank is dispensed via gravity for furnaces. At one time, a pipe went from the club house to the Chalet, however, this pipe is no longer active. There are three ASTs at the club house, one of which is used for fueling the golf carts.

The Monster Club House and Chalet are serviced by a sand filtration treatment system down gradient from the Club House and west of the Maintenance Shop. The system is active and permitted under the NYSDEC SPDES permit for a pipe that leads from the sand filtration to direct effluent to the Kiamesha Creek. The permit is current, but there is no documentation as to the monitoring and record keeping requirements of the permit and it is unknown what, if any, monitoring has been completed.

#### **2.4.2.2 Chalet House and Chalet Dump Site**

The Chalet house and dump are located at the former skiing area. The Chalet house is located southwest of the former ski slope and is no longer active. The Chalet Dump Site is located to the southeast of the former ski slope. As mentioned above, the Chalet was serviced by the sand filtration treatment system that serviced the Chalet and the Monster Club House. Inside the basement of the Chalet House is an inactive 275 gallon AST. A 1,000 gallon AST was also found during the Phase II in a wooded structure outside of the house. The tank was pumped out during the Phase II.

Waste materials in the Chalet Dump consist of mainly C&D debris. The dump area was estimated to be approximately 0.15 acres in size and to contain approximately 1,710 cubic yards of waste during the Phase II. According to the Phase II Report, the waste is suspected to date back to the early to mid 1990's. The waste consists of assorted wood, cardboard boxes, carpeting, yard waste, white goods, tires, piping and electrical conduit. A map of the Dump is included as Figure 7.

A total of twelve (12) test pits were installed in the dump during the Phase II ranging from depths of 5 to 12 feet bgs. One soil sample was collected from a composite of two test pits and analyzed to determine if the waste was hazardous. The results indicated that the waste was nonhazardous. Locations of the test pits completed during the Phase II are shown in Figure 8.

In 2001 and 2002, surface cleanup of the dump area was performed. Logs, tires, metal and empty 55 gallon drums were removed and properly disposed of. Additional surface removal is required. The cleanup work performed was summarized in a memo to Andrew Lent of the DEC dated March 18, 2002, attached as Appendix B.

### **2.4.2.3 Golf Maintenance Building and Golf Maintenance Dump Site**

The golf maintenance building was littered with old vehicles and maintenance equipment scattered around the outdoor of the shop at the time of the Phase II. The Phase II also indicated the existence of four inactive USTs, one 550 gallon, one 1,000 gallon, one 2,000 gallon and one 2,500 gallon. Two kerosene ASTs were also located in this area. All four USTs failed tightness testing completed during the Phase II. Soil borings completed near three of the tanks located north of the maintenance building indicated petroleum contaminated soil. Table 2 summarizes the results of the eleven (11) soil samples collected from this area.

Four soil samples were also obtained from the area around the 550 gallon UST during the Phase II investigation. The results indicated contaminated soils as summarized in Table 2.

Sample and boring locations completed during the Phase II at the Golf Maintenance Building as shown on Figure 9.

The Maintenance building has an active septic/leach tank system. The tank is located in the northwest corner of the shop building, in close proximity to the Concord Well and Kiamesha Creek. Shop floor washings are discharged to floor drains which connect to an underground sump tank located west of the shop building. Two borings were installed adjacent to the sump during the Phase II. Samples did not indicate a release. Sediment collected from the sump was also analyzed and did not indicate contamination.

Site inspections during the Phase II also revealed the storage of pesticides and herbicides in a shed at the maintenance facility. The chemicals are used by the golf maintenance staff. In 1997, a Quarantine Order was issued by the NYSDEC to dispose of the chemicals. The chemicals were properly disposed of at that time.

Approximately 100 feet upgradient and west of the maintenance building is a dump area estimated during the Phase II to be approximately 2.07 acres in size and to contain a volume of 8,570 cubic yards of waste. The dump area lies within a portion of a flood plain adjacent to Kiamesha Creek. The Phase II estimated the waste to date back to the late 1960s to the early 1990's and the waste consists of assorted wood, scrap metal, ash, tree sections, dishes, pans, bricks, concrete block, glass bottles and piping. A map of the dump is provided as Figure 10.

Three (3) MicroWell monitoring points were installed downgradient of the dump area as part of the Phase II investigation. Thirteen (13) test pits were installed within the dump at depths ranging from 6 to 16 feet below ground surface (bgs). Five (5) soil samples were collected from five test pits at varying depths. Ten (10) test pits were also located within the vehicle storage area around the maintenance building and ranged from 1 to 6 feet bgs. Three (3) soil samples were collected from three of the test pits. A surface water sample was also collected during the Phase II from a stream located between the

dump site and the vehicle storage area. The stream is a tributary to Kiamesha Creek. Locations of the test pits completed during the Phase II are shown in Figures 11A and B.

Soil sample results were analyzed to determine if the material was hazardous or nonhazardous. All sample results indicated that the material was nonhazardous. The surface water sample was tested for Part 360 parameters. The results indicated elevated levels of Toluene (8 ppb) and Benzene (0.9 ppb). Results of water samples from the wells indicated trace levels of toluene and xylene in Wells 2 and 3 located directly downgradient of the dump. The sample from Well 1 was analyzed for Part 360 parameters and indicated elevated levels of metals.

In 2001 and 2002, surface cleanup of the dump area was performed. Tires, metal and miscellaneous debris were removed and properly disposed of. Tires from the streambed were also removed and disposed of. Additional surface removal is required. The cleanup work performed was summarized in a memo to Andrew Lent of the DEC dated March 18, 2002, attached as Appendix B.

### **2.4.3 Zone 3**

Zone 3 consists of the International Golf Course Dump Site, located in the northern central portion of the site, north of Zone 2. The total area of Zone 3 is approximately 5 acres.

#### **2.4.3.1 International Golf Course Dump Site**

This dump site is listed with the NYSDEC as a solid waste management facility with violations. The landfill is located at of Chalet Road, adjacent to Kiamesha Creek and was originally estimated to be approximately 1.02 acres in size. The NYSDEC issued an Order on Consent in 1989 to the previous owner of the facility (Kiamesha Concord, Inc.) to address the violations of the Environmental Conservation Law (ECL) at the landfill. The Order was never signed.

The estimated volume of the waste in the dump according to the Phase II is approximately 9,865 cubic yards and consists of assorted wood, scrap metal, ash, piping, bricks and electrical conduit. The waste is estimated to have been disposed from the 1970s to the early 1980's. The analytical results indicate that the waste is non-hazardous. It is unknown of the extent of the landfill has been properly defined.

In 1990 and 1991, a consultant for Kiamesha Concord, Inc. completed an investigation at the dump site with NYSDEC oversight. A test pit investigation was conducted and three (3) monitoring wells were installed and sampled. Monitoring wells 2 and 3 were located downgradient of a waste mass encountered during the investigation and monitoring well 1 was located upgradient. During this time, the NYSDEC collected soil samples, surface water samples from upgradient and downgradient in Kiamesha Creek and a sample of a seep 200 feet west of the Creek that discharges into the Creek. Sample results from the

investigation revealed indications of leachate in monitoring wells 2 and 3 and a soil sample collected 400 to 500 feet west of the Creek indicated petroleum contamination.

During the Phase II investigation, ECSI collected soil samples from three test pits within the dump, samples from the three monitoring wells, a sample of the seep and sediment samples from the Creek from a location upgradient and downgradient of the discharge point of the seep. Sample results indicated elevated levels of metals in the two downgradient monitoring wells (MW-2 and MW-3). Elevated levels of metals were also evident in the sediment samples. A summary of the results is provided in Table 3. A map of the dump site is included as Figure 12. Locations of the test pits completed during the Phase II are shown in Figures 13 through 15.

In 2001 and 2002, surface cleanup of the dump area was performed. Metal was removed from the wooded area and the trickling filter was dismantled. The cleanup work performed was summarized in a memo to Andrew Lent of the DEC dated March 18, 2002, attached as Appendix B.

## **2.5 Site Geology and Hydrogeology**

According to the Phase II Report, the property lies over the NJ Coastal Plain Sole Source Aquifer. The main source of water in Sullivan County is groundwater. An unnamed tributary connects with the south end of Kiamesha Lake, and is classified as a Class C stream, which connects to Kiamesha Creek, also a Class C stream, and flows through the Concord property. Kiamesha Creek flows north through the Concord property and then south/southeast to the Sheldrake Stream, which is a tributary to the Neversink River. The Neversink River is located approximately 2.5 miles southeast of the property and flows to the Delaware River. A USGS Map is provided as Figure 16.

According to a Phase II, the Kiamesha Artesian Spring Water Co. receives water from two groundwater wells and from surface water of Kiamesha Lake to serve the surrounding community. As stated in the Phase II Report, one of the supply wells, the Concord Well, is located adjacent to the Golf Maintenance Shop, along Kiamesha Creek, within Zone 2 of the Site. The Report states that the Concord Well is a bedrock well, 300 feet in depth and is capable of yielding 70 gallons per minute (gpm). The well is surrounded by a well house and a separate chlorination building is located adjacent to the well house which contains an in-line hypochlorinator unit powered by an electrical motor. The Concord Well supplies facilities along Chalet Road and south of Concord Road. The Concord Well was sampled as part of the Phase II investigation. The second supply well is located adjacent to the Kiamesha Artesian Spring Water Co. facility and is used as supplemental source to surface water from Kiamesha Lake. Kiamesha Lake is also the water supply for the Village of Monticello, located approximately 5 miles from the Site. The combined supply from the two wells and the Lake is sampled for VOCs and SVOCs every three years, and according to the Monticello district office of the NYSDOH, there had not been any water quality problems up to the time of the Phase II. It was stated in the Phase II that it was suspected that the Concord well also supplied a

main supply tank (a 1.2 million gallon supply source) located near the intersection of Route 109 and Concord Road.

The Concord Well is still in service and in 2001, two additional wells was installed northwest of the Concord Well on the opposite side of Kiamesha Creek. The first well installed only yielded 6 gallons per minute, so a second well was installed to a depth of 375 feet and has a capacity of 375 gallons per minute. Both the new well and the Concord well are used as part of the potable water supply for the Concord Site. Each well is operated independently of the other and both are sampled in accordance with NYSDOH regulations. Sample results are provided to the NYSDOH and copies are kept on site. Locations of the wells are shown on Figure 9A.

The main hotel and surrounding facilities are serviced by the Town of Thompson Water and Sewer Department wastewater treatment plant. Other areas of the Site, including the International Club House, the Chalet, the Monster Club House and the Golf Maintenance Shop are serviced with individual septic systems as discussed in previous sections of this Work Plan.



### **3.0 INTERIM REMEDIAL MEASURES FIELD ACTIVITIES PLAN**

An IRM will be performed at the site to address the remaining USTs that are suspected to be leaking. Removal of chemicals in the maintenance buildings and the gas station will also be completed, along with addressing asbestos violations with the Main Hotel Complex.

#### **3.1 UST Excavations**

The two areas of concern that will be addressed as the IRM are the three tanks at the Gas Station and the four tanks at the Golf Maintenance Shop. The tanks at the both locations are suspected to be leaking and they will be excavated and removed. Impacted soils around the tanks will be excavated and confirmatory sampling will be completed to ensure all of the impacted soils have been removed. The contaminated soil and tanks that are excavated will be properly disposed of off-site at a permitted disposal facility.

##### **3.1.1 Confirmatory Sampling**

Confirmatory samples will be collected from each of the tank excavations. Confirmatory samples will be collected at a frequency of one side wall sample per 30 linear feet of side wall and one bottom sample per 900 square feet of bottom area. A minimum of four (4) sidewall and one (1) bottom sample will be collected from each area of concern. The confirmatory samples will be composite samples with the side wall samples collected from one-third up from the bottom of the excavation and a five-point composite sample from the bottom. Samples will be analyzed for VOCs by EPA Method 8021 and SVOCs by EPA method 8270. The laboratory being used for this project is York Laboratory located in Stratford, CT. Quality Assurance/Quality Control Measures to be followed are discussed in the Quality Assurance Project Plan (QAPP) in Appendix C.

Confirmatory sample results will be compared to the NYSDEC Recommended Soil Cleanup Objectives (RSCO) as defined by NYSDEC Technical and Administrative Guidance Memorandum #4046 (TAGM 4046), Determination of Soil Cleanup Objectives and Cleanup Levels. If sample results are above the levels as defined in TAGM 4046, additional excavation will be completed in the direction of the sample failure, and a new confirmatory sample or samples will be collected.

#### **3.2 Chemical Removal**

Containers of chemicals remain in the golf maintenance building, the Main Hotel Complex and the Gas Station. The containers of chemicals including paints, solvents and pesticides will be inventoried and properly disposed of off-site.

#### **3.3 Asbestos Removal**

Asbestos violations exist in the Main Hotel Complex due to an incomplete asbestos removal project. The asbestos violations will be addressed and remedied through the

proper removal and disposal of asbestos in areas where the removal was begun and not completed. The remaining areas of the Main Hotel Complex requiring asbestos removal will be completed as part of the Remedial Action for the Site.

#### **4.0 REMEDIAL INVESTIGATION FIELD ACTIVITIES PLAN**

An RI will be performed after completion of the IRM and will consist of a test pit investigation, soil sampling of suspected septic areas, Kiamesha Creek sampling and a groundwater investigation.

##### **4.1 Test Pit Investigation**

The extent of the majority of the dump areas was determined during the Phase II. However, the extent of the International Golf Club Dump was not adequately defined and a test pit investigation will be completed to determine the extent of the contamination. Test pits will be completed outside the areas where previous test pits were completed to confirm the extent of the waste area. Test pits will be completed approximately 10 feet from the previously located test pits. If no waste is apparent, the old location of the test pit will be considered the extent of the waste. If waste is encountered, test pits will continue to be excavated in 10 foot intervals until the edge of the waste mass is found. The test pits will be excavated to determine the depth of the waste mass as well.

##### **4.2 Soil Sampling**

Sampling will be conducted in suspected septic areas. The areas to be sampled include the monster club house and chalet house sand filtrations system, the active golf maintenance shop septic field and the trickling filter system located south of the International Golf Course Dump Site. One sample will be taken from each septic system and sampled for VOCs via EPA Method 8260 and VOCs via EPA Method 8270.

##### **4.3 Kiamesha Creek Sampling**

Surface water sampling of Kiamesha Creek will be conducted at the effluent discharge of the golf maintenance septic system and the monster club house discharge location. Creek sediment samples will also be collected from these locations. Creek sediments will also be sampled where seeps were observed at the International Golf Club Dump Site.

For surface water samples, one sample will be collected from an upgradient location, and one sample from immediately downgradient of the effluent discharges. Sediment samples will be collected in a similar manner, with a sediment sample collected upgradient of the suspected source and one collected from immediately downgradient.

Creek surface water and sediment samples will be analyzed for VOCs, SVOCs and metals via EPA Methods 8260, 8270 and 6061, respectively.

##### **4.4 Groundwater Investigation**

A groundwater investigation will be completed at the site to determine if groundwater has been impacted from the dump sites or from USTs. Monitoring wells currently exist at the International Golf Course Dump Site and in the Golf Maintenance Dump Site. These

wells will be sampled and if results indicate that groundwater has been impacted, additional wells may be installed after consultation with the NYSDEC. The Concord Well and the new well installed in 2001 will also be sampled.

Groundwater sampling will also be conducted in areas where the USTs will be excavated as part of the IRM. Groundwater samples will be collected from upgradient and downgradient locations at the Gas Station and at the Golf Maintenance Building. Groundwater samples will be collected from borings at the locations shown on Figures 17 and 18, respectively. If groundwater has been impacted, monitoring wells will be installed. The proposed locations of additional monitoring wells at the UST locations or in the dump area will be provided to the NYSDEC prior to installation of the wells.

If areas of groundwater contamination are found, additional groundwater sampling will be completed in order to delineate the extent of the contamination.

#### **4.4.1 Monitoring Well Installation**

Construction of the monitoring wells will consist of two-inch diameter, threaded well casing with ten feet of Schedule 40 PVC screen and riser. Well screens will be installed intercepting the water table, generally about five to ten feet into the soil-groundwater interface. The annular space in the screened interval will be sand packed with a No. 2 filter sand pack to one to two feet above the top of the screen. The annular space above the screened interval will then be sealed with a layer of bentonite to provide a seal above the sand pack. The surface completion will consist of either a stick-up protective steel casing set in concrete and fitted with a lockable cap, or a flush-to grade, bolt down, gasketed curb box set in concrete and a lockable sanitary plug. A monitoring well detail is provided in Figure 19.

#### **4.4.2 Well Development**

Monitoring wells will be developed no sooner than 24 hours after installation. Wells will be purged with dedicated, disposable bailers. Purging will continue until the water is visibly free of suspended materials and field parameters (pH, temperature, conductivity) stabilize, or a maximum of 24 hours.

#### **4.4.3 Groundwater Sampling**

After installation and development of the monitoring wells, they will be sampled. Prior to sampling, the wells will be gauged for depth to the water surface from the top of the casing and for the depth to bottom of the well from the casing to determine the elevation of groundwater and the volume of water in each well. Each well will be purged a minimum of three well volumes with a dedicated disposable bailer, and will then be allowed sufficient time to recharge. The pH, temperature, conductivity and turbidity will be measured for each well. Samples for laboratory analysis will be collected using dedicated disposable bailers. Samples will be collected in laboratory provided sample jars and placed on ice for shipping or delivery under chain-of-custody protocols.

Samples will be analyzed for VOCs, SVOCs and metals via EPA Methods 8260, 8270, and 6061, respectively. Quality Assurance/Quality Control Measures to be followed are discussed in the Quality Assurance Project Plan (QAPP) in Appendix C.

An additional round of groundwater sampling will be completed approximately four months after the initial sampling round. The second sampling event will be used to gain a better understanding of groundwater conditions and to confirm results from the initial sampling event.

#### **4.4.4 Survey**

At the completion of the RI, a survey will be completed that includes the locations and elevations of the monitoring wells.

## **5.0 HUMAN HEALTH EXPOSURE ASSESSMENT**

A qualitative human health exposure assessment will be performed to evaluate whether the site poses a hazard to the surrounding population by qualitatively evaluating actual or potential exposures to site contaminants. The Exposure Assessment will be completed in accordance with the New York State Department of Health's Qualitative Human Health Exposure Assessment guidance document and will be included in the RI Report.

Sampling data will be reviewed along with the physical conditions of the contaminant sources or physical hazards near the site which may pose a health risk to the community. Potential on-site and off-site exposures will be evaluated. The Exposure Assessment will describe the nature and size of the population exposed, or potentially exposed, to the contaminants that are present at, or migrating from, the site and will characterize the exposure setting, identify exposure pathways, and evaluate contaminant fate and transport.

Site contaminants will be selected for further evaluation based upon consideration of concentrations of contaminants in environmental media both on-site and off-site, field data quality, laboratory data quality and sampling design, and comparison of on-site and off-site contaminant concentrations in environmental media with typical background levels.

Several objectives will be completed for the exposure assessment. First, applicable site information and characterization data for environmental media of concern will be evaluated. Applicable NYSDEC guidance, including NYSDEC TAGM 4046 for soil and Class GA groundwater regulations for groundwater, will be used for purposes of identifying site contaminants of concern (COCs). An assessment of current and future site activities and site use will be conducted in relation to potential human exposure. Next, potential exposure pathways will be identified, and each element of the exposure pathway will be evaluated. Soil and groundwater contamination will be addressed. The surrounding area of the Site is served by a combination of public and private water supplies. The location of private wells in the area will be confirmed with the local health department and water department.

If any complete exposure pathway exists, it will be evaluated in detail and recommendations for ways to eliminate the pathway will be made in the RI Report. These recommendations may include engineering controls, additional remedial activities, and/or monitoring.

## **6.0 FISH AND WILDLIFE IMPACT ANALYSIS**

A Fish and Wildlife Resources Impact Analysis (FWIA) Decision Key will be completed to determine if a FWIA is needed. Contaminant migration pathways and any fish and wildlife exposure pathways will be identified. As stated in the FWIA, "if no resources are associated with the site or if there is no potential for contaminant migration to the resources, then only the necessary information to support that conclusion should be provided." If the results from the RI, along with site inspections, support this conclusion, documentation will be submitted with the RI Report.

If resources are identified, or migration pathways exist, a FWIA will be completed and submitted as part of the RI Report. The FWIA would be completed to identify actual or potential impacts to fish and wildlife resources from site contaminants. The FWIA would qualitatively determine the route, intensity, frequency, and duration of actual or potential exposures to chemicals, describe the nature and size of the population exposed to the contaminants that are present at or migrating from the site and characterize the exposure setting, identifying exposure pathways, and evaluating contaminant fate and transport.

## **7.0 REPORTING AND SCHEDULE**

A schedule of activities has been included as Figure 20. At the completion the IRM, an IRM Report will be prepared and submitted to the NYSDEC. After completion of the RI Activities, an RI Report will be prepared and submitted.

### **7.1 IRM Report**

At the conclusion of the IRM, an IRM Report will be prepared that summarizes the activities completed and will include the tank information, confirmatory sample results and a figure showing the excavations. Details of the IRM and supporting documentation will be included with the IRM Report.

### **7.2 RI Report**

Following the completion of the RI activities and the receipt of sample results, a RI Report will be prepared. The Report will summarize the activities completed during the RI and will include analytical results, well logs, the Human Health Exposure Assessment, conclusions from the FWIA, a Data Usability Summary Report (DUSR) and scaled figures showing test pit locations, soil sample locations, locations of Creek samples and monitoring well locations. Sampling results will be summarized and discussed and the need for further remediation will be evaluated. Remedial alternatives will be evaluated in the RI Report and a recommendation will be made for a remedy to be presented in a Remedial Action Work Plan.



## 8.0 PROJECT ORGANIZATION

The following personnel are involved with this project. The project responsibilities and contact information are also provided.

Name	Company	Project Position	Address	Phone Number
John Manfredi	JM Associates, Inc.	Environmental Project Manager	225 Railroad Ave Bedford Hills, NY 10507	(914) 241-3795
Henry Zabatta	Concord Associates, LLC	Volunteer Contact	Concord Resort PO Box 263 Kiamesha Lake, NY 12751	(845) 794-4000
Michael Kaplan	G.A. Fuller Development Co.	General Contractor	115 Stevens Ave Valhalla, NY 10595	(914) 765-6500
Andrew Lent	NYSDEC	Project Manager	200 White Plains Rd, 5 <sup>th</sup> Floor Tarrytown, NY 10591	(914) 332-1835
TBD	NYSDOH	Project Manager		

All project personnel will be required to follow on-site health and safety procedures as outlined in the site-specific Health and Safety Plan (HASP), included as Appendix D. Subcontractors have not yet been selected. All subcontractors will be required to read and sign the HASP and follow on-site safety procedures.

## **9.0 HEALTH AND SAFETY PLAN**

A site-specific HASP with sections addressing a Community HASP and Community Air Monitoring Plan (CAMP) has been prepared and is included as Appendix D. All on-site personnel and visitors will be required to read and sign the HASP prior to entry of the Site.

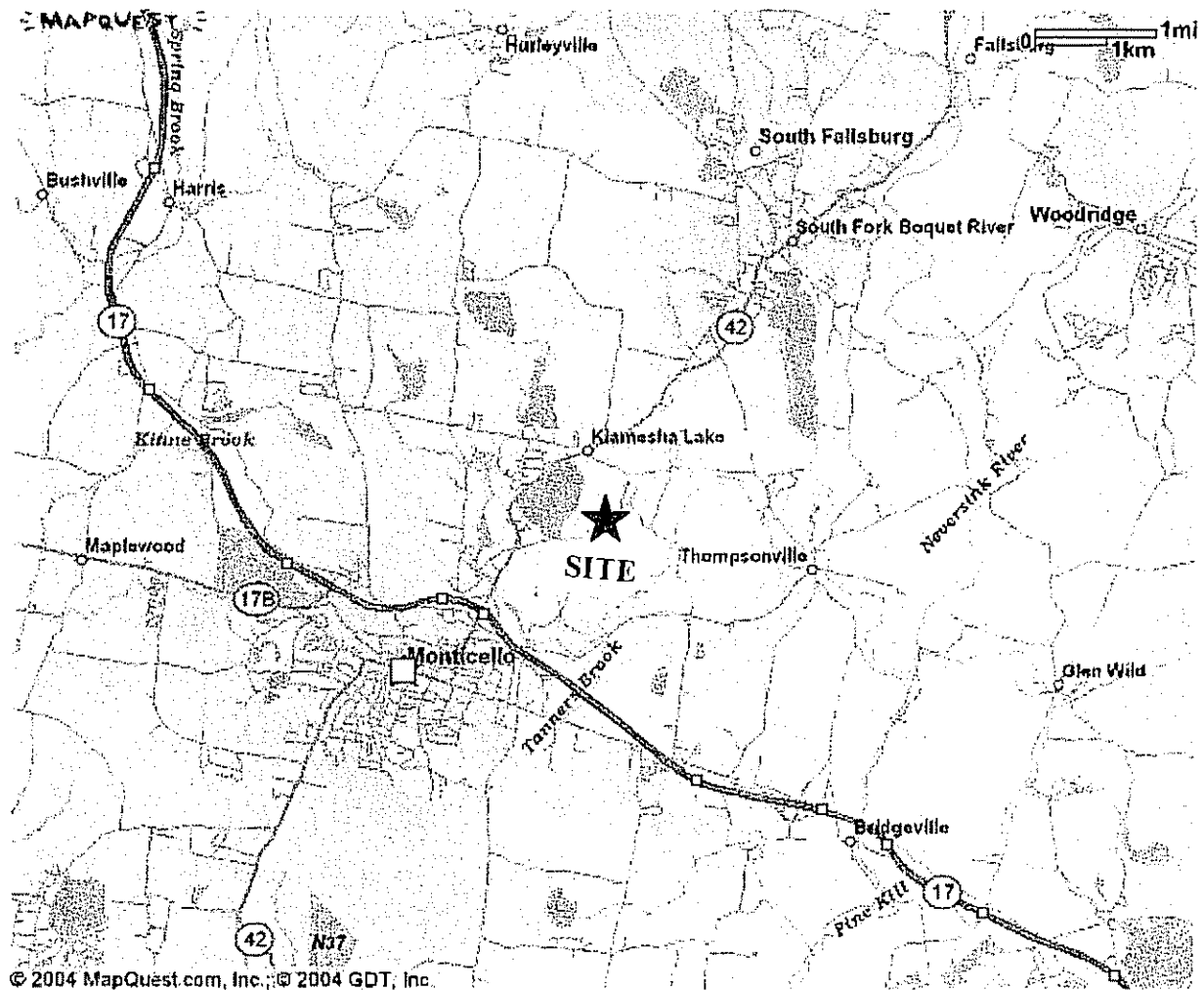
## **10.0 QUALITY ASSURANCE / QUALITY CONTROL**

Quality Assurance and Quality Control (QA/QC) is addressed in the Quality Assurance Project Plan (QAPP) included as Appendix C. The QAPP outlines procedures to be followed for sampling and analysis to ensure quality of the results. A DUSR will be prepared with the final reports to document the reliability of the sample results.

## **11.0 CITIZEN PARTICIPATION**

Citizen participation activities will be performed throughout the RI and IRM process to involve and inform the public. The specific citizen participation activities to be performed are outlined in the Citizen Participation Plan, included as Appendix E.

FIGURE 1  
SITE LOCATION MAP

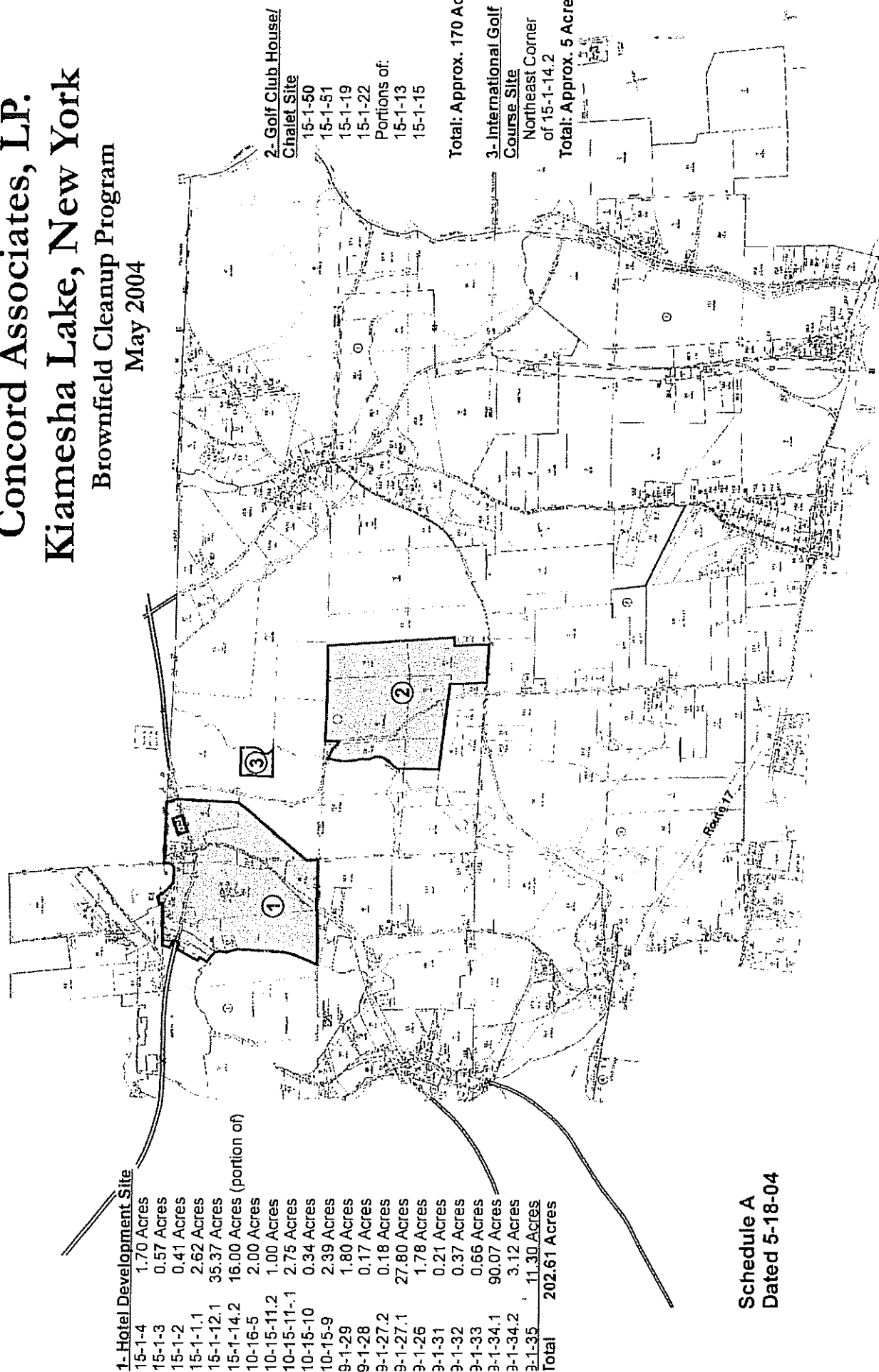


# Concord Associates, LP.

## Kiamesha Lake, New York

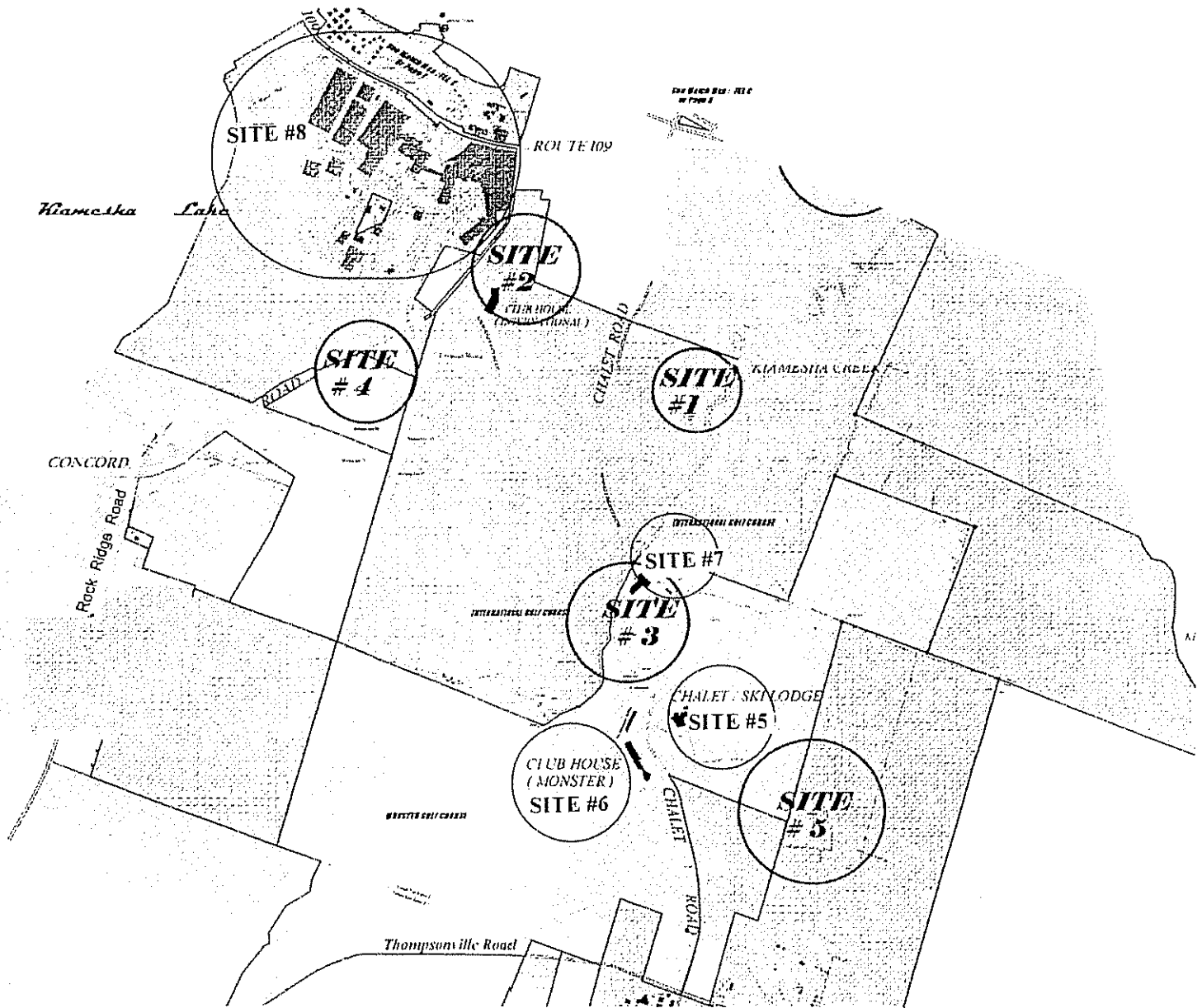
### Brownfield Cleanup Program

May 2004



Schedule A  
Dated 5-18-04

FIGURE 2  
SITE ZONES



Not To Scale

Surveyed By

ARTHUR D. 1965 P.E.C.S.

105 South Main Street, Albany, New York 12242

Phone: (518) 262-5122

### **DUMP SITE INDEX**

- SITE AREA No 1 : Golf Course Dump Site (*International*)
- SITE AREA No 2 : Main Parking Lot Dump
- SITE AREA No 3 : Golf Maintenance Dump and Bldg
- SITE AREA No 4 : Service Station
- SITE AREA No 5 : Chalet Dump and Chalet Bldg
- SITE AREA No 6 : *Monster Club House*
- SITE AREA No 7 : *International Golf Club House and Maintenance Bldg*
- SITE AREA No 8 : *Main Hotel Complex*

FIGURE 3

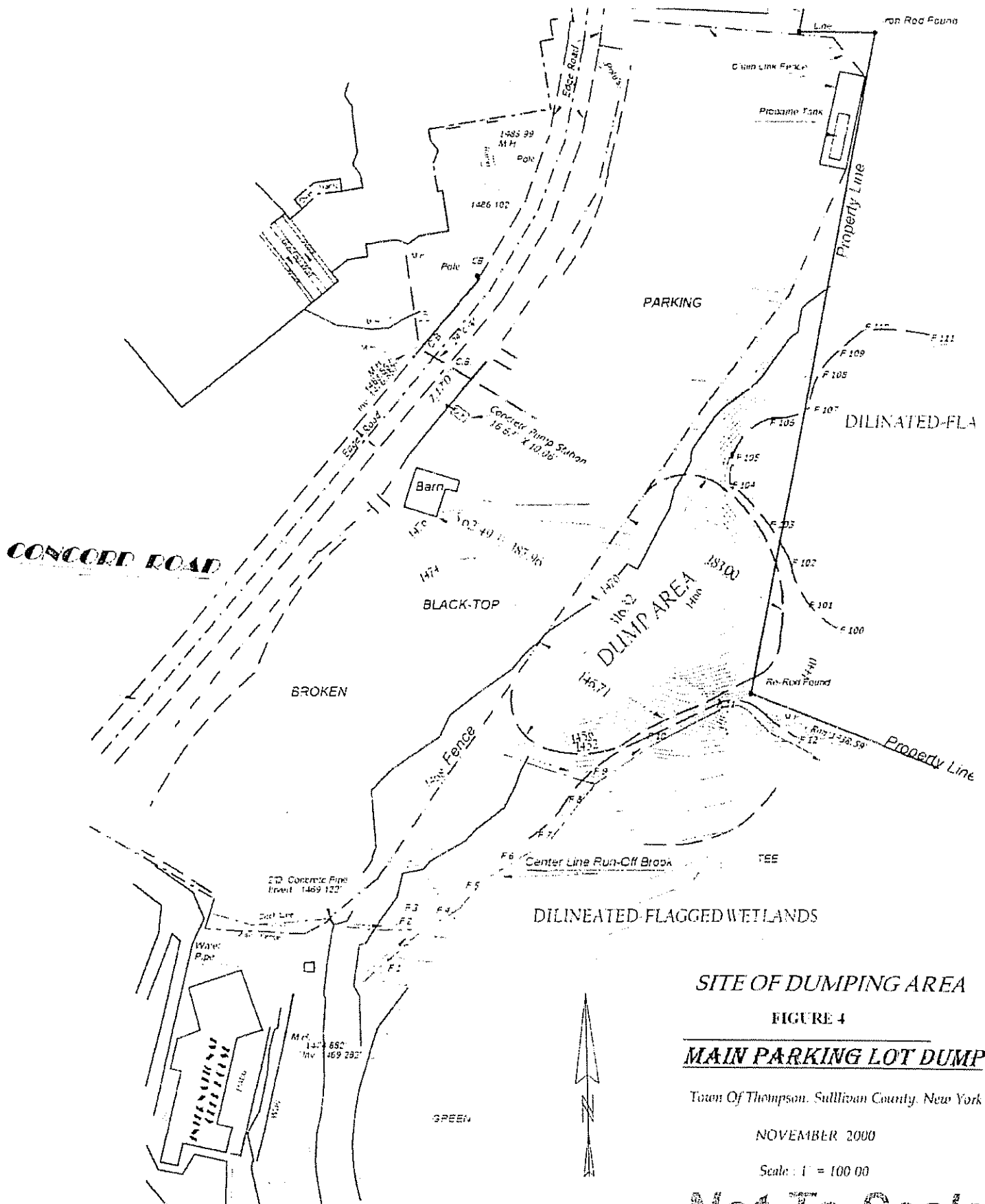
### **LOCATIONS OF AREAS OF CONCERN**

**CONCORD ASSOCIATES, L.P.**

Town Of Thompson, County Of Sullivan, State Of New York

Scale 1" = 500' 00"

November 2000



SITE OF DUMPING AREA

FIGURE 4

**MAIN PARKING LOT DUMP**

Town Of Thompson, Sullivan County, New York

NOVEMBER 2000

Scale: 1" = 100.00

**Not To Scale**

Surveyed By:

**ARTHUR C. VILLE P.E.S.**

448 North Main Street, Liberty New York 12754

Phone / Fax (914)-292-3322

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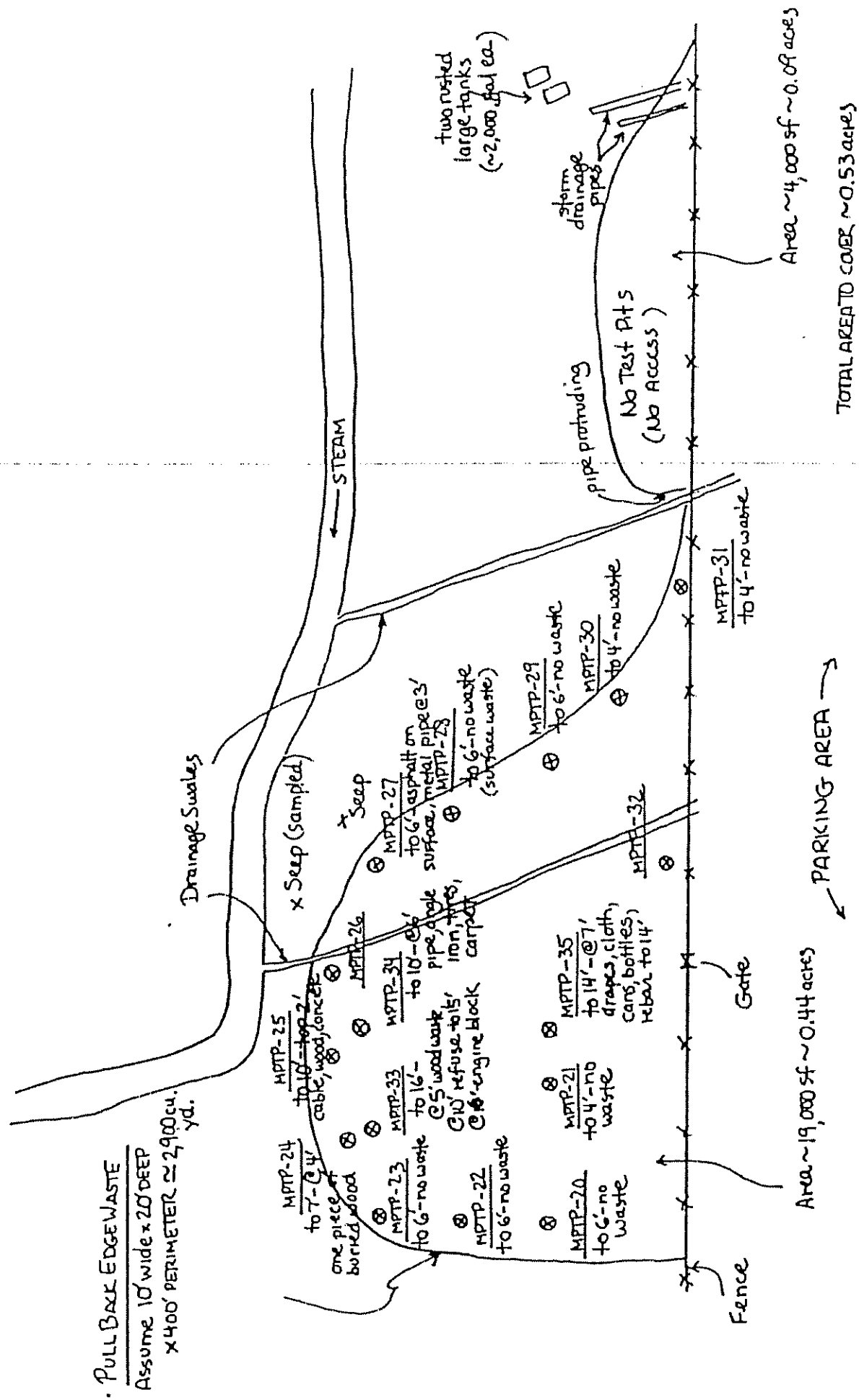
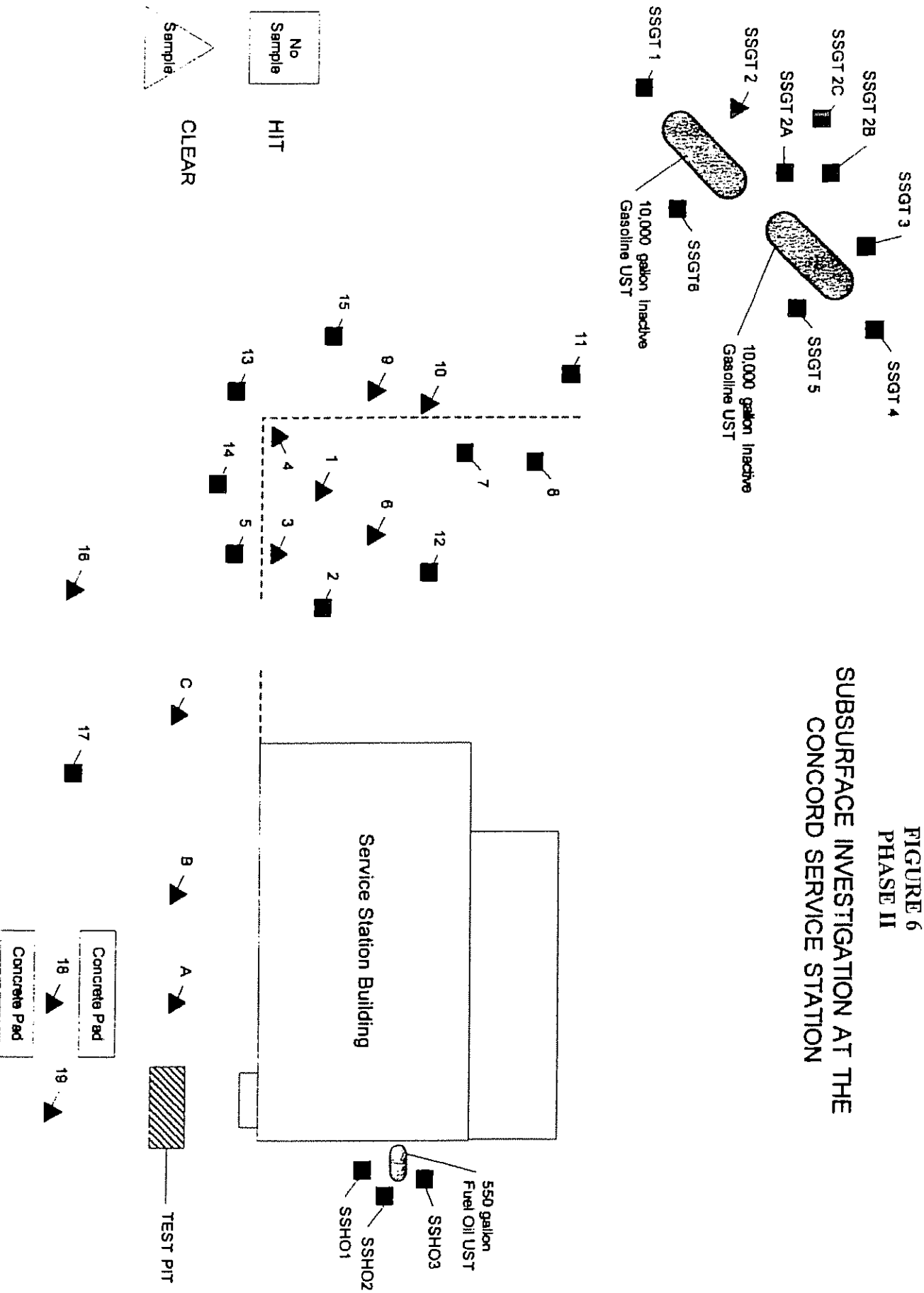


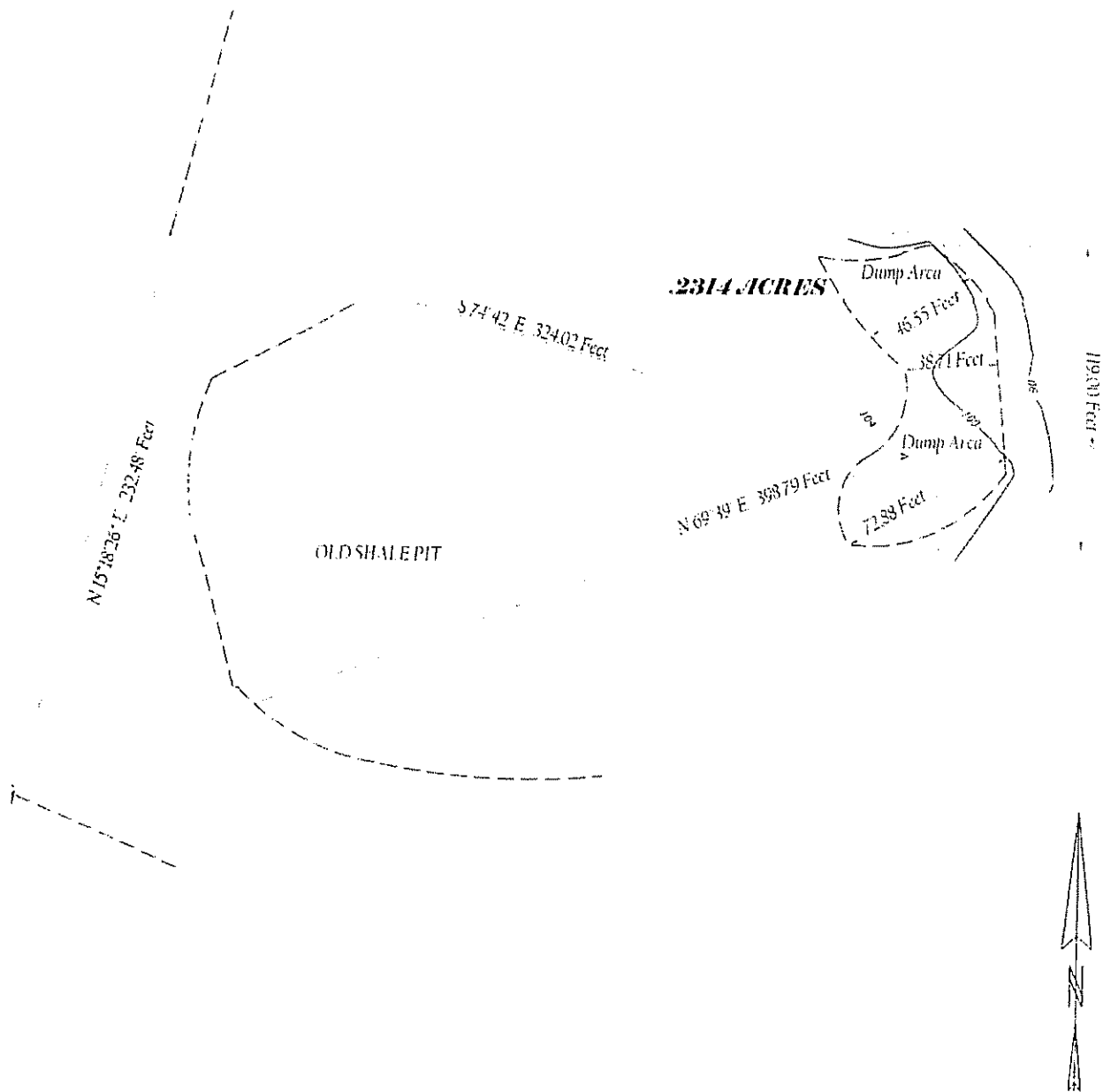
FIGURE 5

PHASE II TEST PIT LOCATIONS  
 CONCORD PHASE II  
 MAIN PARKING DUMP

FIGURE 6  
PHASE II

# SUBSURFACE INVESTIGATION AT THE CONCORD SERVICE STATION





SITE OF DUMPING AREA

FIGURE 7

CHALET DUMP SITE

Town Of Thompson, County Of Sullivan, State Of New York

SURVEYED BY

**ARTHUR O. VIELE P.E.S.**

448 North Main Street, Liberty, New York 12754

Phone/Fax: (845) 292-3322

OCTOBER 2000

Scale: 1" = 30'

**Not To Scale**

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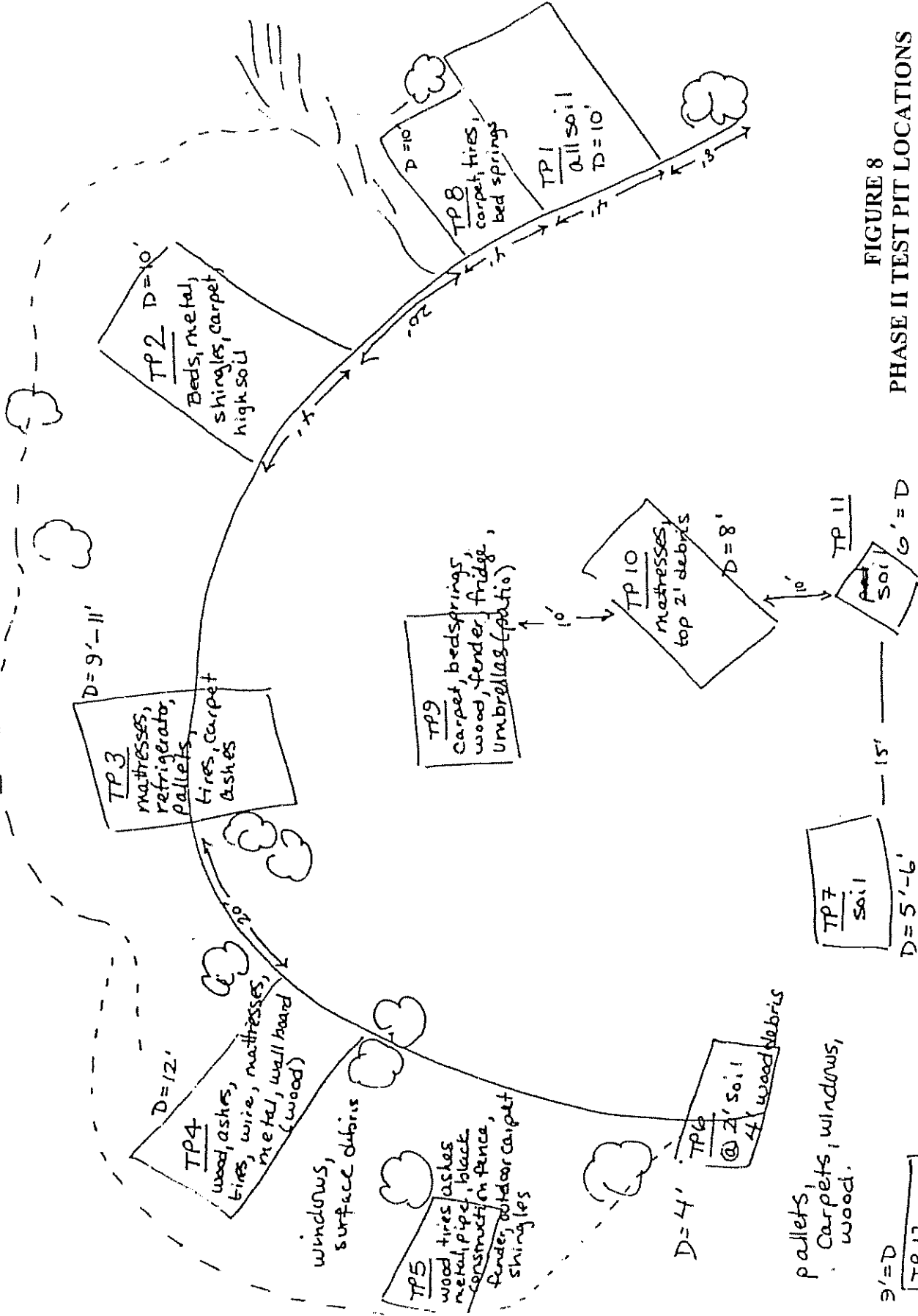
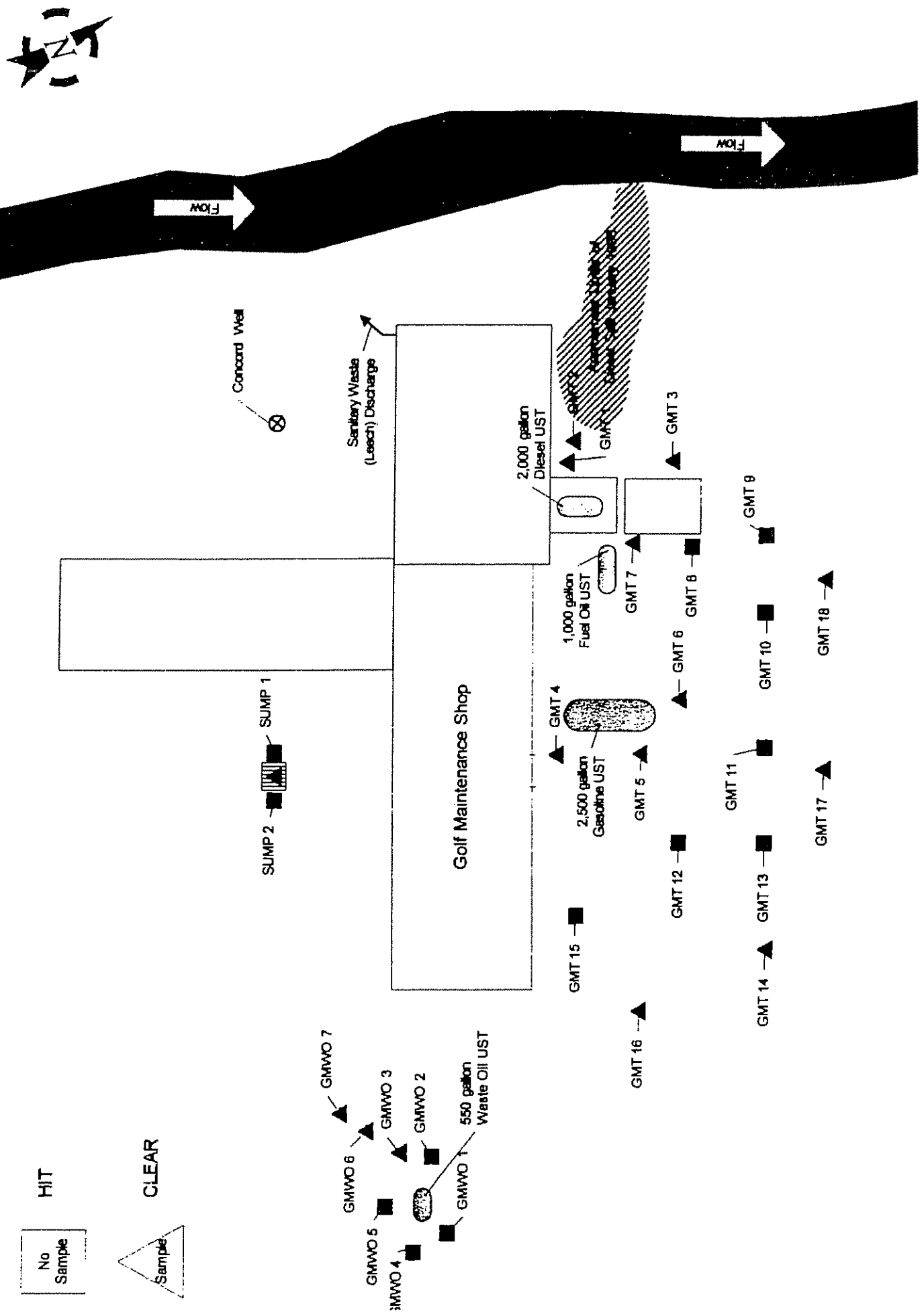


FIGURE 8  
PHASE II TEST PIT LOCATIONS

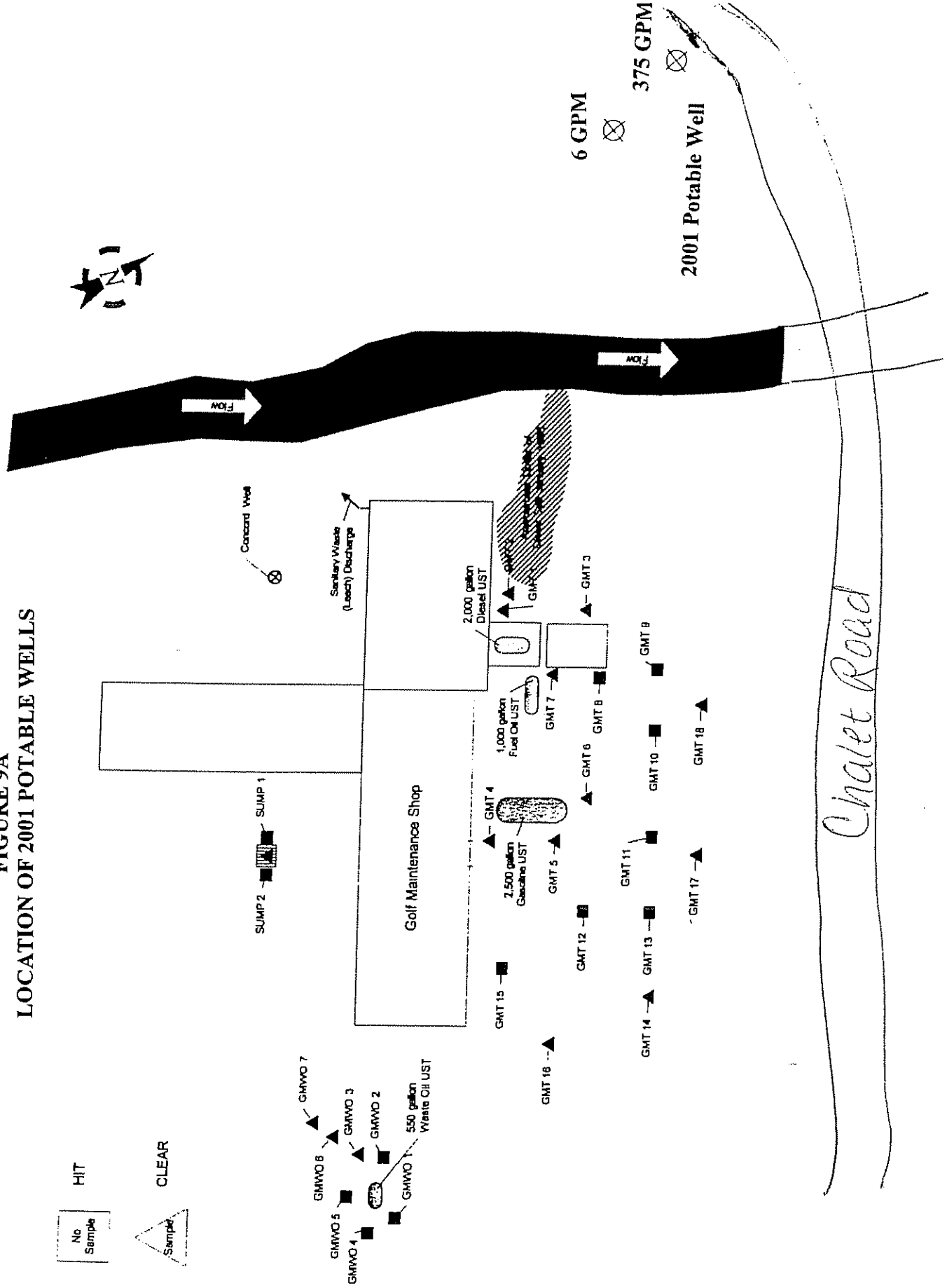
CONCORD PHASE II  
CHALET DUMP SITE

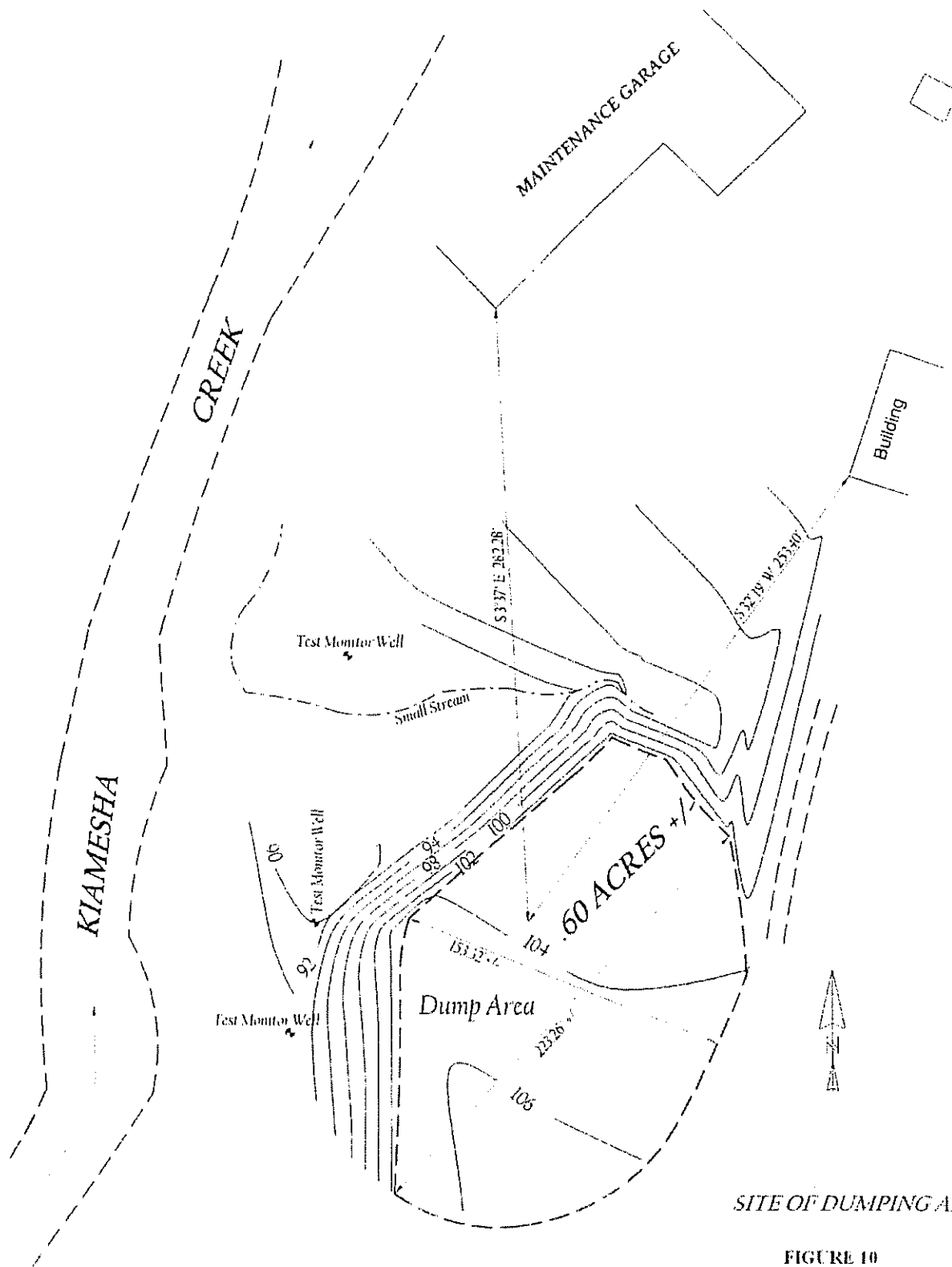
Area East of Ski Chalet within Former Mine Area

FIGURE 9  
PHASE II  
SUBSURFACE INVESTIGATION AT THE GOLF MAINTENANCE SHOP



**FIGURE 9A**  
**LOCATION OF 2001 POTABLE WELLS**





SITE OF DUMPING AREA

FIGURE 10

**GOLF MAINTENANCE DUMP**

SURVEYED BY

**ARTHUR C. VIELLE, L.S.**

448 North Main Street, Liberty, New York 12754

Phone/Fax: (845) 292-3322

Town Of Thompson, County Of Sullivan, State Of New York

Scale: 1" = 40.00'

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**Not To Scale**

MW-2 ● MW-3

Total Area ~1.1 acres

Area to be Covered ~0.5 acres

GMTP-9  
to 12'-@4'-p'

GMTP-13  
to 6' (rock) @ 0-6'-  
refuse, pipes,  
wood, cans, bricks  
(refuse odor)

GMTP-5  
to 2' (rock)-  
no waste

Heavy  
Surface  
Debris

GMTP-6  
to 3' (rock)-  
no waste

GMTP-4  
to 4' (rock)-  
no waste

GMTP-3  
to 6' (rock)-  
no waste

Drums

GMTP-2  
to 6'-no  
waste

Surface soil  
Sample SS-1

SHED

POTENTIAL  
EXTENT  
OF WASTE DEPOSITION  
TO BE REMOVED  
~1960 sf = 0.05  
acres  
vol. of waste @  
3' thick = 220 cu yd.

POTENTIAL  
LIMIT OF WASTE  
TO BE REMOVED  
960 sf = 0.02 acres  
vol. of waste @ 6' thick  
= 215 cu yd.

GMTP-8  
to 13'-@3'-13'  
bottles, wire,  
plaster, cedar block  
4'-5'-ash

Heavy  
Surface  
Debris

GMTP-12

GMTP-11  
to 10'-@1'-10'

burned garbage  
with glass, metal, wood,  
brush, concrete block,  
dishes & cups

GMTP-10  
to 12'-@0'-8'

burned garbage,  
glass, metal, wood,  
concrete block  
@ 8'-12' clean-fill  
with base grade  
vegetation

FIGURE 11A

PHASE II TEST PIT LOCATIONS

CONCORD PHASE II  
GOLF MAINTENANCE DUMP



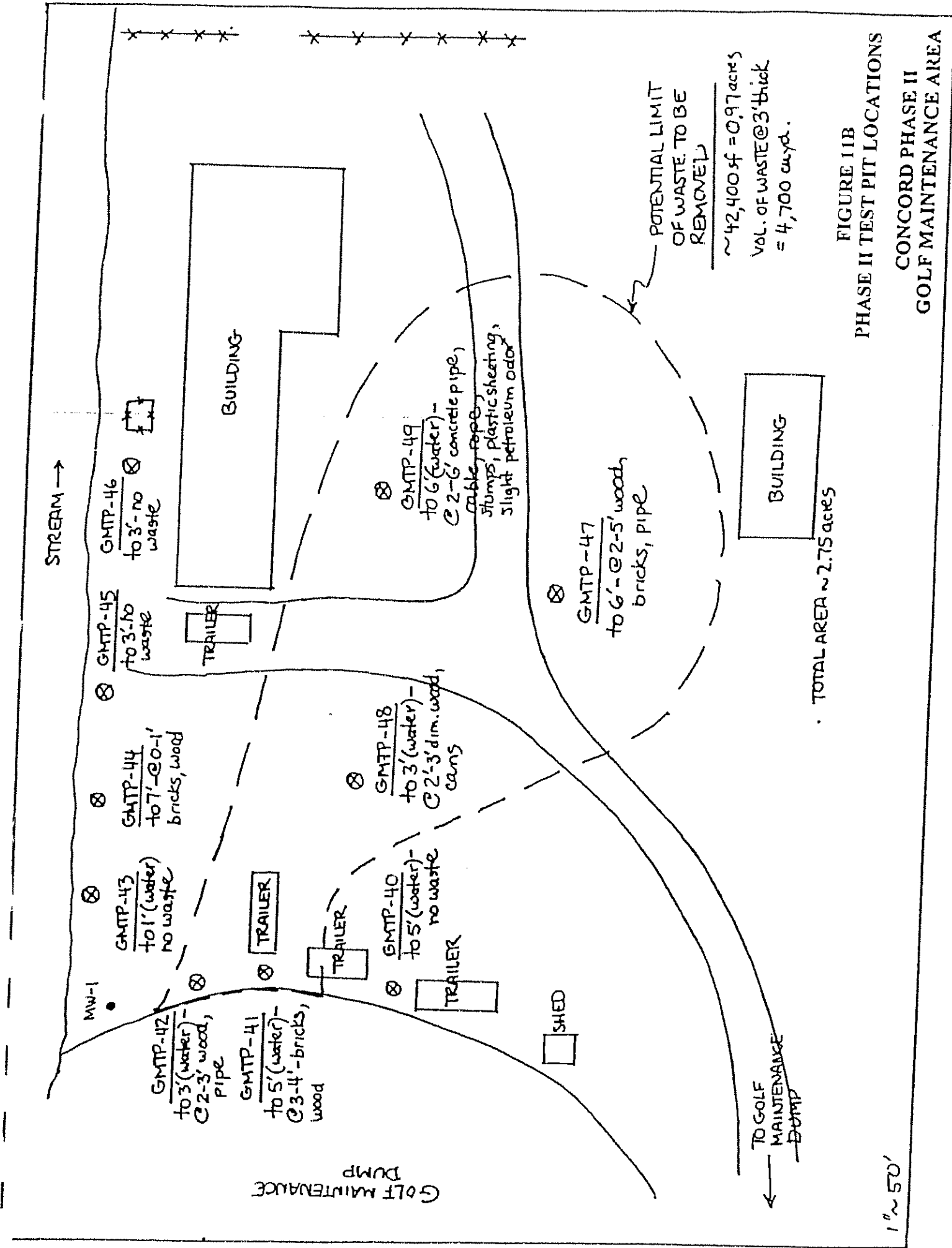


FIGURE 11B  
PHASE II TEST PIT LOCATIONS  
CONCORD PHASE II  
GOLF MAINTENANCE AREA

# LOCATION MAP

Property Line From Centerline Road

Test Pit

Test Monitor Pit

CREEK

Original Property Line

Lake Oil Tank

S 81° 38' W 325.11 Feet

3.53 ACRES +/-

THAMESIA

SITE OF DUMPING AREA

FIGURE 12

INTERNATIONAL  
GOLF COURSE DUMP

Town Of Thompson, County Of Sullivan, State Of New York

NOVEMBER 2000

Scale: 1" = 1000'

Not To Scale

SURVEYED BY

ARTHUR O. VIELE P.L.S.

48 North Main Street Liberty, New York 12751

Phone/Fax: (845)-292-3322

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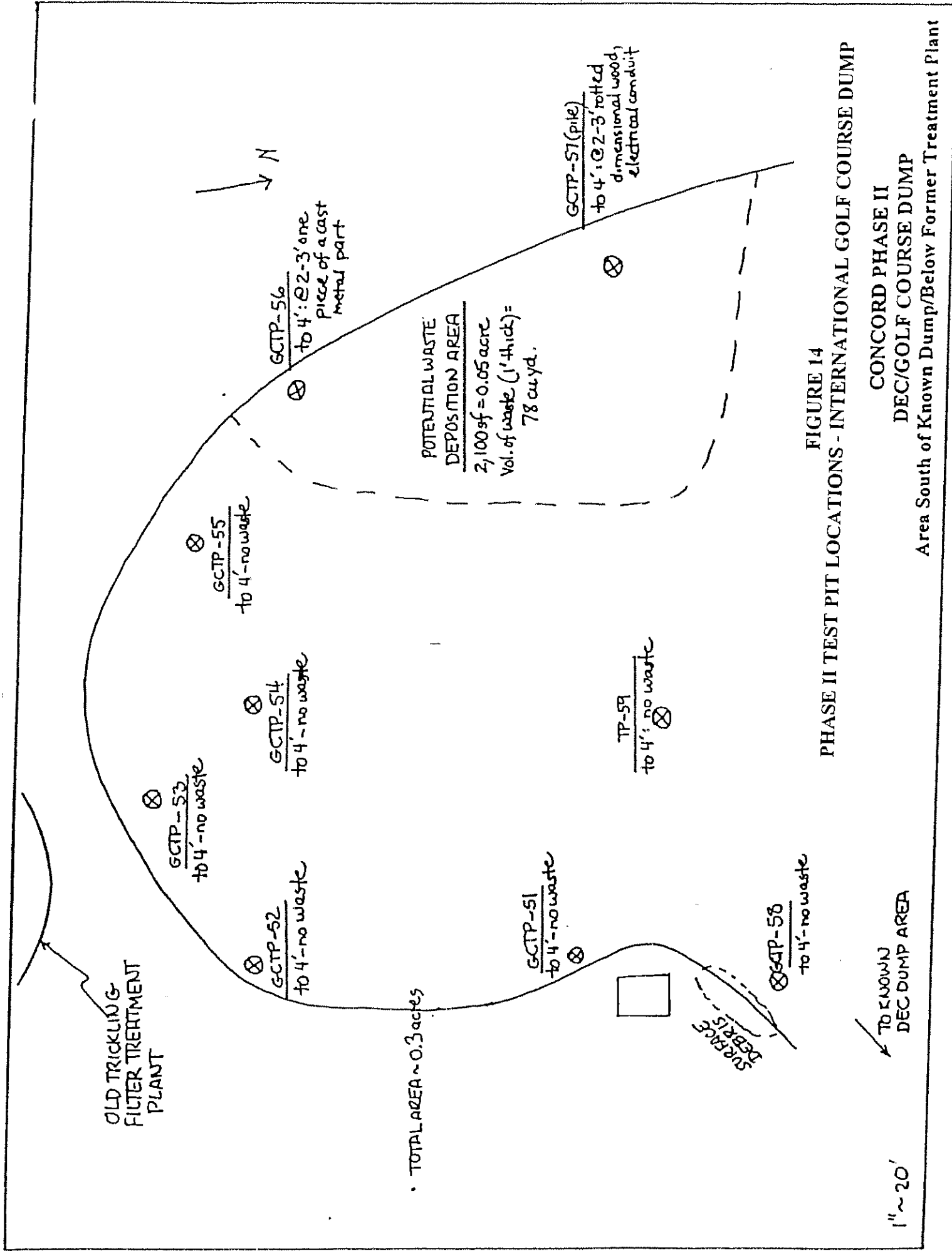
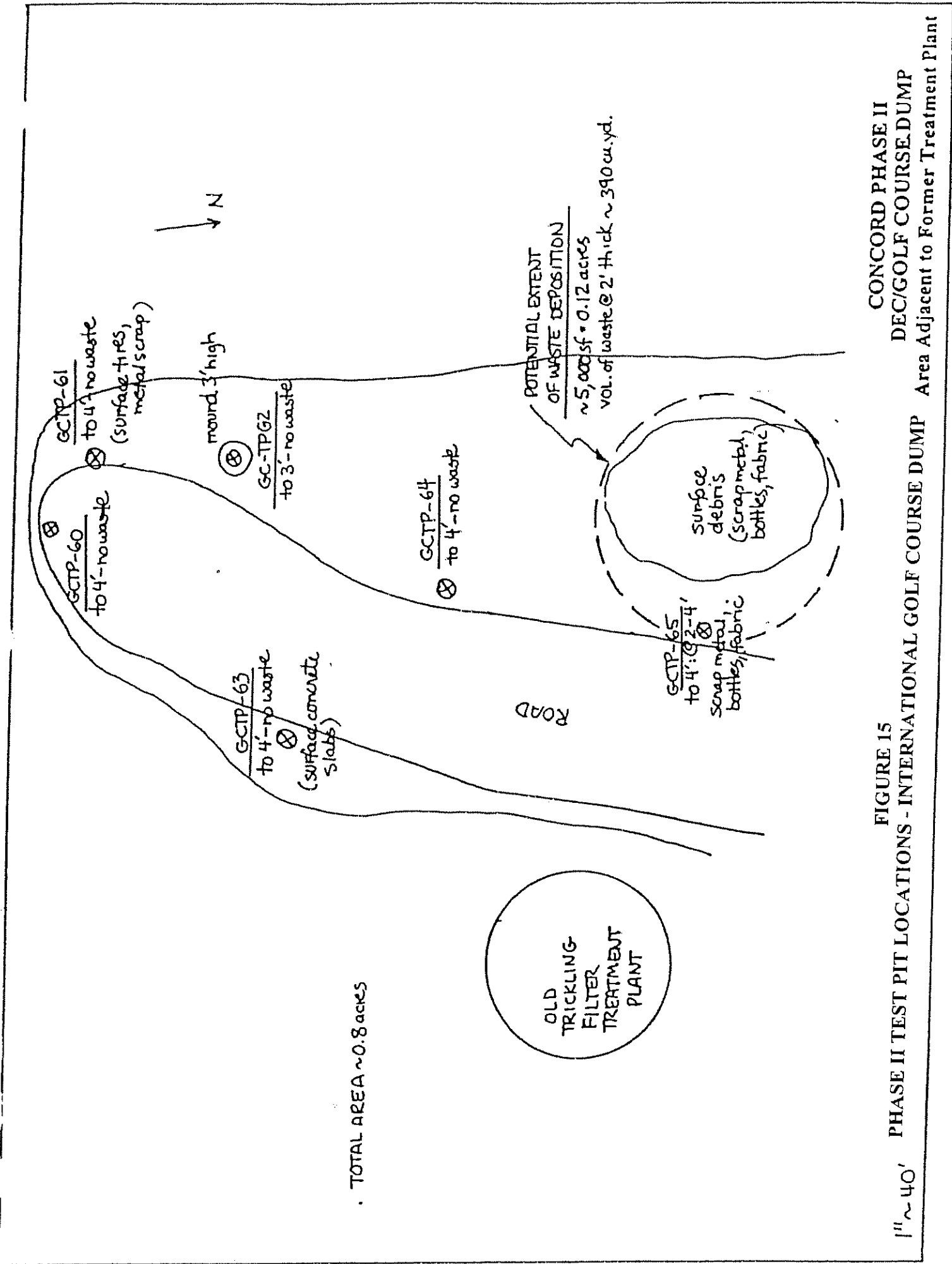


FIGURE 14

PHASE II TEST PIT LOCATIONS - INTERNATIONAL GOLF COURSE DUMP

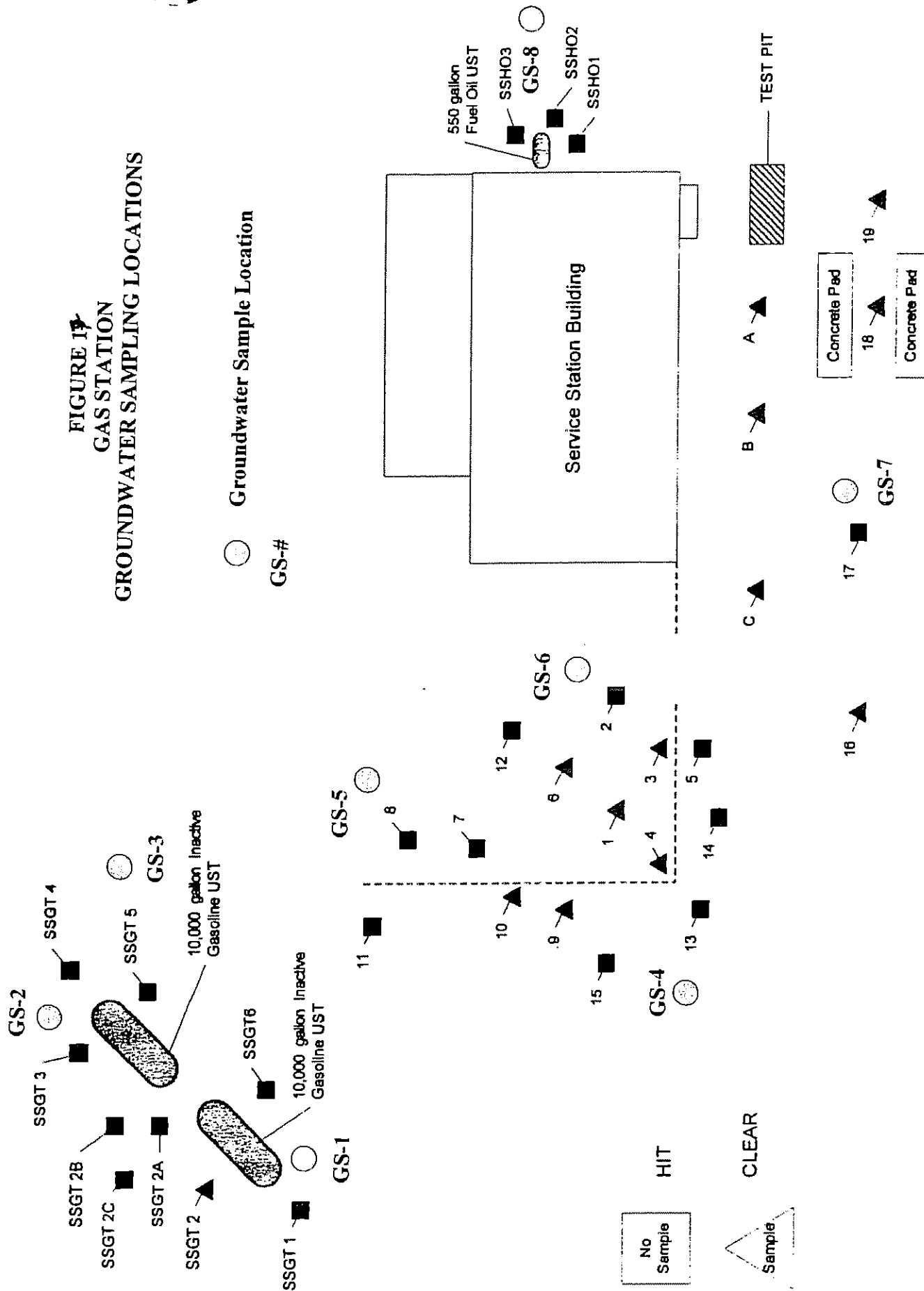
CONCORD PHASE II  
DEC/GOLF COURSE DUMP

Area South of Known Dump/Below Former Treatment Plant

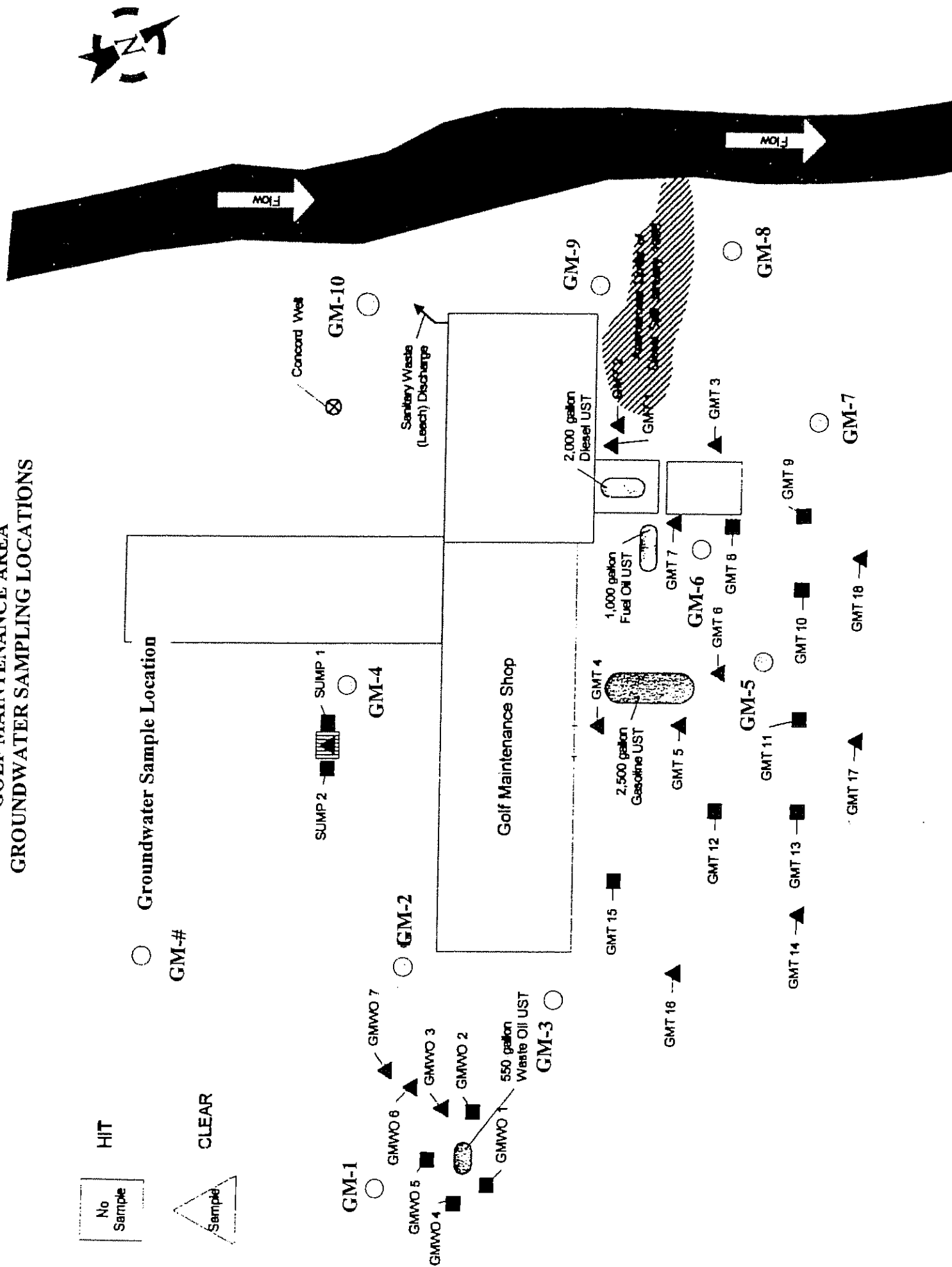


1" ~ 40' PHASE II TEST PIT LOCATIONS - INTERNATIONAL GOLF COURSE DUMP Area Adjacent to Former Treatment Plant  
 CONCORD PHASE II  
 DEC/GOLF COURSE DUMP

**FIGURE 13**  
**GAS STATION**  
**GROUNDWATER SAMPLING LOCATIONS**



**FIGURE 100**  
**GOLF MAINTENANCE AREA**  
**GROUNDWATER SAMPLING LOCATIONS**



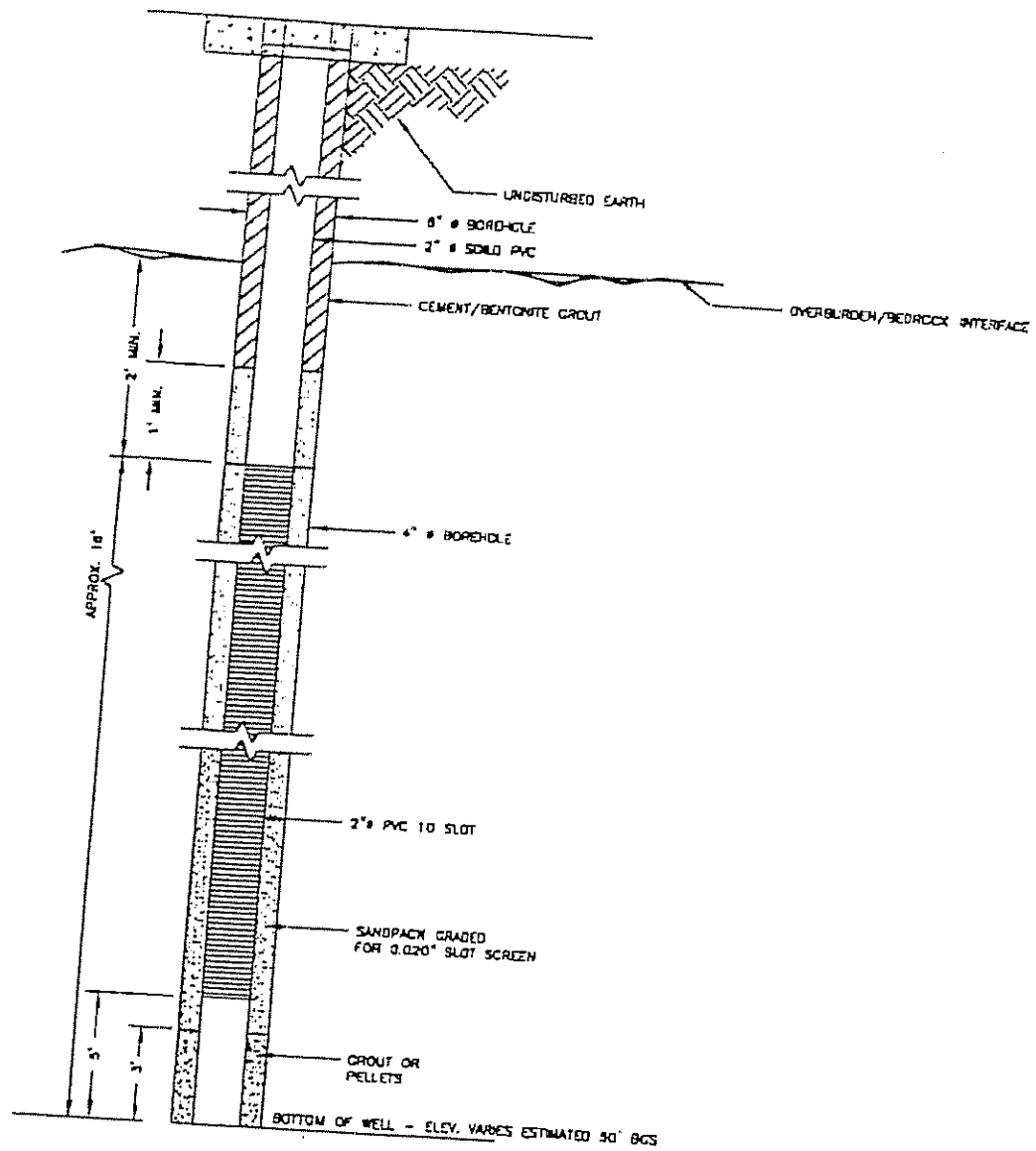
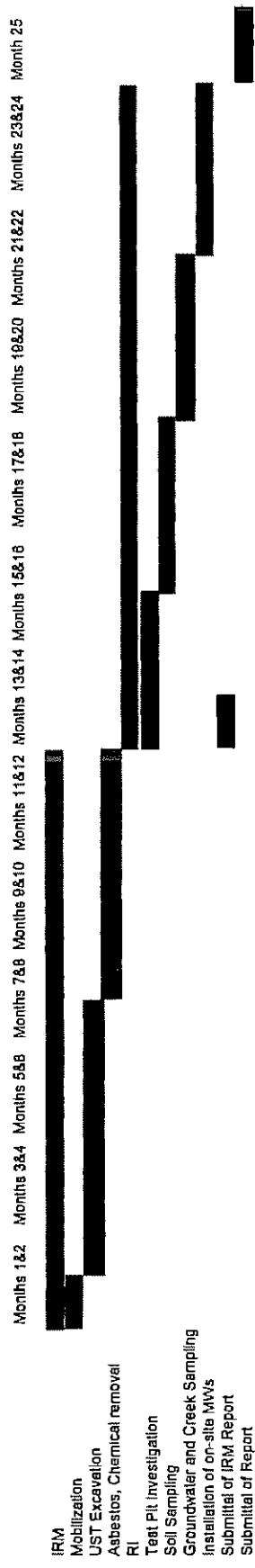


FIGURE 19  
 MONITORING WELL DETAIL



FIGURE 20  
CONCORD SITE  
SCHEDULE



**TABLE I**  
**STARS ANALYTICAL RESULTS**  
**Concord Service Station Subsurface Investigation**

**METHOD 8021**

Sample Identification Number																
	SSB 1	SSB 1 (W)	SSB 3	SSB 4	SSB 4 (W)	SSB 6	SSB 9	SSB 10	SSB 16	SSB 18/19	SSB A	SSB B	SSB C upper	SSB C lower	Test Pit	
Depth of Sample (feet)	6 - 12	12	8 - 12	8 - 12	12	10 - 14	4 - 12	8 - 12	1 - 4	1 - 3	1 - 3	3 - 8	1 - 4	4 - 8	4	
Parameter	Analytical Results (ug/kg)															
Benzene	35	24	2,600	230	1,000	15	ND<27	ND<6	ND<7	3,600	ND<5	2,000	37	ND<160	3,100	
Toluene	24	18	7,200	210	380	38	180	15	ND<7	16,000	ND<5	7,500	110	1,070	4,900	
Ethylbenzene	140	63	22,000	1,500	1,200	150	880	ND<6	ND<7	19,000	ND<5	9,200	130	960	24,000	
p-Xylene/m-Xylene	940	400	96,000	11,000	7,000	650	5,300	13	14	60,000	10	51,000	830	8,200	95,000	
o-Xylene	280	66	27,000	840	580	90	1,100	ND<6	ND<7	12,000	ND<5	16,000	260	2,500	34,000	
Isopropylbenzene	35	5	3,200	420	ND<50	40	310	ND<6	ND<7	4,200	ND<5	1,500	ND<26	ND<160	5,900	
n-Propylbenzene	72	8	8,500	640	63	87	670	ND<6	ND<7	7,600	ND<5	4,300	68	540	1,000	
1,3,5-Trimethylbenzene	380	63	22,000	4,500	570	540	1,900	ND<6	ND<7	20,000	ND<5	16,000	330	2,400	35,000	
tert-Butylbenzene	ND<7	ND<2	ND<1400	ND<150	ND<50	ND<12	ND<27	ND<6	ND<7	ND<14	ND<5	ND<280	ND<26	ND<160	ND<1400	
1,2,4-Trimethylbenzene	1,100	190	76,000	1,400	1,800	1,400	5,800	14	ND<7	60,000	ND<5	44,000	1,000	6,800	100,000	
sec-Butylbenzene	ND<7	ND<2	ND<1400	ND<150	ND<50	ND<12	98	ND<6	ND<7	ND<1400	ND<5	ND<280	ND<26	360	ND<1400	
4-Isopropyltoluene	ND<7	ND<2	ND<1400	ND<150	ND<50	33	110	ND<6	ND<7	2,400	ND<5	ND<280	ND<26	ND<160	3,200	
n-Butylbenzene	650	51	28,000	6,900	280	1,100	3,200	8	ND<7	25,000	ND<5	17,000	460	2,600	6,600	
Naphthalene	230	13	16,000	3,000	200	250	1,000	50	ND<7	9,900	ND<5	8,300	330	1,100	87,000	
Methyl-tert-butyl-ether (MTBE)	ND<1	ND<25	ND<14000	ND<1500	ND<500	ND<120	ND<270	ND<57	ND<71	ND<14000	ND<54	ND<2800	ND<260	ND<1600	ND<14000	

**LEGEND:**

- SSB = Borings taken at the Concord Service Station, at former gasoline tank and piping locations.
- W = Water samples, all other samples noted are soil samples.
- ND = Non detect, less than detection limit noted.

**TABLE 1**  
**STARS ANALYTICAL RESULTS**  
**Concord Service Station Subsurface Investigation**  
**(Continued)**  
**METHOD 8270**

Sample Identification Number															Test Pit
SSB 1	SSB 1(W)	SSB 3	SSB 4	SSB 4 (W)	SSB 6	SSB 9	SSB 10,	SSB 16	SSB 18/19	SSB A	SSB B	SSB C upper	SSB C lower		
6 - 12	12	8 - 12	8 - 12	12	10 - 14	4 - 12	8 - 12	1 - 4	1 - 3 1 - 4	1 - 3	3 - 8	1 - 4	4 - 8	4	
Analytical Results (ug/kg)															
Naphthalene	1	12	1.9	0.15J	390	0.16J	0.15J	ND<0.28	ND<0.25	8.5	ND<0.28	0.83	ND<0.27	0.67	0.22J
Acenaphthylene	ND<0.25	ND<5	ND<0.27	ND<0.28	ND<50	ND<0.26	ND<0.26	ND<0.28	ND<0.25	ND<0.29	ND<0.28	ND<0.26	ND<0.27	ND<0.27	ND<0.27
Acenaphthene	ND<0.25	ND<5	ND<0.27	ND<0.28	ND<50	ND<0.26	ND<0.26	ND<0.28	ND<0.25	0.06J	ND<0.28	ND<0.26	ND<0.27	ND<0.27	ND<0.27
Fluorene	ND<0.25	ND<5	ND<0.27	ND<0.28	ND<50	ND<0.26	ND<0.26	ND<0.28	ND<0.25	0.12J	ND<0.28	ND<0.26	ND<0.27	ND<0.27	ND<0.27
Phenanthrene	ND<0.25	ND<5	ND<0.27	ND<0.28	ND<50	ND<0.26	ND<0.26	ND<0.28	ND<0.25	0.21J	ND<0.28	ND<0.26	ND<0.27	ND<0.27	ND<0.27
Anthracene	ND<0.25	ND<5	ND<0.27	ND<0.28	ND<50	ND<0.26	ND<0.26	ND<0.28	ND<0.25	ND<0.29	ND<0.28	ND<0.26	ND<0.27	ND<0.27	ND<0.27
Fluoranthene	ND<0.25	ND<5	ND<0.27	ND<0.28	ND<50	ND<0.26	ND<0.26	ND<0.28	ND<0.25	0.12J	ND<0.28	ND<0.26	ND<0.27	ND<0.27	ND<0.27
Pyrene	ND<0.25	ND<5	ND<0.27	ND<0.28	ND<50	ND<0.26	ND<0.26	ND<0.28	ND<0.25	0.11J	ND<0.28	ND<0.26	ND<0.27	ND<0.27	ND<0.27
Benzo-(a)-anthracene	ND<0.25	ND<5	ND<0.27	ND<0.28	ND<50	ND<0.26	ND<0.26	ND<0.28	ND<0.25	ND<0.29	ND<0.28	ND<0.26	ND<0.27	ND<0.27	ND<0.27
Chrysene	ND<0.25	ND<5	ND<0.27	ND<0.28	ND<50	ND<0.26	ND<0.26	ND<0.28	ND<0.25	ND<0.29	ND<0.28	ND<0.26	ND<0.27	ND<0.27	ND<0.27
Benzo-(b)-Fluoranthene	ND<0.25	ND<5	ND<0.27	ND<0.28	ND<50	ND<0.26	ND<0.26	ND<0.28	ND<0.25	ND<0.29	ND<0.28	ND<0.26	ND<0.27	ND<0.27	ND<0.27
Benzo-(k)-fluoranthene	ND<0.25	ND<5	ND<0.27	ND<0.28	ND<50	ND<0.26	ND<0.26	ND<0.28	ND<0.25	ND<0.29	ND<0.28	ND<0.26	ND<0.27	ND<0.27	ND<0.27
Benzo-(a)-pyrene	ND<0.25	ND<5	ND<0.27	ND<0.28	ND<50	ND<0.26	ND<0.26	ND<0.28	ND<0.25	ND<0.29	ND<0.28	ND<0.26	ND<0.27	ND<0.27	ND<0.27
Indeno-(1,2,3-cd)-pyrene	ND<0.25	ND<5	ND<0.27	ND<0.28	ND<50	ND<0.26	ND<0.26	ND<0.28	ND<0.25	ND<0.29	ND<0.28	ND<0.26	ND<0.27	ND<0.27	ND<0.27
Dibenzo-(a,h)-anthracene	ND<0.25	ND<5	ND<0.27	ND<0.28	ND<50	ND<0.26	ND<0.26	ND<0.28	ND<0.25	ND<0.29	ND<0.28	ND<0.26	ND<0.27	ND<0.27	ND<0.27
Benzo-(g,h,i)-perylene	ND<0.25	ND<5	ND<0.27	ND<0.28	ND<50	ND<0.26	ND<0.26	ND<0.28	ND<0.25	ND<0.29	ND<0.28	ND<0.26	ND<0.27	ND<0.27	ND<0.27

**LEGEND:**

SSB = Borings taken at the Concord Service Station, at former gasoline tank and piping locations.

W = Water samples, all other samples noted are soil samples.

ND = Non detect, less than detection limit noted.

J =

Estimated Value, under the laboratory detection limit.

Taken From Phase II Environmental Site Assessment Report,  
Environmental Compliance Services, Inc., September 1998

## TABLE 2

## METHOD 8021

Sample Identification Number														
	GMT 1	GMT 3	GMT 4	GMT 5	GMT 6	GMT 7	GMT 14	GMT 16	GMT 17	GMT 18	GMWO 3 Upper	GMWO 3 Lower	GMWO 6	GMWO 7
Depth of Sample (feet)	1 - 4	1 - 3	4 - 8	6 - 8	4 - 6	6 - 9	4 - 8	4 - 8	4 - 7.5	3 - 6.5	1 - 4	6 - 10	6 - 10	6 - 10
Parameter	Analytical Results (ug/kg)													
Benzene	ND<14	ND<7	ND<7	120	1,200	25	ND<6	ND<7	ND<6	ND<6	900	68	94	ND<8
Toluene	180	ND<7	200	2,200	20,000	95	ND<6	ND<7	ND<6	ND<6	16,000	560	1,500	ND<8
Ethylbenzene	160	ND<7	58	885	6,500	30	ND<6	ND<7	ND<6	ND<6	5,300	95	380	ND<8
p-Xylene/m-Xylene	610	ND<7	222	3,800	25,000	98	ND<6	ND<7	ND<6	ND<6	21,000	380	1,600	11
o-Xylene	130	ND<7	96	1,400	9,800	43	ND<6	ND<7	ND<6	ND<6	8,100	140	610	9
Isopropylbenzene	160	ND<7	ND<7	170	880	12	ND<6	ND<7	ND<6	ND<6	800	14	47	ND<8
n-Propylbenzene	142	ND<7	17	510	2,000	63	ND<6	ND<7	ND<6	ND<6	2,400	41	130	ND<8
1,3,5-Trimethylbenzene	420	ND<7	38	1,000	4,300	33	ND<6	ND<7	ND<6	ND<6	5,200	94	260	8
tert-Butylbenzene	190	ND<7	33	ND<45	ND<140	ND<6	ND<6	ND<7	ND<6	ND<6	ND<140	ND<7	ND<9	ND<8
1,2,4-Trimethylbenzene	400	ND<7	110	3,600	16,000	77	ND<6	ND<7	ND<6	ND<6	18,000	290	900	29
sec-Butylbenzene	400	ND<7	ND<7	ND<45	ND<140	ND<6	ND<6	ND<7	ND<6	ND<6	ND<140	ND<5	27	ND<8
4-Isopropyltoluene	290	ND<7	ND<7	ND<45	320	ND<6	ND<6	ND<7	ND<6	ND<6	3,200	30	54	ND<8
n-Butylbenzene	1,600	ND<7	58	1,700	4,500	46	ND<6	ND<7	ND<6	ND<6	7,500	180	250	13
Naphthalene	1,300	ND<7	ND<7	750	2,800	48	ND<6	ND<7	ND<6	ND<6	7,200	120	170	15
Methyl-tert-butyl-ether (MTBE)	ND<14	ND<70	340	910	ND<1400	ND<62	ND<64	ND<71	ND<64	ND<64	ND<1400	390	390	ND<79

**LEGEND:**

GMT	=	Borings taken at the Golf Maintenance Tanks, at front of golf maintenance shop near gasoline, heating oil, and diesel tanks.
GMWO	=	Borings taken at the Golf Maintenance Waste Oil tank, located at the eastern side of the golf maintenance shop building.
ND	=	Non detect, less than detection limit noted.
J	=	Estimated Value, under the laboratory detection limit.

Taken From: Phase II Environmental Site Assessment Report

**Estimated value, under the laboratory detection limit.**

Taken From Phase II Environmental Site Assessment Report,  
Environmental Compliance Services, Inc., September 1998

TABLE 2  
STARS ANALYTICAL RESULTS  
Golf Maintenance Shop Subsurface Investigation  
(Continued)

METHOD 8270

Sample Identification Number														
	GMT 1	GM T 3	GMT 4	GMT 5	GMT 6	GMT 7	GMT 14	GMT 16	GMT 17.	GMT 18	GMWO 3 Upper	GMWO 3 Lower	GMWO 6	GMWO 7
Depth of Sample (feet)	1 - 4	1 - 3	4 - 8	6 - 8	4 - 6	6 - 9	4 - 8	4 - 8	4 - 7.5	3 - 6.5	1 - 4	6 - 10	6 - 10	6 - 10
Parameter	Analytical Results (ug/kg)													
Naphthalene	ND< 0.28	3.1	ND< 0.28	0.77	5.5	0.11J	ND< 0.27	ND< 0.27	ND< 0.26	ND< 0.26	0.94	ND< 6	0.08J	3.7
Acenaphthylene	ND< 0.28	ND< 0.26	ND< 0.28	ND< 0.25	ND< 0.28	ND< 0.28	ND< 0.27	ND< 0.27	ND< 0.26	ND< 0.26	ND< 0.28	ND< 6	ND< 0.29	ND< 0.29
Acenaphthene	ND< 0.28	0.44	ND< 0.28	ND< 0.25	ND< 0.28	ND< 0.28	ND< 0.27	ND< 0.27	ND< 0.26	ND< 0.26	ND< 0.26	ND< 6	ND< 0.29	0.77
Fluorene	2.4	1.1	ND< 0.28	ND< 0.25	0.06J	ND< 0.28	ND< 0.27	ND< 0.27	ND< 0.26	ND< 0.26	0.10J	ND< 6	ND< 0.29	1.4
Phenanthrene	3.4	2.6	ND< 0.28	ND< 0.25	0.08J	0.07J	ND< 0.27	ND< 0.27	ND< 0.26	ND< 0.26	0.37	ND< 6	ND< 0.29	3.0
Anthracene	0.71	0.15J	ND< 0.28	ND< 0.25	ND< 0.28	ND< 0.28	ND< 0.27	ND< 0.27	ND< 0.26	ND< 0.26	ND< 0.28	ND< 6	ND< 0.29	0.14
Fluoranthene	0.71J	0.05J	ND< 0.28	ND< 0.25	ND< 0.28	ND< 0.28	ND< 0.27	ND< 0.27	ND< 0.26	ND< 0.26	0.07J	ND< 6	ND< 0.29	0.09J
Pyrene	ND< 0.28	0.06J	ND< 0.28	ND< 0.25	ND< 0.28	ND< 0.28	ND< 0.27	ND< 0.27	ND< 0.26	ND< 0.26	0.18J	ND< 6	ND< 0.29	0.08J
Benzo-(a)-anthracene	ND< 0.28	ND< 0.26	ND< 0.28	ND< 0.25	ND< 0.28	ND< 0.28	ND< 0.27	ND< 0.27	ND< 0.26	ND< 0.26	ND< 0.28	ND< 6	ND< 0.29	ND< 0.29
Chrysene	0.07J	ND< 0.26	ND< 0.28	ND< 0.25	ND< 0.28	0.06J	ND< 0.27	ND< 0.27	ND< 0.26	ND< 0.26	0.06J	ND< 6	ND< 0.29	0.06J
Benzo-(b)-Fluoranthene	ND< 0.28	ND< 0.26	ND< 0.28	ND< 0.25	ND< 0.28	ND< 0.28	ND< 0.27	ND< 0.27	ND< 0.26	ND< 0.26	0.06J	ND< 6	ND< 0.29	ND< 0.29

TABLE 2  
STARS ANALYTICAL RESULTS  
Golf Maintenance Shop Subsurface Investigation  
(Continued)

METHOD 8270  
(continued)

Benzo-(k)-fluoranthene	ND< 0.28	ND< 0.26	ND< 0.28	ND< 0.25	ND< 0.28	ND< 0.28	ND< 0.27	ND< 0.27	ND< 0.27	ND< 0.26	ND< 0.28	ND< 6	ND<0.29	ND<0.29
Benzo-(a)-pyrene	ND< 0.28	ND< 0.26	ND< 0.28	ND< 0.25	ND< 0.28	ND< 0.28	ND< 0.27	ND< 0.27	ND< 0.27	ND< 0.26	ND< 0.28	ND< 6	ND<0.29	ND<0.29
Indeno-(1,2,3-cd)-pyrene	ND< 0.28	ND< 0.26	ND< 0.28	ND< 0.25	ND< 0.28	ND< 0.28	ND< 0.27	ND< 0.27	ND< 0.27	ND< 0.26	ND< 0.28	ND< 6	ND<0.29	ND<0.29
Dibenzo-(a,h)-anthracene	ND< 0.28	ND< 0.26	ND< 0.28	ND< 0.25	ND< 0.28	ND< 0.28	ND< 0.27	ND< 0.27	ND< 0.27	ND< 0.26	ND< 0.28	ND< 6	ND<0.29	ND<0.29
Benzo-(g,h,i)-perylene	ND< 0.28	ND< 0.26	ND< 0.28	ND< 0.25	ND< 0.28	ND< 0.28	ND< 0.27	ND< 0.27	ND< 0.27	ND< 0.26	ND< 0.28	ND< 6	ND<0.29	ND<0.29

LEGEND:

- GMT = Borings taken at the Golf Maintenance Tanks, at front of golf maintenance shop near gasoline, heating oil, and diesel tanks.
- GMWO = Borings taken at the Golf Maintenance Waste Oil tank, located at the eastern side of the golf maintenance shop building.
- ND = Non detect, less than detection limit noted.
- J = Estimated Value, under the laboratory detection limit.

TABLE 2

## 6NYCRR PART 360 ANALYTICAL RESULTS SUMMARY

## GOLF MAINTENANCE AREA

Golf Maintenance MicroWell	Golf Maintenance In-Stream
ND	0.9 ppb
ND	8 ppb
ND	3.0 ppm
10 ppm	1.18 ppm
105 ppm	82.0 ppm
0.273 ppm	0.215 ppm
50.9 ppm	17.3
ND	0.174 ppm
5.91 ppm	3.45 ppm
3.15 ppm	0.052 ppm
5.16 ppm	ND
0.008 ppm	ND
ND	ND
0.022 ppm	ND
ND	ND
0.017 ppm	ND
0.20 ppm	ND
0.006 ppm	ND
0.032 ppm	ND
1.30 ppm	ND
ND	ND
0.005 ppm	ND
0.0022 ppm	ND
ND	ND

## LEGEND

ppm = parts per million    ppb = parts per billion    ND = None Detected  
 Shaded areas indicate an exceedence of applicable New York State regulatory thresholds.

6NYCRR PART 360 ANALYTICAL RESULTS SUMMARY  
INTERNATIONAL GOLF COURSE DUMP

Parameter	NYSDEC Dump MW1	NYSDEC Dump MW2	NYSDEC Dump MW3	NYSDEC Dump Seep
Benzene	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
TOC	5.9 ppm	8.8 ppm	8.4 ppm	ND
Potassium	6.68 ppm	18.7 ppm	14.8 ppm	2.19 ppm
Sodium	28.4 ppm	18.8 ppm	2.39 ppm	22.1 ppm
Barium	0.294 ppm	1.69 ppm	1.77 ppm	0.162 ppm
Calcium	16.0 ppm	31.0 ppm	44.6 ppm	24.8 ppm
Iron	50.8 ppm	113 ppm	216 ppm	76.7 ppm
Magnesium	10.7 ppm	472 ppm	43.9 ppm	5.75 ppm
Manganese	1.06 ppm	1.85 ppm	16.3 ppm	1.95 ppm
Aluminum	26 ppm	163 ppm	119 ppm	0.18 ppm
Arsenic	0.016 ppm	0.062 ppm	0.13 ppm	0.005 ppm
Beryllium	0.002 ppm	0.013 ppm	0.014 ppm	ND
Chromium	0.037 ppm	0.164 ppm	0.165 ppm	ND
Cobalt	0.018 ppm	0.119 ppm	0.124 ppm	ND
Copper	0.046 ppm	0.313 ppm	0.366 ppm	ND
Lead	0.062 ppm	0.61 ppm	0.44 ppm	0.020 ppm
Vanadium	0.027 ppm	0.099 ppm	0.102 ppm	ND
Nickel	0.049 ppm	0.267 ppm	0.298 ppm	ND
Zinc	0.141 ppm	0.595 ppm	0.619 ppm	0.067 ppm
Boron	ND	0.061 ppm	0.061 ppm	ND
Cadmium	ND	0.022 ppm	0.022 ppm	0.013 ppm
Mercury	ND	0.0002 ppm	0.0002 ppm	ND
Selenium	ND	ND	0.003 ppm	ND

LEGEND

ppm = parts per million    ppb = parts per billion    ND = None Detected  
Shaded areas indicate an exceedance of applicable New York State regulatory thresholds.

Taken From Phase II Environmental Site Assessment Report,  
Environmental Compliance Services, Inc., September 1998





## **APPENDIX A**

### **Phase II Report**

**PHASE II  
ENVIRONMENTAL SITE ASSESSMENT REPORT**

**FOR THE**

**CONCORD RESORT HOTEL  
KIAMESHA LAKE, NEW YORK**

**VOLUME I**

**Prepared For:**

**RESORTCO, LLC  
(FORMERLY VALUE RESORT & SPA, INC.)  
300 EAST 42ND STREET  
NEW YORK, NEW YORK 10017**

**Prepared By:**

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**SEPTEMBER 1998**

**PHASE II ENVIRONMENTAL SITE ASSESSMENT  
CONCORD RESORT HOTEL  
KIAMESHA LAKE, NEW YORK**

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## 1.0 INTRODUCTION

This report has been prepared for Resortco of New York (affiliated with Value Spa & Resort, Inc.) a Manhattan development firm, which is interested in purchasing properties owned and operated by Kiamesha Concord, Inc., Frepar, Nalou Realty and Concord Development Corporation. A total of 67 parcels have been evaluated under a Phase I Environmental Site Assessment process which began during September 1996. These properties are mostly located within the Town of Thompson, 3 are located within the Town of Fallsburg and 2 in the Village of Monticello. Of the 67 parcels, 18 were recommended for further investigation under a Phase II Environmental Site Assessment to determine the level of environmental risk and liability suspected by way of conclusions drawn under the Phase I Assessment process. Figure 1-1 presents a perimeter site location map that includes land areas which comprise most of the 67 parcels evaluated under the Phase I work effort, as well as those targeted for investigation under the Phase II Assessment process. Table 1-1 lists the 67 parcels, by location, with an indication of which were evaluated under the Phase II investigation work effort.

Portions of four parcels investigated under the Phase II work effort are owned by Sullivan County, via past foreclosure proceedings. The County owns 16 parcels listed in Table 1-1. County owned parcels are indicated with an asterisk. As shown in the Table, five County owned parcels were determined to be suspect and were investigated under the Phase II investigation. Four of these parcels were confirmed to be contaminated as a result of past waste dumping activities.

The remaining parcels outside those investigated under the Phase II Assessment process were not investigated further because they did not exhibit potential indications of environmental contamination under the Phase I assessment process. However, important compliance issues related to the operation/registration of aboveground storage tank systems, operation and permitting of septic systems, facility emissions, questionable discharges to groundwaters and surface waters of the State and disposal of stored pesticides were cited on some of the remaining parcels. These matters are further discussed in Section 11.0, Regulatory Compliance Issues.

During August 1996, Environmental Compliance Services, Inc. (ECSI) was retained by representatives of Kiamesha Concord, Inc. (Kiamesha) to conduct a Phase I Environmental Site Assessment of the property holdings listed under the ownership of the Kiamesha Concord, Inc., Frepar Laboratories, Nalou Realty Corp. and the Concord Development Corporation. The approximate area of property holdings totaled 1,700 acres. The project commenced in September 1996 under the oversight of George and Robert Parker, representatives of the Concord Resort Hotel, who provided ECSI with a listing of parcels to target for the Phase I assessment process.

Kiamesha retained ECSI's services to evaluate whether or not environmental risks or liabilities existed for the 1,700 acres of parcel listings designated by the Parker family, and to report on immediate regulatory compliance problems associated with daily facility operations. The project continued through the beginning of April 1997, however, assessment activities were temporarily suspended by George Parker during the later part of April 1997 through August 1997. ECSI was requested to reinitiate activities in September 1997. By this time ECSI had



**TABLE 1-1**  
**PHASE I / PHASE II EVALUATED PROPERTIES**  
**CONCORD RESORT HOTEL**

Section, Block, Lot *	Acreage	Street Location	Current Owner
9-1-12 3	0.68	Gibber Road / Barnes Boulevard	James Parker
9-1-13	1	Barnes Boulevard	Robert Parker
9-1-18 1	20.83	Highway 42	Estate of Raymond Parker
9-1-26	1.3	County Highway 109	Frepar Laboratories, Inc.
9-1-27	28.8	County Highway 109	Kiamesha Concord, Inc.
9-1-28	0.26	County Highway 109	Kiamesha Concord, Inc.
9-1-29	1.8	County Highway 109	Kiamesha Concord, Inc.
9-1-31	0.21	County Highway 109	Kiamesha Concord, Inc.
9-1-34 1	93.66	Concord Road	Kiamesha Concord, Inc.
9-1-34 2	3.12	Concord Road	Estate of Raymond Parker
9-1-35	11.3	Concord Road	Estate of Raymond Parker
9-1-36	2.5	Back Kiamesha Road	Sullivan County
9-1-37	7.2	Back Kiamesha Road	Sullivan County
9-1-76	0.2	Concord Road	Nalou Realty Corp.
9-1-77	0.86	Route 42 / Concord Road	Sullivan County
10-15-9	2	County Highway 109	Kiamesha Concord, Inc.
10-15-10	0.34	County Highway 109	Concord Development Corp.
10-15-11	2.8	County Highway 109 / Pine Drive	Kiamesha Concord, Inc.
10-16-5	2.5	County Highway 109	Kiamesha Concord, Inc.
13-3-10.1	64.37	Old Highway 42	Sullivan County
13-3-12	0.98	Back Kiamesha Road	Sullivan County
13-3-17	0.46	Back Kiamesha Road	Kiamesha Concord, Inc.
13-3-18	23.9	Rock Ridge Drive	Estate of Raymond Parker
13-3-19 1	33.43	Concord Road	Sullivan County
13-3-19 3	0.95	Concord Road	Estate of Raymond Parker
13-3-20	66	Back Kiamesha Road	Concord Development Corp.
13-3-22	22	Rock Ridge Drive	Sullivan County
13-3-25	65.87	Back Kiamesha Road	Sullivan County
13-3-26	7.8	Thompsonville Road	Sullivan County

**TABLE 1-1**  
**PHASE I / PHASE II EVALUATED PROPERTIES**  
**CONCORD RESORT HOTEL**

(CONTINUED)

Section, Block, Lot *	Acreage	Street Location	Current Owner
15-1-1.1	2.39	County Highway 109	Frepar Laboratories, Inc.
15-1-2	0.34	County Highway 109	Frepar Laboratories, Inc.
15-1-3	0.57	County Highway 109	Frepar Laboratories, Inc.
15-1-10	0.24	County Highway 109	Sullivan County
15-1-11	108.45	County Highway 109	Sullivan County
15-1-13	116.48	Back Kiamesha Road	Nalou Realty Corp.
15-1-14	197.37	Chalet Road	Kiamesha Concord, Inc.
15-1-15	38.5	Thompsonville Road	Estate of Raymond Parker
15-1-16	38	Back Kiamesha Road	Nalou Realty Corp.
15-1-17	5.5	Thompsonville Road	Nalou Realty Corp.
15-1-18	4.5	Thompsonville Road	Sullivan County
15-1-19	15	Chalet Road	Nalou Realty Corp.
15-1-22	25.32	Thompsonville Road	Concord Development Corp.
15-1-24	1.5	Thompsonville Road	Frepar Laboratories, Inc.
15-1-25	49.9	Thompsonville Road	Frepar Laboratories, Inc.
15-1-35.7	132.84	Thompsonville Road	Concord Development Corp.
15-1-49	0.17	County Highway 109	Concord Development Corp.
15-1-50	17.72	Chalet Road	Estate of Raymond Parker
15-1-51	27.08	Town Road 45	Kiamesha Concord, Inc.
16-1-30	74	Thompsonville Road	Concord Development Corp.
23-1-11.3	12.2	Thompsonville Road	Sullivan County
23-1-48	46.6	Thompsonville Road	Nalou Realty Corp.
23-1-52	116.5	Thompsonville Road	Estate of Raymond Parker
23-1-53	8	Thompsonville Road	Sullivan County
23-1-54.1	31.73	Joyland Road	Frepar Laboratories, Inc.
23-1-54.2	57.5	Joyland Road	Kiamesha Concord, Inc.
23-1-54.3	7.6	Joyland Road	Kiamesha Concord, Inc.
23-1-55	40.5	Joyland Road	Concord Development Corp.

**TABLE 1-1  
PHASE I / PHASE II EVALUATED PROPERTIES  
CONCORD RESORT HOTEL**

(CONTINUED)

Section, Block, Lot *	Acreage	Street Location	Current Owner
23-1-61.2	10.05	Joyland Road	Concord Development Corp.
23-2-1	21	Joyland Road	Frepar Laboratories, Inc.
23-2-2	0.75	Joyland Road	Frepar Laboratories, Inc.
23-2-3	0.75	Joyland Road	Frepar Laboratories, Inc.
23-2-4	3.25	Joyland Road	Frepar Laboratories, Inc.
23-2-6	1	Joyland Road	Frepar Laboratories, Inc.
60-1-75 (Town of Fallsburg)	50	East End Kiamesha Lake Road	Sullivan County
60-1-76 (Town of Fallsburg)	0.34	County Highway 109	Nalou Realty Corp.
60-1-77 (Town of Fallsburg)	0.34	County Highway 109	Nalou Realty Corp.
108-4-3 (Village of Monticello)	0.25	Monticello By-Pass	Sullivan County
118-12-6 (Village of Monticello)	0.5	Lloyd Lane / Patricia Place	James Parker

**\*Note:** All parcels located within the Town of Thompson unless otherwise noted.  
Shading depicts parcels evaluated under Phase II investigation work effort.

conducted visual inspections, as well as property and spill/release record searches for most of the properties listed for the Phase I assessment. This assessment process eventually concluded that environmental risks and liabilities existed at areas within the boundary limits of 18 parcels targeted for Phase II assessment (Table 1-1). These conclusions were determined throughout 1997 before the project was temporarily suspended during April 1997. All remaining additional parcels were evaluated between September and December 1997.

Phase I assessment activities were performed in accordance with ASTM standards for Environmental Assessments for Commercial Properties (E-1527-94/E-1527-97). In general, the scope of services performed by ECSI, on behalf of Kiamesha, included the following:

- ◆ Interviews with applicable agency and property owners/operators as well as the completion of an Environmental Questionnaire to facilitate evaluation of past and present site conditions
- ◆ Performance of site walkover surveys to visually evaluate the physical conditions of the subject parcels.
- ◆ Review of agency records on any spills/releases at or in the vicinity of the site.
- ◆ Review of Tax Assessor records to verify property ownership and any other available property record information.
- ◆ Evaluation of the level of regulatory compliance the site may be subject to.
- ◆ Review of available environmental reports completed for the site and related correspondence.

In addition to ongoing property inspections, ECSI staff responded to an observed surface release of diesel fuel (approximately 100 gallons) at the Golf Maintenance Shop, during January 1998. Diesel oil was discharged adjacent to the Golf Maintenance Shop while a Hotel staff person was fueling a compressor unit located approximately 35 feet, upslope of the Kiamesha Creek. Cleanup activities were coordinated with the New York State Department of Environmental Conservation (NYSDEC). These activities coincided with discussions about an additional release of #4 fuel oil reported by the Town of Thompson Water and Sewer Department; during December 1997, fuel oil was observed at its wastewater treatment plant and traced to the boiler room of the Concord Hotel. Based on visual inspection and conversations with Hotel maintenance staff, it appeared that during December, the release was caused by a boiler feed fuel pump valve malfunction which in turn caused oil to accumulate upon the concrete floor within the main boiler room of the Hotel. Once on the floor, the oil made its way to the wastewater treatment plant via a floor drain leading to the wastewater pipe collection system situated below Concord Road. Subsequently, the spill was cleaned up by on-site personnel to NYSDEC satisfaction. The Town's treatment plant was not impacted by the release.

During March 1997, Kiamesha requested that a preliminary (draft) Phase I Environmental Assessment report be completed, to provide to a prospective buyer of the hotel. ECSI provided a draft preliminary (letter) report to George Parker on March 12, 1997, which identified waste dump sites, and compliance issues related to existing active and inactive above and underground petroleum storage tanks systems. Recommendations for cleanup were noted in a Work Plan which was developed by ECSI for the Parkers in consideration of Kiamesha's plans to address compliance needs determined under the assessment process completed through December 1996.

In January 1998, the preliminary report completed for George Parker was addressed to Joseph Murphy, President of Value Resort & Spa, Inc. (Value), a prospective buyer who contacted Kiamesha some time during 1997. During December 1997 through January 1998, Kiamesha requested ECSI to continue Phase I assessment activities with plans to complete a Phase I Environmental Site Assessment report some time during February/March 1998. Prior to February, representatives of Value retained ECSI to conduct an expedited Phase II assessment to characterize and quantify environmental contamination determined at parcels visually evaluated to date. Phase II activities were completed during the week of February 2, 1998, on February 20 and 21, and again on September 16, 1998.

Subsequent to February 1998 Phase II field activities, work efforts were diverted from completing a Phase I report in anticipation of quickly completing Phase II field investigations and reporting findings, an arrangement mutually reached between Kiamesha and Value Investors, Inc. Appendix A contains copies of the preliminary assessment reports completed by ECSI, on behalf of Kiamesha, and addressed to George Parker and Mr. Murphy, Value Resort & Spa, Inc.

Prior to completing Phase II field investigations, the original listing of properties provided by Kiamesha was expanded by Value to include additional parcels. ECSI completed the bulk of Phase II investigations during February 1998, in conjunction with conducting visual inspections of properties contained on the expanded listing. As a result, some of the additional properties were included under a supplemental investigation work effort completed on February 20 and 21, 1998. Work efforts included conducting a GeoProbe boring program at three residential properties, sampling and analysis of a water supply well located in close proximity to confirmed underground tank system releases at the Golf Maintenance Shop and additional test pit investigations at a property site suspected of past disposal practices, the Thompsonville Road site.

### 1.1 Phase II Investigation Summary

Phase II Investigation activities primarily encompassed the evaluation of numerous dump sites by way of a test pit investigation program, and a boring (GeoProbe) program at suspect areas surrounding underground storage tanks. ECSI also sampled and analyzed an on-site drinking water supply well, the Concord Well, located in close proximity to confirmed UST releases at the Golf Maintenance Shop and to golf course grounds where chemicals are applied to control pests and undesirable forms of vegetation. The water supply well is leased by the Kiamesha Artesian Spring Water Co., Inc. which primarily supplements its potable water supplies to the Concord Resort Hotel. The well is also believed to feed a main supply tank (a 1.2 million gallon supply source) located near the intersection of Route 109 and Concord Road. This source

supplies other portions of the Concord Hotel facilities as well as nearby residents and businesses which connect to the Kiamesha Artesian Spring Water Company system.

Site inspections conducted under Phase I activities also revealed that pesticide and some herbicide chemicals are stored in a small shed at the Golf Maintenance Shop facility. The chemicals are utilized by Golf Maintenance staff to maintain the Concord Resort Hotel grounds and golf courses under the supervision of a NYS Certified pesticide applicator. On September 29, 1997, an inspection conducted by a NYSDEC representative resulted in the issuance of a Quarantine Order to require that the use of pesticides noted on the order be halted. In addition, the Order calls for the proper removal and disposal, in the presence of a NYSDEC representative, of all stored chemicals. It is important to note that the listed chemicals have accumulated over a five to seven year period and that the bulk of chemical supplies used at the site have been completely utilized as part of lawn care applications over time. ECSI contacted two reputable disposal firms to obtain a quotation to remove, manifest and dispose of the materials. Information on the cost for handling and disposal of the chemicals is contained in Section 10.0, Remediation Cost Estimates. Further details on the types of chemicals stored are contained in Section 3.7, Pesticide Storage.

A total of nine dump sites were evaluated under Phase II investigation activities; including the Concord Service Station parking area dump, the Concord Main Parking lot dump, the Golf Maintenance Shop dump, the existing Golf Course (NYSDEC) dump, the Chalet dump, the Casino dump, the Horse Farm dump (all during the week of February 2, 1998), the Thompsonville Road site (February 20, 1998), and the Cemetery dump (September 16, 1998). Dump sites were investigated under a test pit program, to determine the extent and character of wastes disposed in each suspect location. Table 1-2 presents a listing of the dumps, a summary of wastes encountered by parcel designations, as well as proposed actions to be considered for site cleanup/closure and monitoring. These actions were used for generating the remediation costs presented in Section 10.0, Remediation Costs Estimates.

Prior to conducting the GeoProbe boring programs, tank integrity testing was conducted to determine whether USTs had released petroleum into the subsurface. These activities were conducted during February 1998 and September 1998, under the direct supervision of ECSI personnel. The boring program consisted of placing GeoProbe borings (to refusal) in close proximity to underground storage tanks confirmed to be un-tight by integrity testing activities performed during February 1998, or tanks which required investigation to confirm suspected releases. Numerous borings were placed at the Concord surrounding a former Concord Service Station building which fronts along Concord Road and at an adjoining area, believed to previously contain underground storage tanks. In addition, parcels which contained USTs which could not be integrity tested (i.e., due to inaccessibility) or were identified after tank integrity testing activities, were included under the boring program. Table 1-3 presents a listing of the USTs investigated under the boring program and encountered conditions.

**TABLE 1-2**  
**DUMP SITE CHARACTERISTICS**  
**CONCORD RESORT HOTEL**

WASTE DISPOSAL SITE	WASTE AGE	APPROXIMATE VOLUME OF WASTE	GENERAL CHARACTERISTICS	APPROXIMATE SIZE OF AFFECTED AREA	TEST PIT ANALYTICAL RESULTS	PROPOSED ACTIONS
NYSDEC Golf Course Dump Site	1970's to Early 1980's	9,865 cu. yds.	Assorted wood, scrap metal, ash, piping, bricks and electrical conduit.	1.02	Non-hazardous	Total removal of waste and backfill with clean soils, including placement of top soil and vegetation. Perform confirmatory sampling and analysis as part of cleanup activities. Conduct quarterly water quality analysis.
Main Parking Lot Dump Site	1980's to Early 1990's	3,000 cu. yds.	White goods, drapes, unrecognizable cloth, glass bottles, carpeting, assorted wood, bricks, scrap metal and tires.	0.53	Non-hazardous	Cover with barrier soil and gravel; maintain and monitor cover; conduct quarterly water quality analysis.
Golf Maintenance Dump Site and Vehicle Storage Area	Late 1960's to Early 1990's	8,570 cu. yds.	Assorted wood, scrap metal, ash, tree sections, dishes, pans, bricks, concrete block, glass bottles and piping.	2.07	Non-hazardous	Cover portion of site with barrier soil and gravel and remove waste from other portion of site; maintain/monitor cover; conduct water quality analysis.
Chalet Dump Site	Early to Mid 1990's	1,710 cu. yds.	Assorted wood, cardboard boxes, carpeting, yard waste, white goods, tires, piping and electrical conduit.	0.15	Non-hazardous	Total removal of waste and backfill with clean soils, including placement of top soil and vegetation. Perform confirmatory sampling and analysis as part of cleanup activities.
Casino Dump Site	Late 1970's to Late 1980's	1,220 cu. yds.	Assorted wood and plastics, white goods, piping, electrical conduit, mattresses, carpeting and umbrellas.	0.27	Non-hazardous	Removal of waste within the pool and along edges of parking area waste site. Cover remaining waste with barrier soil, topsoil and vegetation; maintain and monitor cover.
Horse Farm Dump Site	1970's to Early 1980's	1,400 cu. yds.	Plastic bottles, dishes, white goods (at surface), yard waste and tires.	0.38	Non-hazardous	Total removal of waste and backfill with clean soils, including placement of top soil. Perform confirmatory sampling and analysis as part of cleanup activities.
Concord Service Station Dump Site	1970's to Early 1980's	800 cu. yds.	Assorted wood, metal piping, bed springs, tires, electrical conduit, bricks, scrap metal and concrete slab sections.	0.17	Non-hazardous	Total removal of waste and backfill with clean soils, including placement of top soil. Perform confirmatory sampling and analysis as part of cleanup activities.
Cemetery Dump Site	1960's to Mid 1970's	122 cu. yds.	Assorted wood debris, white goods, porcelain fixtures, carpeting, bed springs, shingles, metal piping, electrical conduit, vehicle bumper and lawn care equipment parts.	0.08	Non-hazardous	Total removal of surface wastes, grading, and revegetation. Perform confirmatory sampling and analysis as part of cleanup activities.
Breezy Corners Bungalows	Undetermined Period of Dumping	148 cu. yds. 15,000 gal. water	Scattered waste comprised of appliance parts and C&D waste materials consisting primarily of wood and shingles.	0.08	Presumably Non-hazardous	Total removal of surface wastes, grading, and revegetation. Removal and disposal of water and garbage from within pool. Backfill pool with clean soils, grade, and revegetate. Perform confirmatory sampling and analysis as part of cleanup activities.

**TABLE 1-3**  
**ON-SITE UST SYSTEMS**  
**CONCORD RESORT HOTEL**

PROPERTY	OWNER	DESCRIPTION OF PETROLEUM PRODUCT TANKS
Concord Main Hotel Complex (9-1-34.1)	Kiamesha Concord, Inc.	2 - Active 15,000 gallon #4 fuel oil underground storage tanks 1 - Inactive 1,500 gallon fuel oil/kitchen grease underground storage tank 1 - Active 12,000 gallon #4 fuel oil underground storage tank
Raymond's Restaurant / Clubhouse (15-1-13)	Nalou Realty Corp.	
Concord Service Station (9-1-35)	Estate of Raymond Parker	1 - Inactive 550 gallon #2 fuel oil underground storage tank 2 - Inactive 10,000 gallon gasoline underground storage tank
Golf Maintenance (15-1-50)	Estate of Raymond Parker	1 - Inactive 2,500 gallon gasoline underground storage tank 1 - Inactive 2,000 gallon diesel underground storage tank 1 - Inactive 1,000 gallon #2 fuel oil underground storage tank 1 - Inactive 550 gallon waste oil underground storage tank
Carlton Hotel (9-1-34.1)	Kiamesha Concord, Inc.	1 - Inactive underground storage tank of unknown capacity, presumed to have stored heating oil.
Pussycat Lounge (15-1-1.1)	Frepar Laboratories	1 - Inactive underground storage tank of unknown capacity, presumed to have stored heating oil.
Robert Parker Residence (9-1-34.2)	Estate of Raymond Parker	1 - Active 1,000 gallon #2 fuel oil underground storage tank
Naomi Freidman Residence (9-1-34.2)	Estate of Raymond Parker	1 - Active 1,000 gallon #2 fuel oil underground storage tank
James Parker Residence (15-1-18)	Sullivan County	1 - Active 500 gallon #2 fuel oil underground storage tank
Lori Parker Residence (16-1-30)	Concord Development Corp.	1 - Active 1,000 gallon #2 fuel oil underground storage tank
Mountain View Residence (15-1-22)	Concord Development Corp.	1 - Active 500 gallon #2 fuel oil underground storage tank



## 1.2 Limiting Conditions and Methodology Used

ECSI personnel have conducted research (i.e., record searches) in accordance with ASTM Standard Practice E-1527-9 & E-1527-97 as well as recognized professional business practices. Information was not always reasonably available, however, exhaustive attempts were made to obtain information related to recorded potential environmental risks and liabilities from state and local agencies, including the NYSDEC, the Town of Thompson Building and Zoning office, New York State Electric and Gas and the US Environmental Protection Agency (USEPA). The time frame for completing the Phase I work effort was a function of interest for purchasing the Hotel and surrounding properties, as indicated by the existing owners of these properties.

Further, facility personnel interviewed by ECSI (as designated by George and Robert Parker) were found to provide the best information under the Phase I work effort as very little was maintained on file with agencies contacted by ECSI. In addition, no property survey drawings or complete utility system information for Hotel facilities (i.e., sanitary treatment systems or UST systems) was available to aid in depicting the location of potential contamination on Phase II properties. As such, only hand drawn field sketches and computer generated drawings (not to scale) are included within this report to assist the reader in understanding the approximate aerial extent of identified contamination and property conditions noted under the Phase II investigation.

## 2.0 GENERAL SITE DESCRIPTION

The Concord Resort Hotel is located in the Catskill Mountains, in a rural setting in close proximity to Kiamesha Lake. The Lake abuts the Challenger Golf Course, owned and operated by Kiamesha Concord. The overall project area is comprised of approximately 1,729 acres, most of which is located in the Town of Thompson, Sullivan County, New York (Figure 1-1). The area consists of rolling topography and forested lands, similar to other areas of Sullivan County.

The main Hotel facility is accessed directly from Concord Road and has a 1,200 room lodging capacity with numerous recreational facilities, including swimming pools, tennis and basketball courts and golf courses. Three golf courses, included in the 1,729 acre land area, are the Challenger, the International and the Monster. Golf club facilities are located in proximity to each course to satisfy the demands of golfing interests. Photographs 1 through 8 depict the main hotel and other support facilities noted in this report (Appendix E).

As noted, the area is rural in character. The largest nearby municipality is the Village of Monticello, approximately 5 miles from the main Concord Resort Hotel location. A small shopping mall as well as Town of Thompson Offices and retail and food establishments are located in close proximity to the Hotel, near the intersection of NYS Route 42 and Concord Road, approximately one mile from the main Concord Resort Hotel entrance. The Village of South Fallsburg is located approximately 5 miles northwest of the area and the Village of Woodridge approximately 9 miles from the project area.

In addition, the Leisure Time water company, a drinking water supply bottler, is located southeast of the Concord Resort Hotel, on the southwestern banks of Kiamesha Lake. The Kiamesha Artesian Spring Water Co., Inc. is located at the northeast portion of the Lake and provides potable water supplies to nearby Village and Town residents and businesses, including Concord Hotel facilities. Other businesses, retail establishments, schools, recreational areas (including bungalow colonies, summer camps, and other hotels), and residential parcels are located in the vicinity of the Kiamesha Concord land holdings.

Some agricultural lands exist at and in the vicinity of the site. According to information available from the NYSDEC Region 3 Office, New Paltz, New York, no critical environmental areas or endangered/threatened species or habitats were recorded for the 1,729 acre area. New York State Designated Wetlands, MO-56, MO-57, and MO-58, lie within the boundaries of the land holdings, and streams flow through the property boundaries. These are the Kiamesha Creek and its tributaries. The entire site properties (67 parcels) lie over the New Jersey Coastal Plain Sole Source Aquifer. Further, NYSDEC Region 3 information indicates that no visually significant resources are located within the entire site or surrounding land areas.

According to a summary map maintained by the NYSDEC Region 3 Offices, there is a potential for archaeological significance at undisturbed areas within the limits of overall holdings. ECSI requested that the New York State Office of Parks Recreation and Historic Preservation (NYSOPRHP) provide information as to whether or not potentials for archaeological significance exist throughout the subject property holdings. A response received (dated October 1, 1996) indicated that the NYSOPRHP would require additional information for each specific area to make a determination, and suggested that unless substantial ground disturbance can be documented, a Stage I Archaeological Survey should be completed prior to conducting disturbance activities (i.e., new construction).

## 2.1 Area Soils

The assessed property holdings (1,729 acres) contain three general soil complexes designated by the Soil Survey of Sullivan County, New York, as prepared by the USDA Soil Conservation Service (issued July 1989). One is the Wellsboro-Oquaga-Lackawanna which is described as a nearly level to very steep, very deep and moderately deep, moderately well drained to excessively drained, medium textured soil typically found on uplands. Another is the Wellsboro-Wurtsboro-Morris which is also nearly level to strongly sloping, very deep, moderately well drained or somewhat poorly drained, medium textured, soils which vary from nonstony to extremely stony soils typically found on uplands. The last is the Cheshire-Tunkhannock which is described as nearly to steep, very deep, well drained and somewhat excessively drained, medium textured soils often found in valleys and on valley sides. Soils information specific to each investigated property area is summarized below.

## 2.2 Water Resources

The project area is located within the Delaware River Drainage Basin, which means that all surface waters eventually flow into the Delaware River. As noted previously, the subject

properties also lie over the NJ Coastal Plain Sole Source Aquifer. The main source of water in Sullivan County is groundwater. Groundwater is drawn from three kinds of aquifers: bedrock, glacial till, and glacial outwash formations. Glacial outwash bedrock formation yield the greatest amount of water and provides several public water supplies. Glacial till is generally not a reliable source of water, because its yields are low. Surface water from lakes or reservoir supplies is also a source for several of the larger communities in the County.

The Concord Resort Hotel is located in close proximity to Kiamesha Lake. Kiamesha Lake is utilized as a surface drinking water source for nearby Townships, including portions of the Town of Thompson and the Village of Monticello. In addition, the water is used as a potable water supply for the Concord Resort Hotel. Kiamesha Lake is classified by the New York State Department of Environmental Conservation (NYSDEC) as Class A waters (A). According to NYS Conservation Law:

The best usages of Class A waters are: a source of water supply for drinking, culinary or food processing purposes; primary and secondary contact recreation, and fishing. The waters shall be suitable for fish propagation and survival. This classification may be given to those waters that, if subjected to approved treatment equal to coagulation, sedimentation, filtration and disinfection, with additional treatment if necessary to reduce naturally present impurities, meet or will meet New York State Department of Health drinking water standards and are or will be considered safe and satisfactory for drinking water purposes.

An unnamed tributary flows south to the north side of the Kiamesha Lake, a stream designated by the NYSDEC as a Class A waterway. Another unnamed tributary connects with the south end of Kiamesha Lake and is classified as a Class C waterway. This tributary connects with the Kiamesha Creek, a Class C stream, which essentially bisects large portions of the 1,729 acre property holdings evaluated under the Phase I and II work efforts. The Kiamesha Creek eventually flows north through Kiamesha Concord Inc. lands and then south/southeast to the Sheldrake Stream (Class B) which in turn is tributary to the Neversink River, situated approximately 2.5 miles southeast of the eastern most property boundary of the subject properties (i.e., east of Route 161). The Neversink River is a Class B(t) stream which flows to the Delaware River. NYSDEC Class B, B(t), and C designated waters are briefly described as follows:

The best uses for Class B waters are primary and secondary contact recreational activities including fishing. These waters must be suitable for fish propagation and survival.

The best uses for Class B(t) waters are the same for Class B above with the additional regulatory ingredient to allow sustaining populations of trout fisheries.

The best usages of Class C waters is fishing. These waters shall be suitable for fish propagation and survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes.

### 3.0 PHASE I FINDINGS

The information presented below has been obtained from available information sources including agency contacts and State and County published documents. In addition, facility personnel involved with on-site operations and maintenance activities and off-site maintenance contractors, were interviewed by ECSI personnel.

#### 3.1 Water Supply and Sanitary Wastewater Treatment

As noted, the Hotel receives potable water supplies from the Kiamesha Artesian Spring Water Co., Inc. via a water distribution network located within the limits of the subject hotel property holdings. The water company receives water from two groundwater wells and the nearby Kiamesha Lake. The bulk of the Company's supplies are obtained from Kiamesha Lake located west of the main Hotel facility.

Based on historical consumptive use figures maintained by the Company, the two groundwater supply wells provide water to satisfy overall system demands. One of the supply wells, the Concord well, is accessed from Chalet Road and is located adjacent to the Golf Maintenance Shop, along the Kiamesha Creek. The well is a bedrock well, 300 feet in depth, and is capable of yielding 70 gallons per minute (gpm). A well house (6 feet wide by 6 feet in length by 10 feet high) surrounds the well and a separate chlorination building is situated adjacent to the well house which contains an in line hypochlorinator unit powered by an electrical motor. The well was installed during the early 1980's under a mutual agreement between the Kiamesha Artesian Spring Water Supply Co., Inc. and the Concord Resort Hotel. The well essentially supplies facilities situated along Chalet Road, south of Concord Road.

An additional well is located adjacent to the Kiamesha Artesian Spring Water Co., Inc. facility. This well is used as a supplemental source to that of Kiamesha Lake. Information of the physical aspects of the well could not be obtained from the Company.

Water supplies distributed to connected consumers are comprised of a combination of each water source. The combined water source is monitored by the Company every three years for volatile and semi-volatile organics and for fecal coliform each month. Based on conversations with representatives of the New York State Health Department (Monticello District) and the Kiamesha Artesian Spring Water Co., Inc., water quality monitoring performed for the combined water source has not resulted in any water quality problems.

The Kiamesha Lake is also the water supply source for the Village of Monticello. The Village has issued restrictions to protect its water supply in a document entitled "Rules and Regulations for the Protection from Contamination of the Public Water Supply of the Village of Monticello, Sullivan County." A copy of the regulations are contained in Appendix B. The regulations prohibit the disposal of wastes (solid and toxic) within close proximity to the Kiamesha Lake or its tributaries. Further, the regulations imply that planned development/construction activities are to include safeguards to protect the water source and that any project would be reviewed by the Village Water Department as part of receiving required

approvals within the Village. The main hotel, immediately surrounding grounds and the Challenger golf course (west of Concord Road and to the shore of Kiamesha Lake) are within the Village watershed limits and thus, are subject to the regulations. In addition to Village jurisdiction, the Delaware Basin Water Authority has jurisdiction over construction activities.

The main Hotel and immediately surrounding facilities are serviced by the Town of Thompson Water and Sewer Department wastewater treatment plant. Areas not serviced by the Town treatment plant include the International Club House, the Chalet, Raymond's Restaurant/Club House and the Golf Maintenance Shop. These facilities are serviced by individual septic systems. The Chalet and Raymond's Restaurant/Club House are serviced by a sand filtration treatment system situated down gradient from the restaurant and west of the Golf Maintenance Shop. The system is permitted by the NYSDEC under a State Pollution System Elimination Systems permit (SPDES, Permit No. NY-0104264) issued during November 1977. An outfall pipe leading from the sand filtration system serves to direct effluent to the Kiamesha Creek (Outfall No. 001). As noted, the Kiamesha Creek flows to the Neversink River which in turn flows to the Delaware River, each provide municipal water supplies which are regulated by the Delaware Basin Water Authority.

Based on discussions with a representative of the NYSDEC (Personal Communications, J. Sansalone, February 1998), the permit has been automatically renewed by the State over time and is still active. Conditions under the permit require monitoring, recordkeeping and reporting to the NYSDEC. Based on conversations with the NYSDEC, Region 3 office, no record of report submissions exist to verify whether or not monitoring was conducted during past years of operations. Given the fact that no records exist to explain compliance levels, this situation represents an exposure which must be addressed through conversations with the NYSDEC, in conjunction with prompt compliance with applicable permit conditions.

The Golf Maintenance Shop has a septic/leach tank system which receives sanitary wastewaters from the facility. The tank is located at the northwest corner of the Shop building and in close proximity to the Concord Well and Kiamesha Creek. Given its location, arrangements should be made to decommission and relocate a new system if use of this Shop will continue. In addition to sanitary wastewaters, shop floor washings were discharged to internal floor drains which connect with an underground sump tank west of the shop building. This tank is presently filled with sandy sediment. Subsequently, Phase II investigations performed at this facility included characterizing these sediments, as well as field screening (using a Photoionization Detector unit) soils extracted from borings placed on two sides, immediately adjacent to the tank. The results of the investigations proved that the sediments are nonhazardous and that soils adjacent to the tank did not reveal signs of Volatile Organic Compound (VOC) indications. The analytical results are contained in Appendix H of this report.

Based on conversations with Hotel personnel, no documentation exists to reflect whether the International Club House is serviced by an individual sanitary septic system or if the structure connects with the Town's sewer system. Conversations with a representative of the Town of Thompson Water and Sewer Department noted that the International was serviced by an above ground sand filtration system located south of the NYSDEC listed landfill, adjacent to the

Kiamesha Creek. Past dumping practices at the main hotel parking lot have rendered the sanitary waste pipeline inoperable. It is possible that over time, a separate arrangement was established with an existing pump station located north of the International and behind the Maintenance Barn (located in the main parking lot), however, no information was provided to ECSI to confirm these statements. As such, engineering efforts should be directed at verifying this facility for adequate treatment.

Only one other facility owned and operated by the Concord Resort Hotel is serviced by a sand filtration system permitted by the NYSDEC, under the SPDES program. This system serves the Breezy Corners Casino and bungalow development southwest of the intersection of Thompsonville Road and Bailey Road. The system does not have an outfall since it consists of an onground/subsurface system (i.e., discharge to groundwaters of the State). All other structures existing on parcels inspected by ECSI are believed to be serviced by individual septic systems. As noted, no records of utility information exist, based on conversations with Hotel maintenance personnel.

In addition to the above, the parcel designation Section 13, Block 3 and Lot 26 (7.8 acres in size, along Thompsonville Road) includes a residence currently occupied by George Parker. Based on tax records, this parcel is owned by the County. Land areas surrounding the residence are vacant. An inspection of the property by ECSI personnel during the Spring of 1998 revealed that a septic release exists adjacent to the unnamed stream Classified by the NYSDEC as Class C waters, south of Kiamesha Lake. A strong odor was also observed. Based on these observations, it appears that this system is functioning improperly and is not up to Health Department standards for treatment and requirements for locating systems specific distances upgradient of the adjacent tributary, referred to as "waters of the State."

### 3.2 Electric and Gas

As part of conducting the Phase I Environmental Audit for the site, ECSI obtained information from representatives of New York State Electric and Gas (NYSEG) with respect to electric and gas service at the subject Concord properties. In addition, ECSI representatives investigated the existing electrical transformers in use at the main Hotel facility. An electrical contractor for the Concord Resort Hotel (Boris Shalman, Inc.), was contacted to obtain pertinent information. In addition, a site inspection was conducted by an ECSI representative with facility personnel during the Fall of 1997, to visually inspect the on-site vaulted electrical transformers.

According to a NYSEG representative John Lounsbury, (Personal Communications, September, 1997), electricity is provided to the site via local distribution lines. The lines located within the limits of the subject parcel areas are owned by the Concord Hotel. Some of the lines located along Concord Road may also be owned by the Concord Hotel and are simply located on NYSEG poles. NYSEG service technicians maintain the lines and repair them as necessary. The cost for providing these repairs on Concord owned lines are billed directly to the Concord Resort Hotel. No other information was provided by NYSEG on matters related to power distribution lines.

The following summarizes information obtained from the site inspection, correspondence from Boris Shalman, Inc. and information obtained from NYSEG. Copies of the correspondence relating to the electrical transformers is contained within Appendix A of this report. A list of vaulted transformers, compiled by Boris Shalman, Inc., was received from Mr. Lounsbury. The list is thought to have been completed in the 1980s or earlier, although the information is not dated, however, the list is the most current information for the Concord Resort Hotel. According to NYSEG, there is no information maintained on file with NYSEG regarding PCB content of the Concord Resort Hotel's transformers. Further, all the transformers and much of the electrical distribution lines and pole transformers are owned by the Concord Resort Hotel. Maintenance and/or repairs are paid by the Concord Resort Hotel.

The area known as the 200 Basement Vault contains 4 electrical transformers. No staining was observed in this area at the time of the inspection conducted by ECSI staff. The transformer vault next to the boiler room office contains 3 Pennsylvania type transformers. A stain on the floor was noted within this area at the time of the visual inspection. According to Mr. John Hendrix and Mr. Nile Inghrim (facility maintenance personnel), the stain has always been there and its origin is not known.

At the rear of the main Hotel night club, just outside the loading dock, there exists 3 pole transformers. One was replaced approximately 10 years ago by NYSEG, however, no information exists on files at the Hotel to confirm the replacement. A nearby vault has a 3 phase transformer within its confines. There is a stain near the valve but the stain did not appear to have traveled outside the vault. No other information regarding this stain was available.

The area known as the old vault next to the main Hotel pantry has two banks of transformers. Both the first and second bank contain three transformers each. There was no staining near these transformers. However, stains were observed on the sides of the transformers. Approximately 20 or more years ago, during a very hot and humid summer, the usage of these transformers was so high that they required additional cooling. Fire hoses were set up and turned on the transformers to decrease internal temperatures and enable continued usage. No signs of significant spills existed at the time of the inspection.

A transformer vault is also located at the main Hotel ice rink. This vault contains 3 Penn Pole Star type transformers. No staining was visible at the time of the inspection. The newest vaulted transformer at the Concord Resort Hotel, according to Mr. Hendrix, is the Towers, pad mounted Vantron transformer. This transformer was installed new around December 1977.

In addition to the inspected vault transformers, there are numerous pole transformers on Kiamesha Concord property holdings. A list of pole transformers, as provided by Mr. Paul Lounsbury, NYSEG, is also contained within Appendix A of this report.

Two NYSEG substations exist in close proximity of Concord Resort Hotel properties. One substation, known as the Concord Substation, is located just north of County Highway Route 109. The Concord Substation was built in approximately 1960 and has a transmission voltage of 34,500 and a distribution voltage of 4,800. NYSEG has no record of any spills at this substation.

The substation was retrofilled in approximately 1993, prior to this date the PCB content was approximately 180 parts per million. The Kiamesha Substation is located just west of NYS Route 42. This substation was built in approximately 1955 and carries a transmission voltage of 34,500 and a distribution voltage of 12,740. NYSEG has no record of spills for this substation. The Kiamesha Substation was retrofilled in approximately 1995 and the prior PCB content was approximately 100 ppm. Both of these substations are now considered to be non-PCB containing.

### 3.3 Facility Emissions

According to records maintained by the Hotel and the NYSDEC Division of Air Resources, two main chimneys (stationary combustion emission points 0001 and 0002) which connect to five (5) boilers at the main Hotel are permitted by the Division. The NYSDEC issued permits for boiler emissions during 1974. Representatives of the Division have conducted periodic compliance inspections, the most recent of which occurred on June 23, 1996. The inspection revealed that opacity (smoke) levels were greater than applicable levels noted under regulation. Conversations with NYSDEC representatives (Personal Communications, Messrs. Stanton and Dunn, February 1998) indicated that observed levels averaged between 75 to 80 percent while regulatory thresholds call for less than 40 percent. In an effort to reduce opacity levels, Hotel representatives should contact the manufacturer of the boiler systems to ascertain the types of modifications which can be implemented to reduce levels. Other than high opacity levels, no other records of noncompliance exist for these emission sources.

### 3.4 Underground and Aboveground Storage Tanks

According to information provided by both facility employees, New York State Department of Environmental Conservation (NYSDEC) representatives, and others noted as being familiar with facility operations, the Concord Resort Hotel owns and operates several underground and aboveground storage tanks. Available information indicates that 18 underground storage tanks (USTs) are located within the subject property boundaries.

In addition to underground storage tanks, several aboveground storage tanks (ASTs) are located at the Concord Resort Hotel and surrounding parcels. Tanks observed during site inspection activities were visually inspected to verify integrity, most of which were used to store heating oil (#2 fuel oil) for space heating purposes. ASTs were located in close proximity to Raymond's Restaurant, Golf Maintenance Shop (kerosene storage), the Chalet, structures in and around the main Hotel complex (i.e., at the rear of the main Hotel pool), Breezy Corners bungalows, Mountain View bungalows (one 1,000 gallon tank used to fuel clothes dryer units) and near golf cart storage/pick-up areas. Some of these ASTs are described in conjunction with the following UST descriptions. No evidence of spills/releases from the ASTs were noted during site inspection activities. However, it should be noted that several of the ASTs were inspected at the initial undertaking of Phase I Investigation activities (Fall of 1996) and have not been inspected since this time.



## Main Hotel

At the main hotel, near the intersection of Concord Road and Kiamesha Lake Road (County Route 109), there are two 15,000 gallon USTs which contain #4 fuel oil. These tanks are utilized for space heating purposes for the main Hotel boiler system. The fill ports for each of these tanks are located near the southeast corner of the intersection of Concord Road and Kiamesha Lake Road (County Route 109) and are not adequately protected from traffic. According to information provided by the NYSDEC and Concord employees the two 15,000 gallon tanks are registered with the NYSDEC Petroleum Bulk Storage (PBS) program and are designated as BL and BU (Appendix C).

The NYSDEC PBS number assigned to the Concord is 3-410225. The registration information notes that both tanks are steel/carbon steel tanks with connecting galvanized steel piping. Further, the PBS registration information indicates that neither tank has secondary containment or leak detection. The last test date for the tank designated BL was September 1989 and the tank designated BU October 1987. Luzon Environmental Services, Inc. of Woodridge, New York (formerly of Hurleyville, New York) completed the testing for both tanks. The results of the BU tank revealed a rate of leak of -0.063 gallons per minute. Tank system BL was tested and determined to have a leak rate of +0.047 gallons per hour. Based on NYSDEC regulations at the time of the tests, each of the two leak rates noted were considered to indicate a tight system. According to Robert Halprin, Luzon, the upper tank was replaced and the lower tank was lined with fiberglass approximately 10 to 15 years ago, although no documentation was available.

As noted, the fill ports for these tanks are located in close proximity to the rear wall (northeast corner) of the main Hotel. It appears that sloppy transfer activities have resulted in fuel oil stains around each fill port.

A 2,000 gallon UST exists at the rear of the former bakery location, approximately 50 feet from the upper 15,000 UST. This tank was found to recently contain spent cooking oil and fuel oil. The fuel oil once served to fire furnaces at the bakery, while the cooking oil was disposed by personnel during recent times. The boring (GeoProbe) program activities which continued on February 21, 1998 included placing two borings around this tank to verify whether or not a release occurred. No indications of a release was determined by subsurface activities and soil screening using a PID unit. Subsequently, the waste oil (cooking and #2 fuel oil) was pumped out by Luzon Environmental Services (on behalf of Kiamesha Concord Inc.) and disposed in accordance with Federal and State requirements.

## Raymond's Restaurant/Club House

A large UST is in operation at the Raymond's Restaurant/Club House building located adjacent to the Monster Golf Course. According to Nile Inghrim, maintenance personnel, this tank has a 12,000 gallon capacity. However, the NYSDEC PBS registration indicates that this tank is only 10,000 gallons. The tank provides storage of #4 fuel oil. According to the PBS registration the tank is designated as CH1, it is a steel/carbon steel tank with galvanized steel piping and was last tested in September 1989 and was due for testing in September 1994.

Further, the PBS information indicates that the tank has no secondary containment or leak detection devices. The information also indicates that the fuel oil is dispensed via gravity. This tank is utilized for fire steam generating furnaces used for space heating purposes at both the Club House and the nearby Ski Chalet. An underground steam pipeline travels from Raymond's below its front lawn, then under Chalet Road and up to the Chalet building. At one time, the Chalet had a fuel fired furnace for heating purposes, however, this was decommissioned and removed in favor of using steam heat.

Two (2) ASTs are located at the side entrance of the Club House and contain #2 fuel oil. A short distance from the Club House near a golf cart storage area lies a 275 gallon gasoline AST with a manual dispenser atop the tank. This tank is used to fuel golf carts and is maintained by Golf Maintenance Shop personnel.

#### Ski Chalet Structures

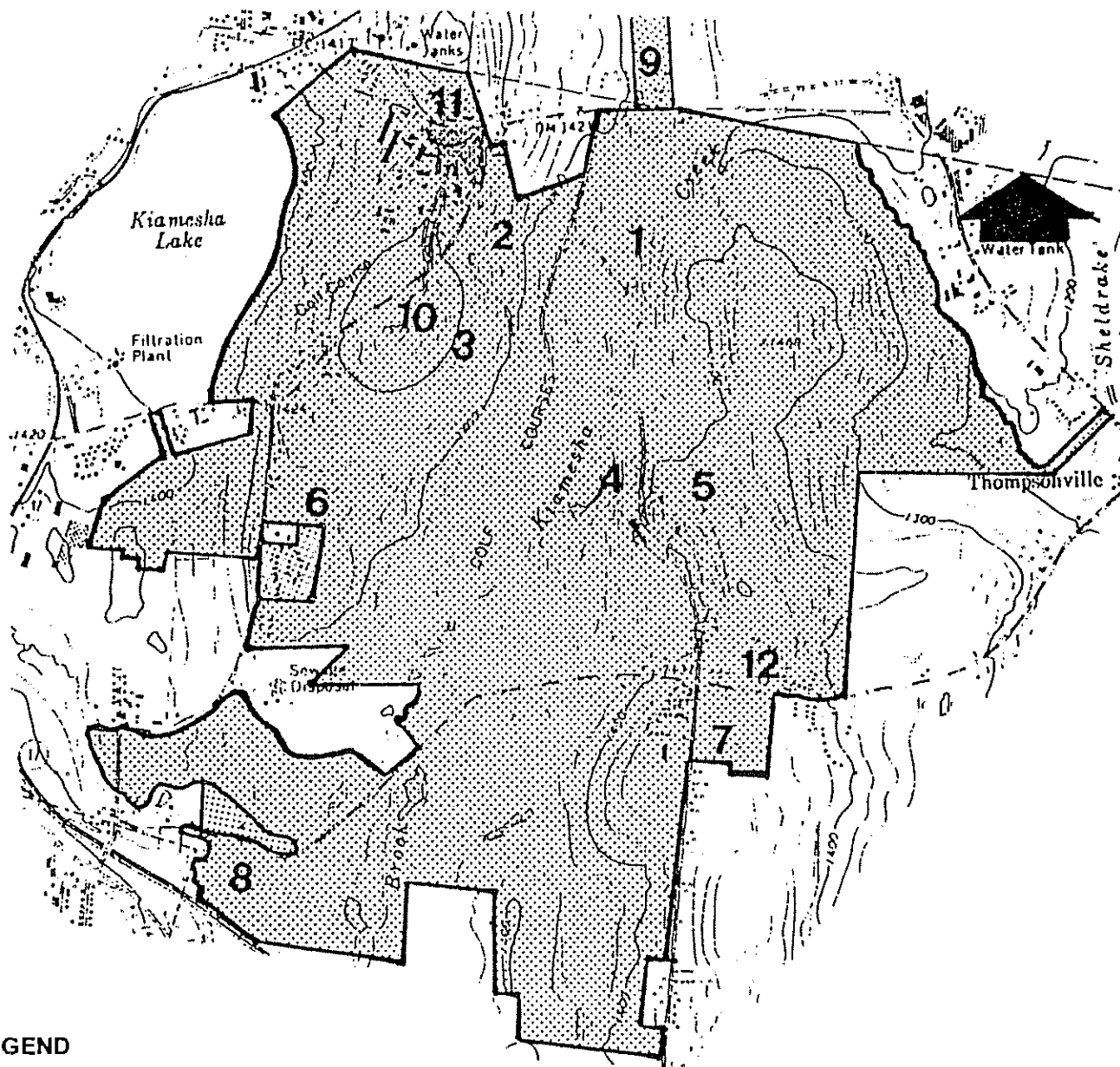
The Chalet facility includes an adjacent, single story apartment, once used by facility personnel. This structure contains a furnace and a 275 gallon AST, containing #2 fuel oil within the basement of the structure. Each was observed to be idle during property inspection performed during February and March, 1998.

As noted, the Chalet structure was once heated with fuel oil. During inspection activities conducted in February and March 1998, a 1,000 gallon, on-ground (AST) was located (traced from old feed lines) within a wooden structure in close proximity to the front of the Chalet. The tank is only noticeable by an inconspicuous fill port at the top of the wood structure. Subsequent to locating the tank, Luzon Environmental Services was retained by Kiamesha Concord Inc. to pump out this tank and relocate the fuel oil to the Golf Maintenance Shop facility for space heating use.

#### Concord Service Station

The Concord Service Station located just southeast of the main Hotel entrance was at one time a vehicle service/gasoline dispensing station. According to George Parker, tanks removed from the station were owned by Robert Blank Fuels, located in Monticello, New York, along Route 42. ECSI representatives contacted Mr. Blank and requested that he complete a UST Questionnaire regarding the former Exxon Service Station located on the Concord Hotel Property. Mr. Blank's representative, Stephen Kalka, Frames of Mind, completed the questionnaire and provided ECSI (via facsimile) with information regarding the former tanks and past removal activities. Mr. Kalka also provided ECSI with a copy of the NYSDEC PBS Certificate, PBS No. 179159, for the site, which was referred to as the Kiamesha Concord Service Station; the owner was noted as Premium Gas Service Inc. of Station Hill Road, Ferndale, New York and the General Manager as Stephen Kalka. The Service Station information provided by Mr. Kalka is contained within Appendix D.

The PBS Certificate provided indicates that four (4) tanks were located at the site; three 6,000 gallon fiberglass reinforced USTs which contained unleaded gasoline and one 2,000 gallon



#### LEGEND

- 1 - NYSDEC / GOLF COURSE DUMP SITE
- 2 - MAIN PARKING LOT DUMP SITE
- 3 - CONCORD SERVICE STATION DUMP SITE
- 4 - GOLF MAINTENANCE SHOP DUMP SITE
- 5 - CHALET DUMP SITE
- 6 - CASINO DUMP SITE
- 7 - BREEZY CORNERS BUNGALOWS
- 8 - CEMETERY DUMP SITE
- 9 - HORSE FARM DUMP SITE
- 10 - CONCORD SERVICE STATION
- 11 - CARLTON HOTEL
- 12 - MOUNTAIN VIEW RESIDENCE

SCALE 1" = 2,000'

FIGURE 1-1

## SITE LOCATION MAP

SOURCE:  
USGS MONTICELLO, N.Y. (1966 PHOTO REV. 1982)  
7.5 MINUTE TOPOGRAPHIC QUADRANGLE SERIES

KIAMESHA CONCORD INC.  
KIAMESHA LAKE, NEW YORK

bare steel UST which stored diesel fuel. The three fiberglass tanks were noted as being installed in December 1981 and the bare steel tank in December 1983. Mr. Kalka noted that the three fiberglass USTs were formerly owned by Exxon Corp. of Norwalk, Connecticut, and were sold to Premium Gas Service, Inc. on July 7, 1983. The PBS information also noted that associated piping for all tanks was galvanized steel located underground. Further, none of the tanks had secondary containment, leak protection or spill/overfill protection devices. It appears, according to information provided, that Mr. Kalka, owners representative, submitted a PBS Modification to the NYSDEC in October 1991, which indicated that all four tanks were removed in September 1991.

The information provided on ECSI's completed questionnaire also indicates that the three fiberglass USTs were removed and disposed of, however, no disposal receipts or documentation exists. According to Mr. Kalka, the steel UST was retained by Premium Gas Service, Inc. and utilized as a loaner/temporary tank for contractors. The information also indicates that no soil disposal was necessary based on one soil test. No confirmatory soil samples were obtained for any of the tank excavations to verify subsurface environmental conditions. According to disposal receipts, 12,300 gallons of fuel oil, waste and water was removed by Luzon Environmental Services on September 23, 1991, for disposal (recycling) at the Luzon facility.

ECSI's site inspection of the service station revealed two other USTs located along the internal driveway at the rear of the service station. According to George Parker, these tanks were utilized in the '1970's during the gasoline shortage. The Concord offered it's guests a free fill up for each weekend stay to encourage hotel patronage. No information was provided by Mr. Kalka regarding these tanks. In addition, ECSI requested that the Service Station Manager, Chris Hummel, dipstick the tanks to determine if any liquids remain and obtain an estimate of the storage capacity of each tank. Mr. Hummel, who completed the task, indicated that one tank was full with a water and petroleum mixture and the other had some product remaining. The two USTs are believed to be fiberglass tanks and estimated to each have a storage capacity of 10,000 gallons. However, no additional information was available regarding these tanks. Subsequently, representatives of the NYSDEC were informed of the existence of the tanks and arrangements were made to pump out each tank. The tanks were pumped out during May/June 1998 by Luzon Environmental Services, on behalf of Kiamesha Concord Inc.

The existing vehicle service station utilized a 550 gallon #2 fuel oil UST to provide fuel for space heating purposes. This tank is not registered with the NYSDEC and was never tested to Mr. Hummel's knowledge. Mr. Hummel has been employed by the facility for the past 13 years. Further, he is not aware of any significant loss of product, although product inventory documentation is not maintained for this tank. ECSI representatives noted spillage at the fill port of the fuel oil UST, which is most likely due to sloppy transfer practices. Floor drains within the building connect to the Town's sewer system. Further, underground hydraulic tanks which surround three lifts are not believed to have ever displayed signs of release (i.e., constant filling), as indicated by Mr. Hummel.

## Golf Maintenance Shop

The Golf Maintenance Shop is located along the western side of Chalet Road approximately 1 mile south of the intersection of Chalet Road and County Highway 109. The area contains four (4) USTs. According to information provided by Arthur Chandler, Golf Maintenance Manager, the four USTs include a 2,000 gallon gasoline UST, a 1,000 gallon diesel UST, a 1,000 gallon #2 fuel oil UST, and a 500 gallon waste oil UST. These tanks were not registered under the NYSDEC PBS program. Further, no information as to the date of installation of any of the four tanks is available. Mr. Chandler is not aware of the tanks ever being tested. Product inventory is not completed for any of the USTs or ASTs (2 kerosene tanks) located at the Maintenance facility. Fuel dispensers are located at the front section of the Shop which marks the approximate location of the gasoline and diesel tanks. A large funnel is connected to the waste oil tank, which is left in the tank to allow for the transfer of waste oil. According to Mr. Chandler, very little waste oil is generated at the Golf Maintenance facility and the tank is pumped out by an outside contractor (LORCO) once per year. Minor staining was observed in the vicinity of the fill port. Areas at and surrounding each of the fill ports for the three product tanks are petroleum stained and indicate very sloppy product transfers.

## Other UST Locations

In addition to the USTs at the operating Hotel complex, other USTs are located on other land holdings of Kiamesha. The additional tanks include those utilized at five (5) residential structures for space heating purposes. Documentation confirming tank capacities was not available, but are presumed to be between 500 and 1,000 gallons based on the size of each structure and conversations with residents. The residential structures are located along Thompsonville Road, near the intersection of Thompsonville and Chalet Roads (Section 15, Block 1, Lots 18, and 22, and Section 16, Block 1, Lot 30). Two other residential structures (occupied by Robert Parker and Naomi Friedman) are located along Concord Road within the limits of parcel Section 9, Block 1, Lot 34.2.

Two USTs were also discovered at the former Carlton Hotel and the Pussycat Lounge. It appears that both of the tanks have been idle for some time, perhaps as long as 25 to 30 years. Over time, the Carlton and Pussycat were converted to steam heat, via piping routed from the main Hotel complex, under Route 109 and to each structure. No fill port was noted for the UST at the Carlton, however, a vent pipe and steel elbow, which probably attaches to the top of the tank, are visible. The tank at the Pussycat Lounge has a fill port visible, although no other lines were observed, with the exception of a feed and return line located within the basement of the wooden Lounge structure. An old, fuel oil fired furnace is also contained within the basement. No information was available for either tank regarding age or tank construction materials.

## 3.5 Asbestos and Radon

The scope of services conducted under the Phase I assessment did not include conducting asbestos or radon/lead paint surveys. A survey was completed by Warren Panzer and is available under separate cover from representatives of Resortco of New York.

A record search conducted in accordance with ASTM standards revealed that radon levels expected for areas of Sullivan County average 0.900 pCi/L (pico curries per liter) in living areas and 2.720 pCi/L in basement areas. Area radon information obtained for Sullivan County indicates that 95 percent of 24 tested sites were less than the regulatory threshold of 4 pCi/L for living areas and 62 percent were below the threshold for basement areas. Five percent were greater than the threshold for living areas and 38 percent were greater than the threshold for basement areas

### 3.6 Facility Waste Generation

In general, the Hotel facility generates municipal solid waste which includes garbage and construction and demolition debris resulting from minor renovations and cleanup activities. The main generation points situated within the limits of the Hotel grounds include the main hotel, the International Golf Club, Raymond's Restaurant/Golf Club, the Golf Maintenance Shop, the former Concord Service Station which fronts along Concord Road, the maintenance barn located within the main Hotel parking lot, and the ski slope Chalet along Chalet Road.

Waste generated by on-site facilities are collected by facility personnel using waste collection vehicles (garbage trucks) owned and operated by the Kiamasha Concord Inc. Collected waste is transported and disposed at the Sullivan County Sanitary Landfill located in the Village of Monticello. Some of the waste generated by Golf Maintenance Shop operations differs from other generation points since the waste types include waste oil, scrap metal and spent canisters of fertilizer, pesticides/herbicides, and fungicide product packaging. Solid waste items are disposed within dumpsters located adjacent to the Golf Maintenance building, waste oil is stored within a 550 gallon waste oil tank, also located adjacent to the shop building.

### 3.7 Pesticide Storage

Site inspections conducted under Phase I activities revealed that pesticide and herbicide chemicals are stored in a small shed at the Golf Maintenance Shop facility. The chemicals are utilized by Golf Maintenance staff to maintain the Concord Resort Hotel grounds and golf courses under the supervision of a NYS Certified pesticide applicator.

On September 29, 1997, an inspection conducted by a NYSDEC representative resulted in the issuance of a Quarantine Order to require that the use of pesticides noted on the order be halted. In addition, the Order calls for the proper removal and disposal, in the presence of a NYSDEC representative, of all stored pesticides. A copy of the Quarantine Order is contained in Appendix A. The on-site pesticides and the quantity of each as noted on the Quarantine Order is as follows.

PRODUCT NAME	EPA NUMBER	AMOUNT
Embark Growth Regulator	7182-7-AA	(13) gallon containers
Agway Fruit Tree Spray	8590-563	(42) 1/2 gallon containers
Trex-San Bent	2217-529-AA372	(1) 2 1/2 & (1) 5 gallon containers
Crabgrass Killer	572-199	(11) gallon containers
Gas Cartridge	6704-4	(100) 3 ounce cartridges
Guthion-2S	Not Available	(3) 5 gallon containers (full)
Malathion	Not Available	(4) 5 gallon containers (3 full, 1 partial)
Agway Dormant Oil with Ethion	Not Available	(3) gallon containers

It is important to note that the listed chemicals have accumulated over a five to seven year period and that the bulk of chemical supplies used at the site have been completely utilized as part of lawn care applications over time. Every effort has and continues to be directed at ordering nearly the exact amount of chemical quantities needed seasonally, based on historical application rates. As part of ECSI's efforts to assist Kiamesha in the proper handling and disposal of the remaining above stored chemicals, two reputable disposal firms were contacted to obtain a quotation to remove, manifest and dispose of the materials. Information on the cost for handling and disposal of the chemicals is contained in Section 10.0, Remediation Cost Estimates.

#### 4.0 GENERAL HISTORICAL INFORMATION

The main Hotel complex of the Concord Resort Hotel has been located at the northeastern portion of Kiamesha Lake since the 1920's and was built by the Parker family as a summer retreat which was used extensively by New York City residents. The Resort offered luxury accommodations, relatively close to home, in a pristine rural setting. The area was originally farm land and/or forested. The hotel has changed through the years, with the addition of rooms, dining areas, and appurtenant hotel areas (lobbies and offices), improvements and additions to utility services (electric and heating) to accommodate hotel upgrades, as well as the installation of golf courses, tennis courts, swimming pools, and ice skating rinks have all been added onto Hotel operations through the years.

In general, all of the parcels associated with the Concord Resort Hotel are part of the main Hotel complex, provide recreation for hotel patrons (i.e., golf courses and Chalet and ski slope) or support hotel operations (i.e., golf maintenance, service station, and staff quarters) and have since the construction of the facility. Some of the areas are no longer utilized, but contain remnants of prior operations, such as the Casino property located along Rock Ridge Drive (formerly Bailey Road). Some parcels also contain houses utilized by members of the Parker family (i.e., Robert Parker and Naomi Friedman). The remaining parcels were found to be vacant.

The original hotel consisted primarily of wood structures. Some of the structures still exist at the site, while others were removed to allow for new construction. The following is a

summary of information contained on six Survey Sheets completed for Kiamesha Concord, Inc., H.C. Boardman surveyed the area on July 22, 1960 (Index No. 23306.5, Serial Nos. 52960, 52961, 52962, 52963, 52964, and 52965). The first sheet (Serial No. 52960) indicates that both the Swiss Chalet and the Club House existed in 1960. The Swiss Chalet is noted as being used as a Ski Lodge and Lunch Bar. Appurtenant structures include a ski tow motor house, a toboggan tow motor house, and a ski equipment storage building with a 1,000 gallon aboveground fuel oil tank at the north end of the ski equipment storage building. This tank is believed to be the same AST encountered by ECSI staff.

Sheet 2 (Serial No. 52961) indicates that the Concord Service Station also existed in 1960. Four (4) underground storage tanks were located in front of the garage bays and are noted as two 5,000 gallon gasoline tanks and two 2,000 gallon gasoline tanks. The survey also indicates that just west of the service station there were a few cottages/employees rooms. The Golf Maintenance garage drawings indicate that both a 1,000 gallon gasoline underground storage tank and a 1,000 gallon fuel oil underground storage tank are located in front (east) of the main building.

The four remaining survey sheets depict the main hotel facility as it existed in 1960. The hotel then consisted of the Main Building (1920) which had an East Wing (1959), a South Wing (1957), and Night Club (1958). Several kitchens and dining rooms are depicted within the Main Building as well. In addition, there were several disconnected buildings used as part of hotel operations including the Continental House (prior to 1920), the Colonial House (prior to 1920), the Claridge House (prior to 1920), the Congress House (prior to 1920), the Columbia House (no construction date), the Capitol House (prior to 1920), the Chateau (prior to 1920), the New Staff House (1955) and Cottage Nos. 1 and 2 (no construction dates). The Old Staff House (1950) was located at the southwest corner of the intersection of Concord Road and County Highway 109. The Conference Building, located just south of the night club, was noted as under construction in July 1960. These buildings are depicted as wood structures with concrete and/or brick foundations. Recreational areas, such as pools, bath houses and locker rooms, an outdoor ice skating rink, a handball court, a baseball field, a volleyball court, and tennis courts are depicted around the Main Building. The plans also depict a sewerage pump house east of the outdoor skating rink and an ice making plant south of the outdoor skating rink, in close proximity to County Highway 109.

A Riding Academy is denoted east of the Main Hotel Complex and Concord Road in a parking area. A 500 gallon fuel oil underground storage tank is depicted north of the riding academy structure. A barn was noted south of the baseball field and outdoor skating rink and noted to have a 1,000 gallon storage tank near the east wall. At the rear (north) wall of the Main Building the survey depicts a 30,000 gallon fuel oil tank (sand covered) a 10,000 gallon fuel oil tank and a 2,000 gallon fuel oil tank. Conversations between ECSI and George Parker revealed that these tanks are presumed to have been removed to accommodate new construction needs.

Several buildings were also depicted north of County Highway 109, including the Kiamesha Motel (noted as being without sprinklers), the Carleton House (1948), the Jacobson



House and Jacobson Cottages, Gluck's House and Gluck's Lodge. The buildings shown on the north side of County Highway Route 109 were noted primarily as staff housing.

Although some of the original hotel structures remain at the site there are several others, such as the Continental House, Colonial House, Claridge House, and Congress House, that were removed. Some of the buildings were removed to allow for the construction of the new Towers which were erected in 1972. According to available information, the former buildings were demolished and buried on site, either at the Main Hotel Complex or other Concord owned parcels.

## **5.0 PHASE I ENVIRONMENTAL RECORD REVIEW AND EVALUATION**

Agency records relevant to the past and present day site conditions were reviewed and evaluated to identify the potential of environmental risk. ECSI representatives reviewed available records maintained by the NYSDEC, the NYSDOH, Town of Thompson, and Town of Thompson. ECSI also retained Environmental Data Resources, Inc. (EDR) to conduct a Government Records review to further fulfill requirements set forth under ASTM E 1527-94 and 15-1527-97. This information was supplemented through interviews with on-site operators and ECSI's database of State and Federal agency records.

### **5.1 Government Records Search**

An environmental records search was performed by EDR during January 1998 in accordance with ASTM E-1527-94 and E-1527-97. EDR determined that no Sanborn mapping was available for the Town of Thompson or surrounding areas. ECSI also verified with Town of Thompson and Sullivan County Planning Department representatives that no Sanborn Maps exist for the site and surrounding areas. EDR's records search revealed one spill at the Concord Resort Hotel (Spill No. 9009249). This spill and others are discussed in Section 5.2, Reports of Spills/Releases. EDR's provided a map depicting the location of water supply wells at or in the vicinity of the site, as provided by way of Federal, State and local data sources.

Additional sites of possible concern were also noted in the vicinity of the subject site. The EDR report indicates that the Concord Golf Maintenance Shop is on the Resource Conservation and Recovery Act (RCRA) database of sites that generate, (the site is noted as a small quantity generator), store, treat or dispose of hazardous waste, however, no additional information was provided with the report. Furthermore, ECSI's review of existing golf maintenance activities that the only wastes generated include waste oil, pesticide and/or herbicides, and typical garage maintenance wastes (i.e., used batteries and oil).

Nearby commercial/industrial sites (located within a 1/4 mile from Kiamesha's holdings) were noted as facilities with underground and/or aboveground storage tank operations. Some of the sites had conducted cleanup activities and others are still under investigation and/or monitoring for product releases that have occurred in recent years. Information maintained by the

NYSDEC Division of Spills, indicated that product spills occurred in the vicinity of the subject parcel. A summary of recorded area wide spills is provided below.

## 5.2 Reports of Spills/Releases

As part of investigating the possibility of environmental violations and/or records of spills or releases at the property site (including surrounding areas), ECSI obtained and reviewed records maintained by the NYSDEC under the programs of Solid Waste, Hazardous Waste Generators, SARA Title III, Spills, Petroleum Bulk Storage and Chemical Bulk Storage Programs. The NYSDEC Central Office, located in Albany, New York, compiles and periodically updates spill/release information from nine Regional Offices, which are made available to the public. ECSI obtains spill/release database updates quarterly in an effort to maintain current NYSDEC official information. The files are searched, using a database software program, to determine if any spills/releases have been reported to and/or investigated by NYSDEC representatives in close proximity to the facility. As necessary, NYSDEC personnel are contacted to obtain additional information for specific spill/release sites noted within the database.

Spill/Release records received from the USEPA under the Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) and the Emergency Response Notification System (ERNS) were also reviewed to further evaluate site and surrounding conditions and to supplement information received from EDR. These records also include cross references to NYSDEC records, and thus serve to verify consistency and accuracy. A review of these files indicate that the subject site was not noted on either the CERCLIS or ERNS listings.

Database searches were performed by both ECSI and EDR during January 1998, which revealed that spills were reported for the Concord Resort Hotel facility. Spill Nos. 9009249, 9106928, and 9705088 are on file with the NYSDEC. A discussion of the spills noted at the subject site is provided in the text that follows.

**Spill No. 9009249** was designated for a spill reported on November 25, 1990. According to conversations with Ms. Dolores Wehrfritz, NYSDEC - Spill/Response, the spill number was assigned for a tank overflow caused by Hess (Personal Communications, February 1998). She indicated that the spill was cleaned up and the spill closed within a short period of time. The NYSDEC records indicated a spill closure date of November 28, 1990.

**Spill No. 9106928** was designated for the tank removal activities completed in 1991 at the Concord Service Station. Ms. Wehrfritz indicated that the site was assigned the spill number as a result of tank removal activities. ECSI representatives discussed the potential for contaminated soils, due to the lack of confirmatory samples. She stated that she was called the day after tank removal activities and that contamination could be present. In addition, Ms. Wehrfritz stated that a "No Further Action" letter, a letter indicating that the site was cleaned up to NYSDEC standards, was never issued for the site. Additional information regarding this area is provided below in subsequent sections. This area was investigated under the Phase II work effort to confirm the presence of contamination.

**Spill No. 9705088** was issued for a spill reported by a private citizen for a waterway on July 28, 1997, the file indicates that the spill was closed that same day. The file also provides the following comments from the citizen "a small lake on [the] concord golf course showed approximately 100 fish that are dead-floating up to surface-no further information avail at this time." No other information exists for this reported incident.

Another spill, reported to the NYSDEC, but not given an official spill number, was for a situation which occurred at the maintenance barn, located in the main parking lot across the road from the main Hotel complex. According to available information provided by Ms. Wehrfritz, on April 7, 1993, Agway had connected to fill a 275 gallon aboveground storage tank line which resulted in the release of petroleum product to surface soils. American Environmental Technologies, Inc. was retained by Agway to cleanup the spill that same night. On April 8, 1993, Ms. Wehrfritz spoke with the Agway representative at the site and informed him that the excavation could be covered to avoid caving in. Soil samples were taken to confirm cleanup levels.

During January 1998, a release of diesel fuel was identified at the Golf Maintenance Shop, between the north side of the Shop and the Kiamesha Creek. The release impacted an approximate 0.08 acre area near the northern corner of the building and north to the Kiamesha Creek. ECSI representatives discovered the release during Phase I assessment activities reinitiated during January 1998. According to Golf Maintenance personnel, the spill occurred while a compressor was being fueled to make snow for the Concord Ski Area. Diesel fuel was being pumped from the nearby on-site tank/dispenser system and into the compressor. Approximately 100 gallons of fuel were released to the ground surface.

The spill was not cleaned up or reported until ECSI representatives arrived and discovered the spill on January 8, 1998. ECSI subsequently coordinated and supervised the removal of surface soils and arranged for the placement of absorbent booms within the Kiamesha Creek to remove free product. The NYSDEC was notified and cleanup was conducted and finalized under the direct supervision of ECSI. A spill was assigned by the NYSDEC for the release (Spill No. 97-11336).

While NYSDEC personnel inspected spill cleanup measures at the Golf Maintenance Shop, a slight oil sheen was observed within an eddy area of the Creek, adjacent to the maintenance building. Field inspection by ECSI and NYSDEC personnel revealed that a pipeline used to route water to the Ski Chalet for snow making equipment contained an oil residue (compressor blow-by) produced by the on-site compressor. The pipeline is routed to the Creek for the purpose of supplying water for snow making. It was concluded that measures be implemented to prevent oil residue discharges to the Creek caused by the compressor unit.

### 5.3 Past Waste Disposal Practices

A review of aerial photographs and information obtained by way of on-site walkover surveys conducted by ECSI personnel, past hotel waste disposal practices included disposing of waste materials (later determined to be both garbage and construction and demolition, C&D,

wastes) upon portions of properties surrounding the main Hotel complex. The characteristics of disposed materials appear to be primarily solid, nonhazardous, C&D wastes generated by past Hotel renovations, as determined by way of the Phase II investigation (Table I-2). The parcels identified as on-site waste disposal sites (dumps) and observations made by ECSI personnel as noted follows:

#### TOWN OF THOMPSON

##### NYSDEC Golf Course Dump Site - Section 15, Block 1, Lot 35.7

One dump site in particular is listed with the NYSDEC as a solid waste management facility subject to violation of 6 NYCRR Part 360 (1988) Solid Waste Management Facilities regulations. This landfill is located east of Chalet Road, adjacent to the Kiamesha Creek and is approximately 1.02 acres in size. A nearby inactive, aboveground wastewater treatment sand filtration system lies south of the dump. An access road leading to the system displays signs of C&D dumping which include several tires at the surface. Based on Tax records, a large portion of this dump site lies on County owned land.

An Order on Consent was drafted by the NYSDEC and forwarded to Carl Goldstein, Esq., attorney for Respondent, on behalf of Kiamesha Concord, Inc. (Case No. 3-1632/8902). The NYSDEC cited violations of Environmental Conservation Law (ECL) to include illegal dumping of municipal and C&D wastes without an appropriate Part 360 permit (Appendix A). Civil penalties were assessed in the amount of \$310,000; \$10,000 payable by respondent's (Kiamesha Concord, Inc.) execution and return of the Order, and \$300,000 to be suspended upon condition that the Respondent remain in compliance with each condition under the Order.

Agency correspondence noted that if the Order was not signed and returned by July 24, 1989, the Department will assume that the Respondent is not willing to consent to the Order, the offer is withdrawn, and formal legal proceedings would be triggered. Instead, a test pit investigation was performed by Glenn L. Smith, P.E., of Monticello, New York, on behalf of Kiamesha. The results of the investigation were forwarded to the NYSDEC, however, no final subsequent actions were ever completed, nor was an enforcement action pursued by the Department. Based on conversations with NYSDEC attorney Jonah Triebwasser (Personal Communications, February 1998), the Department is still willing to offer the same Civil Penalty arrangements specified in the 1989 Order, provided that conditions of the Order are met. The Order also notes that the Department reserves the right to seek surety or financial responsibility. These matters will likely be decided in conjunction with any planned remediation of the site.

##### Golf Maintenance Shop Dump Site and Vehicle Storage Area - Section 15, Block 1, Lot 50

A variety of waste disposal practices occurred over time at the Golf Maintenance Shop. Areas immediately surrounding the shop (a vehicle/equipment storage area) are littered with old, stripped vehicles, lawn maintenance equipment and assorted recognizable and non-recognizable scrap metal parts. An old dump site is located approximately 100 feet upgradient and west of this area and shows signs of both surface and subsurface disposal practices of assorted garbage

and C&D waste materials. The dump area lies within a portion of a flood plain situated adjacent to the Kiamesha Creek. Signs of leachate seepage were not observed during walkover inspection conducted by ECSI. Surface wastes including metal and plastic 55 gallon drums (mostly soap drums) as well as junked vehicles, carpeting, wood pallets, metal piping and mattresses, are scattered throughout the limits of the dump, which is approximately 2.07 acres in size. Photographs, Nos. 9 and 10 present an example of the types of waste materials encountered during Phase II test pit investigations (Appendix E).

#### Chalet Dump Site - Section 15, Block 1, Lot 13

The Chalet dump is located southeast of the ski slope, opposite a shale bank, both of which are accessed by a road which connects with an existing driveway leading to the Chalet facility. The driveway connects with Chalet Road in the vicinity of Raymond's Restaurant/Club House. Waste materials consist of C&D wastes, comprised mostly of wood, carpeting, electrical wiring, assorted plastic materials metal piping, and bricks. The approximate dump area is 0.15 acres in size. Photographs, Nos. 11 and 12 present an example of the types of waste materials encountered during Phase II test pit investigations (Appendix E).

#### Main Parking Lot Dump Site - Section 15, Block 1, Lot 14

The Main Parking Area Dump is located east of the main parking area and adjacent to an unnamed tributary of the Kiamesha Creek and a wetland regulated under Federal jurisdiction. The top elevation of the dump approximates the adjacent parking area, with an approximate relief of 25 feet from the top of the parking area, to the base of the waste pile. The total affected area is approximately 0.53 acres. Surface wastes are present, mostly comprised C&D and of yard wastes (corn stalks, grass clippings and leaves). Along the outside slope of the dump are large quantities (approximately 1,000 cubic yards) of exposed wood, white goods (hot water heaters and air conditioners), furniture, electrical fixtures, golf bags, plastic and metal piping, auto upholstery and carpeting. Most of the slope face is littered with these materials. In addition, groundwater seeps were observed at three locations at the base of the waste mass, all of which displayed signs of leachate staining. Photographs, Nos. 13 and 14 depict the types of wastes and a seep stain encountered during Phase II test pit investigations (Appendix E).

#### Casino Dump Site - Section 13, Block 3, Lot 20

The Bailey Road Casino site is littered with surface wastes that include white goods, furniture and assorted plastic materials. An abandoned swimming pool is filled with C&D and white goods. The pool had previously been emptied of water. In addition, a small parking area exists downgradient from a wood constructed Casino building and the swimming pool. An approximate 0.27 acre area is filled with C&D materials intermixed with municipal waste including bottles, cans and white goods. The bulk of the disposed materials appear to be situated along the outer limits of the parking area. Photographs, Nos. 15 and 16 present an example of the types of waste materials encountered during Phase II test pit investigations (Appendix E).

#### Breezy Corners Bungalows - Section 23, Block 2, Lot 4

Two bungalows located on this land parcel are surrounded with scattered waste comprised of appliance parts (water storage tanks and parts of white goods) and C&D waste materials consisting mostly of wood and shingles. A nearby abandoned swimming pool also contains waste materials, mostly consisting of C&D materials and white goods. The exact types of waste could not be ascertained since water is contained within the pool. The color of the water is brown, possibly resulted from leaf staining and from the unknown waste within the pool.

#### Thompsonville Road Site - Section 23, Block 1, Lot 48

This parcel once contained a storage building used to store equipment and outdoor furniture. Portions of the building, equipment and furniture still exist. An inspection of the property revealed that some signs of surface disposal occurred over time, primarily consisting of metal parts and wood materials in a small area of the site (less than 5 cubic yards of materials). The quality of this material is suitable for reuse elsewhere on the property and should not be disposed. Signs of top soil removal practices were evident across open areas of the property.

#### Concord Service Station Dump Site - Section 9, Block 1, Lot 35

This dump site is approximately 0.17 acres in size and displays evidence of C&D debris disposal as well as tires (approximately 50) disposed in areas surrounding the limits of the dump. Plumbing piping and wood are exposed at the surface along with an antique car (circa late 1960's/early 1970's). Plastic bags containing refuse were observed at the time of ECSI's walkover surveys during 1996 and 1997. Section 9, Block 1, Lot 35 is County owned. Photographs, Nos. 17 and 18 present an example of the types of waste materials encountered during Phase II test pit investigations (Appendix E).

#### Cemetery Dump Site - Section 23, Block 1, Lot 11.3

This area is approximately 0.08 acres in size and displays signs of white goods and assorted machinery parts (i.e., lawn care equipment and vehicle parts). These materials are exposed along a small topographic rise situated at the south boundary limits of a nearby cemetery, named Workmen's Circle Cemetery. Section 23, Block 1, Lot 11.3 is County owned. Photographs, Nos. 19 and 20 present an example of the types of waste materials encountered during ECSI's walkover inspections (Appendix E).

### TOWN OF FALLSBURG

#### Horse Farm Dump Site - Section 60, Block 1, Lot 75

This parcel displays signs of surface waste material deposition, primarily consisting of white goods and C&D waste materials. A small area of the site (less than 0.10 acre) contains a pile of this material and very few signs of waste materials exist at the surface.

## 6.0 PHASE II METHODOLOGY

Phase II Investigative efforts included estimating volumes of waste masses by measuring the vertical and horizontal extent of disposed wastes materials. ECSI also characterized subsurface soils at each dump site. The same approach used to determine volume of wastes for each dump site was used to determine the horizontal and vertical extent of contamination for each investigated UST location.

As noted, the investigative method chosen to determine the extent and characteristics of past waste disposal practices was a test pit program. The method chosen to ascertain subsurface conditions in the vicinity of suspect UST was that of a boring program utilizing a mobile GeoProbe drill rig. Tank integrity testing of each accessible USTs, as determined by field inspection, was performed as a screening tool prior to placing GeoProbe borings in the field.

Krum and Sons, of Monticello, New York and New York Earth and Structure, Bloomingburg, New York, were retained to excavate test pits, Zebra Environment of Albany, New York was retained to provide boring (GeoProbe) services. Tank testing was performed by Precision Tank Testing of White Plains, New York. Services performed by these firms were supervised by ECSI personnel.

A PID (Photoionization Detector) unit and/or OVM (Organic Vapor Meter) was utilized in conjunction with the test pit and boring programs to screen soils and to guide activities by providing preliminary information with respect to VOCs, typically present within petroleum contaminated soils. In an effort to further characterize conditions, soil and water samples were obtained and analyzed under acceptable methods by Friends Laboratory, Inc., a New York State Certified laboratory.

### 6.1 Test Pit Investigation Program

As noted, the purpose of conducting test pit investigations was to ascertain the vertical and horizontal extent of waste deposition as well as identify the types of wastes disposed. Test pits were placed randomly across each suspected dump site location. In an effort to complete Phase II Investigation activities within a limited time frame, ECSI retained the services of two (2) excavation companies; Krum & Son, Inc. and New York Earth & Structure. Each of the companies provided an excavator with a reach of approximately 12 to 18 feet and a qualified operator. Typically, only one or more samples were necessary for characterization purposes.

Every effort was made to excavate each test pit to the bottom of the waste pile. Visual observations regarding the types of waste, as well as special conditions encountered, were recorded. Photographs were obtained during test pit investigations to document findings (Appendix E). Soil screening, using a PID unit or OVM, was performed to determine the presence of organic waste materials, as well as for health and safety monitoring purposes.

Composite samples of suspect groundwater, surface water and soils were obtained based on encountered field and waste material conditions. Samples of soil situated below suspect waste

masses were obtained to evaluate the extent of soil quality impacts and to characterize residue materials as hazardous or nonhazardous. Soil samples obtained from below and/or near the waste masses were analyzed for full TCLP and RCRA criteria (Ignitability, Reactivity and Corrosivity). Full TCLP parameters and RCRA criteria facilitated prompt characterization of suspect soils.

In addition, both groundwater and surface water was analyzed under 6 NYCRR Part 360, Solid Waste Management Facility baseline parameters. The Part 360 parameters are utilized for environmental monitoring of groundwater and surface waters at municipal solid waste landfills in the State as part of a gauging process (environmental monitoring) to ensure compliance with applicable solid waste regulations. The parameters encompass a wide array of potential pollutants which may be found within solid waste impacted materials. Part 360 parameter analyses were completed to facilitate a determination as to the extent and character of groundwater and surface water impacts which may be directly attributable to waste deposition. The parameter analyses also facilitated discussions with representatives of the NYSDEC Divisions of Solid and Hazardous Waste as part of plans outline cleanup criteria and site closure particulars with the NYSDEC.

## 6.2 Tank Integrity Testing Program

A total of nine (9) (USTs) were integrity tested using the EZ-Horner 3 test method. As noted, Precision Tank Testing, LLC conducted tank testing activities. Prior to testing, provisions were made to ensure that each tank was filled to an appropriate level, as required for the EZ-Horner test method. Both tank and piping (i.e., feed and return lines) were tested to determine system tightness.

UST site locations included two 15,000 gallon # 4 fuel tanks in operation at the main Hotel, one 1,500 gallon fuel oil (kitchen waste) underground storage tank at the main Hotel, one # 2 fuel oil tank in use at the former Concord Service Station along Concord Road, one 12,000 gallon # 4 fuel oil tank in use at Raymond's Restaurant/Club House and four tanks in use at the Golf Maintenance Shop; one 2,500 gallon gasoline tank, one 2,000 gallon diesel fuel tank, one 550 gallon waste oil tank and one 1,000 gallon # 2 fuel oil tank. Contingency measures were in place, via agreements with Luzon Environmental Services, prior to testing activities in the event one or more of the USTs failed integrity testing criteria.

In addition, all test failures were immediately reported to the NYSDEC and an assigned spill number was secured by ECSI and/or representatives of Precision Testing. One other tank was attempted for testing, a 500 gallon underground fuel oil tank at the John Parker residence located along Thompsonville Road, however, access to the tank could not be fully accomplished given that its location was beneath a wooden deck and a vent pipe did not exist. During September 1998, subsurface conditions around the tank were investigated GeoProbe boring rig.

## 6.3 Boring Program

The boring (GeoProbe) investigation program centered on evaluating the extent of contaminated subsurface soils and groundwater conditions using a PID unit and/or OVM designed to screen for VOC emissions. As necessary, soil and groundwater samples were



obtained to confirm the presence of contamination and/or the uncontaminated extent of a confirmed release. Borings were placed in the field utilizing an all-terrain mounted GeoProbe unit and associated supplies. A pattern of probe points were advanced to a minimum of 8 feet or to refusal, around each UST site location and within areas believed to previously contain USTs, such as the case at the former Concord Services Station property which fronts along Concord Road. As noted, the GeoProbe unit was operated by Zebra Environmental Corporation personnel under the supervision of ECSI.

To collect soil samples, a Macro Core (MC) sampler was used. The MC samplers are open tube design and measure approximately 2 inches in diameter by 44 inches long. The samplers are fitted with a removable cutting shoe and clear acetate liner. Samples can be collected from 0 to 4 feet, 4 to 8 feet, and 8 to 12 feet, etc., etc., below existing grade. Subsurface conditions dictate the pattered use of this sampler.

The placement of each probe point was conducted in a systematic manner, to facilitate soil screening and sampling activities (as necessary). The depth of each probe point varied, by location, but were typically between eight and twelve feet depending on encountered conditions. A record of boring depths, the presence of ground water, PID/OVM readings at 12 inch intervals along each boring core (reading vapors within a head space established within the extracted acetate), and approximate boring locations were documented by ECSI personnel. Prior to using a PID or OVM, background readings were obtained for site-specific work areas. Records of these readings were also documented by ECSI staff. After completing the described soil screening and sampling activities, each probe point bore hole was back filled with excavated materials.

#### 6.4 UST Sampling and Analytical Protocols

Friend Laboratory Inc. (FLI) Laboratories, of Waverly, New York, was retained to perform analytical work required to confirm the quality of screened soils and groundwater conditions at each UST site. Groundwater samples were extracted from a probe point bore hole using either a peristaltic or vacuum pump attached to Teflon tubing at the surface. Every effort was made to ensure that the most representative sample was collected for each sampled location. The depth and physical condition of each sample was recorded by ECSI representatives.

In the event signs of contamination were encountered during probe point placement (either visually or by soil screening), soil samples were collected to characterize the vertical and horizontal extent of the suspect plume. The approximate depth and location of each sample was recorded and maintained separately under chain-of-custody procedures by ECSI personnel. Discrete and composite soil samples were obtained to characterize the vertical and horizontal extent of contaminated soil and groundwater conditions in the vicinity of the USTs and former UST locations. The soil and groundwater samples obtained at each site were analyzed for the parameters noted under the New York State of Environmental Conservation (NYSDEC) STARS Memorandum #1, Petroleum Contaminated Soil Guidance Policy, dated August 1992 (reprinted July 1993). Analytical parameters and test methods used for both soil and water composite and discrete sampling included:

<u>Parameter</u>	<u>Test Method</u>
Volatile Organics (VOCs)	SW846 (EPA Method 8021)
Semi-volatiles	SW846 (EPA Method 8270)

Once all analyses were complete, ECSI compared analytical results to applicable criteria noted under the STARS Memorandum to evaluate and report the extent of on-site contamination and calculate cost estimates contained in Section 10.0, Remediation Cost Estimates.

Sampling procedures adhered to appropriate Quality Assurance/Quality Control (QA/QC) measures referenced under State recognized procedures. Representatives of FLI Laboratory ensured that appropriate Standard Operating Procedures (SOPs) and Good Laboratory Procedures (GLPs) were performed for the project.

#### **6.5 Concord Well Water**

During February 21, 1998, a well water sample was obtained from the on-site water supply well, owned by the Concord Resort Hotel and leased to the Kiamesha Artesian Spring Water Co., Inc. This sample was analyzed for full Part V Safe Drinking Water Act constituents using EPA Method 502.2. According to available information obtained under the Phase I investigation, this well has never been individually sampled, only the combined water supply source at the initial distribution point located within the limits of the water Company's facility adjacent to the Kiamesha Lake, was sampled. However, concerns associated with the close proximity of golf maintenance operations and future use prompted the testing of this individual source. The results of full Part V testing are discussed below.

### **7.0 DUMP SITE PHASE II INVESTIGATION FINDINGS**

A total of nine (9) dump sites were identified and investigated in the field under the Phase II Assessment process. These sites exist atop soils which are regarded as either silty, gravelly loamy textured soils, and/or those which contain a distinct fragipan layer with reported impermeable characteristics. Specific soil characteristics are presented below to imply the extent of migration potentials which may develop over time, if confirmed contamination is not addressed in a timely and environmentally sound manner.

The field information presented below has been used to generate remediation cost estimates which are further discussed in Section 10.0 of this report. Overall, the type of waste disposal characteristics appeared to be similar from site to site in that the bulk of waste materials encountered in the field consisted of limited quantities of garbage waste with the bulk of waste materials consisting of construction and demolition debris, probably originating from past facility building renovations and improvements. In addition, encountered waste materials were heavily laden with soils. As noted previously, Appendix E contains photographs of dump sites in addition to general site conditions. Sketches of each dump area are contained in Appendix F and provide an approximate location of each test pit and a brief summary of materials encountered.

The criteria for obtaining soil samples at the depths noted was based on visible signs of soil discoloration or unrecognizable decomposed waste materials encountered within the excavated waste mass. Analytical results for each sample obtained at the dump sites are contained within Appendix G.

#### 7.1 Concord Service Station Dump Site - Section 13, Block 3, Lot 19.1

This dump site is located within approximately 1/4 mile east of the former service station which fronts along Concord Road. According to the Town of Thompson Tax Assessor's Office, records indicate that the dump site exists on a parcel designated as Section 13, Block 3, and Lot 19.1. Based on current tax records, this parcel is County owned. The parcel is 33.4 acres in area, the dump area is approximately 0.53 acres in size.

Visual inspection of the impacted areas of the parcel revealed that surface waste deposition, in the form of tires, a few empty steel 55 gallon (rusted) drums, small quantities of yard waste and lead piping (plumbing) which was placed atop an observed grade with an approximate four foot relief when compared to nearby surrounding grades.

Structures do not exist in the vicinity of the impacted area. Surrounding areas are vacant, forested lands which connect (edge) with portions of the International Golf Course located to the east. Risk pathways such as wetlands and/or surface water table seep conditions do not exist in the vicinity of the impacted area. The filled area lies adjacent to a large parking area which fronts along Concord Road.

Information contained within the Soil Survey of Sullivan County issued by the US Department of Agriculture, Soil Conservation Services (dated July 1989) indicates that the dump site lies atop soils classified as Wellsboro gravelly loams soils (at 3 to 8 % and 8 to 15% slopes). Specific information contained within the Survey is as follows:

Wellsboro gravelly loam (WeB & WeC) consists of a very deep, moderately well drained soil found on hilltops. Fragipan conditions are contained within the profile at approximately 60 inches. Soil permeability is moderate above the fragipan and slow within the pan. The seasonal high water table is perched above the fragipan in the late Fall and early Spring. The available water capacity is moderate. Depth to bedrock is generally more than 60 inches.

On February 4, 1998, a test pit investigation was performed at the dump area to ascertain subsurface conditions. A total of nineteen (19) test pit excavations were placed across the subject area to verify the extent of past dumping activities. A review of aerial photographs obtained for the property revealed that dumping occurred during the early to late 1980's. Excavations were placed from two to four feet below the suspect waste grade and to the original grades situated below deposited materials. Excavations placed within the waste mass revealed the existence of buried tires, construction and demolition debris (i.e., wood, plaster, wallboard, plumbing fixtures and electrical fixtures and conduit, brick and concrete forms) and a crushed metal drum containing an Exxon label. Composite samples of the decomposed waste and parent grade soils were

obtained for five test pit locations (Test Pit No. 1 and two composite samples of paired Test Pit Nos. 6 and 7, and 10 and 11). An additional sample was obtained of soils below and surrounding the uncovered Exxon drum. A sketch of the suspect area showing the approximate location of each test pit and brief notations of encountered waste materials is contained in Appendix F. As noted, photographs of forested areas surrounding the suspect dump site as well as an example of the waste materials encountered, are contained in Appendix E.

Test pit composite sample results revealed that the sampled soils were nonhazardous and in fact did not contain any trace parameters analyzed under RCRA criteria analyses (Ignitability, Corrosivity and Reactivity) or full TCLP test parameters (Appendix G). Soil screening activities using a PID unit did not reveal any incidence of VOC's resulting from a suspect spill/release.

Soils sampled from each of the above noted test pits were obtained from an approximate depth of 4 feet within the excavation. The composite soil samples for Test Pit Nos. 6 and 7 and Test Pit Nos. 10 and 11 indicated Barium as being detected. The analytical results indicated a Barium concentration of 0.167 ppm Test Pit Nos. 6 and 7 and 0.468 ppm for Test Pit Nos. 10 and 11. All other parameters tested for under the analytical method were noted as none detected and were not present or present in concentration below that of the method detection limit. Based on available literature obtained for the area, Barium is a natural occurring metal which has achieved reported concentrations of greater than 1.0 ppm in natural soils. As such, these concentrations are likely indicative of natural conditions.

An estimate of the approximate waste volume of 530 cubic yards was determined for this dump site. This estimate is based on the vertical and horizontal limits of materials observed by test pit activities.

## **7.2 Main Parking Lot Dump Site - Section 15, Block 1, Lot 14**

The Main Parking Lot is located on the east side of Concord Road, east of the main Hotel and southeast of the intersection of Concord Road and County Highway 109. According to available information, the parking lot is a portion of Section 15, Block 1, Lot 14. The complete area of Lot 14 is approximately 197.37 acres, according to information maintained by the Town of Thompson Tax Assessor's Office. Phase II activities in this area centered on the investigation of the eastern limits of the main parking lot where past dumping activities are visible. The top elevation of the dump meets the elevation of the adjacent parking area. Surface wastes are present and are comprised mostly of yard wastes (corn stalks, grass clippings and leaves). Along the outside slope of the dump are large quantities (approximately 1,000 cubic yards) of exposed wood, white goods (hot water heaters and air conditioners), furniture, electrical fixtures, golf bags, plastic and metal piping, auto upholstery and carpeting. Most of the slope face is littered with these materials. Appendix E contains photographs of the general layout of the main parking lot, waste materials encountered within the main parking lot dump site, and a seep.

The main parking area is a large open parking lot with some areas of pavement, gravel, and dirt. The parking lot area is surrounded by cyclone fencing with gates to provide ingress/egress. The access roads connect with Concord Road as well as an internal access road

which connects with Concord Road and internal golf course areas. The parking lot is utilized by both Hotel guests and employees. A maintenance barn is located in the central/western area of the parking lot. In addition, a sewer pump station, owned and operated by the Town of Thompson is located in close proximity to the maintenance garage. Storm collection drains are located within the parking lot, and allow for storm water to flow to the east, toward the dump area. This may be a source of the observed seep sampled under the Phase II work effort.

The main parking dump site area is located at the eastern limits of the main parking lot and adjacent to an unnamed tributary of the Kiamesha Creek and a wetlands regulated under Federal jurisdiction. As noted previously, available information indicates that the site is covered by glacial till with a variable depth. Further, the lands that encompassed by the Concord Hotel are within the West Falls soils group, which is part of the upper Walton formation and comprised of shale, sandstone, and conglomerate.

Information contained within the Soil Survey of Sullivan County, New York issued by the US Department of Agriculture, Soil Conservation Service in July 1989, indicates that the main parking lot is located over two soil types, the Wellsboro gravelly loam and the Morris loam. Soil mapping revealed that the area contains Wellsboro gravelly loams at both 3 to 8% and 8 to 15% slopes. The Morris loam noted for the area has 3 to 8% slopes. Specific soil information excerpted from the Soil Survey is as follows:

Wellsboro gravelly loam is a very deep, moderately well drained soil on hillsides and hilltops. A fragipan is typical. Permeability of this Wellsboro soil is moderate above the fragipan and slow in the fragipan. The seasonal high table is perched above the fragipan in late fall and early spring. Surface runoff is medium. Depth to bedrock is generally more than 60 inches.

Morris loam is a very deep, somewhat poorly drained soil on the lower parts of concave hillsides on uplands. Permeability of this Morris soil is moderate in the upper part and slow or very slow in the dense, firm layer, or fragipan, in the subsoil. The seasonal high table is perched above the fragipan from late fall to early spring. Surface runoff is slow or medium. Depth to bedrock is generally more than 60 inches.

A test pit investigation was conducted at the Main Parking Area Dump on February 3, 1998, to determine the extent of waste deposition as well as characterize the wastes. Although two areas were determined to contain waste, only one area provided access for test pits. The test pit investigation in this area revealed an impacted area of approximately 0.44 acres over thickness' of 5 to 20 feet, as well as containing some surface waste and C&D debris. The second area of waste deposition was estimated at 0.09 acres. As such, the total approximated area of waste deposition in the Main Parking Area Dump is 0.53 acres. The approximate volume of waste in this area, based on physical data obtained during test pit investigations, is estimated at 3,000 cubic yards. Test pits excavated close to the edge of fill indicate that the refuse along the edge of the site is limited in extent and that the fill contains small volumes of waste. Based on a review of

aerial photos and the waste materials encountered in the field, it is estimated that waste was placed in this area from the early 1980s to the early 1990s.

A total of fifteen (15) test pits were placed within the main parking lot dump site. The depth of the test pits ranged from 4 to 16 feet. As noted, buried waste materials included yard wastes (corn stalks, grass clippings and leaves), wood, white goods (hot water heaters and air conditioners), furniture, electrical fixtures, golf bags, plastic and metal piping, auto upholstery and carpeting. Soil samples were obtained from the presumed base of waste from four (4) of the fifteen (15) test pits. Analyses conducted on the soil samples included full TCLP and RCRA criteria tests to facilitate a determination of hazardous or nonhazardous materials.

According to the analytical results for the areas sampled, nonhazardous wastes exist at the Main Parking Area Dump site (Appendix G). Soil samples were obtained and analyzed from test pit numbers 32, 33, 34, and 35. Test pits 32 and 33 were sampled at a depth of approximately 16 feet and test pits 34 and 35 were sampled at an approximate depth of 15 feet. Analytical results for each of the four (4) test pit locations indicated the presence of Barium; Test Pit No. 32 had a reported concentration of 0.294 ppm, Test Pit No. 33 had a reported concentration of 0.534 ppm, Test Pit No. 34 had a reported concentration of 0.430 ppm, and Test Pit No. 35 had a reported concentration of 0.454 ppm. In addition, Cadmium was detected in the soil samples for Test Pits Nos. 33 and 35 at a reported concentration of 0.055 ppm and 0.053 ppm, respectively. All other parameters tested for under the analytical method were noted as none detected and were not present or present in a concentration below that of the method detection limit. The reported concentrations of Barium are believed to be naturally occurring.

In addition to the above, a water sample was obtained in the vicinity of the main parking lot dump. During prior site inspections a seep was discovered on the hillside below the presumed base of waste placement. The seep is presumed to flow below or in close proximity to the waste mass. A sample of the seep water was obtained on February 5, 1998 to determine if the seep water was contaminated. The water sample was analyzed for solid waste baseline water quality parameters, regulatory parameters utilized by the NYSDEC to evaluate impacts related to releases of solid wastes. According to the laboratory results, the seep sample detected Aluminum at a concentration of 0.454 ppm, Barium at 0.076 ppm, Calcium at 54.7 ppm, Iron at 4.38 ppm, Lead at 0.006 ppm, Vanadium at 0.005 ppm, Magnesium at 3.74 ppm, Manganese at 1.44 ppm, Potassium at 6.94 ppm, and Sodium at 93.4 ppm. Analytical results reported for the seep sample indicate that potential impacts (leaching) are occurring as a result of past waste disposal practices. Table 7-1 notes the reported analytical results in exceedence of NYSDEC Part 360 thresholds as well as other samples obtained during Phase II investigations, which are discussed in subsequent report sections. The seep flows to an unnamed, intermittent stream (located adjacent to the dump) which eventually reaches the Kiamesha Creek, north of the NYSDEC designated dump site. The stream is classified by the NYSDEC as a Class C stream. The best usage for Class C waters, as defined by the NYSDEC, is fishing and waters suitable for fish propagation and survival. In addition, these waters must be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes.

**TABLE 7-1**  
**6 NYCRR PART 360 ANALYTICAL RESULTS SUMMARY**  
**CONCORD RESORT HOTEL DUMP SITES**

Parameter	NYSDEC Dump MW1	NYSDEC Dump MW2	NYSDEC Dump MW3	NYSDEC Dump Seep	Golf Maintenance MicroWell	Golf Maintenance In-Stream	Main Parking Area Dump Seep
Benzene	ND	ND	ND	ND	ND	0.9 ppb	ND
Toluene	ND	ND	ND	ND	ND	8 ppb	ND
TOC	5.9 ppm	8.8 ppm	8.4 ppm	ND	ND	3.0 ppm	ND
Potassium	6.68 ppm	18.7 ppm	14.8 ppm	2.19 ppm	10 ppm	1.18 ppm	6.94 ppm
Sodium	28.4 ppm	18.8 ppm	2.39 ppm	22.1 ppm	105 ppm	82.0 ppm	93.4 ppm
Barium	0.294 ppm	1.69 ppm	1.77 ppm	0.162 ppm	0.273 ppm	0.215 ppm	0.076 ppm
Calcium	16.0 ppm	31.0 ppm	44.6 ppm	24.8 ppm	50.9 ppm	17.3	54.7 ppm
Iron	50.8 ppm	21.5 ppm	216 ppm	76.7 ppm	ND	0.174 ppm	4.38 ppm
Magnesium	10.7 ppm	27.2 ppm	43.9 ppm	5.75 ppm	5.91 ppm	3.45 ppm	3.74 ppm
Manganese	1.06 ppm	11.5 ppm	16.3 ppm	1.95 ppm	3.15 ppm	0.052 ppm	1.44 ppm
Aluminum	26 ppm	102 ppm	119 ppm	0.18 ppm	5.16 ppm	ND	0.454 ppm
Arsenic	0.016 ppm	0.062 ppm	0.13 ppm	0.005 ppm	0.008 ppm	ND	ND
Beryllium	0.002 ppm	0.013 ppm	0.014 ppm	ND	ND	ND	ND
Chromium	0.037 ppm	0.154 ppm	0.165 ppm	ND	0.022 ppm	ND	ND
Cobalt	0.018 ppm	0.19 ppm	0.124 ppm	ND	ND	ND	ND
Copper	0.046 ppm	0.313 ppm	0.366 ppm	ND	0.017 ppm	ND	ND
Lead	0.062 ppm	0.51 ppm	0.44 ppm	0.020 ppm	0.20 ppm	ND	0.006 ppm
Vanadium	0.027 ppm	0.099 ppm	0.102 ppm	ND	0.006 ppm	ND	0.005 ppm
Nickel	0.049 ppm	0.267 ppm	0.298 ppm	ND	0.032 ppm	ND	ND
Zinc	0.141 ppm	0.595 ppm	0.619 ppm	0.067 ppm	1.30 ppm	ND	ND
Boron	ND	0.061 ppm	0.061 ppm	ND	ND	ND	ND
Cadmium	ND	0.022 ppm	0.022 ppm	0.013 ppm	0.005 ppm	ND	ND
Mercury	ND	0.0002 ppm	0.0002 ppm	ND	0.0022 ppm	ND	ND
Selenium	ND	ND	0.003 ppm	ND	ND	ND	ND

**LEGEND**

ppm = parts per million    ppb = parts per billion    ND = None Detected  
Shaded areas indicate an exceedence of applicable New York State regulatory thresholds.

### 7.3 Golf Maintenance Dump Site and Vehicle Storage Area - Section 15, Block 1, Lot 50

The Golf Maintenance Dump site, and an identified waste/soil filled equipment/vehicle storage area adjacent to the Golf Maintenance Shop, is located west of Chalet Road, opposite the on-site Ski Chalet facility. The subject parcel is designated as Section 15, Block 1, Lot 50 and the complete area of the parcel is approximately 17.72 acres. The Kiamesha Creek flows north and lies adjacent to the dump and storage area. Recognizable waste materials exist at and throughout the dump area with abandoned vehicles scattered about the limits of an elevated waste mass (approximately 15 feet above surrounding grades). Appendix E provides photographs of the Golf Maintenance Shop area.

Based on a review of aerial photographs of the Golf Maintenance Shop area, disposal activities consisted of progressively filling each area (the first being the adjacent vehicle/equipment storage area) in a southwest direction until suitable grades were reached for storage purposes and to match grades surrounding the nearby dump site. Disposal activities are at the dump and storage area believed to have been initiated during the late 1970's and continued at the dump area until May 1998, based on observations of field conditions.

Information contained within the Soil Survey of Sullivan County, New York (SCS, dated July 1989) indicates that disposed materials lie over Otisville gravelly loamy coarse sand, Wellsboro and Wurtsboro soils, strongly sloping, extremely stony, and Wurtsboro loam. Specific soil information excerpted from the Soil Survey is as follows:

Otisville gravelly loamy coarse sand, 3 to 8 percent slopes is a gently sloping, very deep, excessively drained soil that formed in glacial outwash. The seasonal high water table in this Otisville soil is at a depth of more than 6 feet. Permeability is rapid or very rapid. The available water capacity is very low. Surface runoff is slow or medium. Gravel or cobbles are common in the surface layer and increase in abundance in the subsoil. Depth to bedrock is more than 60 inches.

Wellsboro and Wurtsboro soils, strongly sloping, extremely stony (WIC) map unit consists of very deep, moderately well drained soils that formed in glacial till on upland till plains and the lower parts of hillsides on uplands. Some areas are Wellsboro soils, some are the Wurtsboro soils, some consist of both. Texture of the surface, excluding stones, are gravelly silt loam and gravelly loam. Stones more than 10 inches in diameter and about 2.5 to 5 feet apart cover 3 to 15 percent of the surface. These soils have a dense, firm fragipan. Slopes range from 0 to 15 percent.

Permeability of the Wellsboro and Wurtsboro soils is moderate above and slow within a fragipan. The seasonal high water table in both soils is perched above the fragipan from late fall to early spring. The available water capacity for both soils is moderate. Surface runoff is medium or rapid. Depth to bedrock is more than 60 inches.



Wurtsboro loam, 3 to 8 percent slopes, stony (WuB) is a very deep, gently sloping, moderately well drained soil on hillsides and hilltops. Permeability of the Wurtsboro soil is moderate to a depth of 26 inches and slow below that depth. The seasonal high water table is perched above the firm and brittle part of the subsoil (fragipan) in late fall and early spring. Surface runoff is medium. Depth to bedrock is generally more than 60 inches.

A test pit investigation was performed at the Golf Maintenance Dump and storage area during the week of February 2, 1998. Phase II investigation efforts centered on the placement of test pits throughout the dump and storage area and the installation of three (3) MicroWell monitoring points, downgradient of the dump and storage area. Soil samples from each of the MicroWells were composited into one sample and analyzed for full TCLP and RCRA criteria. In addition, a grab sample of water within a stream located between the storage area and dump was analyzed for 6 NYCRR Part 360 parameters to determine if surface waters (via groundwater seepage) were impacted due to the stream's proximity to the dump and storage areas. The stream is tributary to the Kiamesha Creek and originates approximately 200 feet from the Creek, between the dump and storage areas. Appendix F provides a field sketch representation of the approximate test pit, MicroWells and stream locations noted in the field. Appendix G provides the analytical results obtained for each of the Golf Maintenance samples described below.

A total of thirteen (13) test pits were placed at the dump to approximate depths ranging from 6 to 16 feet below existing grade. Soil screening activities using a PID unit did not reveal any suspect conditions (i.e., VOC content within the soil). The type of waste materials encountered included old dishes, glass and plastic bottles, ash (presumed to be generated by past surface waste burning activities) buried with soil fill, wood, small quantities of carpeting and refuse (garbage). A total of five soil samples were obtained from varying depths within each test pit excavation. These included a sample from Test Pit No. 7 at 16 feet, Test Pit No. 8 at 4 feet, Test Pit No. 9 at 12 feet, Test Pit No. 12 at 15 feet and Test Pit No. 13 at 6 feet. Each test pit sample was analyzed for full TCLP parameters and RCRA criteria.

A total of ten (10) test pits were placed throughout the limits of the vehicle/equipment storage area, east of the dump, and in close proximity to the Golf Maintenance Shop. The test pits were excavated to depths ranging from approximately 1 to 6 feet below existing grade. A field sketch representation of the approximate test pit locations excavated within the vehicle storage area is contained in Appendix F.

Materials encountered by excavation included construction and demolition debris, electrical conduit, glass and plastic bottles, ash, and metal. Soil screening activities using a PID unit did not reveal any suspect conditions (i.e., VOC content within the soil). A total of three composite soil samples were obtained from varying depths within the three test pit excavations. These included Test Pit No. 42 at 2.5 feet, Test Pit No. 47 at 3 feet and Test Pit No. 48 at 6 feet. Each test pit sample was analyzed for full TCLP parameters and RCRA criteria.

Based on reported results, TCLP and RCRA parameter analyses indicate that the waste materials and soil samples obtained are nonhazardous. Analytical results for Test Pit No. 7

revealed concentrations of Barium at 0.593 ppm and Lead at 0.471 ppm. Test Pit No. 8's analytical results revealed concentrations of Barium at 0.477 ppm, Cadmium at 0.064 ppm, and Lead at a concentration of 0.474 ppm. Test Pit Nos. 9, 12, 13, 42, and 47 all contained Barium at concentrations of 0.265 ppm, 1.46 ppm, 0.221 ppm, 0.331 ppm, and 0.328 ppm, respectively. Analytical results for Test Pit No. 48 revealed Barium at a concentration of 0.070 ppm. All other parameters analyzed under the above noted analytical methods were noted as nondetects, not present or present in a concentration below the method detection limit. The reported concentrations of Barium are believed to be within background levels. The other metals reported appear to be indicative of the breakdown of waste associated with disposed materials.

In addition, concentrations of Toluene (8.0 ppm) and Benzene (0.9 ppm) were detected in the water sample obtained from the stream situated between the dump and storage area, which flows to the Kiamesha Creek. No other parameters listed under the methods analyzed under Part 360 requirements were indicative of surface water impacts related to past waste disposal activities.

As noted, a composite soil sample was obtained from each of the MicroWell installations while each well was installed. The sample was analyzed for full TCLP and RCRA parameters to determine if soils downgradient from the dump and storage areas were impacted from past disposal activities. Based on reported analytical results, downgradient soils were not impacted by past disposal activities for these locations. In addition to the soil sample, water samples obtained from MicroWell Nos. 2 and 3 (immediately downgradient of the dump) were analyzed using EPA Methods 8021 and 8270 to determine if shallow groundwater resources downgradient of the dump were impacted with petroleum product constituents resulting from past disposal activities. The results indicate that trace concentrations of Toluene (2.0 ppb) and p-Xylene/m-Xylene (1.0 ppb) were reported for MicroWell No. 2 and Toluene was detected at 0.7 ug/l for MicroWell No. 3. Evidence of petroleum product releases were not detected in the vicinity of the well points.

A water sample was obtained from MicroWell No. 1 and was analyzed for 6 NYCRR Part 360 Baseline parameters. Part 360 Baseline parameters were targeted to ascertain possible liquid waste migration to the nearby Kiamesha Creek originating from the dump and equipment/vehicle storage areas. The results indicate the presence of metals including Aluminum (5.16 ppm), Arsenic (0.008 ppm), Barium (0.273 ppm), Cadmium (0.005 ppm), Chromium (0.022 ppm), Copper (0.017 ppm), Iron (58.1 ppm), Lead (0.20 ppm), Vanadium (0.006 ppm), Magnesium (5.91 ppm), Manganese (3.15 ppm), Mercury (0.0022 ppm), Nickel (0.032 ppm), Potassium (10.0 ppm) and Zinc (0.032 ppm) all of which were contained within the shallow groundwater. The analytical results are presented within Table 7-1, with indication of those parameters in exceedence of NYSDEC Part 360 thresholds.

#### 7.4 NYSDEC Golf Course Dump Site - Section 15, Block 1, Lots 11 and 13

Based on limited available information, dumping activities commenced at the site during the 1970's and continued into the early 1980's. Prior to dumping activities, the site was used by the Hotel as a gravel mine and was eventually rendered to a nearly level condition. The site lies west of and in close proximity to the Kiamesha Creek. The topography of the dump site is flat

and somewhat bowl shape as higher surrounding topographic elevations exist along the west, north and southern limits of the site. The surrounding topographic features are remnants of past mining activities and approximate the limits of the mine. A section of the International Golf Course exists approximately 50 to 100 feet west of the western most limits of the waste mass, as encountered by ECSI by way of test pit investigations. Soils are described within the Sullivan County Soil Survey as consisting of Scriba loam, stony and Wurtsboro loam. Both soil units are noted as having slopes ranging from 3 to 8 percent. Specific soil information excerpted from the Soil Survey is as follows:

Scriba loam, 3 to 8 percent slopes, stony (ScB) is a gently sloping, very deep, somewhat poorly drained soil on toe slopes and on parts of glaciated uplands and till plains. Stones, 10 to 200 feet apart, cover 0.01 to 0.1 percent of the surface. Permeability in this Scriba soil is moderate or slow above the fragipan and slow in the fragipan. Surface runoff is slow or medium. The seasonal high water table is at a depth of 0.5 foot to 1.5 feet and is perched above the fragipan in late winter and early spring. The available water capacity is low. Depth to bedrock is generally 60 inches or more.

Wurtsboro loam, 3 to 8 percent slopes, stony (WuB) is a very deep, gently sloping, moderately well drained soil on hillsides and hilltops. Permeability of the Wurtsboro soil is moderate to a depth of 26 inches and slow below that depth. The seasonal high water table is perched above the firm and brittle part of a subsoil fragipan in late fall and early spring. Surface runoff is medium. The available water capacity is moderate. Depth to bedrock is generally more than 60 inches.

This dump site was previously investigated during 1990 and 1991 by the engineering firm of Glenn L. Smith, P.E., on behalf of Kiamesha, and under the oversight of representatives of the New York State Department of Environmental Conservation (NYSDEC). Prior to conducting the investigation, the Department issued an Order on Consent to Kiamesha on July 10, 1989 which required site investigation and remediation actions, as necessary. The Order was never signed by Kiamesha, however, Glenn L. Smith, P.E. was retained to conduct a test pit investigation program, as well as install, sample, and analyze three groundwater monitoring wells. The wells were installed in accordance with applicable Part 360 requirements in effect at the time of the investigation.

Monitoring Well No. 1 was located upgradient of Monitoring Wells Nos. 2 and 3, which were situated downgradient of a waste mass encountered during test pit investigations. During this period, the size of the waste mass was determined to be 1.2 acres, most of which extended to an approximate depth of 3 to 4 feet across this area. Activities related to the installation of each well and the sampling and analyses of groundwater conditions were performed in accordance with regulations noted in 6 NYCRR Part 360, Solid Management Facilities (effective 1988).

Representatives of the NYSDEC also obtained samples and analyzed soil and surface waters conditions within the vicinity of the suspect waste mass, which included the Kiamesha Creek (upgradient and downgradient) and a seep located within the east, central portion of the

waste mass. The seep displayed visual signs of staining suspected as being caused by leachate discharges originating from the waste mass. The seep, which originates approximately 200 feet west of the Kiamesha Creek, has and continues to discharge to the Kiamesha Creek.

The characteristics of the waste encountered by Glenn L. Smith, P.E. was reported as typical construction and demolition debris and kitchen waste materials (i.e., glass and plastic bottles, paper/cardboard packaging, lead piping, wall board and wood of various dimension). These characteristics were similar to those observed during test pit investigation activities completed by ECSI during February 1998 placed south of the areas investigated by Glenn L. Smith, P.E.

Analysis of groundwater conditions coordinated by Glenn L. Smith, P.E., revealed that low concentrations of leachate indicator parameters (i.e., Alkalinity, Sulfate, Calcium, Lead, Iron and Manganese) were detected within the two downgradient groundwater monitoring wells (Monitoring Well Nos. 2 and 3). Efforts by NYSDEC to evaluate the quality of soils and surface waters in the vicinity of the site did not conclude any suspect indications for surface water quality, however, a soil sample obtained 400 to 500 feet west of the Kiamesha Creek, in the area of the waste mass, did indicate high concentrations of petroleum contamination. Based on these results, the NYSDEC concluded that industrial wastes exist at the site.

Subsequent to the NYSDEC findings, Glenn L. Smith, P.E. obtained an additional soil sample in the area sampled previously by the NYSDEC which confirmed levels of aliphatic hydrocarbons believed to have originated by the disposal of petroleum product. Subsequent to these investigations, the NYSDEC required an additional test pit investigation during 1992 within an area south of the dump limits confirmed by Glenn L. Smith, P.E. The results of additional test pit investigations revealed that additional areas of the property were impacted by past waste disposal practices.

Based on conversations between ECSI staff and the NYSDEC (Personal Communications, Andrew Lent, February 1998) the case is still open and no enforcement actions were brought against Kiamesha since investigations were concluded during 1992. During February 1998, ECSI performed a test pit investigation of areas south of the NYSDEC designated dump and obtained soil samples from three test pits to confirm whether or not hazardous constituent concentrations were contained within the soils at the site. TCLP and RCRA criteria analyses were performed for this purpose. In addition, groundwater samples were obtained from the three on-site wells, as well as from the seep and two stream locations to evaluate sediment conditions within the Kiamesha Creek, immediately upgradient and downgradient of the seep confluence point connecting with the Creek. A sketch, contained within Appendix F, depicts the location of test pits placed by ECSI. Sampling and analyses were conducted in accordance with 6 NYCRR Part 360, Solid Waste Management Facilities (effective 1993). Analytical results for each of the samples are contained within Appendix G.

Analytical results for Test Pit No. 82 revealed Barium at a concentration of 0.666 ppm and Lead at 7.38 ppm. The Test Pit No. 91 sample contained Barium at a concentration of 0.441 ppm and Cadmium at a concentration of 0.054 ppm. Analytical results for Test Pit No. 94

contained Barium at a concentration of 0.360 ppm, Cadmium at a concentration of 0.057, and Lead at a concentration of 0.597 ppm

Table 7-1 presents a summary of Part 360 parameters analyzed for the groundwater monitoring wells, and the seep. Based on the results obtained for the two downgradient monitoring wells, exceedences of groundwater quality parameter standards were documented. Parameters exceedences included Barium, Iron, Magnesium, Manganese, Aluminum, Arsenic, Zinc and Mercury. Comparisons with these concentrations to those observed in Monitoring Well No. 1 concluded that parameter concentrations were greater in the downgradient wells, however, parameter concentrations were also detected in the upgradient well at levels below NYSDEC groundwater quality thresholds.

It is important to note that both upgradient and downgradient monitoring wells reflect exceedences of NYSDEC groundwater quality parameters including Sodium, Iron, Manganese, Magnesium, Chromium, Cobalt, Lead, and Vanadium. These concentrations appear to be indicative of contaminant migration toward the upgradient monitoring well; this seems highly likely given the amount of time which has passed since dumping activities began, influences of precipitation and infiltration, the topographic features of the site and the fact that the waste mass lies in close proximity of Monitoring Well No.1 (approximately 100 feet).

Analytical results reported for the upgradient sediment sample revealed concentrations of metals at both low and high concentrations. Metals detected included Aluminum (4470 ppm), Barium (60.1 ppm), Cadmium (1.37 ppm), Chromium (5.3 ppm), Cobalt (2.29 ppm), Copper (9.55 ppm), Iron (5500 ppm), Lead (32.4 ppm), Vanadium (3.72 ppm), Magnesium (1280 ppm), Manganese (215 ppm), Mercury (0.12 ppm), Nickel (6.95 ppm), Potassium (479 ppm), Sodium (89.0 ppm), Zinc (58.4 ppm), and Hexachromium (0.038 ppm). No volatile or semi-volatile organic compounds were detected in this sample.

Analytical results for the downgradient sediment sample also reported metals in varying concentrations, including Aluminum (3710 ppm), Barium (111 ppm), Cadmium (1.18 ppm), Chromium (5.3 ppm), Cobalt (3.42 ppm), Copper (12.8 ppm), Iron (6300 ppm), Lead (200 ppm), Vanadium (5.49 ppm), Magnesium (1040 ppm), Manganese (474 ppm), Mercury (0.078 ppm), Nickel (8.57 ppm), Potassium (525 ppm), Sodium (51.3 ppm), Zinc (63.5 ppm), and Hexachromium (0.064 ppm). Acetone, a volatile organic compound, was detected in this sample at a concentration of 200 ppb.

Part 360 does not facilitate comparison of sediment samples to samples, however, based on the reported concentrations it appears that sediment quality is associated with leachate discharges originating from the nearby dump. The presence of acetone in the downgradient sample and not the upgradient, implies that the dump is the source.

Investigations conducted by both ECSI and Glenn L. Smith, P.E. provide analytical results which indicate that waste materials are indeed industrial and municipal solid waste intermixed with C&D materials. This site is subject to the cleanup/closure standards noted under Part 360 regulation (effective 1993).

## 7.5 Chalet Dump Site - Section 15, Block 1, Lot 13

The Chalet Dump Site is located on the northeast side of Chalet Road southeast of the Ski Chalet Area. According to available tax record information, the Chalet Dump this site lies on a portion of Section 15, Block 1, Lot 13. The complete area of Lot 13 is approximately 116.48 acres, according to information maintained by the Town of Thompson Tax Assessor's Office. Phase II activities in this area centered on the visual investigation of waste piles and analysis of subsurface conditions at the dump site.

The Chalet dump site is located opposite a shale bank situated at the end of a single lane, dirt access road. The area of waste deposition is on a hillside and appears to have been progressively filled, extending the hilltop in a northeasterly direction. Surface waste piles, which are comprised of pallets, carpets, windows, and draperies, are located above deposited wastes and soil fill material (Appendix E).

Based on field observations, no surface water or wetland areas exist within or in close proximity to the Chalet Dump. Lands areas below the Chalet Dump lie within the West Falls soils group, which is part of the upper Walton formation comprised of shale, sandstone, and conglomerate.

Information contained within the Soil Survey of Sullivan County, New York issued by the US Department of Agriculture, Soil Conservation Service, indicates that the Chalet Dump is located above Oquaga very channery silt loam with 3 to 8% slopes. Specific soils information excerpted from the Soil Survey is as follows:

Oquaga very channery silt loam is a moderately deep, gently sloping, well drained to excessively well drained soil on hilltops on bedrock-controlled uplands. The seasonal high water table in this Oquaga soil is commonly not above the bedrock. Permeability, or rate of water movement through the soil, is moderate. Surface runoff is medium and the available water capacity is low or moderate. Bedrock, commonly red shale, is at a depth of 20 to 40 inches.

A test pit investigation was conducted at the Chalet Dump on February 4, 1998, to determine the extent of waste deposition as well as characterize waste residues. The investigation revealed an area of approximately 0.15 acres over an average thickness of 8 feet. The approximate volume of waste in this area, based on physical data obtained during test pit investigations and the size of waste piles, is estimated at 1,710 cubic yards. Based on a review of aerial photos and the disposed waste encountered in the field, it is estimated that waste was placed in this area from the early to mid 1990s.

A total of twelve (12) test pits were placed at the Chalet Dump site. The depth of the test pits ranged from 5 to 12 feet. A sketch of the suspect area showing the approximate location of each test pit and brief notations of encountered waste materials is contained in Appendix F. Buried refuse was comprised of wood debris, white goods (hot water heaters and air conditioners), furniture, electrical fixtures, carpeting, beds and mattresses, shingles, metal piping,

electrical conduit, and umbrellas. One soil sample was obtained, a composite from Test Pit Nos. 5 and 7. Analyses conducted on the soil sample (including Ignitability, Reactivity, Corrosivity, and full TCLP) revealed that the materials are nonhazardous.

Analytical results, Appendix G, for the composite soil sample detected the presence of Barium at a concentration of 0.245 ppm. All other parameters tested for under the analytical method were noted as none detected and were not present or present in a concentration below that of the method detection limit. The reported concentrations of Barium are believed to be within background levels.

#### 7.6 Casino Dump Site - Section 13, Block 3, Lot 20

The Casino Dump is located on the northeast side of Rock Ridge Drive (formerly Bailey Road), approximately 1/4 mile southeast of the intersection of Concord Road and Rock Ridge Drive. According to available information, the Casino Dump lies within the limits of parcel designated as Section 13, Block 3, Lot 20. The complete area of Lot 20 is approximately 66.0 acres, according to information maintained by the Town of Thompson Tax Assessor's Office. Phase II activities in this area centered on the investigation of waste piles and subsurface conditions in the vicinity of the Casino building, including waste piles found north of the building as well as within an existing concrete, in-ground swimming pool. No water was observed within the pool, only soil laden waste materials.

The Casino building was once utilized to house hotel events but was abandoned. The Casino building is surrounded by grassy areas with a circular dirt/gravel access road which provides ingress/egress to Rock Ridge Drive. Available information indicates that no surface water or wetland areas exists within or in close proximity to the Casino dump site. As noted previously, soils below the Casino Dump and swimming pool lie within the West Falls soils group, which is part of the upper Walton formation and comprised of shale, sandstone, and conglomerate.

Information contained within the Soil Survey of Sullivan County, New York issued by the US Department of Agriculture, Soil Conservation Service indicates that the Casino site is located above Wellsboro gravelly loams at both 3 to 8% and 8 to 15% slopes. Specific soil information excerpted from the Soil Survey is as follows:

Wellsboro gravelly loam is a very deep, moderately well drained soil on hillsides and hilltops. Permeability of this Wellsboro soil is moderate above the fragipan and slow in the fragipan. The seasonal high table is perched above the fragipan in late Fall and early Spring. Surface runoff is medium. The available water capacity is moderate. Depth to bedrock is generally more than 60 inches.

A test pit investigation was conducted at the Casino Dump on February 4, 1998, to determine the extent of waste deposition as well as to characterize the residue wastes. The investigation revealed an area of approximately 0.27 acres over an average thickness of 4 feet. The approximate volume of waste in this area, based on physical data obtained during test pit

investigations, including the size and depth of the nearby swimming pool, is estimated at 1,220 cubic yards. Test pits excavated within the waste mass revealed that C&D materials and recognizable refuse exists along the edge of the dump. Based on a review of aerial photos and the nature of the disposed waste encountered, it is estimated that waste was placed in this area between the early 1970s through the late 1980s.

A total of eight (8) test pits were placed at the Casino Dump. A sketch depicting the location of each test pit and brief notations of encountered waste materials is contained in Appendix F. Two of the eight test pits were placed within the limits of the swimming pool to allow for visual inspection of the wastes deposited within. Test Pit No. 1 was placed at the center of the pool and Test Pit No. 2 at the deep (north) end of the pool. Both of the areas revealed white goods (air conditioners, hot water heaters, and dryers), electrical conduit, rubber hoses, pallets, metal piping, and bed springs. Test pit activities did not compromise (dismantle) the swimming pool base or walls.

The depth of the remaining test pits ranged from 4 to 7 feet. Buried waste was comprised of C&D debris, white goods (hot water heaters and air conditioners), furniture, electrical fixtures, empty paint pails, toys and bicycles, carpeting, bedsprings, linoleum, metal piping, electrical conduit, and bicycles (Appendix E). One soil sample was obtained for the Casino Dump; a composite from Test Pit Nos. 5 and 7. Analyses conducted on the soil sample included Ignitability, Reactivity, Corrosivity, and full TCLP revealed that the materials are nonhazardous (Appendix G).

Analytical results for the composite soil sample detected the presence of Barium at a concentration of 0.425 ppm and Cadmium at a concentration of 0.068 ppm. All other parameters tested under the analytical method were noted as none detected and were not present or present in a concentration below that of the method detection limit. Groundwater was not encountered during the test pit investigation at this location.

#### 7.7 Thompsonville Road Site - Section 23, Block 1, Lot 48

The Thompsonville Road site is located on the south side of Thompsonville Road, approximately 3/8 of a mile east from the intersection of Thompsonville Road and Chalet Road. According to available tax record information, the Thompsonville Road site is designated as Section 23, Block 1, Lot 48. The complete area of Lot 48 is approximately 46.6 acres, according to information maintained by the Town of Thompson Tax Assessor's Office. A forested area that abuts a pond and wetlands at the east/southeast portions of the site. A dirt access road provides access to the lot via Thompsonville Road. The lot contains a portion of the Tannery Brook, a tributary of the Kiamesha Creek. In addition, a large pond and adjacent Federal jurisdictional wetland areas are contained within the eastern limits of the lot.

Phase II activities in this area centered on the investigation of the site in areas of suspected waste deposition. Information obtained as part of interviews with Hotel personnel revealed that waste disposal activities may have occurred at this parcel. Test pit investigations placed throughout an area of four sections revealed that very small quantities of surface wastes,



consisting of remnants of old lawn equipment and angle iron. Test pit investigations were conducted on February 6 and 11, 1998, to determine the extent, if any, of waste deposition. Test pits were placed randomly in suspect areas to depths ranging from 2 to 8 feet. During the February 6, 1998, test pit investigation revealed some surface debris, particularly around and in the vicinity of the former chicken coop structure. The test pit investigation concluded that no buried waste exist in the areas investigated at the site. Sketches depicting approximate location of each test pit excavated as part the investigations, and brief notations of encountered subsurface conditions, are contained in Appendix F.

#### 7.8 Horse Farm Dump Site - Section 60, Block 1, Lot 75

The Horse Farm Dump is located on the north side of County Route 109, approximately 1/4 mile west of the intersection of County Route 109 and Chalet Road within the Town of Fallsburg. According to available information, the Horse Farm Dump area is located on a portion of Section 60, Block 1, Lot 75. Tax records indicate that this parcel is owned by the County.

The complete area of Lot 48 is approximately 50 acres, according to information maintained by the Town of Fallsburg Tax Assessor's Office. Phase II activities in this area centered on the investigation of the site in areas of suspected waste deposition. Some surface wastes are present within the limits of the site, along internal access roads.

The Horse Farm site is basically vacant land comprised predominantly of fields, which are separated by tree borders and small forested areas. A dirt access road allows access from County Route 109. The dirt access road splits into an internal access road which lead to an open area with surface waste deposition. This area contains white good, lumber and assorted furniture including mattresses and bed springs. The western/central portion of the site reveals conditions of previous, limited topsoil mining activities.

Information obtained as part of site inspection activities (visual confirmation of surface debris and recent grading activities), as well as interviews with Hotel personnel revealed that disposal activities had occurred on this site. Based on field information, no streams or wetlands exist within the Horse Farm boundaries. A complete site inspection was not conducted due to time constraints, aerial photographs were instead utilized to determine possible exposures.

Land areas within the limits of the Horse Dump site lot within the West Falls soil group, which is part of the upper Walton formation and comprised of shale, sandstone, and conglomerate. Information contained within the Soil Survey of Sullivan County, New York, indicates that the Horse Farm site is located over four soil types, the Neversink and Alden soils, very stony (NF), Oquaga very channery silt loam (OeB), Wellsboro and Wurtsboro soils, strongly sloping, extremely stony (WIC), and Wurtsboro loam (WuB). Specific soil information for the two soil types is as follows:

Neversink and Alden soils, very stony (Nf) is a map unit described as containing very deep, poorly drained and very poorly drained soils that formed in glacial till in level or depressional areas of till plains. Some are Neversink soils, some are Alden

soils, and some consist of both. The total acreage of this map unit is about 45 percent Neversink soils, 40 percent Alden soils, and 15 percent other soils. Slopes range from 0 to 3 percent. Slopes are commonly slightly hummocky. Stones or boulders 50 to 30 feet apart cover 3 to 15 percent of the surface. The seasonal high water table in Neversink and Alden soils is at or near the surface from late Fall to mid-Spring and during other, excessively wet periods. Runoff is very slow or intermittently ponded.

Oquaga very channery silt loam, 3 to 8 percent slope (OeB) is a moderately deep, gently sloping, well drained to excessively well drained soil on hilltops on bedrock-controlled uplands. The seasonal high water table in this Oquaga soil is commonly not above the bedrock. Permeability, or rate of water movement through the soil, is moderate. Surface runoff is medium. Bedrock, commonly red shale, is at a depth of 20 to 40 inches.

Wellsboro and Wurtsboro soils, strongly sloping, extremely stony (WIC) map unit consists of very deep, moderately well drained soils that formed in glacial till on upland till plains and the lower parts of hillsides on uplands. Some areas are Wellsboro soils, some are the Wurtsboro soils, some consist of both. The total acreage of the map unit is about 40 percent Wellsboro soils, 40 percent Wurtsboro soils, and 20 percent other soils. Texture of the surface, excluding stones, are gravelly silt loam and gravelly loam. These soils have a dense, firm fragipan. Slopes range from 0 to 15 percent.

Permeability of the Wellsboro and Wurtsboro soils is moderate above and slow within the fragipan. The seasonal high water table in both soils is perched above the fragipan from late fall to early spring. The available water capacity for both soils is moderate. Surface runoff is medium or rapid. Depth to bedrock is more than 60 inches.

Wurtsboro loam, 3 to 8 percent slopes, stony (WuB) is a very deep, gently sloping, moderately well drained soil on hillsides and hilltops. Permeability of the Wurtsboro soil is moderate to a depth of 26 inches and slow below that depth. The seasonal high water table is perched above the firm and brittle part of the subsoil (fragipan) in late fall and early spring. Surface runoff is medium. Depth to bedrock is generally more than 60 inches.

An extensive test pit investigation was conducted at the Horse Farm site on February 11, 1998, to determine the extent, if any, of waste deposition as well as to characterize the wastes. Test pit activities were conducted across three open, accessible areas of the site, primarily within field areas. Fifteen (15) test pits were placed in areas close to surface waste debris as well as within open elevated and depressional areas. Each pit was placed randomly and excavated to depths ranging from 1 to 6 feet. The investigation revealed some surface debris, particularly around and in the vicinity of the former topsoil mine area. Only limited buried waste materials were found within the 15 test pits. It should be noted that most of the test pits were shallow due

to significant quantities of rock. Sketches depicting the approximate location of test pits excavated under the investigations, and brief notations of encountered subsurface conditions, are contained in Appendix F.

Visual inspections of the surface debris at the Horse Farm site indicate that the waste was deposited from the early 1970s to the late 1980s. It was estimated that an approximate 0.38 acre area contained of surface debris (1,400 cubic yards). The surface debris consists of plastic bottles, dishes, white goods, yard waste and tires.

#### 7.9 Cemetery Dump Site - Section 23, Block 1, Lot 11.3

The Cemetery Dump is located immediately south of the Workmen's Circle Cemetery which is directly accessed from Thompsonville Road. The dump lies perpendicular to the cemetery and New York State Route 17, situated approximately 1,500 feet to the south. An access roadway connecting with Thompsonville Road travels to the dump as well as a roadway leading from an open field situated between the dump site and Route 17.

The limits of the dump approximate a 3,600 square foot area (144 in length by 25 feet in width), representing roughly 0.08 acres. According to available information maintained at the Town of Thompsonville, Tax Assessor's Office, the dump lies within the limits of parcel Section 23, Block 1, Lot 11.3. Based on recent tax records, this parcel is owned by the County through foreclosure.

Phase II excavation within and adjacent to areas which contained partially buried surface waste materials, indicated past subsurface disposal. Surface waste consists of limited C&D materials, parts of white goods and plastic/metal toys. Based on available information and field observations, no surface waterways or wetland areas exist within or in close proximity to the Cemetery Dump. Lands that encompassed the limits of the Cemetery Dump lie within the West Falls soil group, which is part of the upper Walton formation and comprised of shale, sandstone, and conglomerate.

Information contained within the Soil Survey of Sullivan County, New York, indicates that the Cemetery Dump is located above Neversink loam, nearly level soils. Specific soil information excerpted from the Soil Survey is as follows:

Neversink loam (Ne) is a map unit is described as containing very deep, nearly level, poorly drained or very poorly drained soil in flat or slightly depressed areas of glacial till plains or along small drainageways. Slopes range from 0 to 3 %. Permeability of these soils is regarded as moderate in the surface and slow in the subsurface. Seasonal high water table is at or near the surface from late Spring to late Fall. Surface runoff is slow or very slow at or near the surface.

A test pit investigation was conducted at the Cemetery Dump on September 16, 1998, to determine the extent of waste deposition and to characterize the wastes. The investigation revealed an approximate waste disposal area of 1,650 square feet (0.03 acres) over an average

thickness of 2 feet, in addition to minimal amounts of surface waste with an approximate volume of 12.7 cubic yards. The total approximate volume of waste in this area, based on physical data obtained during test pit investigations, and the area of exposed surface waste, is estimated to be 122.7 cubic yards. Based on a review of aerial photos and observations of the nature of the waste encountered, it is estimated that waste was placed in this area sometime between the late 1960's and mid 1970's.

A total of fourteen (14) test pits were placed at the Dump area. The depth of the test pits ranged from 2 to 6 feet. A sketch depicting the approximate location of each test pit excavated under the investigations, and brief notations of encountered waste materials, is contained in Appendix F. Buried refuse was comprised of wood debris, white goods (hot water heaters and refrigerator doors), porcelain fixtures, carpeting, bed springs, shingles, metal piping, electrical conduit, vehicle bumper and lawn care equipment parts. Each test pit mostly consisted of clean soils and no forms of waste residue were observed (Appendix E). One confirmatory soil sample was obtained for this dump site; a composite from test pit number TP-4B. Analyses conducted on the soil sample included full TCLP and RCRA criteria analyses (Ignitability, Reactivity, Corrosivity) to characterize impacted soils. PID readings obtained during test pit activities did not reflect elevated levels of VOCs within excavated soils.

According to the analytical results for the areas sampled, nonhazardous wastes exist at the Cemetery dump site. Analytical results for the composite soil sample revealed that all parameters tested under the analytical method were not present or present in concentrations below that of the method detection limit. Appendix G contains the analytical results for the Cemetery dump sample.

## **8.0 UST PHASE II INVESTIGATION FINDINGS**

Subsurface, GeoProbe borings described below have been conducted in accordance with NYSDEC STARS Memorandum # 1 criteria to facilitate discussions with Department representatives for outlining cleanup options. Table 8-1 provides the NYSDEC STARS Memorandum #1 Thresholds utilized for evaluating subsurface conditions in the vicinity of the USTs.

Information obtained for parcel locations found to be contaminated with petroleum product were sketched to explain, in simplest terms, the extent of contamination encountered in the field. Parcels which were determined not to be contaminated were not sketched and thus, are not contained within this report. In addition, tabulations of analytical results were only generated for contaminated areas. Analytical reports obtained under the boring program are contained in Appendix H.

Soil conditions encountered at each UST site investigated consisted of silty, sandy loam textures which were very often observed with an impermeable fragipan barrier within the profile. Given infield PID determinations and analytical results obtained for each site, soil conditions

**TABLE 8-1**  
**NYSDEC STARS MEMO # 1 THRESHOLDS**  
**TCLP Alternative Guidance Values**

**METHOD 8021**

Parameter	NYSDEC Threshold (ug/kg)
Benzene	14
Toluene	100
Ethylbenzene	100
p-Xylene/m-Xylene	100
o-Xylene	100
Isopropylbenzene	100
n-Propylbenzene	100
1,3,5-Trimethylbenzene	100
tert-Butylbenzene	100
1,2,4-Trimethylbenzene	100
sec-Butylbenzene	100
4-Isopropyltoluene	100
n-Butylbenzene	100
Naphthalene	200
Methyl-tert-butyl-ether (MTBE)	1,000

**METHOD 8270**

Parameter	NYSDEC Threshold (ug/kg)
Naphthalene	200
Acenaphthylene	400
Acenaphthene	400
Fluorene	1,000
Phenanthrene	1,000
Anthracene	1,000
Fluoranthene	1,000
Pyrene	1,000
Benzo-(a)-anthracene	0.04
Chrysene	0.04
Benzo-(b)-Fluoranthene	0.04
Benzo-(k)-fluoranthene	0.04
Benzo-(a)-pyrene	0.04
Indeno-(1,2,3-cd)-pyrene	0.04
Dibenzo-(a,h)-anthracene	1,000
Benzo-(g,h,i)-perylene	0.04

appear to aid in confining contaminants, thus displaying characteristics of low contaminant migration potential.

#### 8.1 Concord Main Hotel - Section 9, Block 1, Lot 34.1

The main Hotel complex utilizes two (2) 15,000 gallon #4 fuel oil USTs to provide heating for the facility. The two (2) active USTs are located in close proximity to the intersection of County Route 109 and Concord Road. In addition, an inactive 1,500 gallon UST is located near a rear kitchen entrance (fronting County Route 109). Differing accounts as to the use of this tank were obtained by ECSI during Phase I activities; some indicated that the tank contained #2 fuel oil to provide fuel to the kitchen and others noted that the tank contained kitchen waste (i.e., grease). As such, ECSI arranged to have each of the tanks tested in accordance with acceptable NYSDEC criteria, as described previously.

The two 15,000 gallon tanks passed integrity testing criteria on February 3, 1998. Based on the results of the test, no subsurface investigations were conducted for these tanks. The integrity testing was completed by Precision Tank Testing, LLC. Each tank was tested utilizing the EZ-Horner 3 Method, a vacuum method test. The inactive 1,500 gallon fuel oil/kitchen grease UST failed integrity testing. Subsurface borings were conducted around the tank and screened with the use of a PID unit. The results of soil screening activities from the locations probed did not reveal signs of a release. ECSI arranged to have the tank pumped out and the fill port marked and sealed to avoid additional filling until which time the tank was removed and/or closed in place.

#### 8.2 Raymond's Restaurant/Club House - Section 15, Block 1, Lot 50

A 12,000 gallon #4 fuel oil UST provides fuel to heat Raymond's Restaurant/Club House, located along Chalet Road. The tank was tested, in accordance with NYSDEC criteria, on February 3, 1998, with the EZ-Horner 3 Method by Precision Tank Testing, LLC. According to integrity testing, the UST passed NYSDEC testing criteria and was considered to be "tight." As such, no subsurface investigation was conducted at this site.

#### 8.3 Concord Service Station USTs - Section 9, Block 1, Lot 35

The former Concord Service Station, located just southeast of the main Hotel entrance and on the southeastern side of Concord Road, currently provides vehicle maintenance for Concord Resort Hotel vehicles. However, the site also included active gasoline dispensing services. Available information obtained by ECSI indicated that the gasoline dispensing activities were conducted from the late 1940s or early 1950s until the early 1990s. Further, Phase I Investigations revealed that two former UST, existed at the northeast side of the building. In addition, one active 550 gallon #2 heating oil tank was located on the southwest side of the building and two inactive 10,000 gallon gasoline USTs were found further northeast of the service station building.

A subsurface boring program was designed to investigate subsurface conditions at the service station property in an effort to confirm the presence and/or extent of petroleum contaminated soils. Figure 8-1 depicts the general service station layout as well as GeoProbe and test pit locations.

The 550 gallon heating oil tank was tested on February 2, 1998, by Precision Tank Testing, LLC with the EZ-Horner 3 Method. The tank system failed NYSDEC testing criteria and ECSI placed three 8 foot deep borings around the tank. Each boring sample extracted soils in 4 foot increments. ECSI representatives conducted field screening activities with a PID unit. Based on field soil screening, the soils surrounding the tank are not contaminated. Two new aboveground tanks were installed within the service building to allow uninterrupted heating of the building while the 550 gallon UST pumped out and the fill pipe covered to prevent additional filling. The heating oil UST remains in place at the site until closure activities are approved at the facility.

In addition to the existing tank locations, the areas determined to be the location of prior tanks and/or product transfer lines were also investigated with subsurface soil borings. The tank area formerly located northeast of the service station building, within a chain link fenced area, was determined to contain both contaminated groundwater and soils. Soil screening activities conducted by ECSI representatives indicated high levels of VOCs. A total of fifteen (15) borings were placed in this area, each boring ranged from a depth of 4 to 16 feet, but were typically from 8 to 12 feet in depth. Each boring core was screened with the use of the PID unit at a 12 inch interval within the acetate core. Based on these readings, samples were obtained to confirm the presence and extent of subsurface contamination. Six (6) soil samples and two (2) groundwater samples were obtained and analyzed. Analytical results for both soil and groundwater samples revealed high concentrations of gasoline constituents including Benzene, Toluene, Ethylbenzene, and Xylene (BTEX). A tabulation of all analytical results for both STARS 8021 and 8270 for the Concord Service Station are contained on Table 8-2. Table 8-1 provides NYSDEC STARS 8021 and 8270 thresholds for comparison evaluation of the results obtained.

A former UST area located in front of the building was also investigated. Tank islands and additional gasoline USTs were once located in front (west) of the service station building. ECSI representatives conducted a limited subsurface (soil boring) investigation, in light of time constraints, which indicated that additional contamination exists at the front portion the of the site. Soil screening results also indicated high levels of VOCs observed within extracted soils. The use of a magnetometer did not reveal the presence of underground tanks in this location, however, based on observations during soil boring activities the prior use and removal of other tank systems in this area cannot be ruled out. A test pit was excavated directly in front of the service station office which did not reveal any tanks, but petroleum contaminated soils were uncovered. This area was highly odorous and soil screening reflected high volatile organic levels.

A total of seven (7) GeoProbe borings and one (1) test pit were placed in the front section of the building. Soil samples were obtained from five (5) of the boring locations, as well as one (1) from the test pit. One of the borings was sampled in two intervals, an upper and a lower sample, resulting in a total of six (6) soil samples in this area. Groundwater was not encountered

TAI 8-2  
STARS ANALYTICAL RESULTS  
Concord Service Station Subsurface Investigation

METHOD 8021

	Sample Identification Number														Test Pit
	SSB 1	SSB 1 (W)	SSB 3	SSB 4	SSB 4 (W)	SSB 6	SSB 9	SSB 10	SSB 16	SSB 18/19	SSB A	SSB B	SSB C upper	SSB C lower	
Depth of Sample (feet)	6 - 12	12	8 - 12	8 - 12	12	10 - 14	4 - 12	8 - 12	1 - 4	1 - 3	1 - 3	3 - 8	1 - 4	4 - 8	4
<b>Parameter</b>	<b>Analytical Results (ug/kg)</b>														
Benzene	35	24	2,600	230	1,000	15	ND<27	ND<6	ND<7	3,600	ND<5	2,000	37	ND<160	3,100
Toluene	24	18	7,200	210	380	38	180	15	ND<7	16,000	ND<5	7,500	110	1,070	4,900
Ethylbenzene	140	63	22,000	1,500	1,200	150	880	ND<6	ND<7	19,000	ND<5	9,200	130	960	24,000
p-Xylene/m-Xylene	940	400	96,000	11,000	7,000	650	5,300	13	14	60,000	10	51,000	830	8,200	95,000
o-Xylene	280	66	27,000	840	580	90	1,100	ND<6	ND<7	12,000	ND<5	16,000	260	2,500	34,000
Isopropylbenzene	35	5	3,200	420	ND<50	40	310	ND<6	ND<7	4,200	ND<5	1,500	ND<26	ND<160	5,900
n-Propylbenzene	72	8	8,500	640	63	87	670	ND<6	ND<7	7,600	ND<5	4,300	68	540	1,000
1,3,5-Trimethylbenzene	380	63	22,000	4,500	570	540	1,900	ND<6	ND<7	20,000	ND<5	16,000	330	2,400	35,000
tert-Butylbenzene	ND<7	ND<2	ND<1400	ND<150	ND<50	ND<12	ND<27	ND<6	ND<7	ND<14	ND<5	ND<280	ND<26	ND<160	ND<1400
1,2,4-Trimethylbenzene	1,100	190	76,000	1,400	1,800	1,400	5,800	14	ND<7	60,000	ND<5	44,000	1,000	6,800	100,000
sec-Butylbenzene	ND<7	ND<2	ND<1400	ND<150	ND<50	ND<12	98	ND<6	ND<7	ND<1400	ND<5	ND<280	ND<26	360	ND<1400
4-Isopropyltoluene	ND<7	ND<2	ND<1400	ND<150	ND<50	33	110	ND<6	ND<7	2,400	ND<5	ND<280	ND<26	ND<160	3,200
n-Butylbenzene	650	51	28,000	6,900	280	1,100	3,200	8	ND<7	25,000	ND<5	17,000	460	2,600	6,600
Naphthalene	230	13	16,000	3,000	200	250	1,000	50	ND<7	9,900	ND<5	8,300	330	1,100	87,000
Methyl-tert-butyl-ether (MTBE)	ND<1	ND<25	ND<14000	ND<1500	ND<500	ND<120	ND<270	ND<57	ND<71	ND<14000	ND<54	ND<2800	ND<260	ND<1600	ND<14000

LEGEND:

SSB = Borings taken at the Concord Service Station, at former gasoline tank and piping locations.  
W = Water samples, all other samples noted are soil samples.  
ND = Non detect, less than detection limit noted.



AB 3-2  
STARS ANALYTICAL RESULTS  
Concord Service Station Subsurface Investigation  
(Continued)  
METHOD 8270

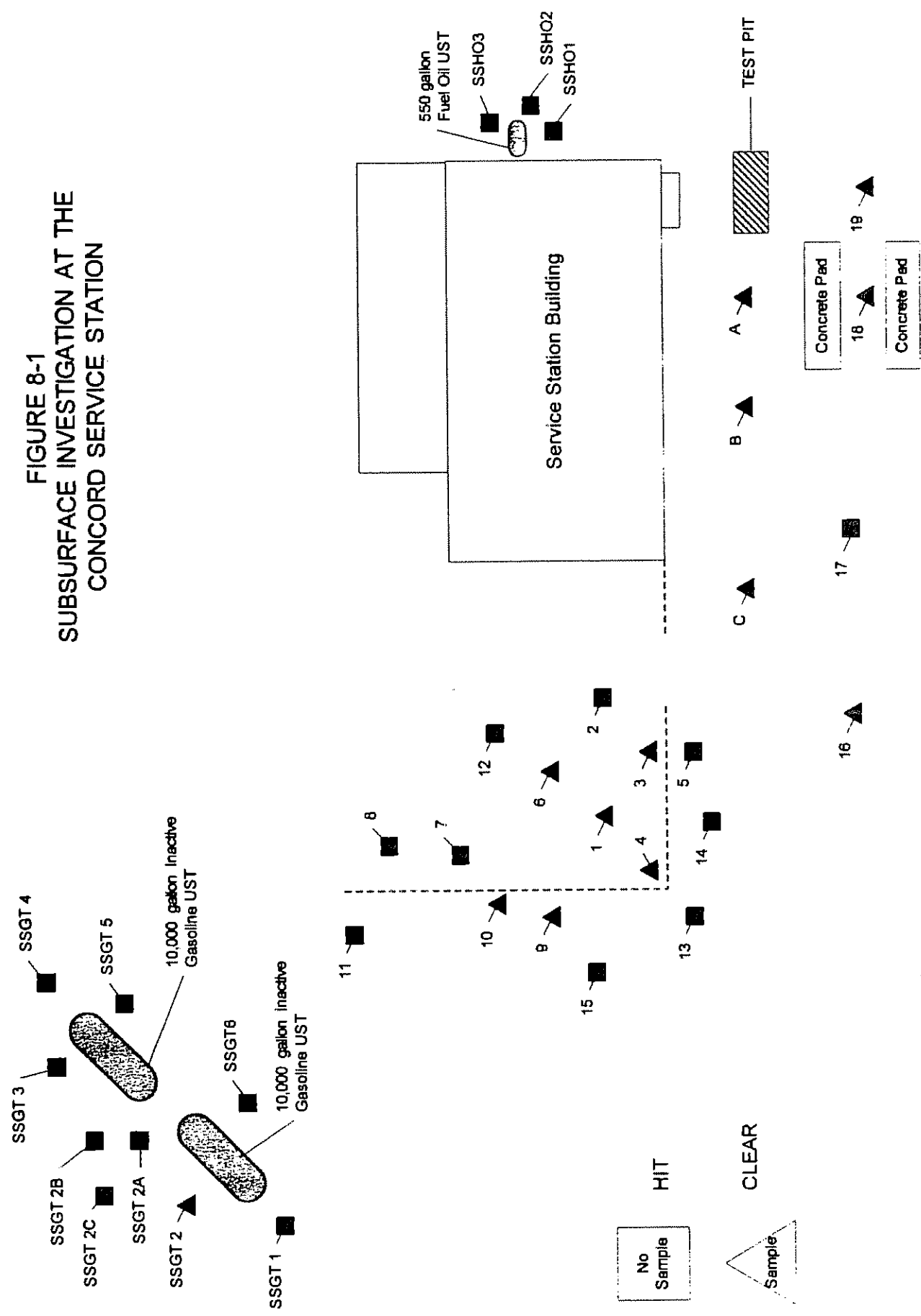
	Sample Identification Number														Test Pit
	SSB 1	SSB 1(W)	SSB 3	SSB 4	SSB 4 (W)	SSB 6	SSB 9	SSB 10	SSB 16	SSB 18/19	SSB A	SSB B	SSB C upper	SSB C lower	
Depth of Sample (feet)	6 - 12	12	8 - 12	8 - 12	8 - 12	10 - 14	4 - 12	8 - 12	1 - 4	1 - 3	1 - 3	3 - 8	1 - 4	4 - 8	4
Parameter	Analytical Results (ug/kg)														
Naphthalene	1	12	1.9	0.15J	390	0.16J	0.15J	ND<0.28	ND<0.25	8.5	ND<0.28	0.83	ND<0.27	0.67	0.22J
Acenaphthylene	ND<0.25	ND<5	ND<0.27	ND<0.28	ND<50	ND<0.26	ND<0.26	ND<0.28	ND<0.25	ND<0.29	ND<0.28	ND<0.26	ND<0.27	ND<0.27	ND<0.27
Acenaphthene	ND<0.25	ND<5	ND<0.27	ND<0.28	ND<50	ND<0.26	ND<0.26	ND<0.28	ND<0.25	0.06J	ND<0.28	ND<0.26	ND<0.27	ND<0.27	ND<0.27
Fluorene	ND<0.25	ND<5	ND<0.27	ND<0.28	ND<50	ND<0.26	ND<0.26	ND<0.28	ND<0.25	0.12J	ND<0.28	ND<0.26	ND<0.27	ND<0.27	ND<0.27
Phenanthrene	ND<0.25	ND<5	ND<0.27	ND<0.28	ND<50	ND<0.26	ND<0.26	ND<0.28	ND<0.25	0.21J	ND<0.28	ND<0.26	ND<0.27	ND<0.27	ND<0.27
Anthracene	ND<0.25	ND<5	ND<0.27	ND<0.28	ND<50	ND<0.26	ND<0.26	ND<0.28	ND<0.25	ND<0.29	ND<0.28	ND<0.26	ND<0.27	ND<0.27	ND<0.27
Fluoranthene	ND<0.25	ND<5	ND<0.27	ND<0.28	ND<50	ND<0.26	ND<0.26	ND<0.28	ND<0.25	0.12J	ND<0.28	ND<0.26	ND<0.27	ND<0.27	ND<0.27
Pyrene	ND<0.25	ND<5	ND<0.27	ND<0.28	ND<50	ND<0.26	ND<0.26	ND<0.28	ND<0.25	0.11J	ND<0.28	ND<0.26	ND<0.27	ND<0.27	ND<0.27
Benzo-(a)-anthracene	ND<0.25	ND<5	ND<0.27	ND<0.28	ND<50	ND<0.26	ND<0.26	ND<0.28	ND<0.25	ND<0.29	ND<0.28	ND<0.26	ND<0.27	ND<0.27	ND<0.27
Chrysene	ND<0.25	ND<5	ND<0.27	ND<0.28	ND<50	ND<0.26	ND<0.26	ND<0.28	ND<0.25	ND<0.29	ND<0.28	ND<0.26	ND<0.27	ND<0.27	ND<0.27
Benzo-(b)-Fluoranthene	ND<0.25	ND<5	ND<0.27	ND<0.28	ND<50	ND<0.26	ND<0.26	ND<0.28	ND<0.25	ND<0.29	ND<0.28	ND<0.26	ND<0.27	ND<0.27	ND<0.27
Benzo-(k)-fluoranthene	ND<0.25	ND<5	ND<0.27	ND<0.28	ND<50	ND<0.26	ND<0.26	ND<0.28	ND<0.25	ND<0.29	ND<0.28	ND<0.26	ND<0.27	ND<0.27	ND<0.27
Benzo-(a)-pyrene	ND<0.25	ND<5	ND<0.27	ND<0.28	ND<50	ND<0.26	ND<0.26	ND<0.28	ND<0.25	ND<0.29	ND<0.28	ND<0.26	ND<0.27	ND<0.27	ND<0.27
Indeno-(1,2,3-cd)-pyrene	ND<0.25	ND<5	ND<0.27	ND<0.28	ND<50	ND<0.26	ND<0.26	ND<0.28	ND<0.25	ND<0.29	ND<0.28	ND<0.26	ND<0.27	ND<0.27	ND<0.27
Dibenzo-(a,h)-anthracene	ND<0.25	ND<5	ND<0.27	ND<0.28	ND<50	ND<0.26	ND<0.26	ND<0.28	ND<0.25	ND<0.29	ND<0.28	ND<0.26	ND<0.27	ND<0.27	ND<0.27
Benzo-(g,h,i)-perylene	ND<0.25	ND<5	ND<0.27	ND<0.28	ND<50	ND<0.26	ND<0.26	ND<0.28	ND<0.25	ND<0.29	ND<0.28	ND<0.26	ND<0.27	ND<0.27	ND<0.27

LEGEND:

- SSB = Borings taken at the Concord Service Station, at former gasoline tank and piping locations.
- W = Water samples, all other samples noted are soil samples.
- ND = Non detect, less than detection limit noted. J = Estimated Value, under the laboratory detection limit.



FIGURE 8-1  
SUBSURFACE INVESTIGATION AT THE  
CONCORD SERVICE STATION



in this area. This area also revealed high concentrations of typical gasoline constituents ranging from non-detect to 100,000 ppb of 1, 2, 4-Trimethylbenzene

According to available information, the two (2) inactive 10,000 gallon gasoline USTs located northeast of the service station building are 20 to 30 years old and of steel construction. The tanks had not been used since the 1970s or 1980s. These tanks were not tested due to the fact that the tanks were inactive and site representatives indicated that arrangements would soon be made to remove each tank. At the time of investigation, the upgradient tank was estimated to contain approximately 90% water and 10% gasoline. ECSI representatives conducted a subsurface investigation around the tanks to determine release potentials. Nine (9) borings were placed in close proximity to the inactive tanks. Based on soil screening results, one soil sample was obtained to document subsurface conditions. Analytical results for the sample revealed that the sample was in compliance with thresholds set forth under the NYSDEC STARS Memorandum #1. Based on soil screening using a PID unit, it is believed that the upgradient tank may have released gasoline in close proximity to the tank as two boring locations indicated elevated VOC levels.

In addition to concerns for UST contamination, service station personnel were questioned about discharges from the system of drains located within the existing service station building. Employees on-site at the time of the subsurface investigations noted that the system connects with the Town's sewer treatment plant via underground piping. Floor washings and residue resulting from minor spills are directed to the drains. Localized spills are first handled with a dry absorbent material. In addition to drains, three lifts are located within the building. Conversations with Chris Hummel, on-site personnel, indicated that the underground hydraulic oil holding tank surrounding each lift does not leak, based on his knowledge of the frequency of oil replenishment. While this knowledge is important, a release can not be ruled out.

#### 8.4 Golf Maintenance USTs - Section 15, Block 1, Lot 50

Four (4) USTs are located at the Golf Maintenance Building. Each of the four tanks were tested on February 4, 1998 by Precision Tank Testing, LLC with the EZ-Horner 3 Method. Prior to tank testing the tank capacities were indicated to be one 1,000 gallon diesel tank, one 2,000 gallon gasoline tank, one 1,000 gallon # 2 heating oil, and one 500 gallon waste oil. However, tank testing activities revealed that the capacity of the gasoline tank was actually 2,500 gallons and the diesel tank 2,000 gallons. All four tank systems failed NYSDEC integrity testing criteria.

A subsurface boring program was designed specific to the Golf Maintenance tank areas. ECSI placed several subsurface soil borings near the areas of the underground storage tanks as well as next to a sump connecting with drains within the Golf Maintenance Shop building. Figure 8-2 provides a general layout of Golf Maintenance, including the location of the USTs, the sump and the Concord well. Three of the four tanks are located at the front (north) of the golf maintenance building. Soil borings in this area revealed both heating oil/diesel odors and/or gasoline odors. In some instances, free product was observed in the soil. Table 8-3 provides a summary of analytical results and sample depths by location. Table 8-1 provides NYSDEC STARS 8021 and 8270 thresholds for comparison evaluation of the results obtained.

**FAE 8-3**  
**STARS ANALYTICAL RESULTS**  
**Golf Maintenance Shop Subsurface Investigation**  
**METHOD 8021**

	Sample Identification Number													
	GMT 1	GMT 3	GMT 4	GMT 5	GMT 6	GMT 7	GMT 14	GMT 16	GMT 17	GMT 18	GMWO 3 Upper	GMWO 3 Lower	GMWO 6	GMWO 7
Depth of Sample (feet)	1 - 4	1 - 3	4 - 8	6 - 8	4 - 6	6 - 9	4 - 8	4 - 8	4 - 7.5	3 - 6.5	1 - 4	6 - 10	6 - 10	6 - 10
Parameter	Analytical Results (ug/kg)													
Benzene	ND<14	ND<7	ND<7	120	1,200	25	ND<6	ND<7	ND<6	ND<6	900	68	94	ND<8
Toluene	180	ND<7	200	2,200	20,000	95	ND<6	ND<7	ND<6	ND<6	16,000	560	1,500	ND<8
Ethylbenzene	160	ND<7	58	885	6,500	30	ND<6	ND<7	ND<6	ND<6	5,300	95	380	ND<8
p-Xylene/m-Xylene	610	ND<7	222	3,800	25,000	98	ND<6	ND<7	ND<6	ND<6	21,000	380	1,600	11
o-Xylene	130	ND<7	96	1,400	9,800	43	ND<6	ND<7	ND<6	ND<6	8,100	140	610	9
Isopropylbenzene	160	ND<7	ND<7	170	880	12	ND<6	ND<7	ND<6	ND<6	800	14	47	ND<8
n-Propylbenzene	142	ND<7	17	510	2,000	63	ND<6	ND<7	ND<6	ND<6	2,400	41	130	ND<8
1,3,5-Trimethylbenzene	420	ND<7	38	1,000	4,300	33	ND<6	ND<7	ND<6	ND<6	5,200	94	260	8
tert-Butylbenzene	190	ND<7	33	ND<45	ND<140	ND<6	ND<6	ND<7	ND<6	ND<6	ND<140	ND<7	ND<9	ND<8
1,2,4-Trimethylbenzene	400	ND<7	110	3,600	16,000	77	ND<6	ND<7	ND<6	ND<6	18,000	290	900	29
sec-Butylbenzene	400	ND<7	ND<7	ND<45	ND<140	ND<6	ND<6	ND<7	ND<6	ND<6	ND<140	ND<5	27	ND<8
4-Isopropyltoluene	290	ND<7	ND<7	ND<45	320	ND<6	ND<6	ND<7	ND<6	ND<6	3,200	30	54	ND<8
n-Butylbenzene	1,600	ND<7	58	1,700	4,500	46	ND<6	ND<7	ND<6	ND<6	7,500	180	250	13
Naphthalene	1,300	ND<7	ND<7	750	2,800	48	ND<6	ND<7	ND<6	ND<6	7,200	120	170	15
Methyl-tert-butyl-ether (MTBE)	ND<14	ND<70	340	910	ND<1400	ND<62	ND<64	ND<71	ND<64	ND<64	ND<1400	390	390	ND<79

**LEGEND:**

GMT = Borings taken at the Golf Maintenance Tanks, at front of golf maintenance shop near gasoline, heating oil, and diesel tanks.  
GMWO = Borings taken at the Golf Maintenance Waste Oil tank, located at the eastern side of the golf maintenance shop building.  
ND = Non detect, less than detection limit noted.  
J = Estimated Value, under the laboratory detection limit.

TA 8-3  
STARS ANALYTICAL RESULTS  
Golf Maintenance Shop Subsurface Investigation  
(Continued)

METHOD 8270

	Sample Identification Number													
	GMT 1	GM T 3	GMT 4	GMT 5	GMT 6	GMT 7	GMT 14	GMT 16	GMT 17	GMT 18	GMWO 3 Upper	GMWO 3 Lower	GMWO 6	GMWO 7
Depth of Sample (feet)	1 - 4	1 - 3	4 - 8	6 - 8	4 - 6	6 - 9	4 - 8	4 - 8	4 - 7.5	3 - 6.5	1 - 4	6 - 10	6 - 10	6 - 10
Parameter	Analytical Results (ug/kg)													
Naphthalene	ND< 0.28	3.1	ND< 0.28	0.77	5.5	0.11J	ND< 0.27	ND< 0.27	ND< 0.26	ND< 0.26	0.94	ND< 6	0.08J	3.7
Acenaphthylene	ND< 0.28	ND< 0.26	ND< 0.28	ND< 0.25	ND< 0.28	ND< 0.28	ND< 0.27	ND< 0.27	ND< 0.26	ND< 0.26	ND< 0.28	ND< 6	ND< 0.29	ND< 0.29
Acenaphthene	ND< 0.28	0.44	ND< 0.28	ND< 0.25	ND< 0.28	ND< 0.28	ND< 0.27	ND< 0.27	ND< 0.26	ND< 0.26	ND< 0.26	ND< 6	ND< 0.29	0.77
Fluorene	2.4	1.1	ND< 0.28	ND< 0.25	0.06J	ND< 0.28	ND< 0.27	ND< 0.27	ND< 0.26	ND< 0.26	0.10J	ND< 6	ND< 0.29	1.4
Phenanthrene	3.4	2.6	ND< 0.28	ND< 0.25	0.08J	0.07J	ND< 0.27	ND< 0.27	ND< 0.26	ND< 0.26	0.37	ND< 6	ND< 0.29	3.0
Anthracene	0.71	0.15J	ND< 0.28	ND< 0.25	ND< 0.28	ND< 0.28	ND< 0.27	ND< 0.27	ND< 0.26	ND< 0.26	ND< 0.28	ND< 6	ND< 0.29	0.14
Fluoranthene	0.71J	0.05J	ND< 0.28	ND< 0.25	ND< 0.28	ND< 0.28	ND< 0.27	ND< 0.27	ND< 0.26	ND< 0.26	0.07J	ND< 6	ND< 0.29	0.09J
Pyrene	ND< 0.28	0.06J	ND< 0.28	ND< 0.25	ND< 0.28	ND< 0.28	ND< 0.27	ND< 0.27	ND< 0.26	ND< 0.26	0.18J	ND< 6	ND< 0.29	0.08J
Benzo-(a)-anthracene	ND< 0.28	ND< 0.26	ND< 0.28	ND< 0.25	ND< 0.28	ND< 0.28	ND< 0.27	ND< 0.27	ND< 0.26	ND< 0.26	ND< 0.28	ND< 6	ND< 0.29	ND< 0.29
Chrysene	0.07J	ND< 0.26	ND< 0.28	ND< 0.25	ND< 0.28	0.06J	ND< 0.27	ND< 0.27	ND< 0.26	ND< 0.26	0.06J	ND< 6	ND< 0.29	0.06J
Benzo-(b)-Fluoranthene	ND< 0.28	ND< 0.26	ND< 0.28	ND< 0.25	ND< 0.28	ND< 0.28	ND< 0.27	ND< 0.27	ND< 0.26	ND< 0.26	0.06J	ND< 6	ND< 0.29	ND< 0.29

**TAB. J 8-3**  
**STARS ANALYTICAL RESULTS**  
**Golf Maintenance Shop Subsurface Investigation**  
**(Continued)**

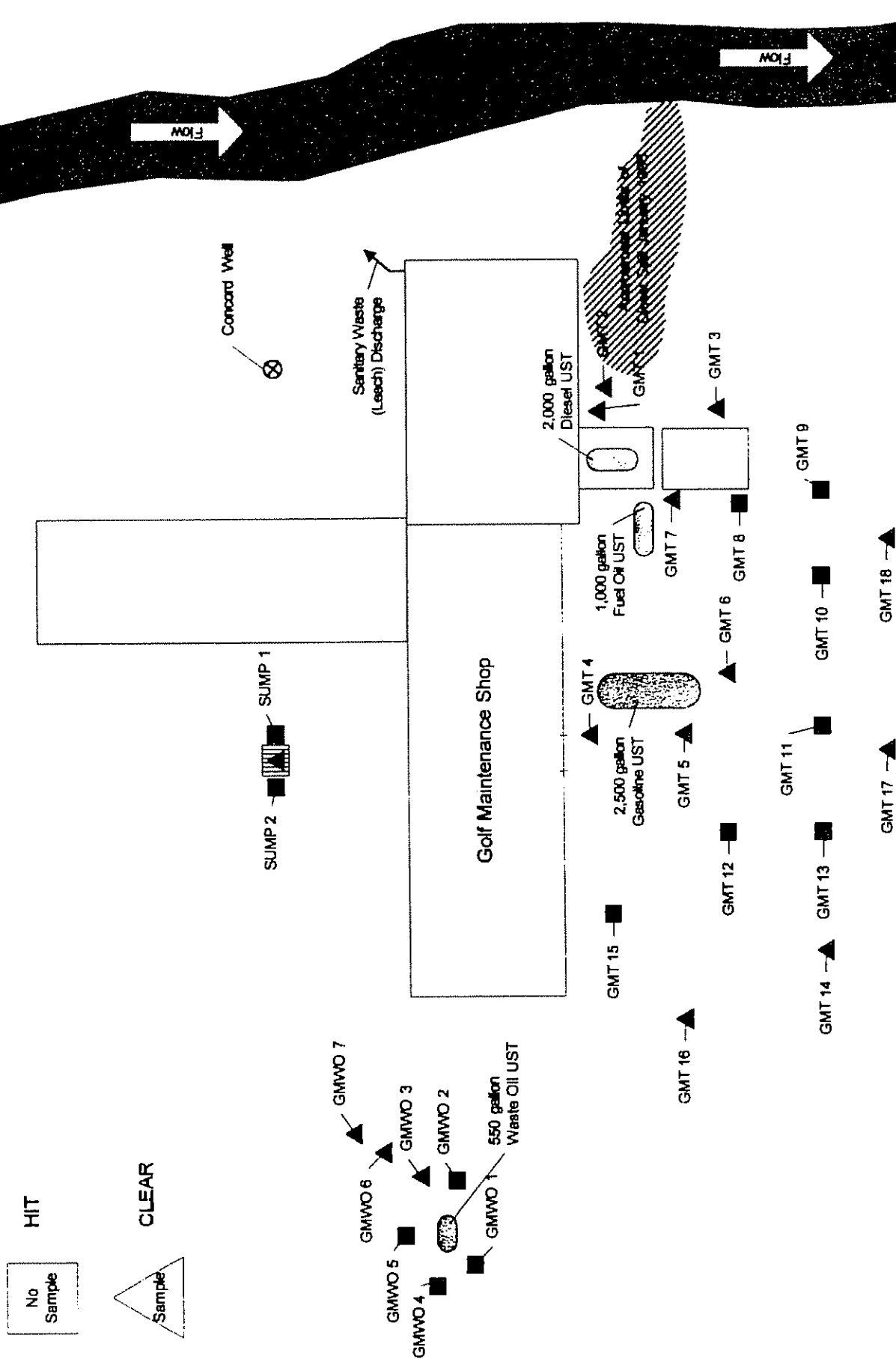
**METHOD 8270**  
**(continued)**

Benzo-(k)-fluoranthene	ND< 0.28	ND< 0.26	ND< 0.28	ND< 0.25	ND< 0.28	ND< 0.27	ND< 0.27	ND< 0.27	ND< 0.26	ND< 0.26	ND< 0.28	ND< 6	ND<0.29	ND<0.29
Benzo-(a)-pyrene	ND< 0.28	ND< 0.26	ND< 0.28	ND< 0.25	ND< 0.28	ND< 0.27	ND< 0.27	ND< 0.27	ND< 0.26	ND< 0.26	ND< 0.28	ND< 6	ND<0.29	ND<0.29
Indeno-(1,2,3-cd)-pyrene	ND< 0.28	ND< 0.26	ND< 0.28	ND< 0.25	ND< 0.28	ND< 0.27	ND< 0.27	ND< 0.27	ND< 0.26	ND< 0.26	ND< 0.28	ND< 6	ND<0.29	ND<0.29
Dibenzo-(a,h)-anthracene	ND< 0.28	ND< 0.26	ND< 0.28	ND< 0.25	ND< 0.28	ND< 0.27	ND< 0.27	ND< 0.27	ND< 0.26	ND< 0.26	ND< 0.28	ND< 6	ND<0.29	ND<0.29
Benzo-(g,h,i)-perylene	ND< 0.28	ND< 0.26	ND< 0.28	ND< 0.25	ND< 0.28	ND< 0.27	ND< 0.27	ND< 0.27	ND< 0.26	ND< 0.26	ND< 0.28	ND< 6	ND<0.29	ND<0.29

**LEGEND:**

GMT = Borings taken at the Golf Maintenance Tanks, at front of golf maintenance shop near gasoline, heating oil , and diesel tanks.  
GMWO = Borings taken at the Golf Maintenance Waste Oil tank, located at the eastern side of the golf maintenance shop building.  
ND = Non detect, less than detection limit noted.  
J = Estimated Value, under the laboratory detection limit.

FIGURE 8-2  
SUBSURFACE INVESTIGATION AT THE GOLF MAINTENANCE SHOP



A total of eighteen (18) GeoProbe borings were placed in the vicinity of the gasoline, fuel oil and diesel USTs at the front of the Golf Maintenance Building. Boring placement was guided with the use of a PID unit to screen soil borings. The elevated VOC levels obtained as part of soil screening activities indicated that the front (northeast) portion of the Golf Maintenance Shop area is severely contaminated and remediation activities must be conducted promptly, given proximity to the Kiamesha Creek. Further, the close proximity of the Kiamesha Creek may have bearing on remediation options and NYSDEC approvals, such as the need to obtain a stream bank/bed disturbance permit. Analytical results for the eleven (11) samples obtained in this area indicate high concentrations of gasoline constituents.

Seven (7) borings were obtained in the vicinity of the 550 gallon waste oil tank. Field observations, including preliminary soil screening information, indicates that this area contains petroleum contaminated soils. Based on soil sampling activities, four (4) soil samples were obtained from three (3) borings in this area. Two (2) of the samples were obtained from one boring to obtain an indication of the concentration of petroleum contamination at varying depths. The analytical results reveal high concentrations of gasoline parameters and confirm suspected petroleum product contamination.

As noted, a sump exists at the rear (southwest) side of the maintenance building. The sump, according to available information, is connected to Golf Maintenance building drains located within the golf maintenance shop. In conjunction with the cleanup of the observed diesel oil release at the side of the building, the NYSDEC required that the drains be sealed to prevent future discharges. ECSI placed two (2) borings immediately adjacent to the sump. The soils were screened with a PID, based on the results, no petroleum contamination in the boring locations was detected. In addition to placing two (2) borings, a composite sample of the soil/sediment contained within the limits of the sump was obtained. ECSI had the sump sample analyzed under a full TCLP and RCRA criteria. The analytical results indicated that the sample was nonhazardous; the only detected parameters were Barium (at 0.395 ppm) and Cadmium (at 0.067 ppm).

Subsequent to confirming subsurface contamination at the USTs, ECSI contacted the NYSDEC to provide notice of same and arranged to pumpout each tank and install temporary holding tanks for gasoline, diesel and #2 fuel oil. Waste oil was to be placed in 55 gallon drums within the maintenance building (in a vented area) for eventual removal by a qualified and NYSDEC permitted waste oil recycler.

## **8.5 Residential Parcels**

Additional USTs are located within the boundaries of the land holdings of Kiamesha. The USTs are associated with space heating on residential parcels. Specific information related to UST evaluations follow.



#### Section 15, Block 1, Lot 18

This lot is a private residence, the owner of record noted on the Town of Thompspon Tax Assessor's records is Sullivan County and the site is approximately 4.5 acres. Phase I Investigation activities revealed that an underground #2 fuel oil storage tank is located at the site and is utilized for space heating. Conversations with George Parker indicated that the UST at this location has a capacity of approximately 500 gallons, based on fuel filling bills (Personal Communications, September 1997). The age and construction of the tank was not available. The UST is located beneath an open deck located on the western side of the house. The fill port is visible and fuel lines appear to enter the basement via an opening in the concrete.

Due to the fact that no information was available to document the integrity of this UST, ECSI arranged to have Precision Tank Testing, LLC test the tank on February 4, 1998. However, Precision Tank Testing, LLC was unable to conduct an integrity tank test because there was no vent pipe for the tank and access was difficult. It should be noted that the lack of a vent pipe on a fuel oil tank is a violation of fire and safety codes. Based on these findings, ECSI arranged to place GeoProbe borings in close proximity to the tank to verify if petroleum contaminated soils were present.

On September 16, 1998, Zebra Environmental placed two (2) GeoProbe borings in close proximity to the UST. Each boring allowed for the removal and evaluation of subsurface soils to a depth of approximately 10 feet. An OVM was utilized to screen soils to determine if organic vapors were present. The results of soil screening activities did not indicate a petroleum release, as no organic vapors were detected by the meter at each boring location.

#### Section 16, Block 1, Lot 30

This lot contains a private residence, the owner of record noted on the Town of Thompspon Tax Assessor's records is Harold Friedman, and the site is approximately 74.0 acres. Phase I Investigation activities revealed that an underground #2 fuel oil storage tank is located at the site and is utilized for space heating. Conversations with George Parker indicated that the UST at this location has a capacity of approximately 1,000 gallons, based on fueling bills (Personal Communications, September 1997). The age and construction of the tank was not available. The UST is located on the southwest side yard, adjacent to the house. A fill port is located near the house.

ECSI arranged to conduct GeoProbe borings in close proximity to the tank to verify if petroleum contaminated soils were present because no information was available to document the integrity of this UST. On February 21, 1998, Zebra Environmental placed three (3) GeoProbe borings in close proximity to the UST at the site. Each boring allowed for the removal and evaluation of subsurface soils to a maximum depth of approximately 10 feet. A PID unit was utilized to screen soils to determine if organic vapors were present. The results of soil screening activities did not indicate a petroleum release, as no organic vapors were detected by the meter from either of the three boring locations.

#### Section 9, Block 1, Lot 34.2

This parcel contains two residences, the owner of record noted on the Town of Thompson Tax Assessor's records is under the Estate of Raymond Parker, and includes an adjacent residence occupied by Robert Parker and Naomi Friedman. The site is approximately 3.12 acres. Phase I Investigation activities revealed that one underground #2 fuel oil storage tank is located adjacent to each residence. Conversations with George Parker indicated that each UST has a capacity of approximately 1,000 gallons, based on fueling bills (Personal Communications, September 1997). Neither the age nor the construction of either tank was available.

Due to the fact no information was available to document the integrity of these USTs, ECSI arranged to have Precision Tank Testing, LLC test each tank on February 4, 1998. According to tank testing results neither tank system passed NYSDEC requirements for "tightness." Therefore, ECSI arranged to conduct GeoProbe borings in close proximity to each tank to verify if a petroleum release was evident.

On February 21, 1998, Zebra Environmental placed three (3) GeoProbe borings in close proximity to the Robert Parker UST and four (4) borings in close proximity to the Naomi Friedman UST. Each boring allowed for the removal and evaluation of subsurface soils to a maximum depth of approximately 10 feet. A PID unit was utilized to screen soils to determine if organic vapors were present. The results of soil screening activities did not indicate a petroleum release, as no organic vapors were detected by the meter from any of the boring locations.

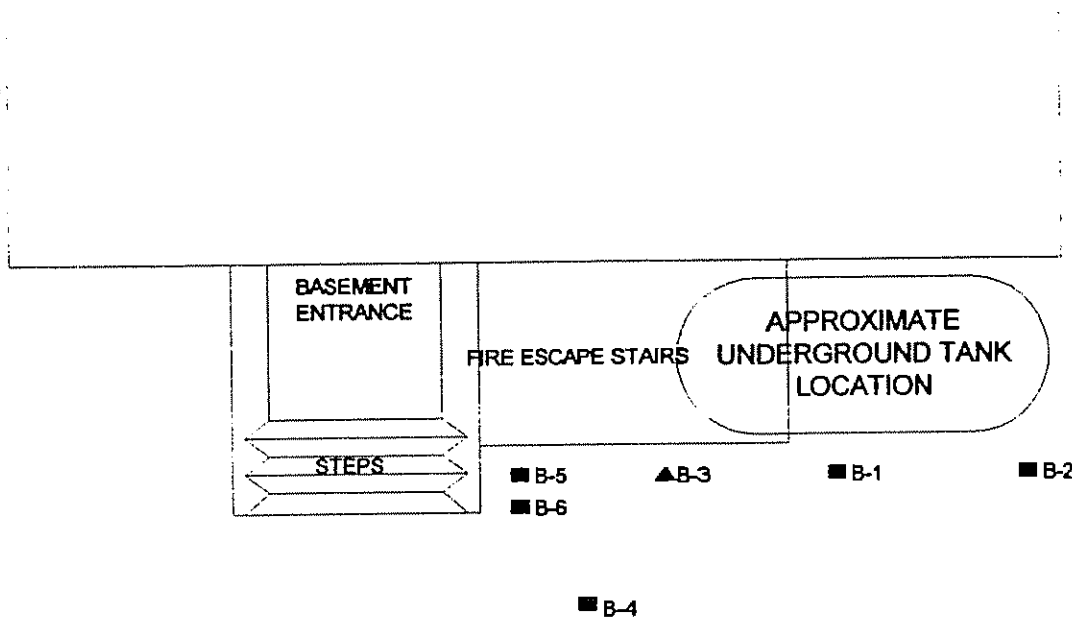
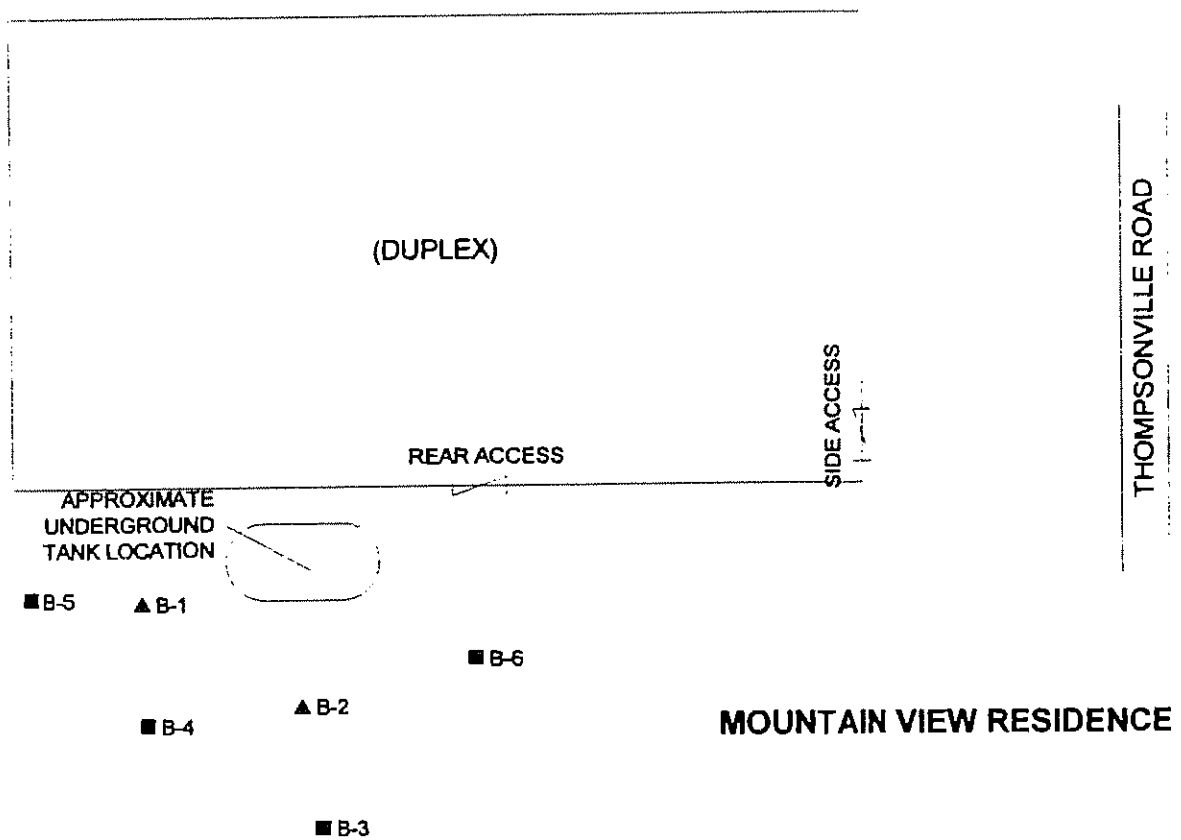
#### Section 15, Block 1, Lot 22

This lot is residential, containing a duplex and several bungalows. According to Town of Thompson Tax Assessor records, the site is owned by Concord Development Corp. and approximately 25.32 acres in size. Phase I Investigation activities revealed that an underground #2 fuel oil storage tank is located at on-site duplex and utilized for space heating. Based on the size of the building and information provided by one of the tenant's, the tank is presumed to have a capacity of approximately 500 gallons. The age and construction of the tank was not available. The UST is located in a section of the rear yard on the west side of the house. The fill port is visible and fuel lines appear to enter the basement from underground.

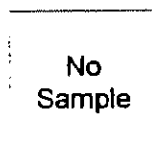
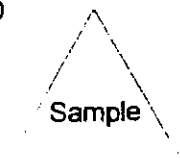
Due to the fact no information was available to document the integrity of this UST, ECSI arranged to conduct GeoProbe borings in the vicinity of the tank to determine its integrity and to determine if a petroleum product release was evident.

On September 16, 1998, Zebra Environmental placed six (6) GeoProbe borings in close proximity to the UST at the site. Figure 8-3 depicts the approximate location of each boring placed at this site. Each boring allowed for the removal and evaluation of subsurface soils to a maximum depth of approximately 10 feet. An OVM was utilized to screen soils to determine if organic vapors were present. Based on the results obtained at the site, it appears that a release of heating oil has occurred from the UST. Table 8-4 presents the analytical results for the samples obtained. Table 8-1 provides NYSDEC STARS 8021 and 8270 threshold standards for

**FIGURE 8-3**  
**SUBSURFACE INVESTIGATIONS AT THE CARLTON HOTEL**  
**AND THE MOUNTAIN VIEW RESIDENCE**



**LEGEND**



HIT  
CLEAR

Approximate Scale  
1" = 10'

**TABLE 8-4**  
**STARS ANALYTICAL RESULTS**  
**Carlton Hotel and Mountain View Residence**

**METHOD 8021**

	Sample Identification Number		
	CH 3	MV 1	MV 2
Depth of Sample (feet)	4 - 7	5 - 10	2 - 7
Parameter	Analytical Results (ug/kg)		
Benzene	ND<5	ND<6	ND<46
Toluene	ND<5	ND<6	ND<46
Ethylbenzene	ND<5	ND<6	84
p-Xylene/m-Xylene	ND<5	12	170
o-Xylene	ND<5	ND<6	48
Isopropylbenzene	ND<5	ND<6	190
n-Propylbenzene	ND<5	ND<6	280
1,3,5-Trimethylbenzene	ND<5	ND<6	350
tert-Butylbenzene	ND<5	ND<6	890
1,2,4-Trimethylbenzene	14	31	1,500
sec-Butylbenzene	ND<5	ND<6	1,100
4-Isopropyltoluene	ND<5	ND<6	350
n-Butylbenzene	ND<5	31	2,300
Naphthalene	20	6	2,200
Methyl-tert-butyl-ether (MTBE)	74	ND<56	ND<460

**METHOD 8270**

	Sample Identification Number		
	CH 3	MV 1	MV 2
Depth of Sample (feet)	4 - 7	5 - 10	2 - 7
Parameter	Analytical Results (ug/kg)		
Naphthalene	ND<0.26	ND<0.26	1.3
Acenaphthylene	ND<0.26	ND<0.26	ND<0.26
Acenaphthene	ND<0.26	ND<0.26	0.37
Fluorene	ND<0.26	ND<0.26	0.45
Phenanthrene	ND<0.26	ND<0.26	1.1
Anthracene	ND<0.26	ND<0.26	0.11 J
Fluoranthene	ND<0.26	ND<0.26	ND<0.26
Pyrene	ND<0.26	ND<0.26	0.19 J
Benzo-(a)-anthracene	ND<0.26	ND<0.26	ND<0.26
Chrysene	ND<0.26	ND<0.26	ND<0.26
Benzo-(b)-Fluoranthene	ND<0.26	ND<0.26	ND<0.26
Benzo-(k)-fluoranthene	ND<0.26	ND<0.26	ND<0.26
Benzo-(a)-pyrene	ND<0.26	ND<0.26	ND<0.26
Indeno-(1,2,3-cd)-pyrene	ND<0.26	ND<0.26	ND<0.26
Dibenzo-(a,h)-anthracene	ND<0.26	ND<0.26	ND<0.26
Benzo-(g,h,i)-perylene	ND<0.26	ND<0.26	ND<0.26

**LEGEND:**

CH = Borings taken at the Carlton Hotel  
MV = Borings taken at the Mountain View Residence  
ND = Non detect, less than detection limit noted.

comparison evaluation of the results obtained. STARS 8021 analysis of soils from Boring No. 1 at approximately 5 to 10 feet below the surface detected four parameters, but at levels below applicable STARS guidance values. No parameters were detected under the STARS 8270 analysis performed for this sample. STARS 8021 analytical results for soils obtained from Boring No. 2, between 2 and 7 feet below the surface, revealed petroleum contamination at levels far greater than applicable STARS guidance values. STARS 8270 analysis for this boring detected 6 parameters, but at levels below the applicable STARS thresholds.

It should be noted the Ms. Dolores Wehrfritz, NYSDEC - Division of Spills Management, was contacted to describe the findings. Further, soil samples were obtained from Boring Nos. 1 and 2 to confirm the extent of petroleum contamination at this site.

In addition to the residential, fuel oil UST, a 1,000 gallon AST exists adjacent to a bungalow on this parcel. The tank contains fuel oil and was once used to service fuel oil fired cloths dryers located within an adjacent wooden bungalow. Fuel oil contained within this tanks should be removed.

#### 8.6 Carlton Hotel and Pussycat Lounge - Section 9, Block 1, Lot 34.1 and Section 15, Block 1, Lot 1.1

USTs were discovered at the former Carlton and the Pussycat Lounge. It appears that both of the tanks have been idle for some time, perhaps as long as 25 to 30 years. No fill port was noted for the UST at the Carlton, however a vent pipe and steel elbow, which probably attaches to the top of the tank, are visible. The tank at the Pussycat Lounge has a fill port visible, although no other lines were observed, with the exception of a feed and return line within an adjacent basement area. There was no information for either tank regarding age or tank construction materials. Further, available information indicates that the Carlton was switched to steam heat over 30 years ago.

Due to the fact that no tank documentation was available and it was not possible to conduct integrity testing on either tank, ECSI arranged to conduct a subsurface boring investigation at each of the tank locations to determine subsurface conditions. A magnetometer was utilized to determine the limits of the each UST prior to placing borings in the field.

A total of five (5) GeoProbe borings were placed at the Carlton, in close proximity to the tank. Figure 8-3 depicts boring locations placed near this tank. Each boring was placed to a maximum depth of approximately 8 feet or refusal. The soils were screened with an OVM to determine if organic vapors were present. One soil sample was obtained from Boring No. 3 to determine the extent of suspect contamination, based on soil screening results. Screening of soils from the four (4) other borings at this location did not indicate the presence of petroleum product contamination. Soils obtained from Boring No. 3, between 4 and 7 feet, were analyzed under STARS 8021 and 8270. A summary of the analytical results are contained in Table 8-4. Table 8-1 provides NYSDEC STARS 8021 and 8270 thresholds for comparison evaluation of the results obtained. STARS 8021 analytical results detected 3 parameters, each under applicable STARS guidance values. All parameters analyzed under STARS 8270 were none detected.

Three (3) GeoProbe borings were placed near the UST at the Pussycat Lounge. Borings were placed to a maximum depth of 11 feet and were screened with an OVM to determine if petroleum contamination existed. No organic vapors were detected in any of the soils from the three (3) soil boring locations, indicating that the area is not contaminated.

## **9.0 CONCORD WATER SUPPLY WELL**

As noted, the Concord water supply well provides potable water supplies to Hotel facility buildings located along Chalet Road and Concord Road. Water is supplied, under constant pressure, to the distribution piping network located below each road. The well is located in close proximity to recently confirmed petroleum product releases resulting from leaking underground storage tanks situated upgradient of the well, approximately 60 feet.

On February 23, 1998, a water sample was obtained and analyzed for full Part V Drinking Water regulatory standards listed under New York State Health Department regulations. The standards were developed from Safe Drinking Water regulations administered by the US Environmental Protection Agency. The analysis included bacteriological parameters, metals, volatile and semi-volatile organic compounds, pesticides, herbicides and PCBs. A full Part V analysis was chosen given that the well is located in close proximity to golf courses where chemicals are applied to control pests and undesirable forms of vegetation, and because the well was never previously tested for full Part V parameters. In addition, information obtained by way of the full Part V analyses essentially served to establish baseline water quality data to facilitate comparisons as part of future water quality testing.

Based on the reported results, parameter concentrations were in full compliance with the drinking water standards administered by New York State. A trace concentration of Barium was detected, however, this metal is believed to have originated naturally by the breakdown of native soils and geologic materials. In addition, Iron, Sodium, and Zinc were detected at low concentrations (0.52, 6.77 and 0.025 mg/l, respectively), however, these concentrations are well below applicable regulatory thresholds. Nitrate and Sulfate were also detected at low concentrations (1.32 and 12.0 mg/l, respectively), however, these concentrations are typical levels for drinking water and are well below applicable regulatory thresholds. Appendix H contains the analytical results obtained for the drinking water well.

## **10.0 REMEDIATION COST ESTIMATES**

Presented below are cost estimates calculated to remediate encountered waste materials at each of the dump and UST sites investigated under Phase II field activities. In addition, cost estimates prepared to address immediate compliance issues are presented. Total costs for each of these categories are noted to facilitate priority considerations.

It is important to note that during February and April 1998, ECSI representatives scheduled and attended meetings with representatives of the NYSDEC to discuss remediation

options in conjunction with Phase II investigation findings. An initial meeting was held in February in the field with Andrew Lent, Division of Solid and Hazardous Waste Management, while Phase II activities were being performed. An additional meeting was held between representatives for Value and the NYSDEC during April 1998 at the NYSDEC offices in New Paltz, New York. Ms. Dolores Wehrfritz, Spill Response, Mr. Lent and Jonah Triebwasser, NYSDEC Senior Attorney, were present during the meeting to discuss Phase II findings and cleanup options. The costs presented below reflect cleanup options discussed with NYSDEC representatives developed in consideration of planned uses for each site.

Capital costs for dump site remediation included calculation of tasks required for permitting, engineering, construction supervision and oversight/contract administration. A percent breakdown of each capital cost provided below.

<u>Item</u>	<u>Percentage of Increase</u>
Contractor General Conditions	10%
Contingency (General)	20%
Engineering	5%
Permitting	2%
Oversight/Contract Administration	5%

In addition, capital costs for equipment mobilization/demobilization, erosion and sedimentation control, excavation, waste transport and disposal, site restoration, environmental monitoring and confirmatory sampling and analyses were determined by receipt of quotations from area wide contractors and laboratories during February 1998. Inflation and location factors for Monticello, New York were obtained from Means 1997 Building Construction Cost data and 1996 Environmental Cost Handling Options and Solutions (ECHOS).

#### 10.1 Dumps and Leaking USTs

Costs for remediating dump sites and leaking USTs were based on field information obtained by completion of the test pit and GeoProbe boring investigations, as described in Sections 7.0 and 8.0. The following table provides the total remediation costs for remediating each dump site and leaking UST location, including operating and maintenance (O&M) costs, as necessary.

Area	Capital Cost*	O&M Present Value Cost	Total Present Value Cost
<b>DUMP SITES</b>			
DEC/Golf Course Dump (4 Areas)	\$677,000	\$10,000	\$688,000
Main Parking Dump	\$228,000	\$46,000	\$274,000
Golf Maintenance (Area and Dump)	\$723,000	\$61,000	\$784,000
Concord Service Station Dump	\$65,000	\$0	\$65,000
Chalet Dump	\$175,000	\$0	\$175,000
Casino Dump	\$131,000	\$16,000	\$147,000
Thompsonville Road	\$0	\$0	\$0
Horse Farm	\$90,000	\$0	\$90,000
Cemetery Dump	\$10,000	\$0	\$10,000
Breezy Dump	\$15,000	\$0	\$15,000
<b>LEAKING USTs</b>			
Golf Maintenance Leaking Tanks	\$145,000	\$0	\$145,000
Concord Service Station Leaking Tanks	\$185,000	\$0	\$185,000
Carlton Leaking Tank	\$20,300	\$0	\$20,300
Mountain View Residence Leaking Tank	\$20,300	\$0	\$20,300
<b>TOTALS</b>	<b>\$2,485,000</b>	<b>\$133,000</b>	<b>\$2,618,000</b>

The costs for closure of each dump site reflects placement of 24 inch cover materials (with a permeability of  $10^{-5}$ ) and 6 inches of topsoil. Costs for gravel placement, grading and revegetation were also calculated for each site.

The extent of confirmatory sampling and analysis is predicated on obtaining one sample per acre of affected area to verify dump site cleanup, following waste excavation and removal activities. Very small quantities of surface encountered sporadically upon a given site are not included in dump remediation cost estimates. The cost for waste removal and disposal is included in the estimated contingency cost values presented for remediation of each site. Further,



much of this material consists of salvageable items (i.e., scrap metal) which can be removed and recycled by an area recycler.

A first step in planning remediation activities is to discuss final closure options for each dump site with representatives of the NYSDEC. The above costs reflect worst case considerations, however, it is suggested that contractors for Resortco of New York pursue cost saving design considerations such as reducing final cover thickness from 24 to 18 inches. Subsequently, a detailed closure plan should be prepared to address full remediation of each dump site.

Leaking UST sites also included the cost for mobilizing/demobilizing of excavation equipment, the use of erosion/sedimentation controls (as necessary), the excavation of the tank and petroleum contaminated soils (PCSs), transport and disposal of PCSs, backfilling, and asphalt replacement, as necessary. Confirmatory analyses conducted in accordance with NYSDEC STARS Memorandum criteria are also included in calculated costs.

#### 10.2 Replacement of Existing USTs

Federal and State regulations require the upgrading or replacement (if necessary) of existing USTs to include corrosion protection, leak detection and secondary containment, prior to December 22, 1998. UST systems which are likely to be evaluated for compliance may include USTs at the main Hotel, the Parker residences and Raymond's Restaurant/Club house. Recent regulatory updates published by the Bureau of National Affairs indicate that the USEPA is working on the idea of possibly extending the compliance date in light of economic concerns. Regardless, tank compliance planning will first have to be finalized with representatives of the NYSDEC, and in consideration of facility improvements, prior to finalizing compliance cost estimates. The level of consideration must be also directed at several ASTs existing upon subject parcels.

#### 10.3 Pesticide Removal and Disposal

As noted, pesticide removal and disposal is required under the Quarantine Order (Appendix A) issued by the NYSDEC for chemicals stored at Golf Maintenance Shop. Representatives of ECSI obtained cost estimates for the removal and disposal of the pesticides/herbicides noted on the Order. Two proposals were obtained, however, in an effort to provide a conservative cost estimate, the highest quotation, \$4,075, was calculated in conjunction with contingency services. The total cost for handling and disposal is \$5,800. It should be noted that the cost reflects health and safety precautions.

#### 10.4 Total Remediation and Compliance Costs

Based on the above, the estimated remediation and compliance costs are denoted on the following table by category below.

Area	Estimated Cost
Remediation of Dumps and Leaking USTs	2,618,000
Pesticide Removal and Disposal	5,800
<b>TOTAL ESTIMATED COSTS</b>	<b>2,623,800</b>

## 11.0 CONCLUSIONS AND RECOMMENDATIONS

During 1996, ECSI was retained by Kiamesha Concord Inc. to conduct Phase I Environmental Assessment activities of parcels owned by Kiamesha Concord, Inc., Frepar, Nalou Realty and Concord Development Corporation. The assessment continued through January 1998 when ECSI was retained by Resortco of New York, a Manhattan development firm interested in purchasing the subject property holdings, to conduct a Phase II Environmental Site Assessment upon 18 parcels suspected of potential contamination resulting from prior illegal dumping and UST releases. The properties investigated under the Phase I and II assessments are mostly located within the Town of Thompson, 3 are located within the Town of Fallsburg and 2 in the Village of Monticello. Of the 18 parcels investigated under the Phase II assessment, four are owned by Sullivan County. The County had taken ownership of 16 of the 67 subject parcels, four of which were confirmed to be contaminated as a result of past waste dumping activities.

ECSI staff also responded to an observed surface release of diesel fuel (approximately 100 gallons) at the Golf Maintenance Shop, during January 1998. Diesel oil was discharged adjacent to the Golf Maintenance Shop while a Hotel staff person was fueling a compressor unit located approximately 35 feet, upslope of the Kiamesha Creek. Cleanup activities were coordinated with the New York State Department of Environmental Conservation (NYSDEC). These activities coincided with discussions about an additional release of No. 4 fuel oil reported by the Town of Thompson Water and Sewer Department; during December 1997, fuel oil was observed at its wastewater treatment plant and traced to the boiler room of the Concord Hotel. Based on visual inspection and conversations with Hotel maintenance staff, it appeared that during December, the release was caused by a boiler feed fuel pump valve malfunction which in turn caused oil to accumulate upon the concrete floor within the main boiler room of the Hotel. Once on the floor, the oil made its way to the wastewater treatment plant via a floor drain leading to the wastewater pipe collection system situated below Concord Road. Subsequently, the spill was cleaned up by on-site personnel to NYSDEC satisfaction. The Town's treatment plant was not impacted by the release.

In addition, pesticides stored at the Golf Maintenance Shop were required by the NYSDEC to be properly handled and disposed. An Order issued by the NYSDEC required that appropriate measures be taken to remove the materials from the site and dispose of them at an appropriate NYSDEC permitted disposal facility.

During December 1997 through January 1998, Kiamesha requested ECSI to continue Phase I assessment activities with plans to complete a Phase I Environmental Site Assessment report some time during February/March 1998. Prior to February, representatives of Value retained ECSI to conduct an expedited Phase II assessment to characterize and quantify environmental contamination determined at parcels visually evaluated to date. Phase II activities were completed during the week of February 2, 1998, on February 20 and 21, and again on September 16, 1998.

Subsequent to February 1998 Phase II field activities, work efforts were diverted from completing a Phase I report in anticipation of quickly completing Phase II field investigations and reporting findings, an arrangement mutually reached between Kiamesha and Value Investors, Inc.

Phase II Investigation activities primarily encompassed the evaluation of numerous dump sites by way of a test pit investigation program, and a boring (GeoProbe) program at suspect areas surrounding underground storage tanks. ECSI also sampled and analyzed an on-site drinking water supply well, the Concord Well, located in close proximity to confirmed UST releases at the Golf Maintenance Shop and to golf course grounds where chemicals are applied to control pests and undesirable forms of vegetation. The water supply well is leased by the Kiamesha Artesian Spring Water Co., Inc. which primarily supplements its potable water supplies to the Concord Resort Hotel. The well is also believed to feed a main supply tank (a 1.2 million gallon supply source) located near the intersection of Route 109 and Concord Road. This source supplies other portions of the Concord Hotel facilities as well as nearby residents and businesses which connect to the Kiamesha Artesian Spring Water Company system.

A total of nine (9) dump sites were evaluated under Phase II investigation activities; including the Concord Service Station parking area dump, the Concord Main Parking lot dump, the Golf Maintenance dump, the existing Golf Course (NYSDEC) dump, the Chalet dump, the Casino dump, the Horse Farm dump (all during the week of February 2, 1998), the Thompsonville Road site (February 20, 1998), and the Cemetery dump (September 16, 1998). Dump sites were investigated under the test pit program, to determine the extent and character of wastes disposed in each suspect location.

Prior to conducting the boring programs, tank integrity testing was conducted to determine whether USTs had released petroleum into the subsurface. These activities were conducted during February 1998 and September 1998, under the direct supervision of ECSI personnel. The boring program consisted of placing GeoProbe borings (to refusal) in close proximity to underground storage tanks confirmed to be un-tight by integrity testing activities performed during February 1998, or tanks which required investigation to confirm suspected releases. Numerous borings were placed at the Concord surrounding a former Concord Service Station building which fronts along Concord Road and at an adjoining area, believed to previously contain underground storage tanks. In addition, parcels which contained USTs which could not be integrity tested (i.e., due to inaccessibility) or were identified after tank integrity testing activities, were included under the boring program.

Phase II field activities determined that nine dump sites will require cleanup/closure in accordance with NYSDEC 6 NYCRR Part 360 regulations (effective 1993). As a first step in addressing site closings, contractors for Resortco of New York should first discuss final cleanup parameters with representatives of the NYSEC and prepare a Closure Plan to encompass each dump site. Closure activities should not commence until NYSDEC approves of the Plan. It is important to note that three of the dump sites investigated, and confirmed to be contaminated with waste materials, are owned by Sullivan County, via past foreclosure proceedings. In addition, Phase II field activities determined that evidence of petroleum product releases exist at the Golf Maintenance Shop, the former Concord Service Station (surrounding areas and adjoining 10,000 gallon tank systems), the Carlton Hotel and a residence located at the Mountain View properties along Thompsonville Road.

Subsequent to confirming the extent of contamination for the above sites, ECSI prepared a remediation cost estimate to address the cleanup of confirmed contaminated sites. Total remediation costs for the cleanup/closure of dump and UST release sites is \$2,618,000. This amount, combined with the cost of \$5,800 to remove, manifest and dispose of on-site pesticide chemicals, is \$2,623,800.

While total remediation costs are provided to address the cleanup/closure of dump sites, confirmed UST releases and the handling/diposal of pesticide chemicals, other compliance issues which were cited under the Phase I and II work efforts should be addressed in time. These issues are discussed below by each evaluated location.

#### Main Hotel

Future construction activities performed at the main Hotel grounds are likely to lie within the jurisdiction of the Delaware Drainage Basin Commission and as such, the exact applicability of the agency's jurisdiction should be confirmed prior to commencement of any planned construction activities.

An emissions inspection report prepared by the NYSDEC indicates that opacity levels during 1996 were not to State standards for the on-site boiler systems operated at the main Hotel. It is recommended that levels be evaluated and appropriate corrective actions be implemented, if necessary. If new heating and fuel supply systems are installed, the Divisions of Air Resources and Petroleum Bulk Storage should be contacted for emissions permitting and/or tank registration.

Given the particulars of the December 1997 #4 fuel oil release at the main Hotel boiler room, arrangements should be made to conduct an audit of facility operations with the intent of eliminating release potentials. In addition, facility personnel should be trained and informed on spill response and notification procedures applicable under Federal and State environmental regulations. These are recommended as immediate measures for implementation.

While the two 15,000 gallon USTs passed tank integrity testing conducted during February 1998 Phase II field activities, these tanks will require retrofitting or possible

replacement given the age and the cited exposures associated with each fill port location. Federal and State regulations require that all USTs be brought up to construction standards by December 22, 1998. Notice and registration of retrofitting or replacement must be issued to the NYSDEC prior to commencement of activities. If tank replacement activities are considered, a roadway work permit must be obtained from the Sullivan County Department of Transportation prior to commencing construction activities.

All electrical transformers (including pole transformers) which were not confirmed through testing to be free of PCBs, should be tested and appropriate measures should be made to ensure compliance with applicable Federal rulings under the Toxic Substances and Control Act (TSCA) regulations.

#### International Club House

It is recommended that efforts be made to verify whether or not the International Club House has a separate sanitary wastewater system or is connected to the Town of Thompson Sewage Treatment Plant system. If a separate system exists, facility representatives must ensure that a SPDES permit exists for the system (for discharges to waters of the State) or obtain a permit in accordance with applicable State regulations.

#### Raymond's Restaurant/Club House

As noted, sanitary wastewater generated by facility operations is discharged to an individual septic tank and sand filtration treatment system, north of the building. SPDES permit conditions require periodic monitoring and reporting of discharge flow conditions. Based on conversations with facility personnel and NYSDEC representatives, it appears that these compliance requirements have not been addressed. As such, the facility is not in compliance with SPDES regulations. It is recommended that arrangements be made to ensure that sanitary wastewater discharge monitoring and reporting is addressed in accordance with issued SPDES permit conditions.

While the 12,000 gallon USTs passed tank integrity testing conducted during February 1998 Phase II field activities, this tank will require retrofitting or possible replacement given the age of the tank system. Federal and State regulations require that all USTs be brought up to construction standards by December 22, 1998. Notice and registration of retrofitting or replacement must be issued to the NYSDEC prior to retrofitting or replacement.

#### Golf Maintenance Shop

The septic tank system in use at the Golf Maintenance Shop should be relocated away from the nearby Concord Well and the Kiamesha Creek. The system appears to be substandard, a new system must adhere to Health Department standards. Relocation will serve to off-set biological contamination potentials via sanitary wastewater discharges.

February 1998 Phase II field activities included full Part V water quality testing which in turn resulted in providing a good baseline data summary for the well. Given the well's proximity

to confirmed petroleum product releases and areas which receive seasonal application of pesticides and herbicides, it is recommended that the well be sampled and analyzed on a 6 month frequency for a partial listing of Part V parameters and a full parameter listing every year

The water supply piping system connecting with the compressor unit used for snow making must be altered to preclude any further oil residue discharge potentials to the Kiamesha Creek. Arrangements may possibly include altering the piping configuration to allow manual operation and filtration for residue oil potentials.

#### James Parker Residence

Phase II assessment activities revealed that a vent pipe, thought to be connected to a 500 gallon underground storage tank, could not be located in the vicinity of the tank. This situation resulted in the tank not being able to be tank tested during February 1998 Phase II field activities. This condition is a violation of fire safety rulings for New York State and as such, it is recommended that a vent pipe be installed, as necessary.

Other than the above noted compliance issues, no other actions are recommended.

## **APPENDICES**

**APPENDIX A**

**PRELIMINARY PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORTS**

**ELECTRICAL TRANSFORMER PACKAGE**

**PESTICIDE QUARANTINE ORDER**

**NYSDEC ORDER ON CONSENT**



**PRELIMINARY PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORTS**



**Environmental  
Compliance  
Services, Inc.**  
*ENVIRONMENTAL CONSULTING*

DRAFT

**VIA FACSIMILE**

March 12, 1997

Mr. George Parker  
Concord Hotel  
Kiamesha Lake, New York 12751

Re: Preliminary Phase I Environmental Site Assessment Report  
Concord Hotel, Kiamesha Lake, Sullivan County, New York  
(ECSI Project No. 4051.EA)

Dear Mr. Parker:

This is to provide you with a preliminary report on our services completed to date for conducting ongoing Environmental Site Assessment activities for properties owned by Kiamesha Concord Inc. (KCI) and the Concord Development Corporation (CDC). Our work efforts have been conducted in accordance with ASTM standards on Environmental Site Assessments for Commercial Real Estate (E-1527-94) as well as recognized practices suitable for typical lending institutions. A general description of the scope of our services is as follows:

- ◆ Interviews with applicable agency and property owners/operators as well as the completion of an Environmental Questionnaire to facilitate evaluation of past and present site conditions.
- ◆ Performance of site walkover surveys to visually evaluate the physical conditions of the subject parcels.
- ◆ Evaluation of the level of regulatory compliance the site may be subject to.
- ◆ Review of agency records on any spills/releases at or in the vicinity of the site.
- ◆ Review of available environmental reports completed for the site and related correspondence.
- ◆ Preparation of a Phase I Environmental Site Assessment Report.

Mr. George Parker  
March 12, 1997  
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As you know, we have commenced Phase II Environmental Site Assessment activities to further evaluate property conditions, based on the preliminary findings discussed below. Activities include preparation of a Work Plan for Waste Pile Removal and Disposal at the Concord Resort Hotel (dated October 1996) and performance of a preliminary test pit investigation currently performed by your staff in conjunction with our assistance. The purpose of the investigation is to acquire additional information on previous surface waste disposal practices conducted on properties either owned by KCI and CDC or which lie adjacent to these subject parcels. Information obtained under the investigation will be incorporated into a revised Work Plan scheduled for completion later this month. The Work Plan will include:

- ♦ Identification of property areas of concern and the types of further investigations to conduct
- ♦ Evaluation of waste removal and disposal options (with recycling possibilities)
- ♦ Confirmatory soil sampling and analyses
- ♦ Underground storage tank (UST) compliance issues and requirements
- ♦ Agency liaison and regulatory requirements for each area of concern
- ♦ Site restoration activities, as necessary
- ♦ Agency reporting requirements, as necessary

As part of our work effort, we investigated 19 parcels at and in the vicinity of the Concord Resort Hotel. The lands investigated are listed in the following table and have been entered by Section, Block and Lot as designated by the Town of Thompson Tax Assessor's Office. In addition, the acreage, as noted on tax property record cards and associated tax maps have been included for each site. The general location of each parcel, by street name as well as current ownership as noted on each property record card has been included as well. Please note, this information was obtained from the Town of Thompson Tax Assessor's Office in November 1996, and represents updated official information until that date. No indication of change in ownership of Concord lands has been offered, as such it is assumed for the purpose of this report, that the information presented is current.

Mr. George Parker

March 12, 1997

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Parcels Designated for Investigation			
Section, Block, Lot	Acreage	Street Location	Current Owner
9-1-27	28.8	County Highway 109	Kiamesha Concord, Inc.
9-1-28	0.26	County Highway 109	Kiamesha Concord, Inc.
9-1-29	1.8	County Highway 109	Kiamesha Concord, Inc.
9-1-31	0.21	County Highway 109	Kiamesha Concord, Inc.
9-1-34.1	93.66	Concord Road	Kiamesha Concord, Inc.
10-15-9	2	County Highway 109	Kiamesha Concord, Inc.
10-15-10	0.34	County Highway 109	Concord Development Corp.
10-15-11	2.8	County Highway 109 & Pine Drive	Kiamesha Concord, Inc.
10-16-5	2.5	County Highway 109	Kiamesha Concord, Inc.
13-3-17	0.46	Back Kiamesha Road	Kiamesha Concord, Inc.
13-3-20	66	Back Kiamesha Road	Concord Development Corp.
15-1-14	197.37	Ski Run Road	Kiamesha Concord, Inc.
15-1-22	25.32	Thompsonville Road	Concord Development Corp.
15-1-35.7	132.84	Thompsonville Road	Concord Development Corp.
15-1-49	0.17	County Highway 109	Concord Development Corp.
15-1-51	27.08	Town Road 45	Kiamesha Concord, Inc.
23-1-54.2	57.5	Joyland Road	Kiamesha Concord, Inc.
23-1-54.3	7.6	Joyland Road	Kiamesha Concord, Inc.
23-1-61.2	10.05	Joyland Road	Concord Development Corp.

As part of completing our investigations of these properties in accordance with ASTM Standard Practice E-1527-94, ECSI included an investigation of adjacent and surrounding parcels to determine if on-site or nearby conditions exist that may affect the environmental quality of the subject parcels. Presented below is a description of preliminary findings for the above noted properties. The attached Existing Conditions Figure presents the approximate locations of each finding situation described, the numbers presented correspond to the numbered locations on the attached figure.

Mr. George Parker  
March 12, 1997  
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**1) EXISTING DUMP SITE (KCI PARCEL 15-1-14, 197.37 ACRES)**

- Case File Still Open With the New York State Department of Environmental Conservation (NYSDEC), Verification of Remediation Is Necessary Via Contact With Staff Previously Requested To Review Groundwater and Surface Water Investigation Information Obtained During 1989 By KCI

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- Adjacent Parking Area Needs Waste Removed And Cleanup Levels Verified

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- Salt/sand Pile Must Be Managed In Accordance With NYSDEC Storm Water Regulations
- Overfill Prevention On Waste Oil Tank & Possible Retrofitting
- Perform Sump Clean Out and Sludge Disposal
- Conduct Test Pit Investigation To Determine Extent Of Waste Removal Along Storage Area Limits & Confirm Cleanup
- Remove Junked Materials And All Unused Cleaning Product Drums

**4) HOTEL Underground and Above Ground Storage Tanks (KCI Parcel 9-1-34.1, 93.66 Acres)**

- Ensure Protection Of Fillports And Implement Spill Prevention Measures
- Complete Registration Of All On-Site USTs and ASTs
- Complete Integrity Testing For USTs In Accordance With NYSDEC Requirements

Mr. George Parker  
March 12, 1997 .  
Page 5

**5) HOTEL BOILERS (KCI Parcel 9-1-34.1, 93.66 Acres)**

- Ensure Emissions Compliance with Pending Federal And State Clean Air Act Requirements for Boiler Emissions

**6) MAIN HOTEL PARKING AREA FILL SITE (KCI Parcel 15-1-14, 197.37 Acres)**

- Conduct Test Pit Investigation & Sample/Analyze Soil & Water Resources Adjacent to Main Parking Lot Area

**7) CHALET SOUTHEAST DUMP SITE (KCI PARCEL 15-1-51, 27.08 ACRES)**

- Conduct Test Pit Investigation To Determine Extent Of Waste Removal & Confirm Cleanup

**8) BAILEY ROAD CASINO PROPERTY (CDC PARCEL 13-3-20, 66 ACRES)**

- Cleanup Surface Dumping At Rear Of Casino Building And Confirm Cleanup Levels
- Remove/Dispose of Trash In Swimming Pool
- Conduct Test Pit Investigation At Adjacent Properties To Determine Extent Of Waste Disposed For Possible Removal

**9) BREEZY CORNERS (Adjacent To KCI Parcel 23-1-54.2, 57.5 Acres)**

- Breezy Corners SPDES Applicability & Health Department Code Verification On Treatment System And Removal of Trash Behind Casino Building

In addition to the above, surface water/watershed regulations established by the Kiamesha Water Company exist for Kiamesha Lake and surrounding areas which include properties owned by KCI and CDC. Regulations require safeguards for pesticide applications and sediment and erosion precautions to protect the water quality of Kiamesha Lake, a public water supply source.

Based on the above findings to date, we expect that areas which contain discarded trash will not pose a significant environmental threat, risk or liabilities to surrounding groundwater and surface water resources or public health and welfare. With respect to the old dump site (location number 1), a response from NYSDEC Division of Solid Waste Management staff must be obtained regarding their review of surface and groundwater information previously provided to them

Mr. George Parker  
March 12, 1997  
Page 6

during 1989 and 1990. The response will likely indicate appropriate actions to undertake to further investigate and verify environmental risks or liabilities by way of additional surface and groundwater sampling and analysis. The analysis will provide indication of the extent possible remediation activities will to need be addressed, as necessary. In addition, it is our understanding that KCI will continue efforts to address the other above noted matters including the removal and disposal of waste/trash piles, register petroleum bulk storage facilities and arrange for integrity testing of in-use USTs, and complete UST closure of the two USTs at the adjacent service station property.

In the interim, we will continue to assist your efforts to address all matters noted in this correspondence as well as arrange to contact representatives in the NYSDEC Division of Solid Waste Management regarding the old dump site. Please be aware that the NYSDEC has recently published requirements for boiler emissions, we will verify applicability for the hotel facility.

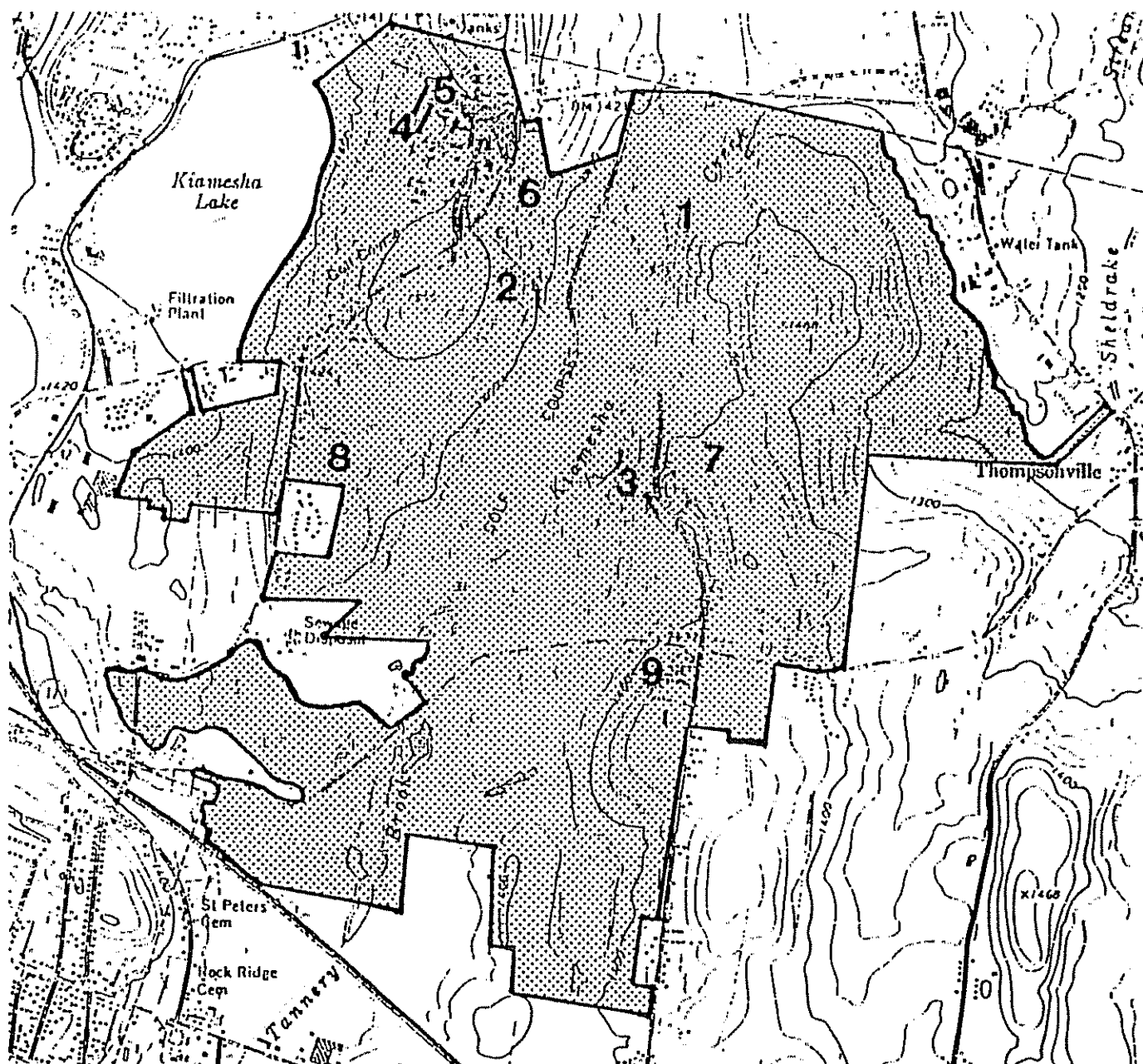
If you should have any questions regarding the above, please feel free to call.

Very truly yours,  
**ENVIRONMENTAL COMPLIANCE SERVICES, INC.**

Anthony P. Russo  
President

APR/smr

Attachment



## LEGEND

- 1 - EXISTING DUMP SITE
- 2 - GAS STATION SITE
- 3 - MAINTENANCE SHOP
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- 5 - HOTEL BOILERS
- 6 - MAIN HOTEL PARKING AREA FILL SITE
- 7 - CHALET SOUTHEAST DUMP SITE
- 8 - BAILEY ROAD CASINO PROPERTY
- 9 - BREEZY CORNERS

SCALE 1" = 2,000'

## EXISTING CONDITIONS FIGURE

### SOURCE:

USGS MONTICELLO, N.Y. (1966 PHOTO REV. 1982)  
7.5 MINUTE TOPOGRAPHIC QUADRANGLE SERIES

CONCORD RESORT HOTEL  
TOWN OF THOMPSON, NEW YORK





Environmental  
Compliance  
Services, Inc.  
*ENVIRONMENTAL CONSULTING*

**VIA FACSIMILE**

January 22, 1998

Joseph M. Murphy, President  
Value Resort & Spa, Inc.  
300 East 42nd Street  
New York, New York 10017

Re: Preliminary Phase I Environmental Site Assessment Report  
Concord Hotel, Kiamesha Lake, Sullivan County, New York  
(ECSI Project No. 4051.EA)

Dear Mr. Murphy:

This is to provide you with a preliminary report on our services completed to date for conducting ongoing Environmental Site Assessment activities for properties owned by Kiamesha Concord Inc. (KCI) and the Concord Development Corporation (CDC). Our work efforts have been conducted in accordance with ASTM standards on Environmental Site Assessments for Commercial Real Estate (E-1527-94) as well as recognized practices suitable for typical lending institutions. A general description of the scope of our services is as follows:

- ◆ Interviews with applicable agency and property owners/operators as well as the completion of an Environmental Questionnaire to facilitate evaluation of past and present site conditions.
- ◆ Performance of site walkover surveys to visually evaluate the physical conditions of the subject parcels.
- ◆ Evaluation of the level of regulatory compliance the site may be subject to.
- ◆ Review of agency records on any spills/releases at or in the vicinity of the site.
- ◆ Review of available environmental reports completed for the site and related correspondence.
- ◆ Preparation of a Phase I Environmental Site Assessment Report.

As you know, we have commenced Phase II Environmental Site Assessment activities to further evaluate property conditions, based on the preliminary findings discussed below. Activities include preparation of a Work Plan for Waste Pile Removal and Disposal at the Concord Resort Hotel (dated October 1996) and performance of a preliminary test pit investigation currently performed by your staff in conjunction with our assistance. The purpose of the investigation is to acquire additional information on previous surface waste disposal practices conducted on properties either owned by KCI and CDC or which lie adjacent to these subject parcels. Information obtained under the investigation will be incorporated into a revised Work Plan scheduled for completion later this month. The Work Plan will include:

- ♦ Identification of property areas of concern and the types of further investigations to conduct
- ♦ Evaluation of waste removal and disposal options (with recycling possibilities)
- ♦ Confirmatory soil sampling and analyses
- ♦ Underground storage tank (UST) compliance issues and requirements
- ♦ Agency liaison and regulatory requirements for each area of concern
- ♦ Site restoration activities, as necessary
- ♦ Agency reporting requirements, as necessary

As part of our work effort, we investigated 19 parcels at and in the vicinity of the Concord Resort Hotel. The lands investigated are listed in the following table and have been entered by Section, Block and Lot as designated by the Town of Thompson Tax Assessor's Office. In addition, the acreage, as noted on tax property record cards and associated tax maps have been included for each site. The general location of each parcel, by street name as well as current ownership as noted on each property record card has been included as well. Please note, this information was obtained from the Town of Thompson Tax Assessor's Office in November 1996, and represents updated official information until that date. No indication of change in ownership of Concord lands has been offered, as such it is assumed for the purpose of this report, that the information presented is current.

Parcels Designated for Investigation			
Section, Block, Lot	Acreage	Street Location	Current Owner
9-1-27	28.8	County Highway 109	Kiamesha Concord, Inc.
9-1-28	0.26	County Highway 109	Kiamesha Concord, Inc.
9-1-29	1.8	County Highway 109	Kiamesha Concord, Inc.
9-1-31	0.21	County Highway 109	Kiamesha Concord, Inc.
9-1-34.1	93.66	Concord Road	Kiamesha Concord, Inc.
10-15-9	2	County Highway 109	Kiamesha Concord, Inc.
10-15-10	0.34	County Highway 109	Concord Development Corp.
10-15-11	2.8	County Highway 109 & Pine Drive	Kiamesha Concord, Inc.
10-16-5	2.5	County Highway 109	Kiamesha Concord, Inc.
13-3-17	0.46	Back Kiamesha Road	Kiamesha Concord, Inc.
13-3-20	66	Back Kiamesha Road	Concord Development Corp.
15-1-14	197.37	Ski Run Road	Kiamesha Concord, Inc.
15-1-22	25.32	Thompsonville Road	Concord Development Corp.
15-1-35.7	132.84	Thompsonville Road	Concord Development Corp.
15-1-49	0.17	County Highway 109	Concord Development Corp.
15-1-51	27.08	Town Road 45	Kiamesha Concord, Inc.
23-1-54.2	57.5	Joyland Road	Kiamesha Concord, Inc.
23-1-54.3	7.6	Joyland Road	Kiamesha Concord, Inc.
23-1-61.2	10.05	Joyland Road	Concord Development Corp.

As part of completing our investigations of these properties in accordance with ASTM Standard Practice E-1527-94, ECSI included an investigation of adjacent and surrounding parcels to determine if on-site or nearby conditions exist that may affect the environmental quality of the subject parcels. Presented below is a description of preliminary findings for the above noted properties. The attached Existing Conditions Figure presents the approximate locations of each finding situation described, the numbers presented correspond to the numbered locations on the attached figure.

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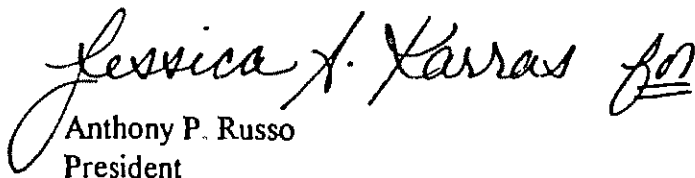
Joseph M. Murphy, President  
January 22, 1998  
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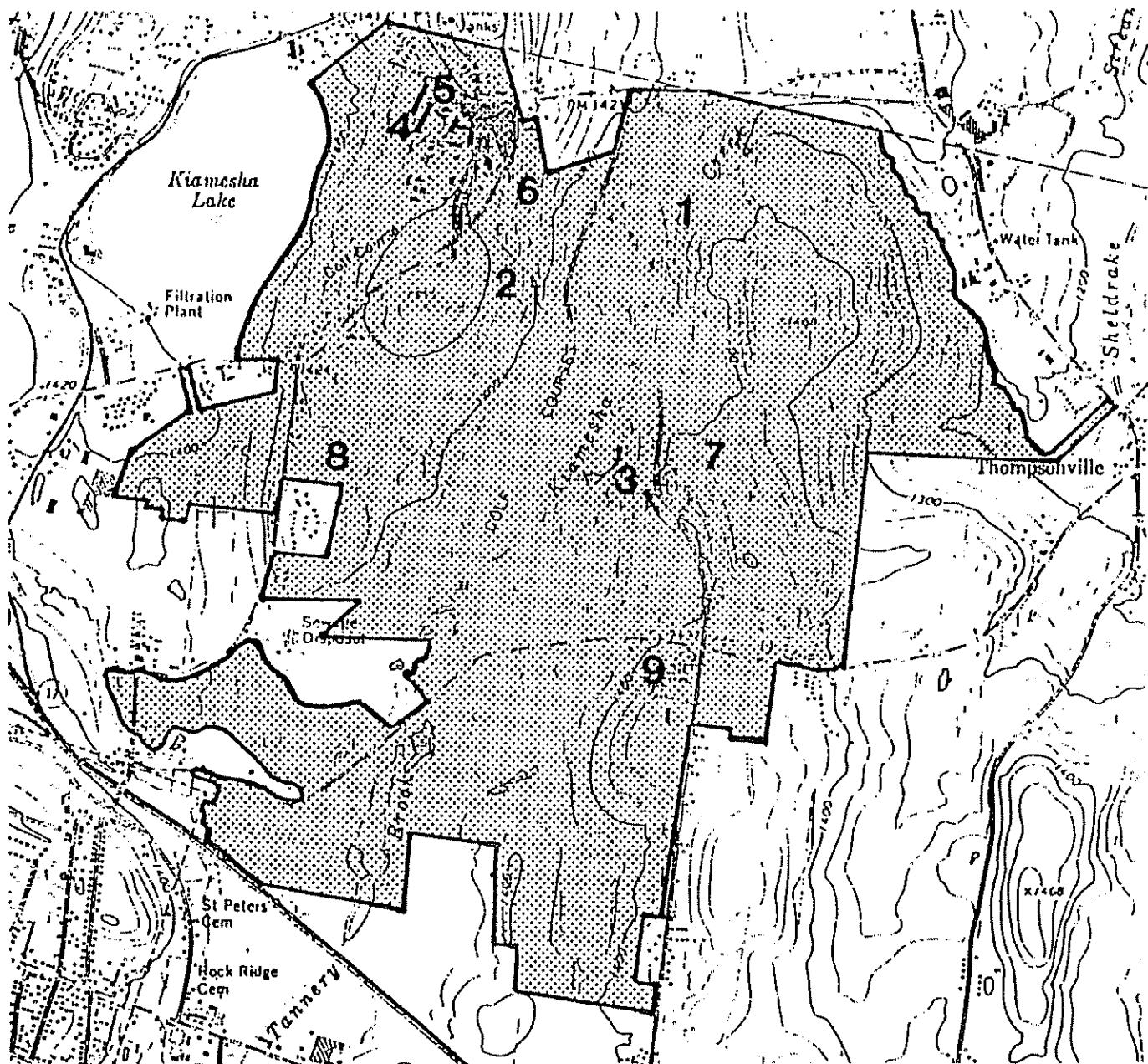
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Very truly yours,  
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Anthony P. Russo  
President

APR/dcb

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## EXISTING CONDITIONS FIGURE

CONCORD RESORT HOTEL  
TOWN OF THOMPSON, NEW YORK

## **ELECTRICAL TRANSFORMER PACKAGE**



*Building an Energy Alliance*

September 19, 1996

RECEIVED SEP 23 1996

Ms. Jessica Karras  
Environmental Compliance Services Inc.  
P O Box K  
9 Academy Ave  
Middletown NY 10940

Re: Concord Hotel

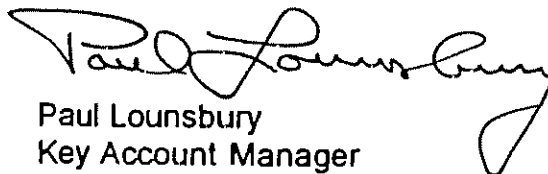
Dear Jessica,

Enclosed, you will find information regarding the power transformers that we have on record that are in use at the Concord Hotel. After speaking with you on the phone, I searched through our files and made copies of various memos and letters over many years that referenced the transformers. I do not know of any additional units since the last letter that is attached. So, please verify this against your field inventory.

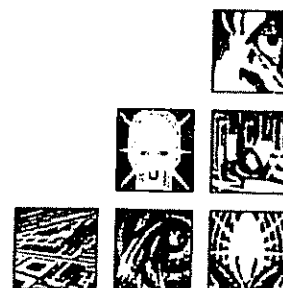
As you will see, we assisted the Concord in a previous effort to determine PCB content by assisting them by providing serial numbers and other company information. New York State Electric and Gas (NYSEG) does not have record of PCB content of any of these transformers.

If you are in need of having tests performed on any or all of the transformers to determine PCB content, or to test the electrical integrity of the transformers, NYSEG offers a full spectrum of testing services. I have enclosed a price schedule for your perusal. If you would like more specific information on any of the different testing services, or if you would like to arrange to have testing performed, please do not hesitate to call me at 1-800-225-7026, extension 443.

Sincerely,

  
Paul Lounsbury  
Key Account Manager

cc: George Parker - The Concord  
John Hendrix - Boris Shalman Electric



file  
Daphne  
Concord  
file  
Twy

October 1, 1981

Boris Shalman Inc.  
Sackett Lake Road  
Monticello, New York 12701

ATT: George Friedberg

Dear George:

Enclosed are rough drafts of letters you might use to inquire about PCB's in the transformers at the Concord. These are only suggestions, and you can change whatever you would like.

If I can be of further assistance, please contact me.

Sincerely,

Russell G. Wakeman  
Marketing Services Representative

RGW/dc

cc: RAP

Enc.

ROUGH DRAFT

McGraw Edison Company  
1 Lincoln Center  
Suite 990  
Syracuse, New York 13202

ATT: Mr. George Rushford

Dear Mr. Rushford:

Due to the recent PCB eruption, we have been concerned about some transformers we own, which are near our food preparation area.

We understand you purchased Pennsylvania Transformer and Line Material companies, so we are including a list of serial numbers of transformers manufactured by them. If possible would you please tell us if the oil these transformers contain PCB's.

Pennsylvania Serial #36596-1 60 Spec 3682L - 333 KVA

Pennsylvania Serial #36596-2 60 Spec 3682L - 333 KVA

Pennsylvania Serial #36596-3 60 Spec 3682L - 333 KVA

Line Material Serial #1004289 Type La DA 211048 100 KVA

Line Material Serial #1431553 Type RW Cat.TD 211048 167 KVA

Line Material Serial #1431554 Type RW Cat.TD 211048 167 KVA

Line Material Serial #1431555 Type RW Cat.TD 211048 167 KVA

Line Material Serial #1707280 Type RW Cat.TD 211048 167 KVA

Line Material Serial #1707281 Type RW Cat.TD 211048 167 KVA

Line Material Serial #1707282 Type RW Cat.TD 211048 167 KVA

Thank you for your cooperation in this matter and if I can be of further assistance, please contact me.

Sincerely,

George Friedberg

ROUGH DRAFT

General Electric Company  
P.O. Box 407  
Vestal, New York 13850

ATT: Mr. Al. Londa

Dear Mr. Londa:

Due to the recent PCB eruption, we have been concerned about some transformers we own, which are near our food preparation areas.

Listed below are the serial numbers of transformers manufactured by G.E.

If it is possible could you please tell us if the oil in these transformers contain PCB's.

Serial #454180 - 60P - 250 KVA

#454181 - 60P - 250 KVA

#454182 - 60P - 250 KVA

H696733Y68AA - 100 KVA

C119697 - 100 KVA

Thank you for your cooperation in this matter and if I can be of further assistance, please contact me.

Sincerely,

George Friedberg

# Boris Shalman, Inc.

LICENSED ELECTRICAL CONTRACTOR

---

P. O. Box 248 • Monticello, New York 12701 • (914) 794-5678

---

## 200 -BASEMENT VAULT..

Spirakore Trans- 4800/8320Y- 120/240

3-- G.E. S/N D 454180-60P KVA 250  
454181-60P KVA 250  
454182-60P KVA 250

## TRANSFORMER VAULT NEXT TO BOILER ROOM OFFICE..

3- Pennsylvania transformers KVA 333

1-36596-3 cyl 60Spec 3682-L

2-36596-1

3-36596-2

Voltage Rating ---4800/8320Y

## BACK OF NITE CLUB OUTSIDE OF LOADING DOCK.

1- GE-H 696733Y68AA 4800/7200 -100KVA

2- CENTER -GE -C119697- 4800/8320Y 120/240- 100KVA

3- Line Material 1004289 Type La DA 211048-100KVA ,4800/8300 120/240

## OLD VAULT NEXT TO PANTRY

1st BANK.....

1.-L.M. Ser# 1431554 Type RW-Cat T-D 211048-167 ,4800/8300Y,120/240 ,167KV

2.-L.M. Ser# 1431555 Type RW,Cat TD 211048-167 KVA

3.-L.M. Ser # 1431553 Type RW,Cat T\_D 211048-167KVA

## Bank #2,

1- L.M. Ser# 1707282 Type RW Cat T-D 211048-167 KVA

2. L.M. 1707281 Type RW Cat T-D 211048-167 KVA

3. L.M. Ser# 1707280 Type RW Cat T\_D 211048-167 KVA

All the Above are at Concord Hotel.Kiamesha Lake,

NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION

Local Union #806 International Brotherhood of Electrical Workers, A.F. of L. — C.I.O.  
International Association of Electrical Inspectors

Monticello

December 2, 1977

TO: W.H. Bury

RE: Concord Hotel Transformer

The following is the name plate data on the new transformer at the above location.

Mfg.	Vantron
KVA	1500
Voltage-Primary	7200/4800
Secondary	208/120
	65° c Rise
Imp.	5.75 @ 85° c
Serial Number	77V5358
Weight	14,000 lbs.
Class	OA 60 cycle 3 Ø

Russell G. Wakeman

RGW/dc

COPY

# TRANSFORMER INFORMATION

<u>CUSTOMER</u>	<u>LINE &amp; POLE #</u>	<u>SIZE</u>	<u>TYPE</u>	<u>MFG.</u>	<u>P.R. YR.</u>	<u>DEPREC. VALUE</u>	<u>INSTALL COST</u>	<u>TOTAL</u>
Concord Hotel	1383	25	Conv.	GE	1967	233.45	220.12	
	1-1	25	"	"	"	"	"	
		25	"	"	"	"	"	
	1383	15	**CSP	West.	1951	137.69	67.44	
	2	5	CSP	West.	1951	82.59	"	
	1383	100	*Conv.	MGED	1973	891.95	305.33	
	12-1	100	*Conv.	"	"	"	"	
		100	*Conv.	"	"	"	"	
	1383	75	Conv.	West.	1954	394.02	133.38	
	14	75	"	"	"	"	"	
		75	"	"	"	"	"	
	1383	25	**Conv.	LM	1945	157.60	95.93	
	18	25	**Conv.	West.	1945	"	"	
	1383	10	Conv.	West.	1966	130.31	211.74	
	21-1	10	"	"	"	"	"	
		10	"	"	"	"	"	
	1383	25	Conv.	West.	1963	213.35	106.80	
	22	10	Conv.	GE	1964	126.46	249.23	
	1383	50	Conv.	LM	1964	358.76	249.22	
	25	50	"	"	"	"	"	
		50	"	"	"	"	"	
	1445	250	Conv.	GE	1960	1,423.50	207.35	
	1A	250	"	"	"	"	"	
		250	"	"	"	"	"	
	1445	50	CSP	West.	1961	399.64	174.00	
	3	50	CSP	West.	1960	397.81	95.04	
		50	CSP	West.	1960	397.81	95.04	

\* Dual voltage high side 4800/7200V

\*\*Dual voltage high side 2400/4800V

# TRANSFORMER INFORMATION

<u>CUSTOMER</u>	<u>LINE &amp; POLE #</u>	<u>SIZE</u>	<u>TYPE</u>	<u>MFG.</u>	<u>P.R. YR.</u>	<u>DEPREC. VALUE</u>	<u>INSTALL COST</u>	<u>TOTAL</u>
Concord Hotel	1445 5	100	Conv.	LM	1942	384.51	95.12	
		100	**Conv.	GE	1954	477.47	146.80	
		100	**Conv.	LM	1949	424.69	121.75	
	1445 6A	50	*Conv.	West.	1970	468.29	247.17	
		50	"	West.	1970	468.29	247.17	
		50	"	West.	1970	"	"	
	1445 7	333	Conv.	Penn.	1956	1,340.30	195.74	
		333	"	"	"	"	"	
		333	"	"	"	"	"	
	1445 8	167	Conv.	LM	1954	704.21	148.61	
		167	"	"	"	"	"	
		167	"	"	"	"	"	
		167	"	"	1957	754.19	165.94	
		167	"	"	"	"	"	
	1445 11	75	CSP	West.	1955	436.27	78.38	
		75	"	"	"	"	"	
		75	"	"	"	"	"	
	1445 13-1	167	Conv.	Penn.	1959	843.86	179.74	
		167	"	"	"	"	"	
		167	"	"	"	"	"	
	1445 14-3	10	**Conv.	Wagner	1947	84.74	102.84	
		10	Conv.	GE	1964	126.46	249.23	
		10	Conv.	GE	1964	126.46	249.23	
	1445 16-4	100	Conv.	West.	1966	668.96	233.04	
		100	Conv.	West.	1966	"	"	
		100	"	"	"	"	"	

\*Dual voltage high side 4800/7200V  
 \*\*Dual voltage high side 2400/4800V



[illegible]

\*Dual voltage high side 4800/7200V  
\*\*Dual voltage ~~high side~~ 2400/4800V

INTER-OFFICE MEMORANDUM

NEW YORK STATE ELECTRIC & GAS CORPORATION

Liberty, New York

(Office)

TO: MR. H. M. HARDING (Ithaca, N. Y.)

March 23, 1959

Re: Concord Hotel Private Lines

Please advise the present day value of the following transformer installations including the transformer itself, fixtures, primary and secondary bus work, C/O's, L/A's, etc. If you wish you may fill in your figures after our last column and return one copy of this letter to us. All transformers are 1Ø and of 4800 volt rating. The purpose of this report is to accumulate data for the Power Sales Department in their dealings with the customer. We prefer to have the costs listed pole by pole so items may be deleted if necessary. More than one transformer per pole, platform, or vault indicated a three phase power installation. The costs should be depreciated to July 1, 1959.

<u>Line #</u>	<u>Pole #</u>	<u>Size Transf. in KVA</u>	<u>Type</u>	<u>Mfr.</u>	<u>Year Purchased</u>	<u>Year Installed</u>
445	Vault #1	167	Conv.	L.M.	1954	1954
"	"	167	"	"	"	"
"	"	167	"	"	"	"
"	"	167	"	"	1957	1957
"	"	167	"	"	"	"
"	"	167	"	"	"	"
"	Vault #2	333	"	Penn	1956	1956
"	"	333	"	"	"	"
"	"	333	"	"	"	"
"	Vault #3	100	RW	L.M.	1951	1958
"	"	100	"	"	"	"
"	"	100	STB	"	1957	"
"	1-4	75	C&P	West.	1955	1957
"	"	75	"	"	"	"
"	"	75	"	"	"	"
"	4	75	Conv.	"	1956	1958
"	"	75	"	"	"	"
"	"	75	"	"	"	"
1	27	37½	OISC	A.C.	1947	1952
83	2	15	CSP	West.	1951	1957
"	"	5	"	"	"	1954
"	14	75	Conv.	"	1954	"
"	"	75	"	"	"	"
"	"	75	"	"	"	"

We would also like the present day value of the following cutout installations.

<u>Line #</u>	<u>Pole #</u>	<u>Type</u>	<u>Date Installed</u>
1	26	3-100 amp.-8 Kv.-enclosed	1954
445	2	3-100 amp.-8 Kv.-open	"
1 45	7	3-100 amp.-8 Kv.-enclosed	1958
1 45	7-1	3-100 amp.-8 Kv.-open	"

*SH Hasbrouck*

Wednesday, September 24, 1997

Ms. Jessica Karras  
Environmental Compliance Services Inc.  
9 Academy St  
Middletown NY 10940

Re: Concord Hotel and Parcels

Dear Jessica,

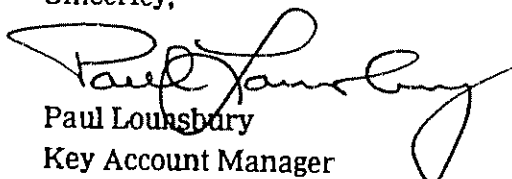
Thanks for calling yesterday regarding Nyseg's Concord and Kiamesha Substations. The information you requested is as follows:

	<u>Concord</u>	<u>Kiamesha</u>
Approx Date of Construction	1960	1955
Voltages (Transmission/Distribution)	34,500/4800	34,500/12,470
Current Status of transformer oil	Non PCB	Non PCB
Approx Date of PCB oil retrofill	1993	1995
PCB Content prior to retrofill	180 ppm	100 ppm
Record of Spills **	None	None

(\*\*Record keeping of spills commenced only several years ago.)

If you have any additional questions, please give me a call.

Sincerley,

  
Paul Lounsbury  
Key Account Manager

RECEIVED SEP 26 1997

cc: Greg Miller - Nyseg

**PESTICIDE QUARANTINE ORDER**



BUREAU OF PESTICIDES  
ALBANY, NEW YORK 12233-7254

# QUARANTINE ORDER

TO <u>Concord Resort Hotel</u>		DATE <u>9-29-97</u>	REGION NO. <u>3</u>
STREET ADDRESS		SPECIALIST NO. <u>346</u>	ORDER NO. <u>11841</u>
POST OFFICE <u>Rhineston Lake</u>	STATE <u>NY</u>	ZIP CODE	COUNTY <u>Sullivan</u>

OWNER, CUSTODIAN, OR VENDOR OF THAT CERTAIN LOT OF PESTICIDES MARKED OR DESCRIBED AS FOLLOWS:

Product Name

EPA Number

Amount

- |                                   |                        |                           |
|-----------------------------------|------------------------|---------------------------|
| ① <u>Embarck Growth Regulator</u> | <u>7152-7-AA</u>       | ⑬ <u>2 gal. cont.</u>     |
| ② <u>Agway Fruit Tree Spray</u>   | <u>3570-563</u>        | ④② <u>1/2 gal. cont.</u>  |
| ③ <u>Trex-San Bent</u>            | <u>2217-529-AA-373</u> | ① <u>2 1/2 gal. cont.</u> |
| ④ <u>Crabgrass Killer</u>         | <u>572-199</u>         | ⑪ <u>3 gal. cont.</u>     |
| ⑤ <u>Gas Cartridge</u>            | <u>6704-1</u>          | ⑩ <u>30z. cartridge</u>   |

LABEL AND ADDRESS OF  
Distributor

- |   |   |
|---|---|
| ① <u>Agchemicals/3M, 3M Center, St. Paul, MN 55101</u>            |   |
| ③ <u>Agway, Inc., Syracuse, NY</u>                                | ③ <u>Hallinckrodt Inc., St. Louis, MO 631</u> |
| ④ <u>Rockland Chemical Co., Passaic Ave., West Caldwell, N.J.</u> |   |

LOCATION OF MATERIAL

- |  |                    |
|--|--------------------|
| ⑤ <u>Pocantello Supply Depot, Pocantello, ID 83201</u> | <u>(Pesticide)</u> |
|--|--------------------|

YOU ARE HEREBY NOTIFIED that the above described pesticide, upon inspection or test is found to be a violation of provisions of the Environmental Conservation Law or the rules and regulations promulgated thereunder in the following respect:

Act. 33, Sect. 33-1301(1-a)

YOU ARE HEREBY DIRECTED AND ORDERED, in accordance with the provisions of the Environmental Conservation Law from and after the time of service upon you of this order, to stop and refrain from further sale, use, disposition, and movement of said pesticide or any part thereof until this order shall have been withdrawn by the enforcing officer, upon evidence that the law or rules and regulations promulgated thereunder has been complied with. IT IS UNLAWFUL FOR ANY PERSON TO MOVE OR ALLOW TO BE REMOVED OR OTHERWISE HANDLE OR DISPOSE OF ANY PESTICIDE HELD UNDER A "QUARANTINE ORDER" OR TAGS ATTACHED THERETO EXCEPT WITH THE WRITTEN PERMISSION OF THE ENFORCING OFFICER, AND FOR THE PURPOSE SPECIED THEREIN.

ENFORCING OFFICER (Print Name) <u>Thomas DeChillo</u>	SIGNATURE <u>[Signature]</u>	TELEPHONE NUMBER <u>(714) 256-3123</u>
--	---------------------------------	---

ADDRESS <u>21-Sol. Putt Corners Rd., New Paltz</u>	<u>Al Huvich</u> Director, Bureau of Pesticides
---	--

I hereby accept service of the above order this <u>29th</u> day of <u>September</u> 19 <u>97</u>	SIGNED <u>[Signature]</u>
---	------------------------------

## QUARANTINE RELEASE

PRODUCT

EPA NUMBER

AMOUNT

YOU ARE HEREBY NOTIFIED THAT THE ABOVE LISTED QUARANTINE MATERIAL IS RELEASED FROM QUARANTINE FOR THE SPECIFIC PURPOSE LISTED BELOW:

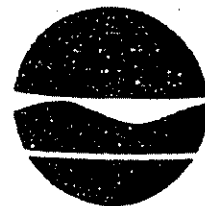
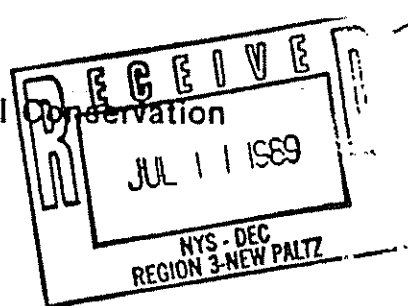
- ☐ Shipment back to dealer, and/or manufacturer ☐ Pick up by Bureau of Pesticides  
☐ Other \_\_\_\_\_

MANAGER'S SIGNATURE	FREIGHT DRIVER'S SIGNATURE
PESTICIDE SPECIALIST'S SIGNATURE	DATE

DEALER

## **NYSDEC ORDER ON CONSENT**

New York State Department of Environmental Conservation  
21 South Putt Corners Road  
New Paltz, NY 12561  
(914) 255-5453



Thomas C. Jorling  
Commissioner

July 10, 1989

Carl Goldstein, Esq.  
Goldstein & Stoloff  
26 Hamilton Avenue  
P. O. Box 1129  
Monticello, NY 12701

RE: Alleged Violations of Article 27 of the Environmental Conservation Law ("ECL") and Part 360 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York ("6NYCRR") by Kiamesha Concord, Inc.  
Case #3-1632/8902

Dear Mr. Goldstein:

Enclosed please find a Consent Order which has been drafted as a proposed settlement of the above-referenced violations. The Order concerns your client's operation of a solid waste management facility without a permit.

If your client is willing to resolve this matter on the terms outlined in the Order, please have an officer sign the Consent Page and have the signature notarized. The Order should then be returned to me at the address indicated on the letterhead, together with your client's check in the amount of \$10,000. You will be provided with a copy of the Order after it has been executed by the Department.

If you wish the opportunity to discuss the enclosed Order, please contact the undersigned to schedule a compliance conference.

If we do not receive the signed and notarized Order by July 24, 1989, or if you do not contact me by that date to schedule a compliance conference, we will assume that you are not willing to consent to the Order and its offer will be withdrawn. Formal legal proceedings will then be instituted by the Department to obtain the necessary remediations and appropriate penalties.


Carl Goldstein, Esq.

Page 2

July 10, 1989

If you have any further questions about the proposed Order, please contact me at the above telephone number.

Very truly yours,



JONAH TRIEBWASSER  
Senior Attorney  
Region 3

JT/bs

Enclosure

cc: R. Gardineer  
Capt. Washburn/ECO Haberle



NEW YORK STATE  
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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In the Matter of Alleged Violations of  
Article 27 of the Environmental Conservation  
Law ("ECL") and Part 360 of Title 6 of the  
Official Compilation of Codes, Rules and  
Regulations of the State of New York  
("6NYCRR") by

ORDER  
ON  
CONSENT

KIAMESHA CONCORD, INC.,

Case #3-1632/8902

Respondent.

---

WHEREAS:

1. The Department of Environmental Conservation (hereinafter "the Department" or "DEC") regulates Solid Waste Management Facilities pursuant to Article 27, Title 7 of the ECL, and 6NYCRR Part 360.
2. Respondents are the owners and operators of a solid waste management facility, in the Town of Thompson, County of Sullivan, State of New York (the "Facility"). The term "Respondent," as used herein, shall refer to all named Respondents.
3. Part 360 of 6NYCRR was amended effective December 31, 1988. The violations described herein were committed prior to that date, and were governed by pre-amendment Part 360. The facility was in violation as of December 31, 1988, and closure of the facility is therefore governed by Part 360 as amended. Citations herein to specific provisions of Part 360 refer to pre-amendment Part 360, except that citations in the Schedule of Compliance refer to Part 360 as amended.
4. Respondent has not applied for or obtained a permit to operate a solid waste management facility, as required by ECL Section 27-0707(1) and 6NYCRR 360.2(b).
5. Waste disposed of at the Facility included waste which was not construction and demolition debris, as defined at 6NYCRR Section 360.1(d)(12). The Facility was therefore not entitled to the permit exemption set forth at Section 360.1(f)(1)(x), and its operation without a permit was in violation of Section 360.2(b).
6. Pursuant to ECL Section 71-2703, violations of Part 360 are punishable by a penalty of \$2,500 per violation, plus up to \$1,000 per day of continuing violation. Effective July 11, 1988, violations relating to deposition of construction and demolition debris are punishable by an additional penalty of \$5,000 per day of deposition.

7. Respondent has affirmatively waived its right to notice and hearing in the manner provided by law and has consented to the issuing and entering of this Order, and agrees to be bound by the terms, provisions and conditions contained herein.

NOW, having considered this matter and being duly advised, it is ORDERED that:

I. Civil Penalty. (a) In respect of the aforesaid violations, a civil penalty in the amount of \$310,000 is hereby assessed against Respondent, which amount shall be payable as follows: \$10,000 shall be paid by Respondent to the Department upon Respondent's return of an executed copy of this Order to the Department; \$300,000 of which shall be suspended upon condition that Respondent remain in compliance with each term, provision and condition of this order, and shall become payable within 15 days after service upon Respondent of a notice of noncompliance. Such notice shall be deemed a part of this Order. Service of such notice may be by personal service or by certified mail return receipt requested (restricted delivery not required), or, if such service is refused or cannot be completed, by ordinary mail. Service shall be at the following address, unless Respondent hereafter notifies the Department in writing of a different address:

Kiamesha Concord, Inc.  
c/o Goldstein & Stoloff, Esqs.  
P. O. Box 1129  
Monticello, NY 12701

(b) In the event that the Department serves upon the Respondent a notice of noncompliance pursuant to Paragraph I hereof, demanding payment of all or a portion of the suspended penalty, and Respondent fails to make payment thereof within 15 days after service of such notice, this Order on Consent, together with a copy of the notice of noncompliance, shall be deemed the equivalent of a civil judgment after trial for the amount specified in such notice, and may be filed and enforced as a judgment for said amount, in any jurisdiction in which Respondent may reside, do business or have any assets, within or without the State of New York, without the need for any further proceedings whatsoever.

II. Operation prohibited. Respondent shall immediately cease and prohibit the acceptance or disposal of waste at the Facility, and shall immediately take such steps as are necessary, including, without limitation, installation of fencing, gates, locks and signs, to prevent unauthorized access to the Facility.

III. Schedule of Compliance. Respondent shall comply with the Schedule of Compliance incorporated herein and made a part hereof.

IV. Full settlement. The Department shall not institute any action or proceeding for penalties or other relief for the violations described above for so long as Respondent remains in compliance with this Order. Any failure by Respondent to comply fully with the terms of this Order may subject the Respondent to further enforcement action for the violations alleged herein. Compliance with this Order shall not excuse nor be a defense to charges of any violations of the ECL or any regulation or permit issued thereunder, which may occur subsequent to the date of this Order.

V. Force majeure. Respondent shall not be in default of compliance with this Order if Respondent is unable to comply with any provision of this Order because of the action of a national or local government body or court, an act of God, war, strike, riot or catastrophe as to any of which the negligence or willful misconduct on the part of Respondent was not approximate cause. Respondent shall notify the Department in writing immediately upon obtaining knowledge of such event, and request an appropriate modification to this Order. Relief under this clause shall not be available if Respondent fails to timely comply with this notice requirement.

VI. Modification. (a) If, for any reason, Respondent desires that any provision of this Order be changed, Respondent shall make timely written application therefor to the Department setting forth reasonable grounds for the relief sought, together with any supporting documentation tending to establish such grounds. Such request shall be made as soon as reasonably possible after Respondent learns of the grounds for such relief.

(b) This Order may be modified by the Department pursuant to the criteria and procedures set forth at ECL Section 70-0115 and 6NYCRR Section 621.13.

(c) No change or modification to this Order shall be made or be effective except as may be specifically set forth in writing by the Department, pursuant to the procedure set forth in subparagraph (a) or (b) above.

VII. Submissions. All reports and submissions herein required shall be made to the Region 3 headquarters, New York State Department of Environmental Conservation, 21 South Putt Corners Road, New Paltz, New York 12561-1696 Attn: Richard Gardineer. Four (4) copies shall be submitted.

VIII. Access. For the purpose of insuring compliance with this Order, duly authorized representatives of this Department shall be permitted access to the site in question and relevant records during reasonable hours, in order to inspect and/or require such tests as may be deemed necessary to determine the status of Respondent's compliance herewith.

IX. Filing. Within 30 days after the effective date of this Order, Respondent shall file a copy of this Order with the real property records of the Sullivan County Clerk's Office, for the purpose of providing notice of this Order to all potential future purchasers of any portion of the Site. Upon transfer of ownership of the Site containing the solid waste management facility herein, Respondent will include a provision in the property deed indicating the period of time during which the property has been used as a landfill, a description of the wastes contained within, and the fact that the records for the facility have been filed with the department. Said deed shall also make reference to a map which shall be filed with the Sullivan County Clerk, showing the limits of the landfill areas within the property. Any successor in title to any portion of the Site shall be responsible for implementing the provisions of this Order.

X. Conveyance. In the event that Respondent proposes to convey the whole or any part of its ownership interest in the facility, Respondent shall, not less than 30 days prior to the consummation of such proposed conveyance, notify the Department in writing of the identity of the transferee and of the nature and date of the proposed conveyance. In advance of such proposed conveyance, Respondent shall notify the transferee in writing, with a copy to the Department, of the applicability of this Order.

XI. Split samples. The Department shall have the right to obtain for the purpose of comparative analysis "split samples" or "duplicate samples", at the Department's option, of all substances and materials sampled by Respondent pursuant to this Order.

XII. Notice of work. Respondent shall provide notice to the Department of any excavating, drilling or sampling to be conducted pursuant to the terms of this Order at least five (5) working days in advance of such activities.

XIII. Review of submissions. After the Department's receipt of each of the submissions required pursuant to the Schedule of Compliance, the Department shall notify Respondent, in writing, of its approval or disapproval of the submission. If the Department approves the submission, Respondent shall implement it in accordance with its schedule and terms, as approved. If the Department disapproves the submission, within 30 days after Respondent receives written notice of disapproval, Respondent shall submit a revision in accordance with the Department's objections. After the Department's receipt of Respondent's revision, the Department shall notify Respondent, in writing, of its approval or disapproval. If the Department approves the revised submission, Respondent shall implement it in accordance with its schedule and terms, as approved. If the Department disapproves the revised submission, the Respondent shall be in violation of this Order. Each submission made pursuant to the Schedule of Compliance, as approved, shall be deemed incorporated into this Order.

XIV. Other remedies. (a) Nothing contained in this Order shall be construed as barring, diminishing, adjudicating or in any way affecting (1) any legal, administrative or equitable rights or claims, actions, suits, causes of action or demands whatsoever that the Department may have against anyone other than Respondent; (2) the Department's right to enforce, administratively or at law or in equity, the terms, provisions and conditions of this Order against Respondent, its directors, officers, employees, servants, agents, successors and assigns in the event that Respondent shall be in material breach of the provisions hereof; (3) the Department's right to bring any action, administratively or at law or in equity against Respondent, its directors, officers, employees, servants, agents, successors and assigns which the Department could otherwise maintain with respect to areas or resources that may have been affected or contaminated as a result of the release or migration of wastes from the site or from areas in the vicinity of the site; (4) the Department's right to commence any action or proceeding relating to or arising out of any disposal of hazardous wastes at the site, as those wastes are defined by applicable regulation; or (5) the Respondent's right to challenge any such action by the Department, whether by administrative hearing or otherwise, to the extent otherwise permitted by law.

(b) This Order shall not be construed to prohibit the Commissioner or his duly authorized representative from exercising any summary abatement powers, either at common law or as granted pursuant to statute or regulation.

(c) The Commissioner may, at any time, make a determination pursuant to Title 13 of Article 27 of the ECL as to whether the site constitutes a significant threat to the environment and whether Respondent shall be required to undertake an inactive hazardous waste disposal site remedial program. Any such determination shall be provided to Respondent by the Department in writing. In the event such determination is made, the Department shall have the right to take such enforcement or other action as may be authorized by law, and to require appropriate modifications in any Closure Plan for the Facility. The Respondent shall have the right to challenge such action, to the extent otherwise permitted by law.

XV. Entire agreement. The provisions hereof shall constitute the complete and entire Order between Respondent and the Department concerning the Facility. No terms, conditions, understandings or agreements purporting to modify or vary the terms hereof shall be binding unless made in writing pursuant to Paragraph VI above. No informal advice, guidance, suggestions or comments by the Department regarding reports, proposals, plans, specifications, schedules or any other writing submitted by Respondent shall be construed as relieving Respondent of its obligations to obtain such formal approvals as may be required by this Order.

XVI. Indemnification. Respondent shall indemnify and hold the Department, the State of New York, and their representatives and employees harmless for all claims, suits, actions, damages and costs of every name and description arising out of or resulting from the fulfillment or attempted fulfillment of the provisions hereof by Respondent, its directors, officers, employees, servants, agents, successors or assigns.

XVII. Default. The failure of Respondent to comply fully and in timely fashion with any provision of this Order shall constitute a default and a failure to perform an obligation under this Order and under the ECL, and shall constitute sufficient grounds for revocation of any permit, license, certification or approval issued to the Respondent by the Department.

XVIII. Binding effect. The provisions of this Order shall be deemed to bind Respondent, its officers, directors, agents, employees, successors and assigns, and all persons, firms and corporations acting under or for it, including, without limitation, any successor in title to the property.

DATED: New Paltz, New York  
1989

THOMAS C. JORLING  
Commissioner  
New York State Department of  
Environmental Conservation

BY:

---

PAUL D. KELLER  
Regional Director  
Region 3

TO: Carl Goldstein, Esq.  
Goldstein & Stoloff  
26 Hamilton Avenue  
P. O. Box 1129  
Monticello, NY 12701

### Schedule of Compliance

1. Interim leachate control. Respondent shall install an interim leachate collection system within 30 days after Respondent's execution of this Order. Leachate collected shall be transported via a hauler permitted under Part 364, to a facility approved to accept such waste.
2. Intermediate cover. Respondent shall place an intermediate barrier soil cover, as specified in Section 360-7.9(i)(1), within 60 days after Respondent's execution of this Order.
3. PCIP. Within 60 days after execution of this Order by Respondent, Respondent shall submit a Proposed Closure Investigation Plan ("PCIP") to determine:
  - a. the nature of the wastes disposed,
  - b. the effect of the site on the environment, and
  - c. the type of remediation required for closure.

The PCIP shall include all information listed in Appendix A. The PCIP, as approved, shall be deemed incorporated into this Order as Appendix C.

4. CIR. Within 90 days of receiving notice that the PCIP is approved, Respondent shall submit a Closure Investigation Report (CIR) determining the following:
  - a. the proposed classification of the waste disposed,
  - b. the environmental setting,
  - c. the effect of the site on the environment.

The CIR Format and implementation schedule to be applied are found in Appendix B. The CIR, when approved, shall be deemed incorporated into this Order as Appendix D.

5. CIR supplementation. The Department reserves the right to require a modification and/or an amplification and expansion of the closure investigative report by Respondent if the Department determines that further investigation is necessary, as a result of reviewing data generated by the closure investigation or as a result of reviewing other data or facts concerning the Facility.
6. Facility classification. After DEC's review of the approved CIR, DEC shall notify the Respondent in writing whether the facility is classified as a construction and demolition debris site or as a landfill (household waste and/or industrial waste).

7. Closure and Post Closure Monitoring. Closure of the facility shall be in compliance with the standards of Part 360, according to the classification of the facility. After notice of facility classification is given to Respondent by DEC, the Respondent shall comply with the following:
- a. In the event that the facility is classified as a construction and demolition debris site, Respondent shall, within 90 days after receipt of notice pursuant to Paragraph 6, submit a closure plan in compliance with Section 360-7.11.
  - b. In the event that the facility is classified as a landfill (household waste and/or industrial waste), Respondent shall, within 90 days after receipt of notice pursuant to Paragraph 6, submit a closure plan in compliance with Section 360-2.15.

The closure plan shall include a detailed estimate of the total costs of closure and post-closure monitoring.

8. Surety. The Department shall have the authority to require Respondent to provide surety or financial responsibility conditioned upon compliance with this Order, including the Appendices incorporated herein, pursuant to Section 360-1.12. Respondent shall comply with this requirement if requested by DEC.



## APPENDIX A

### PROPOSED CLOSURE INVESTIGATION PROGRAM (PCIP)

#### I) Borings and Groundwater Monitoring wells

- a. Proposed location based on surficial geology, topography, published information, fracture tracing, etc.
- b. Borings
  - o borings for installation of piezometers and groundwater monitoring wells will have continuous split-spoon sampling during drilling with detailed boring logs utilizing the United Soil Classification System for field identification.
  - o other borings shall have periodic split-spoon sampling (once every 5 feet and at each change in strata).
- c. Proposed design of Monitoring Wells
  - o Couples/or clusters and piezometers
  - o Materials
  - o Locking mechanisms
- d. Proposed schedule of installation and monitoring
  - o Timing for installation (5 day prior notice to DEC)
  - o A proposed schedule for an initial round of sampling for all parameters listed on Attachment I, and for periodic sampling of appropriate parameters thereafter until such time as a different sampling regimen shall become effective under a permit or Closure Plan.

#### II) Methods and scheduling for the determination of the aquifer characteristics, eg., pump test, in-situ permeability test.

- o Timing for testing (5 day prior notice to DEC)

#### III) Proposed geophysical surveys and their approximate locations in order to help better define the subsurface conditions (if applicable).

#### IV) Proposed Means of Determining Waste Classification; to include:

- o Trenching and test pits for visual observation of waste
- o Organic Vapor Analysis or H<sub>2</sub> Analysis (detection from soil or excavated waste)

- o priority pollutant analysis of waste, soil, leachate, groundwater, surface water, public and/or private water supply wells

V) Site specifics

- o Location of surface waters
- o Monitoring of surface waters
- o Location of aquifer and water supply wells
- o Monitoring of private and public water supplies including frequency and parameters.

VI) A schedule for carrying out the PCIP. The PCIP may be implemented in phases.

VII) Names, certifications, and scope of services provided

- a. Engineering/Geological Consultant(s)
- b. Subcontractors (well driller, analytical laboratories)

VIII) Location of all public and private water wells within a mile radius and a sampling protocol for all nearby wells.

## APPENDIX B

### Closure Investigation Report (CIR)

The hydrogeologic report must meet the requirements of Section 360-7.6.

In addition, the CIR must include:

1. the location of public and private wells
2. all sampling results
3. analysis of waste from trenching
4. effect on the environment
5. contingency plan for sensitive environmental problems, i.e., floodplains and wetlands

**APPENDIX B**

**VILLAGE OF MONTICELLO PUBLIC WATER SUPPLY REGULATIONS**

RULES AND REGULATIONS  
FOR  
PROTECTION FROM CONTAMINATION  
OF THE  
PUBLIC WATER SUPPLY  
OF THE  
VILLAGE OF MONTICELLO  
SULLIVAN COUNTY

Promulgated by the New York State Commissioner of Health under §1100 of the  
Public Health Law

Pursuant to the authority vested in me as State Commissioner of Health by §1100 of the Public Health Law, I hereby repeal §148.2 of Part 148, Title 10 (Health) of the Official Compilation of Codes, Rules and Regulations of the State of New York, and add a new §148.2 to be effective upon filing with the Secretary of State, to read as follows: §148.2, Village of Monticello, Sullivan County.

\_\_\_\_\_  
Commissioner of Health of the  
State of New York

\_\_\_\_\_  
Albany, New York

19

(a) Application The rules and regulations herein set forth, duly made and enacted in accordance with the provisions of §1100-1107 of the Public Health Law shall apply to Kiamesha Lake and all watercourses tributary thereto or which may ultimately discharge into said Kiamesha Lake or which may be developed in the future to serve as sources of the water supply to the Village of Monticello.

(b) Definitions

- (1) Agricultural Associated Animal Waste shall mean manure obtained from agricultural industries.
- (2) Herbicide shall mean any substance used to destroy or inhibit plant growth.
- (3) Human Excreta shall mean human feces and urine.
- (4) Junkyard shall mean an area where two or more unregistered, old, or secondhand motor vehicles are being accumulated for purposes of disposal, resale of used parts or reclaiming certain materials such as metal, glass, fabric, and/or the like.
- (5) Linear Distance shall mean the shortest horizontal distance from the nearest point of a structure or object to the high water mark of a reservoir or to the edge, margin, or steep bank forming the ordinary high water line of a watercourse.
- (6) Manure shall mean animal feces and urine.
- (7) Nonagricultural Associated Animal Waste shall mean manure obtained from nonagricultural industries.
- (8) Pesticide shall mean any substance used to destroy or inhibit pests such as rodents and insects.
- (9) Pollutant shall mean dredge, spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, chemical waste, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal wastes, agricultural and nonagricultural associated animal wastes.
- (10) Radiation shall mean ionizing radiation, that is, any alpha particle, beta particle, gamma ray, x-ray, neutron, high-speed proton, and any other atomic particle producing ionization, but shall not mean any sound or radio wave, or visible, infrared, or ultraviolet light.

- (11) Radioactive Material shall mean any material in any form that emits radiation spontaneously.
- (12) Refuse shall mean all putrescible and nonputrescible solid wastes including garbage, manure, rubbish, ashes, incinerator residue, street cleanings, dead animals, offal and solid commercial and industrial wastes.
- (13) Refuse Disposal Area shall mean land used for the depositing of refuse except that it shall not include the land used for the depositing of refuse from a single family, a member of which is the owner, occupant, or lessee of said land, or any part of a farm on which only agricultural associated animal wastes resulting from the operation of such farm are deposited.
- (14) Reservior shall mean any natural or artificial lake or pond which is tributary to or serves as a source of the Village of Monticello water supply.
- (15) Sewage shall mean any liquid or solid waste matter from a domestic, commercial, private, or industrial establishment which is normally carried off in sewers or waste pipes.
- (16) Sewage Disposal System shall mean any system used for disposing of sewage and includes treatment works.
- (17) Toxic Chemical shall mean any toxic substance as so defined by statute (see subdivision two of §4801 of the Public Health Law).
- (18) Treatment Works shall mean any treatment plant, sewer, disposal field, lagoon, pumping station, septic system, constructed drainage ditch or surface water intercepting ditch, incinerator, area devoted to sanitary landfill, or other works not specifically mentioned in this paragraph, installed for the purpose of treating, neutralizing, stabilizing, or disposing of sewage.
- (19) Watershed shall mean the entire drainage area contributing water to the Village of Monticello water supply.
- (20) Water Supply shall mean the public water supply of the Village of Monticello.
- (21) Watercourse shall mean every spring, stream, marsh, or channel of water of any kind which flow or may flow into the Village of Monticello water supply.



(c) General Prohibitions No person, including State agencies or political subdivisions having jurisdiction, shall perform any act or grant any permit or approval which may result in the contravention of the standards for raw water quality as contained in Part 170 of Title 10 (Health) of the Official Compilation of Codes, Rules and Regulations of the State of New York (10 NYCRR Part 170).

(d) Specific Prohibitions

- (1) Cementaries No interment of human body shall be made within a 250 foot linear distance of any reservoir or watercourse.
- (2) Chloride Salt No chloride salt shall be used for the purpose of snow and ice control on State, County, or Town roadways within 500 feet linear distance of any reservoir or watercourse. Nor shall private contractors execute the same for housing development roadways. No chloride salt shall be stored within 500 feet linear distance of any reservoir or watercourse except in weather-proof buildings or watertight vessels.
- (3) Herbicides and Pesticides No herbicides or pesticides shall be stored, discharged, applied, or allowed to enter into any reservoir or watercourse unless a permit to do so has been obtained from the appropriate State agency having jurisdiction.
- (4) Human Excreta and Sewage
  - [i] No human excreta or sewage shall be deposited or allowed to escape into any reservoir or watercourse on the watershed.
  - [ii] No human excreta or sewage shall be deposited or spread upon the surface of the ground at any point on the watershed.
  - [iii] No human excreta or sewage shall be buried in the soil on the watershed unless deposited in trenches or pits at a linear distance of not less than 250 feet from any reservoir or watercourse and covered with not less than one foot of soil in such a manner as to effectually prevent its being washed into any reservoir or watercourse by rain or melting snow.
  - [iv] No privy receptacle or facilities of any kind for the deposit, movement, treatment or storage of human excreta or sewage shall be constructed, placed, maintained, or allowed to remain within a 150 foot linear distance of any reservoir or watercourse except (a) watertight receptacles; (b) water-flushed toilets connected by a watertight pipe to a sewage disposal system that has been approved by the appropriate

- State agency having jurisdiction over such facilities; and  
(c) a properly designed, constructed, and operated treatment works that has been approved by the appropriate State agency having jurisdiction over such facility.
- [v] No portion of the seepage unit (title field, seepage pit or equivalent) of a subsurface sewage disposal system shall be constructed, placed or allowed to remain within a 150 foot linear distance of any reservoir or watercourse.
  - [vi] Every watertight receptacle used for containing human excreta or sewage shall be emptied when the receptacle is filled to within six inches of the top.
  - [vii] In emptying a watertight receptacle or in transferring its contents to a transportation receptacle, all necessary care shall be exercised to prevent contamination of any reservoir or watercourse. All such transportation receptacles shall be provided with tightly fitting covers which are securely fastened when transporting wastes to the place of ultimate disposal. The contents of the watertight receptacles shall be disposed of in accordance with paragraph [iii] of this subdivision or at a properly designed, constructed, and operated sewage disposal system that has been approved by the appropriate State agency having jurisdiction over such facility.
  - [viii] Before any existing sewage disposal system is altered or any new sewage disposal system is constructed on the watershed, the plans in relation thereto shall have been first approved by the appropriate State agency having jurisdiction over such facility. Standards for waste treatment works as published from time to time by the appropriate State agency having jurisdiction over such facility and paragraph [v] of this subdivision shall comprise the criteria to approve any proposed sewage disposal system.
- (5) Radioactive Material No radioactive material shall be disposed of by burial in soil within 1000 foot linear distance of any reservoir or watercourse and not within a 2000 foot linear distance of any reservoir or watercourse unless authorization has been obtained from the appropriate State agency and such burial is in accordance with the provisions of Part 16 of Title 10 (Health) of the Official Compilation of Codes, Rules, and Regulations of the State of New York (10 NYCRR Part 16).

(6) Recreation

- [i] Bathing, Wading, and Swimming No bathing, wading, or swimming shall be allowed in or on any reservoir serving as a source of the water supply for the Village of Monticello.
- [ii] Boating No baots that are powered by the utilization of fossil fuels will be permitted on any reservoir serving as a source of the water supply for the Village of Monticello. Boats designed to hold a capacity of more than four (4) people will not be permitted. Sail boats that do not enclose or have a containment area for the operator and passengers are prohibited on any reservoir serving as a source of the water supply for the Village of Monticello. Boat trailers are prohibited from entering the waters of any reservoir serving as a source of the water supply for the Village of Monticello.
- [iii] Rafts No docks, floats, or rafts will be permitted on the surface of any reservoir serving as a source of the water supply for the Village of Monticello which are not attached to the shore. They must be removed no later than October 31st, so as not to be in or on any reservoir serving as a source of the water supply for the Village of Monticello during the winter months.
- [iv] Float Tubes Inflatable water devices ie: mattresses, tubes, boats, rafts, etc. are not permitted on any reservoir serving as a source of the water supply for the Village of Monticello.

BOATING PERMIT

1. Any person, party, or business that wishes to place a boat on the waters of any reservoir serving as a source of the water supply for the Village of Monticello will make application for a permit at the Village Hall, 2 Pleasant Street, Monticello, New York, between 9AM to 4PM, Monday thru Friday.
2. The Applicant will provide the following information:
  - A. Serial # of boat.
  - B. Color of boat.
  - C. Make & Model of boat.
  - D. Size of boat.
3. Prior to the issuance of a permit, the boat will be inspected.

No boat that is deemed unsafe will be issued a permit or allowed on any reservoir serving as a source of the water supply for the Village of Monticello.

4. The following emergency equipment shall be on the boat at the time of inspection and on the boat when in use on any reservoir serving as a source of the water supply for the Village of Monticello:
  - A. One (1) C.G. approved P.F.D. for each person aboard.
  - B. One (1) battery operated light for boats used between sunset and sunrise.
5. The fee for the permit will be \$5.00 annually. Boats issued a permit will display a decal issued by the Village on the bow. Failure to obtain a permit will result in a \$50.00 fine.

(7) Solid Waste

- [i] Junkyards No junkyard shall be located within 500 foot linear distance of any reservoir serving as a source of the water supply for the Village of Monticello.
- [ii] Refuse No refuse or litter shall be deposited on or beneath the surface of ground within a 250 foot linear distance of any reservoir serving as a source of the water supply for the Village of Monticello.
- [iii] Refuse Disposal Area No refuse disposal area shall be located within a 1000 foot linear distance of any reservoir serving as a source of the water supply for the Village of Monticello.

- (8) Toxic Substance No container used for the storage of toxic substances shall be buried beneath the surface of the ground within a 1000 foot linear distance of any reservoir serving as a source of the water supply for the Village of Monticello.

(9) Miscellaneous

- [i] Structures No hut, tent, shelter, or building of any kind except a waterworks structure, shall be permitted on the water or ice of any reservoir serving as a source of the water supply for the Village of Monticello.
- [ii] Other Wastes No pollutant of any kind shall be discharged or allowed to flow into any reservoir serving a a source of the water supply for the Village of Monticello or on or beneath the surface of the ground on the watershed within

1000 feet of any reservoir serving as a source of the water supply for the Village of Monticello. This restriction shall not apply to the effluent from a treatment works installed in accordance with plans which first have been submitted to and approved by the appropriate State agency having jurisdiction over such facilities.

[iii] All houses and garages within the immediate watershed area of Kiamesha Lake will have oil traps and or oil separators in the foundation or footing drains. Fuel oil filling areas must have spillage containment areas approved by the Village of Monticello Water Department.

[iv] Land stripping of sod, rock, brush, or trees will not be permitted under any conditions within seventy-five (75) feet of any reservoir serving as a source of the water supply for the Village of Monticello. Selective tree or brush cutting will be permitted under direct supervision of a duly appointed representative of the Village of Monticello Water Department.

[v] Raising or keeping of livestock, farm animals, or operations of kennels, animal hospitals and animal boarding will be prohibited within the immediate watershed area of Kiamesha Lake.

[vi] Before construction of housing, roads, and parking areas or development of any form is to proceed and proper permits have been obtained, sedimentation basins must be built of the appropriate number, size, and shape to handle runoff of storm water during construction. These basins must not be closer than 100 feet from the shoreline of any reservoir serving as a source of the water supply for the Village of Monticello with approval of the Village of Monticello Water Department. Basins will be inspected by the Water Department personnel, during and after construction.

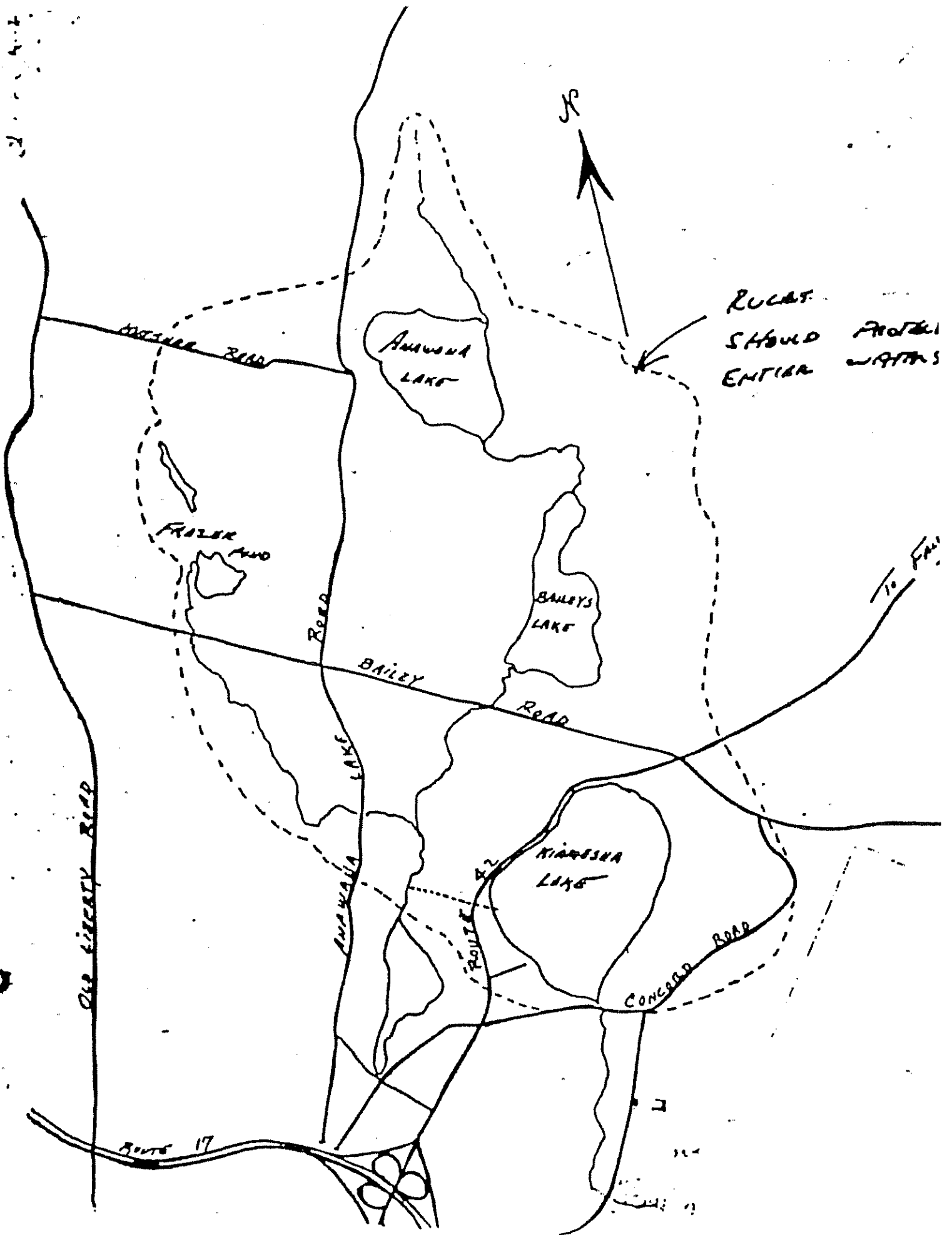
(10) Inspections The Village of Monticello's Water Department Superintendent or any person or persons charged with the maintenance or supervision of the public water supply system shall by its officers or their duly appointed representatives make regular and thorough inspections of the reservoir, watercourses, and watershed to ascertain whether these rules and regulations are being complied with.

It shall be the duty of the aforesaid Superintendent to cause copies of any rules and regulations violated to be served upon ther persons violating the same, together with notices of such violations. If such persons do not immediately comply with the rules and regulations, it shall be the further dury of the afore-said Water Department Superintendent to promptly notify the State Commissioner of Health of such violations. The aforesaid Superintendent shall report to the State Commissioner of Health in writing annually, prior to the 30th day of January, the results of the regular inspections made during the preceding year. The report shall state the number of inspections which were made, the number of violations found, the number of notices served, the number of violations abated, and the general condition of the watershed at the time of the last inspection.

[i] In addition to observing the foregoing requirements, all persons living on or visiting the watershed shall refrain from any action, though not hereinbefore specified, which may result in contamination of any portion of the water supply of the Village of Monticello. Tenants and owners of property are, therefore, advised to consult with the Village of Monticello Water Department before committing any act that may lead to the pollution of any spring, marsh, watercourse, or reservoir in any way connected with the Water Shed area.

- (11) Penalties for Violations Penalties for violations of these rules and regulations shall be those specified by §1103 of the Public Health Law.

**APPENDIX C**  
**PAST PBS REGISTRATION**





# PETROLEUM BULK STORAGE APPLICATION

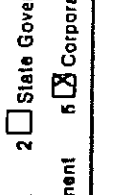
**Pursuant to the Petroleum Bulk Storage Law,**

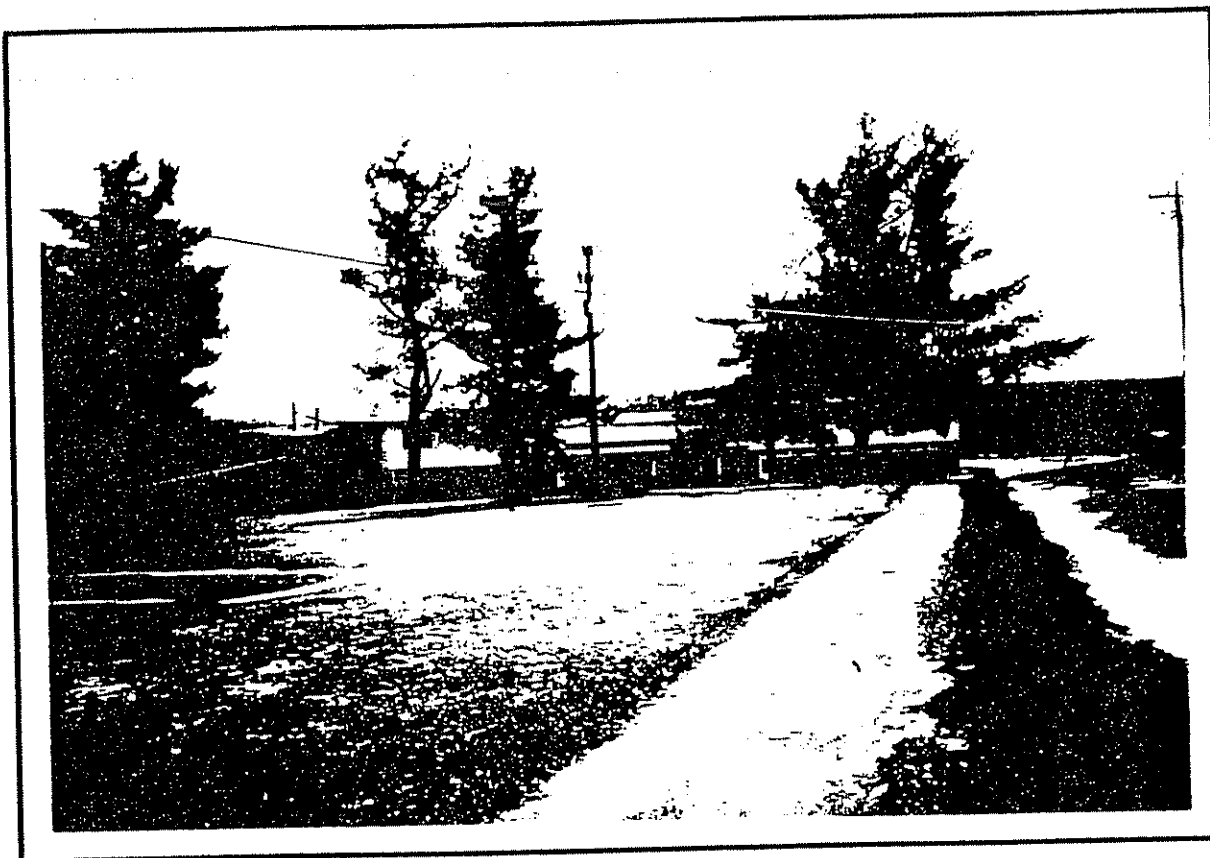
Article 17, Title 10 of ECL; and 6 NYCRR 612.614.

(Continued on Reverse Side—Please Be Sure to Complete Section B)

**SECTION A—See Instructions on Cover Sheet**

**Please Type or Print Clearly  
and Complete All Items**

PBS NUMBER <b>3-410225</b>  Indicate Other Existing OEC Numbers, if any, for this Facility:  CBS Number: <b>N/A</b>  SPDES Number: <b>N/A</b>	<b>F A C I L I T Y</b>  NAME <b>CONCORD RESORT HOTEL</b> LOCATION (Not P.O. Boxes)  <b>KLAMESHA LAKE</b> LOCATION (Continued)  CITY/TOWN/VILLAGE <b>KLAMESHA LAKE</b> COUNTY <b>SULLIVAN</b> STATE <b>NY</b> ZIP CODE <b>12751</b>  TOWNSHIP OR CITY <b>THOMPSON</b> NAME OF OPERATOR AT FACILITY <b>KLAMESHA CONCORD</b> FACILITY TELEPHONE NUMBER <b>(914) 794-4000</b> EMERGENCY CONTACT NAME <b>KLAMESHA CONCORD</b> EMERGENCY CONTACT PHONE NO. <b>(914) 794-4000</b>  NAME <b>KLAMESHA CONCORD INC</b> ADDRESS (Street and/or P.O. Box)  <b>CONCORD RESORT HOTEL</b> CITY <b>KLAMESHA LAKE</b> STATE <b>NY</b> ZIP CODE <b>12751</b> OWNER TELEPHONE NUMBER <b>14-0799922</b> FEDERAL TAX ID NO.  TYPE OF OWNER (Check only one) <input type="checkbox"/> Private Resident <input type="checkbox"/> State Government <input type="checkbox"/> Local Government <input checked="" type="checkbox"/> Federal Government <input checked="" type="checkbox"/> Corporate/Commercial	<b>O W N E R</b>  NAME OF OWNER OR AUTHORIZED REPRESENTATIVE <b>GEORGE PARKER, VICE PRESIDENT</b> TITLE <b>VICE PRESIDENT</b> SIGNATURE  DATE <b>12/14/92</b> AMOUNT ENCLOSED <b>\$ 250.00</b>	<b>C O R R E S P O N D E N C E</b> <b>M A I L I N G</b>  Geographical Locator for this Facility: (If known)  LATITUDE: <b>41 44 44</b> DEG MIN SEC  LONGITUDE: <b>71 43 92</b> DEG MIN SEC
<b>TYPE OF PETROLEUM FACILITY:</b> (Check all that apply) A. <input type="checkbox"/> Storage Terminal/Petroleum Distribution B. <input type="checkbox"/> Retail Gasoline Sales C. <input type="checkbox"/> Other Retail Sales D. <input type="checkbox"/> Manufacturing E. <input type="checkbox"/> Utility F. <input type="checkbox"/> Trucking/Transportation G. <input type="checkbox"/> Apartment Building H. <input type="checkbox"/> School I. <input type="checkbox"/> Farm J. <input type="checkbox"/> Private Residence K. <input checked="" type="checkbox"/> Airline (Air Taxi) <input type="checkbox"/> Other (Specify) <b>RESORT HOTEL</b>			
I hereby certify under penalty of perjury that the information provided on this form is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.			



*Photo No. 3 - View of International Golf Club building.*



*Photo No. 4 - View of Main Parking Area, located east of hotel complex.*

# Tank Information for Petroleum Bulk Storage Facility

EXPIRATION DATE: 02/03/93

## SECTION B—See Instructions on Cover Sheet

Page 1 of 1

Action	Tank Number	Tank Location	Status	Installation or Permanent Closure Date (MO) (YR)	Capacity (Gallons)	Product Stored	Tank Internal Prot.	Tank External Protection	Piping Location	Piping Type	Piping Internal Prot.	Piping External Protection	Secondary Containment	Leak Detection	Spill/Overflow Prevention	Dispenser	Last Test Date (Underground Tanks) (MO) (YR)
1	BL		4 1 0 0 0 0		15,000	3 1				2			0			3 0 9 8	
1	BU		4 1 0 0 0 0		15,000	3 1				2			0			3 1 0 8	
1	CHI		4 1 0 0 0 0		10,000	3 1				2			0			3 0 9 8	

### KEY FOR SECTION B

- ACTION**
- Initial Listing
  - Add Tank
  - Close/Remove Tank
  - Information Correction
  - Recondition/Repair/Reline Tank
- TANK LOCATION**
- Aboveground
  - Aboveground on saddles
  - legs, ellips, rack, or cradle
  - Aboveground: 10% or more below ground
  - Underground
  - Underground, vaulted, with access
- STATUS**
- In-service
  - Temporarily out-of-service
  - Closed—Removed
  - Closed—In Place
  - Tank Converted to Non-Regulated Use
- PRODUCT STORED**
- Empty
  - Unleaded Gasoline
  - Unleaded Gasoline Nos. 1, 2, or 4 Fuel Oil
  - Kerosene
  - Diesel
  - Lube Oil
  - Other\*
- TANK TYPE**
- Steel/Carbon Steel
  - Stainless Steel Alloy
  - Concrete
  - Fiberglass Coated Steel
  - Fiberglass Reinforced Plastic (FRP)
  - Equivalent Technology
  - Other\*
- INTERNAL PROTECTION: Tank/Piping**
- None
  - Epoxy Liner
  - Rubber Liner
  - Fiberglass Liner (FRP)
  - Glass Liner
  - Other\*
- EXTERNAL PROTECTION: Tank/Piping**
- None
  - Painted/Asphalt Coating
  - Sacrificial Anode
  - Impressed Current
  - Fiberglass
  - Jacketed
  - Wrapped (Piping)
  - Other\*
- SECONDARY CONTAINMENT**
- None
  - Vault
  - Double-Walled Tank
  - Excavation Liner
  - Cut-off Walls
  - Impervious Underlayment
  - Earthen Dike
  - Prefabricated Steel Dike
  - Concrete Dike
  - Synthetic Liner
  - Natural Liner
  - Other\*
- LEAK DETECTION**
- None
  - Interstitial Monitoring
  - Vapor Well
  - Groundwater Well
  - In-tank System
  - Concrete Pad w/channels
  - Other\*
- SPILL/OVERFILL PREVENTION**
- None
  - Float Vent Valve
  - High Level Alarm
  - Automatic Shut-off
  - Product Level Gauge
  - Catch Basin
  - Vent Whistle
  - Other\*
- DISPENSER**
- Submersible
  - Suction
  - Gravity

\* If Other, please list on separate sheet including the Tank Number

# PETROLEUM BULK STORAGE REGISTRATION CERTIFICATE

NYS DEC - REGION 3  
21 SOUTH PUTT CORNERS ROAD  
NEW PALTZ, NY 12561

(914) 255-5453 Page 1 of 1

TANK NUMBER	DATE INSTALLED	TANK TYPE	CAPACITY (GALLONS)	DATE LAST TESTED	TESTING DUE DATE	OWNER
BL	00/00	Steel/Carbon Steel	15,000	09/89	09/94	KIAMESHA CONCORD INC
BU	00/00	Steel/Carbon Steel	15,000	10/87	10/92	CONCORD RESORT HOTEL
CH1	00/00	Steel/Carbon Steel	10,000	09/89	09/94	KIAMESHA LAKE, NY 12751

<b>OWNER</b> KIAMESHA CONCORD INC CONCORD RESORT HOTEL KIAMESHA LAKE, NY 12751	
<b>SITE</b> CONCORD RESORT HOTEL KIAMESHA LAKE KIAMESHA LAKE, NY 12751	
<b>OPERATOR (Name and Telephone Number)</b> KIAMESHA CONCORD INC (914) 794-4000	
<b>EMERGENCY CONTACT (Name and Telephone Number)</b> KIAMESHA CONCORD INC (914) 794-4000	

As an authorized representative of the above named facility, I affirm under penalty of perjury that the information displayed on this form is correct to the best of my knowledge. Additionally, I recognize that I am responsible for assuring that this facility is in compliance with all sections of 6 NYCRR Parts 612, 613 and 614, not just those cited below:

- The facility must be re-registered if there is a transfer of ownership.
- The Department must be notified within 30 days prior to adding, replacing, reconditioning, or permanently closing a stationary tank.
- The facility must be operated in accordance with the code for storing petroleum, 6 NYCRR Part 613.
- Any new facility or substantially modified facility must comply with the code for new and substantially modified facilities, 6 NYCRR Part 614.
- This certificate must be posted on the premises at all times. Posting must be at the tank, at the entrance of the facility, or the main office where the storage tanks are located.
- Any person with knowledge of a spill, leak or discharge must report the incident to DEC within two hours (1-800-457-7352).

<b>ISSUED BY:</b> Commissioner Thomas C. Jorling PETROLEUM BULK STORAGE ID NUMBER 3-410225		<b>MAILING CORRESPONDENCE</b> GEORGE PARKER, V.P. KIAMESHA CONCORD INC CONCORD RESORT HOTEL KIAMESHA LAKE, NY 12751	
<b>DATE ISSUED</b> 12/28/92	<b>EXPIRATION DATE</b> 02/03/98	<b>SIGNATURE OF AUTHORIZED REPRESENTATIVE/OWNER</b> _____	
<b>FEE PAID</b> \$ 250		<b>NAME OF AUTHORIZED REPRESENTATIVE/OWNER (Please Print)</b> _____	
		<b>TITLE</b> _____	

THIS REGISTRATION CERTIFICATE IS NON-TRANSFERABLE

## **APPENDIX D**

### **CONCORD SERVICE STATION UST QUESTIONNAIRE**

UST QUESTIONNAIRE  
FORMER EXXON SERVICE STATION  
CONCORD HOTEL PROPERTY

Who owned the underground storage tanks (USTs) at the time of removal and disposal?

Premium Gas Service, Inc.

Station Hill Road, PO Box 217, Fennville, NY 12734

Please provide copies of all UST registration certificates, including the New York State Department of Environmental Conservation (NYSDEC) petroleum bulk storage (PBS) number.

PBS # 179159 - Copy of Registration & modification Attach.

Which firms (and key contact people involved) were retained to assist in the removal and disposal of the USTs and their function? Please note telephone numbers if available.

3 pages

Robert Dubas Excavating 914-985-2286

Please indicate the types of documentation available (and attach copies of receipts) to explain the amount of contaminated soil removed, the disposal destination of these soils, and the disposal destination of each UST.

Test from Envirotest for Soil -  
mostly No stone Attached 3 pages - No disposal Required

3 RRF Tanks were broken up & taken to Sull. Co. Landfill - No docum  
1 Steel Tank was retained by Premium used as house to  
contractors as a Temp Tank.

Please provide receipts for the amount of contaminated groundwater removed and disposed, as well as the disposal destination.

Removal by Luzon Environmental  
Total 12,300 gallons, disposed of at Luzon's facility  
1 Industrial Park, Woodridge, NY 12789

4 pages

Please provide copies of analytical data obtained for confirming that all contaminated soils were removed from the UST excavation areas.

None

Please list the names of NYSDEC personnel present during UST/soil removal activities, also include the dates that NYSDEC personnel were present.

Dolores Wehrhartz, Various times during tank  
removal & disposal. 9/20/91 - 10/2/91 approx.

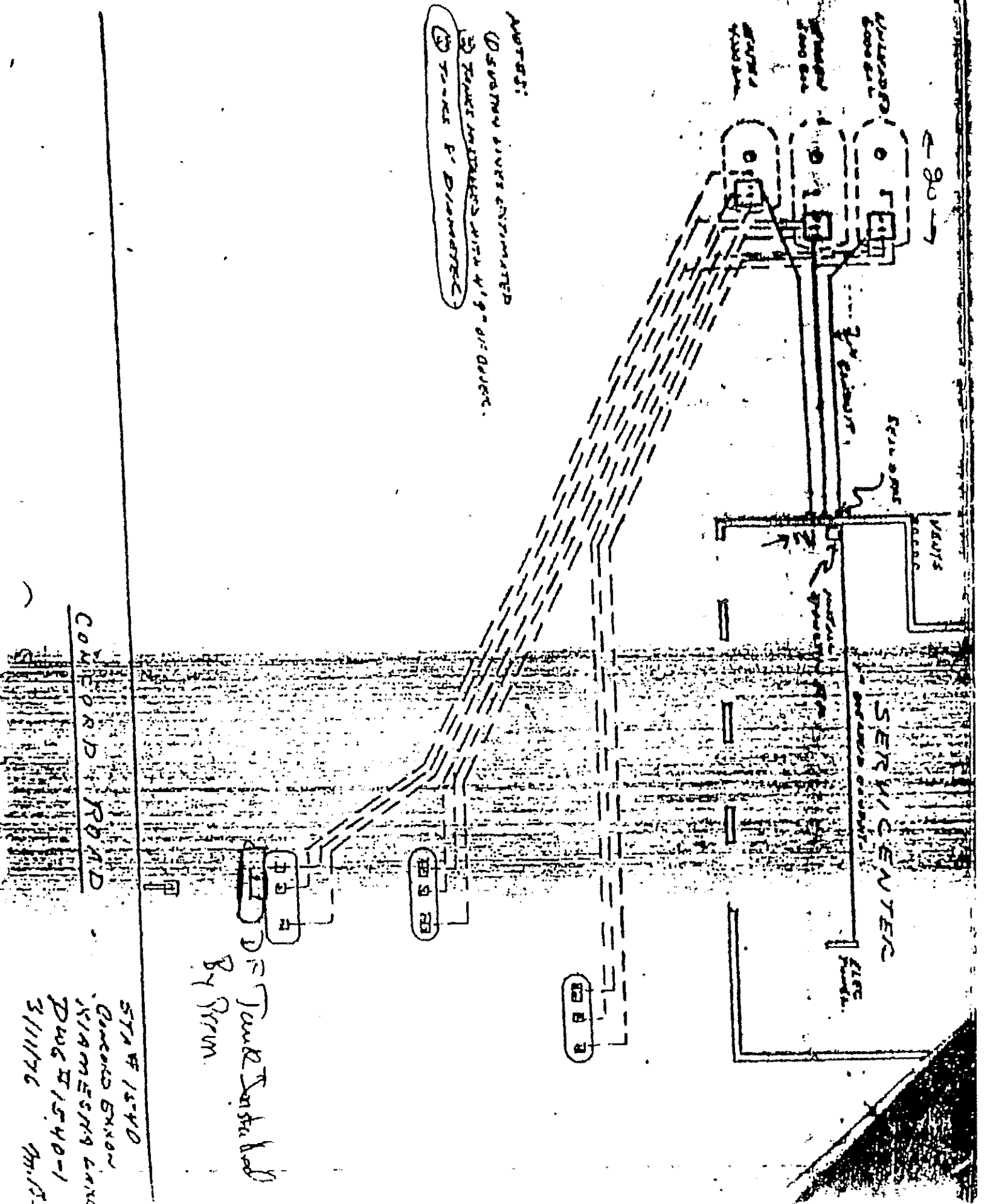
Please provide copies of documentation sent to the NYSDEC to de-list the USTs as part of removal/disposal activities. see PBS modification

Please provide information on prior UST ownership and list contacts and telephone numbers so as we can discuss these matters further. Exxon Corp., 101 Merritt 7 Corporate Park, Norwalk, CT. Sold Tanks to Hychem on 7/7/83 3 RFG Gasoline Tanks

Please provide copies of analytical data obtained to explain whether or not the quantities of contaminated soil and groundwater removed is non-hazardous. As necessary, please explain details on these matters. See Test Results on Soil attached. Water was Recycled by Luzon at their permitted facility in Woodbridge, N.Y.

Please provide a sketch of the approximate location of the former UST locations on the attached Site Layout Supplemental Sheet, please note the service station building and any dispenser isles.

NOTES:  
 (1) SUTTER DIVERS ESTIMATED  
 (2) TANKS INSTALLED WITH 4" 9" DI. DIAPHR.  
 (3) TANKS 5' DIAMETER



CONCRETE ROAD

2" Tank Installed  
 By Perm.

STA # 1540  
 CONCRETE EXHON  
 DIAMETER 1540-1  
 3/11/76  
 M.S.



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
DIVISION OF WATER • BUREAU OF SPILL PREVENTION AND RESPONSE  
**PETROLEUM BULK STORAGE APPLICATION**

Pursuant to the Petroleum Bulk Storage Law,  
Article 17, Title 10 of ECL, and 6 NYCRR 612.614.

Please Type or Print Clearly  
and Complete All Items

(Continued on Reverse Side—Please Be Sure to Complete Section B)  
**SECTION A—See Instructions on Cover Sheet**

<b>PBS NUMBER</b> 179154		<b>NAME</b> Kiamisha Concord Service Station	
Indicate Other Existing DEC Numbers, if any, for this Facility: CDS Number: _____ EPOES Number: _____		<b>LOCATION (Not P.O. Box)</b> Concord Road	
<b>TRANSACTION TYPE</b> (Check all that apply) NOTE: Transaction Types 1, 2 and 5 require a fee 1. <input type="checkbox"/> Initial 2. <input type="checkbox"/> Change of Ownership 3. <input checked="" type="checkbox"/> Substantial 4. <input checked="" type="checkbox"/> Information 5. <input type="checkbox"/> Renewal		<b>LOCATION (Continued)</b> CITY/TOWNSHIP/VILLAGE: Kiamisha COUNTY: Sullivan TOWNSHIP OR CITY: Thompson	
<b>NAME OF OPERATOR AT FACILITY</b> Kiamisha Concord <b>EMERGENCY CONTACT NAME</b> Stephen Korkha		<b>FACILITY TELEPHONE NUMBER</b> (914) 794-1265 <b>EMERGENCY CONTACT PHONE NO.</b> 914-1434-3509	
<b>NAME</b> Premium Gas Service, Inc. <b>ADDRESS (Street and/or P.O. Box)</b> Station Hill Road <b>CITY</b> Fondale, NY <b>STATE</b> NY <b>ZIP CODE</b> 12234			
<b>FEDERAL TAX ID NO.</b> 14-1410847 <b>TYPE OF OWNER (Check only one)</b> 1. <input type="checkbox"/> Private Resident 2. <input type="checkbox"/> State Government 3. <input type="checkbox"/> Local Government 4. <input checked="" type="checkbox"/> Federal Government 5. <input checked="" type="checkbox"/> Corporate/Commercial		<b>OWNER TELEPHONE NUMBER</b> (914) 292-4550	
<b>ATTENTION</b> Robert Blank			
<b>NAME OF COMPANY</b> Premium Gas Service, Inc.			
<b>ADDRESS</b> PO Box 247			
<b>CITY/STATE/ZIP CODE</b> Fondale, NY 12234			
<b>TELEPHONE NUMBER</b> (914) 292-4550			
<b>LONGITUDE</b> DEG MIN SEC _____			
<b>LATITUDE</b> DEG MIN SEC _____			
<b>Geographical Location for this Facility (if known)</b>			

**TYPE OF PETROLEUM FACILITY:**

- (Check all that apply)
- A. ☐ Storage Terminal/Petroleum Distributor
  - B. ☒ Retail Gasoline Sales
  - C. ☐ Other Retail Sales
  - D. ☐ Manufacturing
  - E. ☐ Utility
  - F. ☐ Trucking/Transportation
  - G. ☐ Apartment Building
  - H. ☐ School
  - I. ☐ Farm
  - J. ☐ Private Residence
  - K. ☐ Airline (Air Taxi)
  - L. ☐ Other (Specify)

I hereby certify under penalty of perjury that the information provided on this form is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

**NAME OF OWNER OR AUTHORIZED REPRESENTATIVE**  
Stephen Korkha  
**TITLE**  
General Manager  
**SIGNATURE**  
[Signature]  
**DATE**  
10/15/94  
**AMOUNT ENCLOSED**  
N/A

OFFICIAL USE ONLY

Page \_\_\_\_\_ of \_\_\_\_\_  
 Date Received: \_\_\_\_\_  
 Date Processed: \_\_\_\_\_  
 Amount Received \$ \_\_\_\_\_  
 Reviewed By: \_\_\_\_\_

179159

# Tank Information for Petroleum Bulk Storage Facility

## SECTION B—See Instructions on Cover Sheet

Object	Tank Number	Tank Location	Status	Insulation or Permanent Closure (MO) (YR)	Capacity (Gallons)	Product Stored	Tank Type	Tank Internal Prot.	Tank External Protection	Piping Location	Piping Type	Piping Internal Prot.	Piping External Protection	Secondary Containment	Leak Detection	Spill/ Overfill Prevention	Dispenser	Last Test Date (underground tanks) (MO) (YR)
	1	Y 3		9 9 1	6,000	2 5 0	0	0	0	2 2 0	2 2 0	0	0	0	0	0	1	N/A
	2	Y 3		9 9 1	6,000	2 5 0	0	0	0	2 2 0	2 2 0	0	0	0	0	0	1	N/A
	3	Y 3		9 9 1	6,000	2 5 0	0	0	0	2 2 0	2 2 0	0	0	0	0	0	1	N/A
	4	Y 3		9 9 1	2,000	6 1 0	0	1	1	2 2 0	2 2 0	0	0	0	0	0	2	N/A

### KEY FOR SECTION B

#### ACTION

- Initial Listing
- Add Tank
- Close/Remove Tank
- Information Correction
- Recondition/Repair
- Relieve Tank

#### TANK LOCATION

- Aboveground
- Aboveground on Ladder
- High, Utility, Rack, or Cradle
- Aboveground: 10% or more below ground
- Underground
- Underground, vaulted, with access

#### STATUS

- In-service
- Temporarily out-of-service
- Closed—In Place
- Closed—In Place
- Tank Committed to Non-Regulated Use

#### TASK TYPE

- Steel/Carbon Steel
- Stainless Steel Alloy
- Concrete
- Fiberglass Coated Steel
- Fiberglass Reinforced Plastic (FRP)
- Equivalent Technology
- Other

#### PRODUCT STORED

- Empty
- Unleaded Gasoline
- Unleaded Gasoline
- Gas, Liquefied, Propane
- Gas, Liquefied, Butane
- Gas, Liquefied, Other
- Other

#### INTERNAL PROTECTION

- None
- Epoxy Lining
- Rubber Lining
- Fiberglass Lining (FRP)
- Glass Lining
- Other

#### EXTERNAL PROTECTION

- Painted Asphalt Coating
- Sacrificial Anode
- Impressed Current
- Fiberglass
- Wrapped (Pigging)
- Other

#### SECONDARY CONTAINMENT

- None
- Vault
- Double-Walled Tank
- Elevation Lining
- Cut-off Walls
- Impervious Underlayment
- Earth Dam
- Prefabricated Steel Dike
- Concrete Dike
- Synthetic Lining
- Natural Lining
- Other

#### LEAK DETECTION

- Interstitial Monitoring
- Vapor Well
- Groundwater Well
- In-tank System
- Concrete Pad with drains
- Other

#### SPILLOVER/LEAK PREVENTION

- None
- Flood Vent Valve
- High Level Alarm
- Automatic Shut-off
- Product Level Gauge
- Catch Basin
- Vent Valve
- Other

#### DESIGNER

- Submittable
- Section
- Utility

HITE PLAINS, NY 10601

(914) 761-6600

PETROLEUM BULK STORAGE REGISTRATION CERTIFICATE

TANK NUMBER	TESTING DATE	DATE LAST TESTED	TANK TYPE	CAPACITY	DATE RECALLED
001	12/96		FIBERGLASS	6,000	12/81
002	12/96		FIBERGLASS	6,000	12/81
003	12/96		FIBERGLASS	4,980	12/81
004	12/93		BAKE STEEL	2,000	12/81

FEE PAID 250

• Aboveground tanks require monthly visual inspections and documented internal inspections every ten years as described in 8 NYCRR Part 613.

ISSUED BY		OPERATOR
COMMISSIONER THOMAS C. JORLINE		KIAMISHA CONCORD
PETROLEUM BULK STORAGE ID NUMBER		KIAMISHA NY
DATE ISSUED	EXPIRATION DATE	
08/17/87	06/30/92	12751
FACILITY		OWNER
KIAMISHA CONCORD SERVICE STATION CONCORD RD KIAMISHA NY 12751		PREMIUM GAS SERVICE INC STATION HILL RD FERNDALE NY 12754

As authorized representative of the above named facility, I affirm under penalty of perjury that the information displayed on this form is correct to the best of my knowledge. Additionally, I recognize that I am responsible for assuring that this facility is in compliance with all sections of 8 NYCRR Parts 612, 613 and 614, not just those cited below:

- The facility must be reregistered if there is a transfer of ownership.
- The Department must be notified within 30 days prior to adding, replacing, reconditioning, or permanently closing a stationary tank.
- The facility must be operated in accordance with the Code for Storing Petroleum, 8 NYCRR Part 613.
- Any new facility or substantially modified facility must comply with the Code for New and Substantially Modified Facilities, 8 NYCRR Part 614.
- This certificate must be displayed on the premises at all times.

Signature of Representative/Owner \_\_\_\_\_ Date \_\_\_\_\_

EMERGENCY CONTACT  
STEPHEN KALKA  
RD 3 BOX 755  
MONTICELLO NY 12701  
(914) 796-2353

OWNER COPY

ANALYTICAL REPORT

PREMIUM GAS SERVICE, INC.  
P.O. BOX 247  
FERNDALE NY 12734

Report Date: 25-OCT-91

Project: STANDARD

Lab Number: 104088

Sample Number(s): 104088-01

to

104088-01



Ronald A. Bayer  
Laboratory Director

## VOLATILE ORGANICS ANALYSIS DATA SHEET

Client Name: Premium Gas Service, Inc.  
Project Name: 3439  
Sample Location: Mason Jar  
Matrix: Soil  
Method: TCLP Method 1311 VOA  
Sample Qt/Vol:  
Level: Low  
Column: Pack

Lab Number: 104088-01  
Date Collected: 10/27/91  
Date Received: 10/30/91  
Date Extracted:  
Date Analyzed: 10/29/91  
Report Date: 10/15/91  
Lab File ID:  
Dilution Factor: 1

CAS NO.	COMPOUND	Detection Limit ug/l	Conc. ug/l
71-43-2	Benzene	5	0
56-23-5	Carbon Tetrachloride	5	0
108-90-7	Chlorobenzene	5	0
107-06-2	1,2-Dichloroethane	5	0
75-35-4	1,1-Dichloroethylene	5	0
78-93-3	2-Butanone	10	0
127-18-4	Tetrachloroethylene	5	0
79-01-6	Trichloroethylene	5	0
67-66-3	Chloroform	5	0
75-01-4	Vinyl chloride	5	0

FORM 1 -VOA

Inorganics Analysis Data Sheet  
Form 1 - IM

Client Name: PREMIUM GAS SERVICE, INC	Project Name: STANDARD
ETL Sample Number: 104088-01	
Client I.D.: HASOM JAL	
Date Collected: 02-OCT-91	Matrix: 3 Soil/side
Date Received: 03-OCT-91	
Comments: P.O. 3439	

Analysis	Result	Units	Method	Analyzed
Arsenic	<0.1	MG/L	EPA 200.7	17-OCT-91
Barium	0.11	MG/L	SW846 6010	17-OCT-91
Cadmium	<0.005	MG/L	SW846 6010	17-OCT-91
Chromium	<0.01	MG/L	SW846 6010	17-OCT-91
Lead	<0.2	MG/L	SW846 6010	17-OCT-91
Mercury	<0.4	UG/L	SW846 7470	22-OCT-91
Selenium	<0.1	MG/L	EPA 200.7	17-OCT-91
Silver	<0.01	MG/L	SW846 6010	17-OCT-91
TCEP Extraction			SW846 1311	08-OCT-91

Remarks:

MEMO

DATE: SEPTEMBER 24, 1991

TO: ETHEL

RE: CONCORD EXXON

FROM: STEVE

COPY: ~~TEXT~~, 201

ATTACHED ARE THE WASTE MANIFESTS FOR THE TWO LOADS OF CONTAMINATED WATER REMOVED FROM THE SITE YESTERDAY WITH THE OPERATOR'S TIME SHEET.

TOTAL REMOVED WAS 12,300 GALLONS AT AN AGREED COST OF \$.43/GALLON. EXPECT INVOICE FROM THEM FOR \$5,289.00.

11 INDUSTRIAL PARK  
WOODRIDGE, N.Y. 12789  
(914) 434-7805  
FAX: (914) 434-0307  
1-800-828-8240

2 WAREHOUSE LANE  
ELMSFORD, N.Y. 10523  
(914) 592-3418  
FAX: (914) 592-4325  
1-800-828-8249

# NON-HAZARDOUS WASTE MANIFEST

GEN. RAYDA

Generator Name Pixma Gas  
Address Station Hill Rd  
Frederick NY

Shipping Location Concord Essex  
Address Concord Rd  
Kingsbury NY

Phone No.    -

Phone No.    -

Lab Number			
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Description of Waste  
Fuel oil  
combustible liquid  
NA 1285  
waste & water

Quantity		Units	Containers	
No.	Type	No.	Type	
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	

Codes  
G - Gallons  
D - Drum  
C - Carton  
B - Bag  
T - Truck  
P - Pounds  
Y - Yards  
O - Other  
☒ GC

I hereby certify that the above named material is not a hazardous waste nor does it contain PCB's as defined by 40 CFR Part 261 or any applicable state law.

Generator Authorized Agent Name Star Kalika Signature [Signature] Date 04/23/91

## TRANSPORTER

Transporter Name Ken-oil Corp  
Address Industrial Park  
Woodbridge NY

Driver Name (Print) Frank R. Ruffolo  
Vehicle No. / License No. 401041 NY  
Vehicle Certification 3A-005

I hereby certify that the above named material was picked up at the generator site listed above.

I hereby certify that the above named material was delivered without incident to the destination listed below.

Signature [Signature] Date 04/23/91

Driver Signature

## DESTINATION

This is to certify that \_\_\_\_\_ of the above cited waste material was received at \_\_\_\_\_  
(Place, amount or portion in cubic yards, gallons, or truck loads)

Site Name Ken-oil Corp Phone No. 914-434-7805  
Address Industrial Park Woodbridge NY

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Name of Authorized Agent \_\_\_\_\_ Signature \_\_\_\_\_  
Vehicle - Destination \_\_\_\_\_ Vehicle - Transporter \_\_\_\_\_  
Pick - Return to Generator \_\_\_\_\_ Date - Leave with Generator \_\_\_\_\_



INDUSTRIAL PARK  
 DODDIDGE, NY 12789  
 (414) 434-7808  
 X: (814) 434-0307  
 800-828-8249

2 WAREHOUSE LANE  
 ELMSTOWN, N.Y. 10523  
 (914) 592-3418  
 FAX: (914) 592-4325  
 1-800-828-8249

# NON-HAZARDOUS WASTE MANIFEST

Generator Name Franklin County  
Station Hill Rd  
Franklin NY

Shipping Location Cascad T.own  
 Address Cascad Rd  
K. m. m. ch. NY

Phone No.            -           

Phone No.            -           

Lab Number  
            
            
          

Description of Waste  
Frail oil  
Combustible 1.0.0.0.  
NA 1992  
Waste & residue

Quantity	Units	Containers No.	Type
<u>6000</u>	<u>Q</u>	<u>01</u>	<u>V</u>
<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>

Codes  
 Q - Drums  
 D - Drum  
 C - Carton  
 B - Bag  
 T - Truck  
 P - Pounds  
 Y - Yards  
 O - Other  
V.C.C.

I hereby certify that the above named material is not a hazardous waste nor does it contain PCB's as defined by 40 CFR Part 261 or any applicable state law.

Generator or Authorized Agent Name Steve Malkin

Signature [Signature]

Shipment Date 9/23/91

Transporter Name Wagon Co. Inc  
Industrial Park  
Cascad NY

Driver Name (Print) Frank Ruppertis  
 Vehicle No. / License No. 21630 Y NY  
 Vehicle Certification 31-005

I hereby certify that the above named material was picked up at the generator's listed address.

I hereby certify that the above named material was delivered without incident to the destination listed below.

Signature [Signature] Date 09/23/91

Driver Signature            Delivery Date           

This is to certify that            of the above cited waste material was received at           

Site Name Franklin County Phone No. 914-434-7808  
Industrial Park Cascad NY

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Signature            Date             
 Copy - Transporter      Copy - Return to Generator      Copy - Leave with Generator

OFFICE USE — JOB # \_\_\_\_\_  
 FILE # \_\_\_\_\_  
 CO \_\_\_\_\_ SQ \_\_\_\_\_ OO \_\_\_\_\_  
 T & M \_\_\_\_\_ SUB \_\_\_\_\_ DIS \_\_\_\_\_  
 HM \_\_\_\_\_ NHM \_\_\_\_\_

2 WAREHOUSE LANE  
ELMSFORD, N.Y. 10523  
(914) 592-3418  
FAX: (914) 592-4325  
1-800-828-8249

Location Spartanburg Co. Greenville, N.C.

Contact SATY KALKA  
Telephone 914-292-4550

Disposal	Units	Disposal	Unit
	gals		gals
	tons		tons
	yds <sup>3</sup>		yds <sup>3</sup>
	drums		drums
	bags		bags
	tanks		tanks

### DESCRIPTION

SITE LOCATION: CONCORD EXHIBIT  
CONCORD ROAD  
KRAMERS, N.Y.

1. Pump-out water from tank
2. Supply & deliver (1) Bale Pads and (1) Bale Bands -
3. Loan use of 8x6 wheel dolly etc.

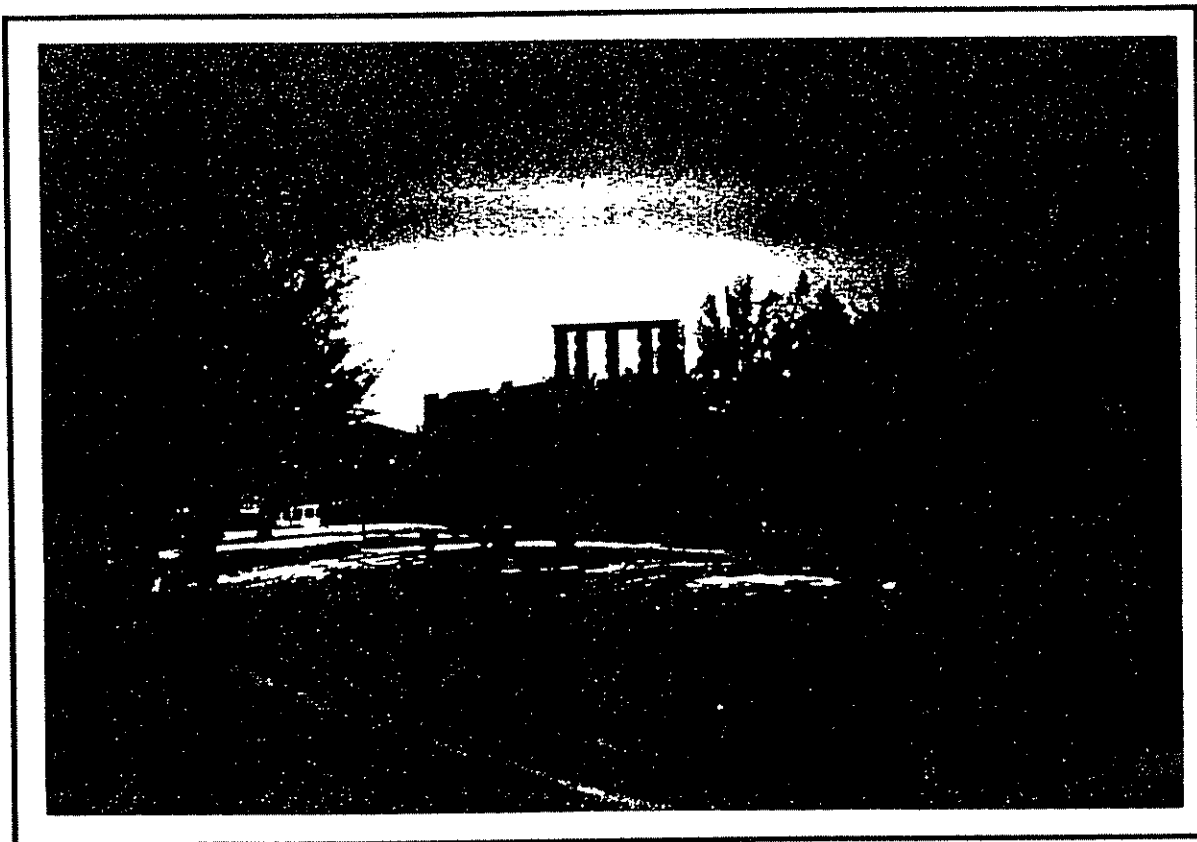
Employee Signature \_\_\_\_\_ Date 9-23-91  
Authorized Signature Steve K... Date \_\_\_\_\_

Project Coordinator  
Site Coordinator

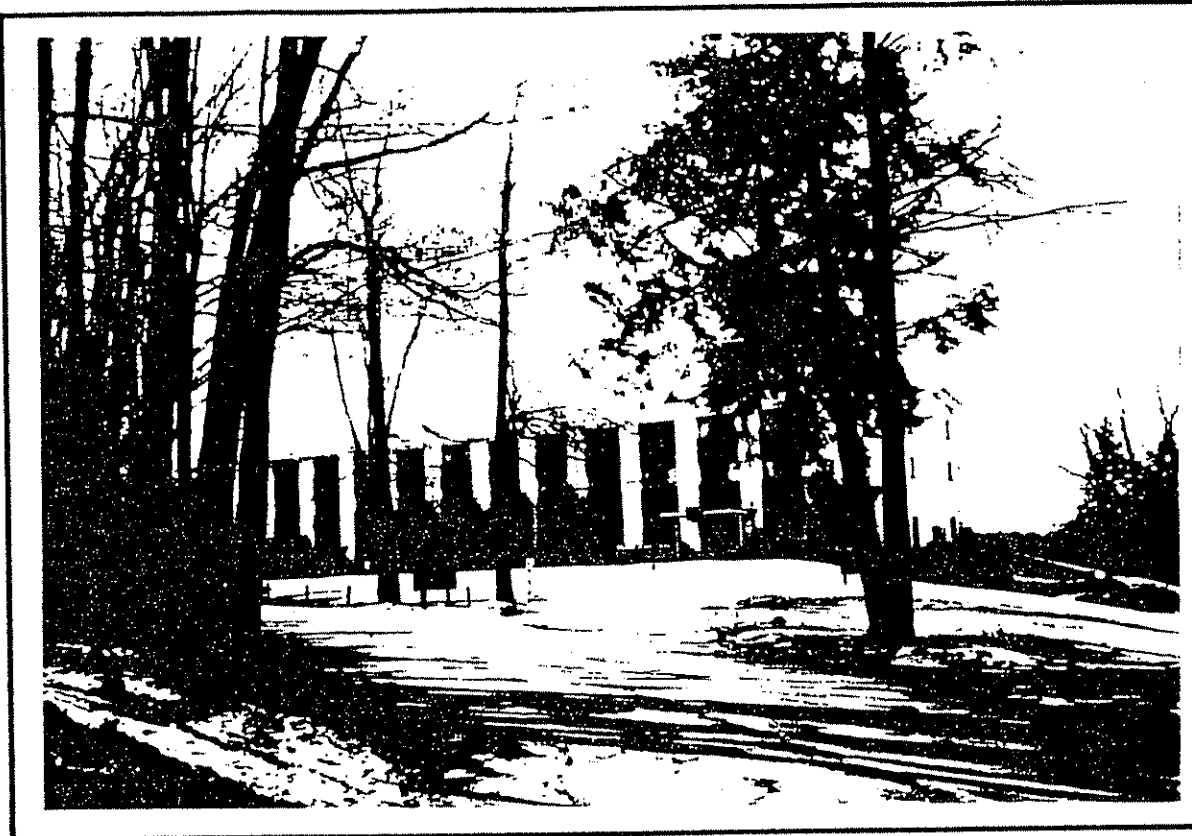
**APPENDIX E**  
**SITE PHOTOGRAPHS**



*Photo No. 1 - North view of hotel complex.*



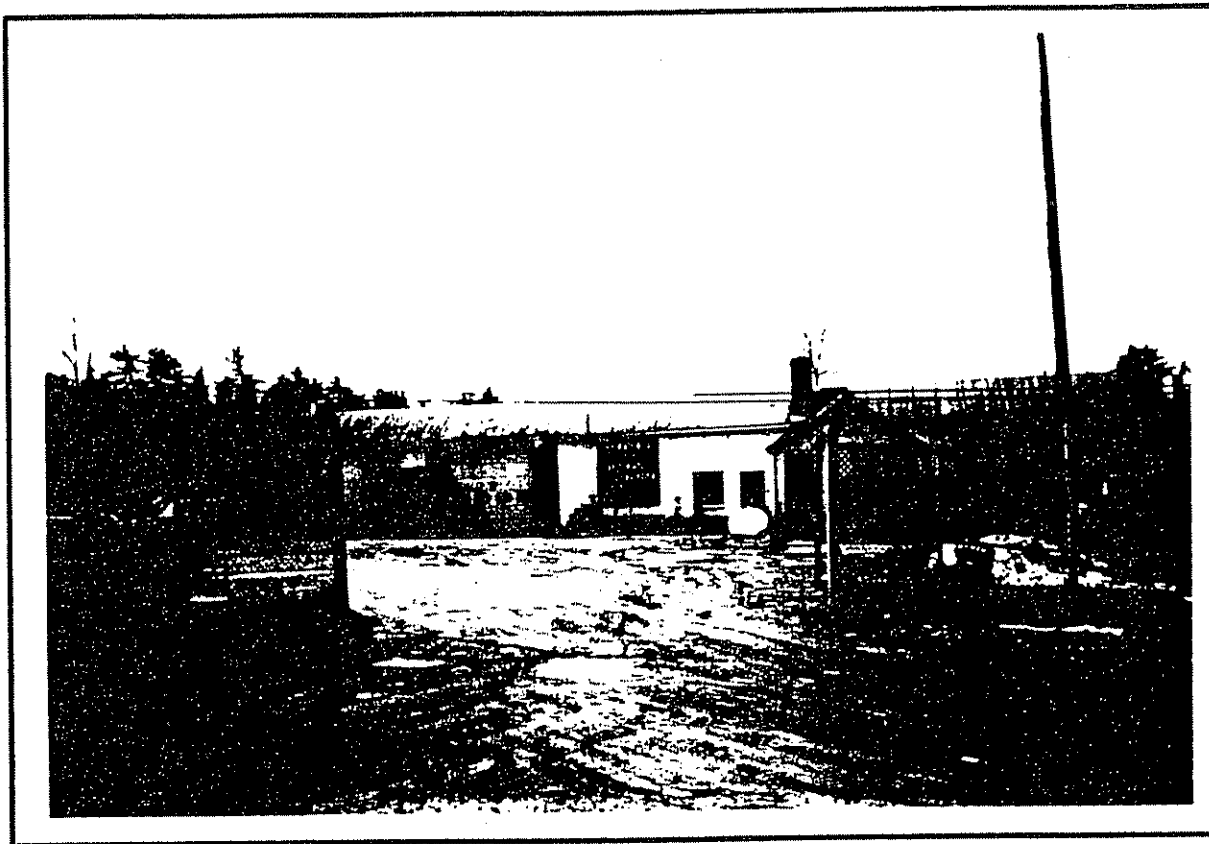
*Photo No. 2 - Northeast view of hotel complex.*



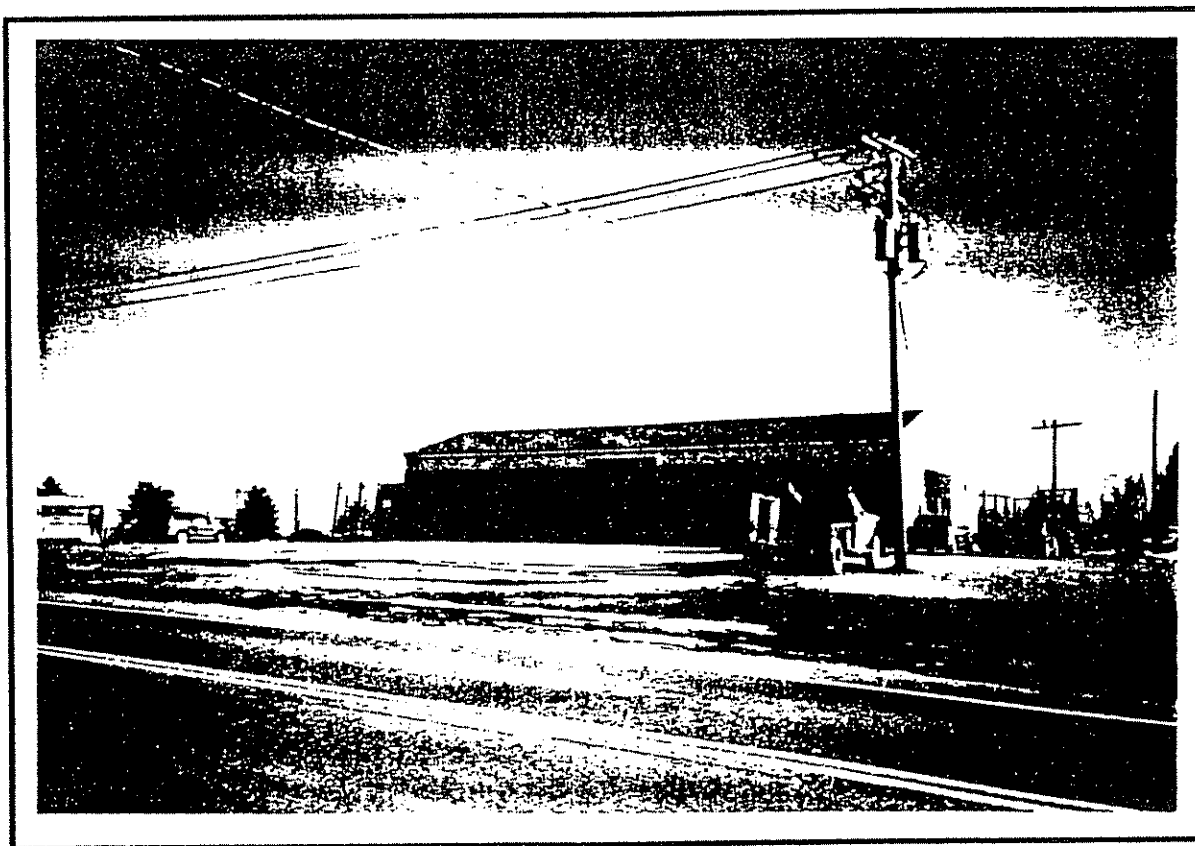
*Photo No. 5 - View of Clubhouse / Raymond's Restaurant, looking south from Chalet Road.*



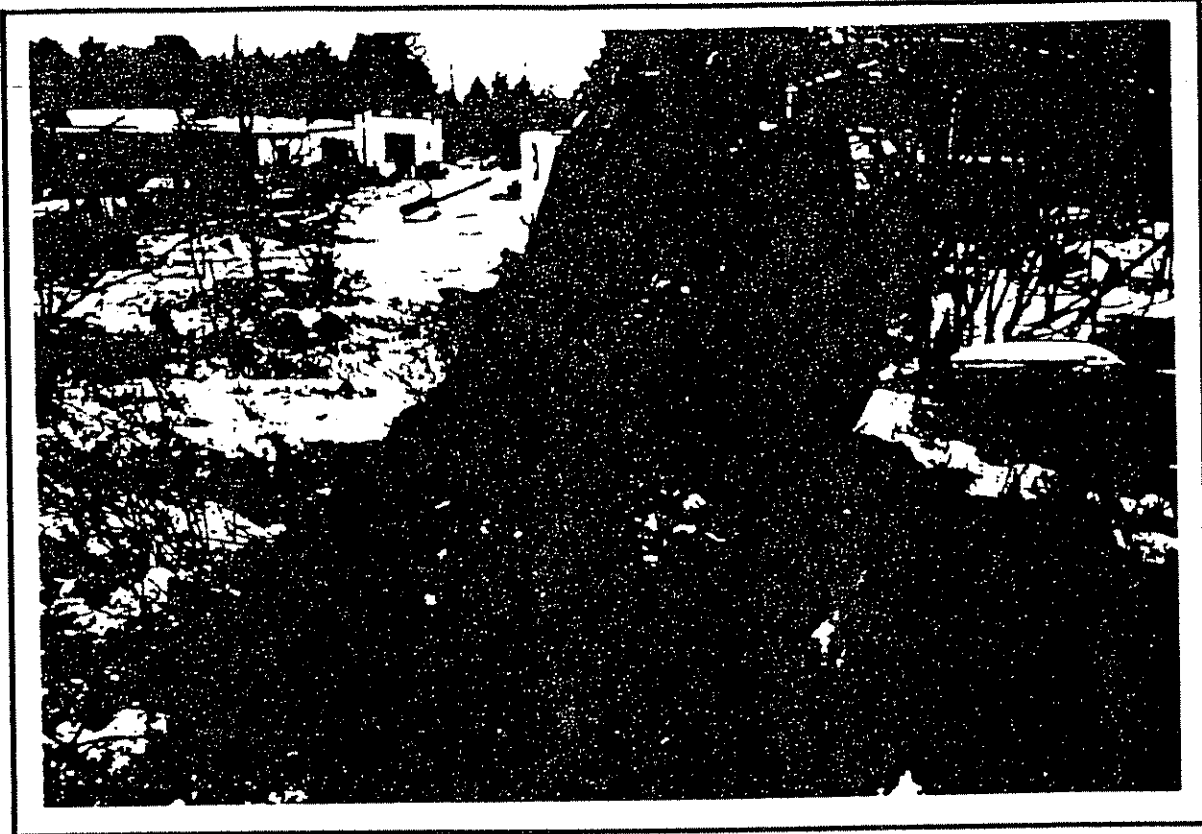
*Photo No. 6 - View of Concord ski area.*



*Photo No. 7 - Front view of Golf Maintenance Shop, from Chalet Road entrance.*



*Photo No. 8 - Front view of Concord Service Station off of Concord Road.*



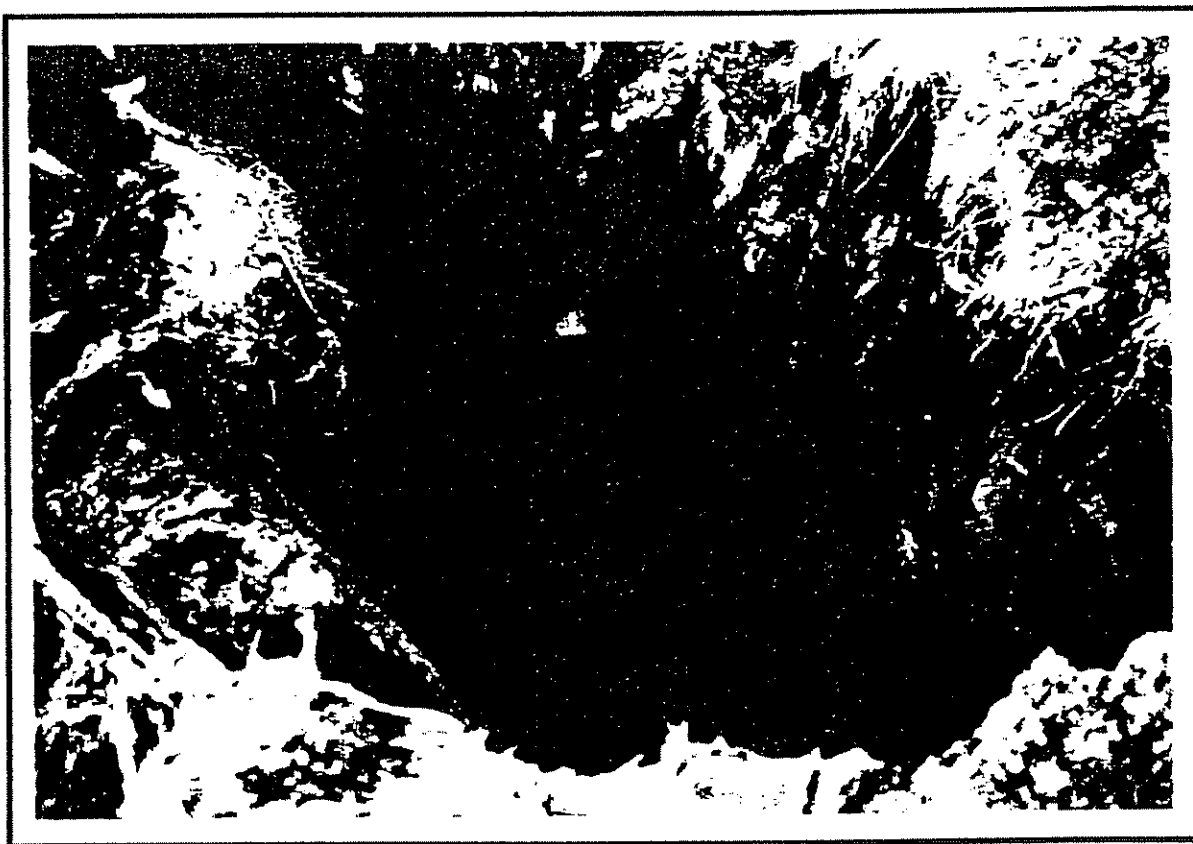
*Photo No. 9 - Excavated materials at the Golf Maintenance Shop dump site. Shop and equipment/vehicle storage area in background, left.*



*Photo No. 10 - Excavated test pit at the Golf Maintenance Shop dump site depicting ash and soil fill layers. The ash is the result of waste burning over time.*



*Photo No. 11 - A view of surface waste at the Chalet dump site.*

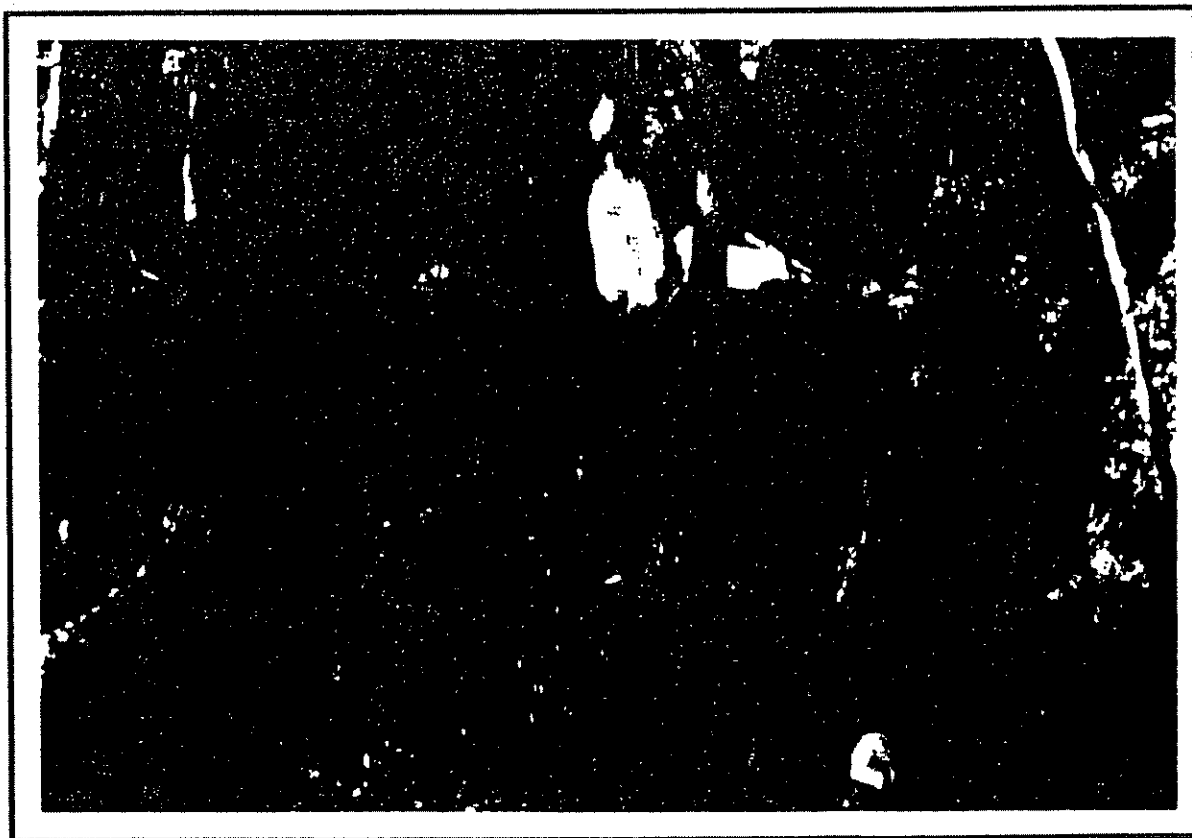


*Photo No. 12 - Excavated test pit depicting waste and soil layers at the Chalet dump site.*





*Photo No. 13 - Excavated materials at the Main Parking Area dump site.*



*Photo No. 14 - View of seep identified at the Main Parking Area dump site.*



*Photo No. 15 - East side slope view of Casino dump site.*



*Photo No. 16 - Excavated waste at Casino dump site.*



*Photo No. 17 - Downgradient (east) view of Concord Service Station dump site.*



*Photo No. 18 - Excavated waste at Concord Service Station dump site.*



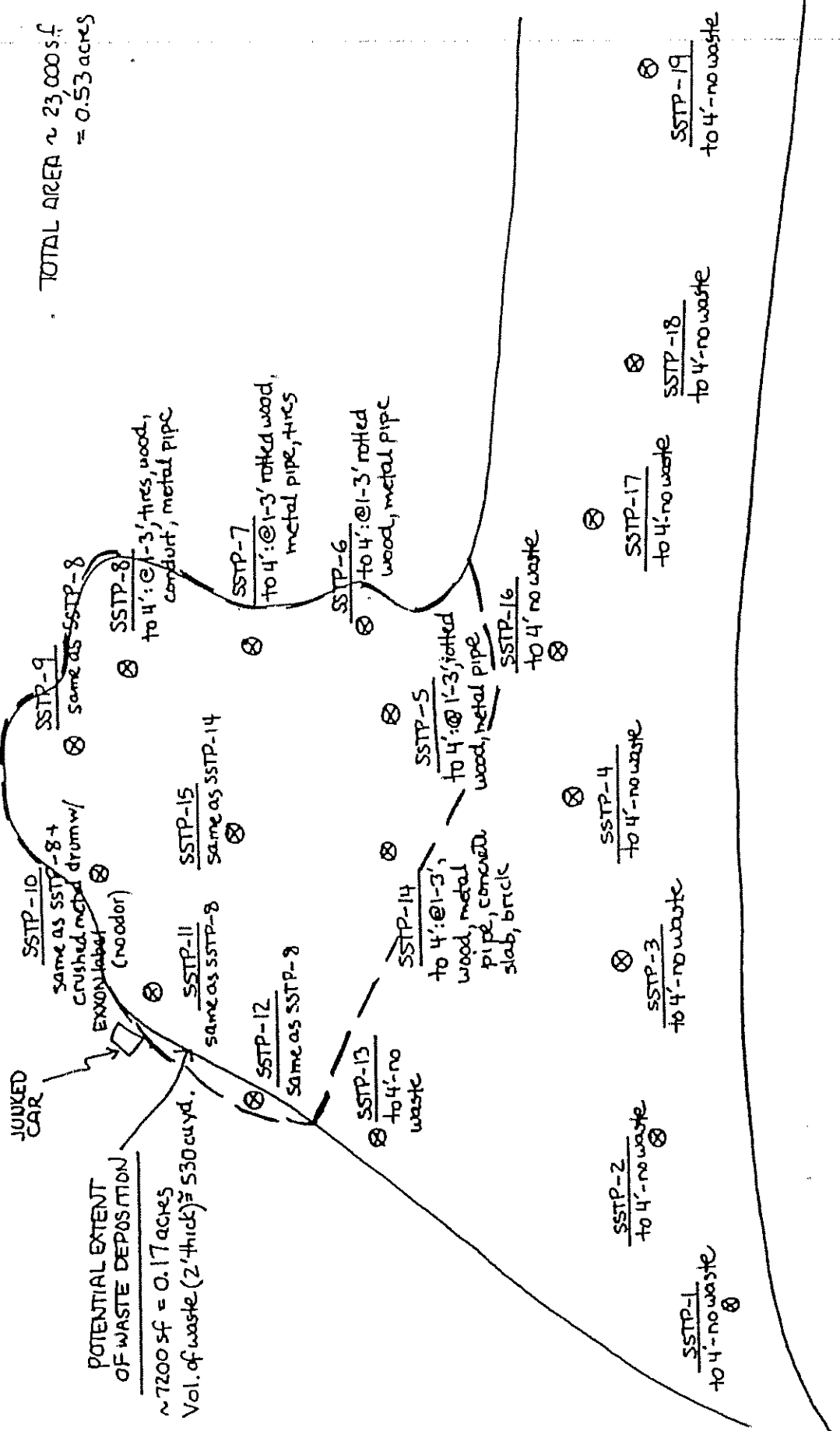
*Photo No. 19 - View of excavated waste materials at the Cemetery dump site.*



*Photo No. 20 - Excavated test pit depicting limited waste materials at the Cemetery dump site.*

**APPENDIX F**

**TEST PIT INVESTIGATION SKETCHES**



TOTAL AREA ~ 23,000 sf  
 = 0.53 acres

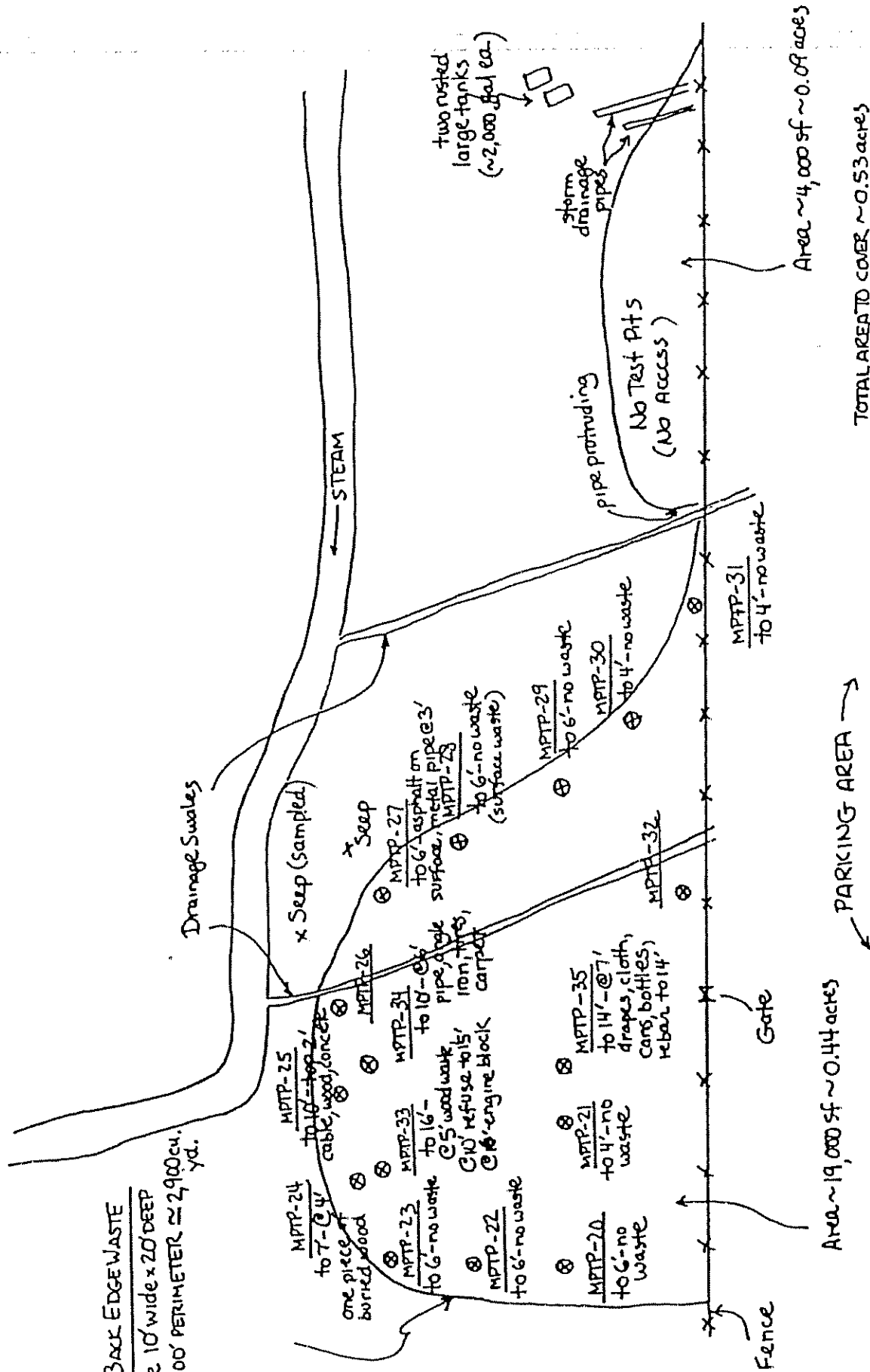
CONCORD PHASE II  
 CONCORD SERVICE STATION DUMP

1" = 30'

PULL BACK EDGEWASTE

Assume 10' wide x 20' DEEP

x 400' PERIMETER = 2,900 cu. yd.

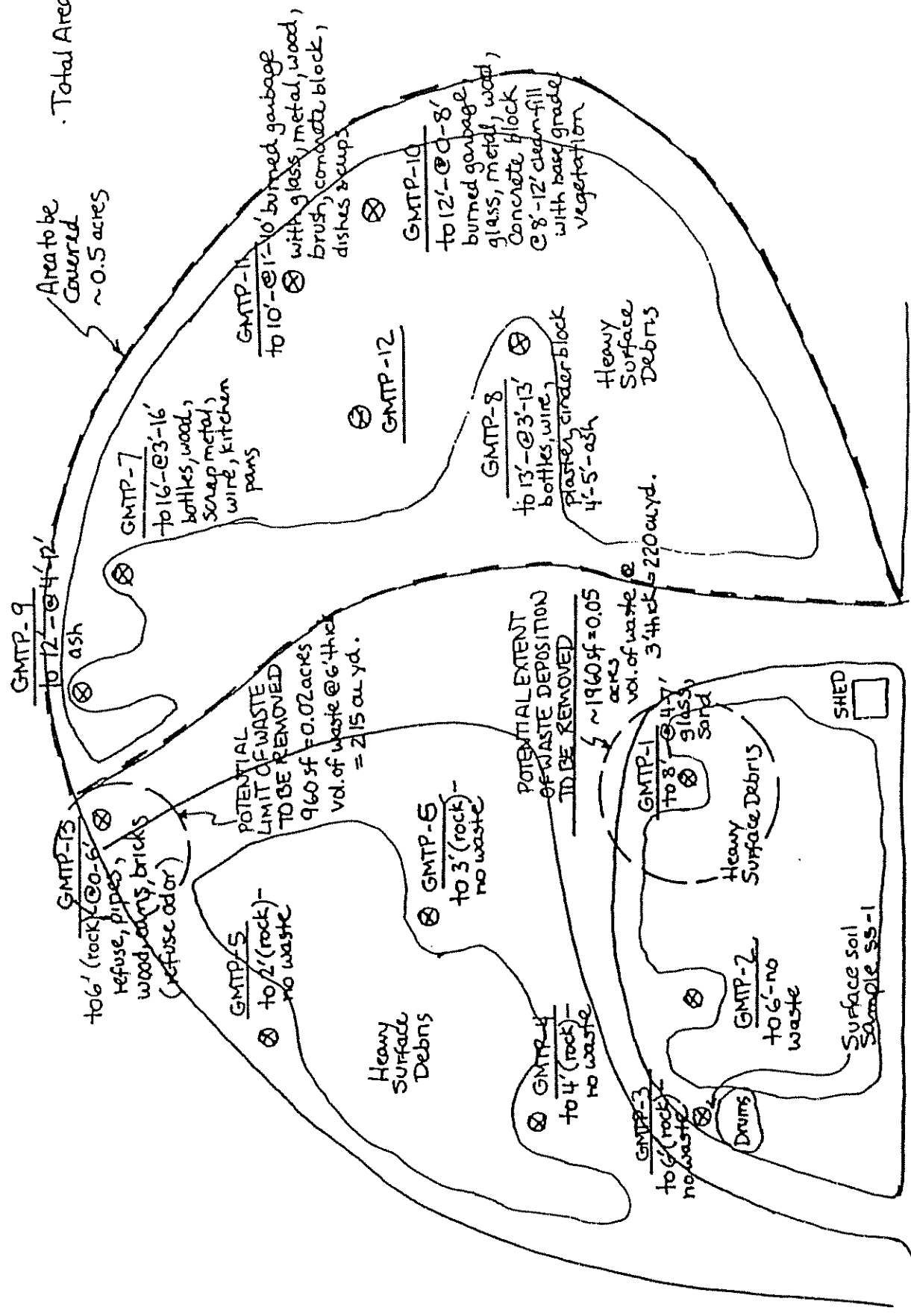


CONCORD PHASE II  
MAIN PARKING DUMP

1" ~ 50'

MW-2 ●

● MW-3





STREAM →

MW-1

GMTP-43  
to 1' (water)  
no waste

GMTP-44  
to 7' - @ 0-1'  
bricks, wood

⊗

GMTP-45  
to 3' - no  
waste

GMTP-46  
to 3' - no  
waste



GMTP-42  
to 3' (water) -  
@ 2-3' wood,  
pipe

GMTP-41  
to 5' (water) -  
@ 3-4' - bricks,  
wood

TRAILER

TRAILER

GMTP-40  
to 5' (water) -  
no waste

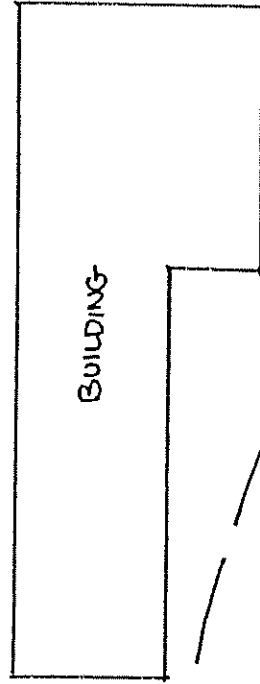
TRAILER

GMTP-48  
to 3' (water) -  
@ 2'-3' dim. wood,  
cans

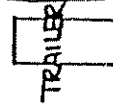
⊗

GMTP-49  
to 6' (water) -  
@ 2-6' concrete pipe,  
cable, rope,  
stumps, plastic sheeting,  
slight petroleum odor

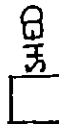
⊗



BUILDING



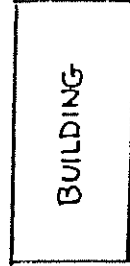
TRAILER



SHED

GMTP-47  
to 6' - @ 2-5' wood,  
bricks, pipe

⊗



BUILDING

POTENTIAL LIMIT  
OF WASTE TO BE  
REMOVED

~42,400 sf = 0.97 acres  
VOL. OF WASTE @ 3' thick  
= 4,700 cu yd.

TOTAL AREA ~2.75 acres

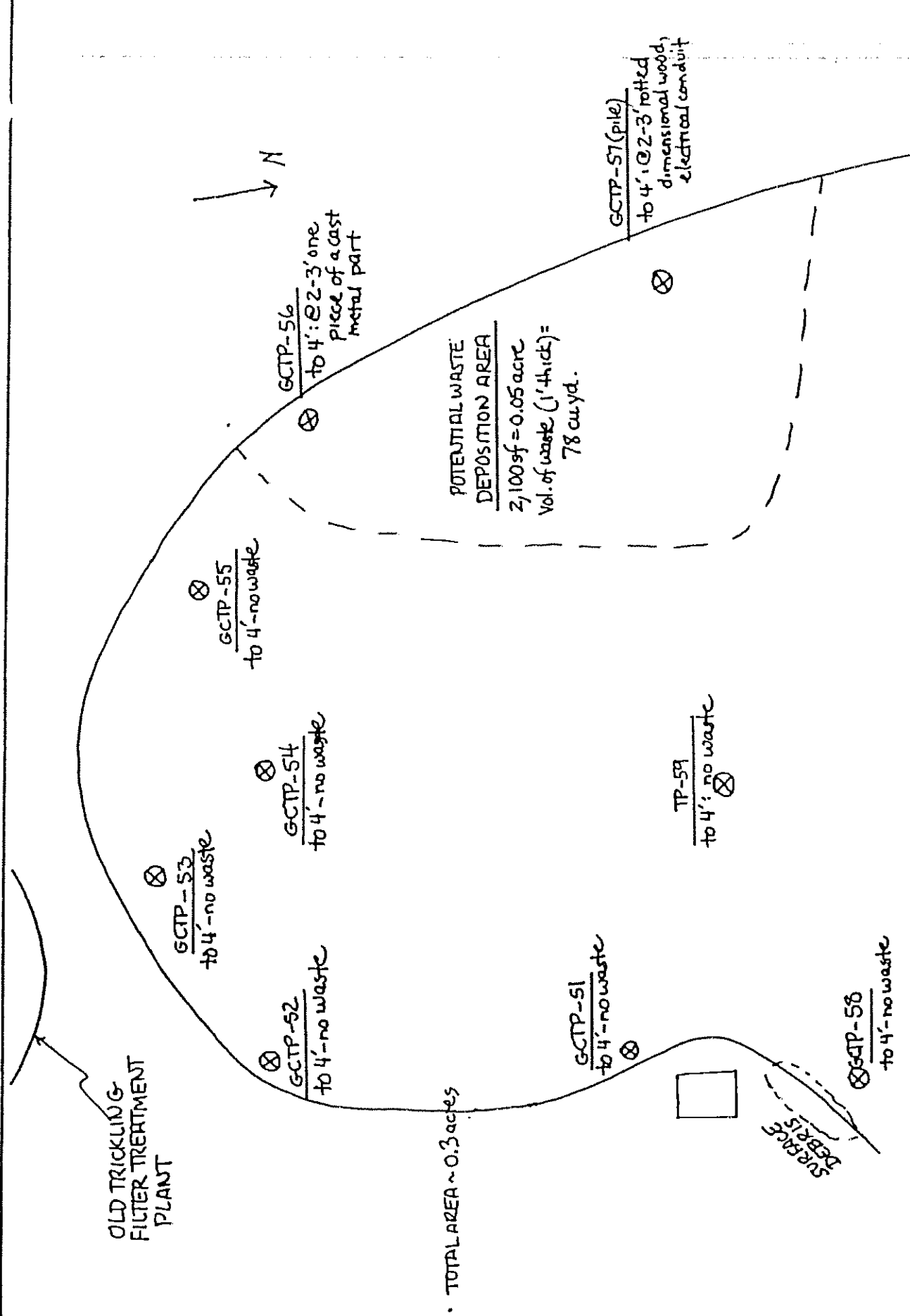
← TO GOLF  
MAINTENANCE  
DUMP

GOLF MAINTENANCE  
DUMP

CONCORD PHASE II  
GOLF MAINTENANCE AREA

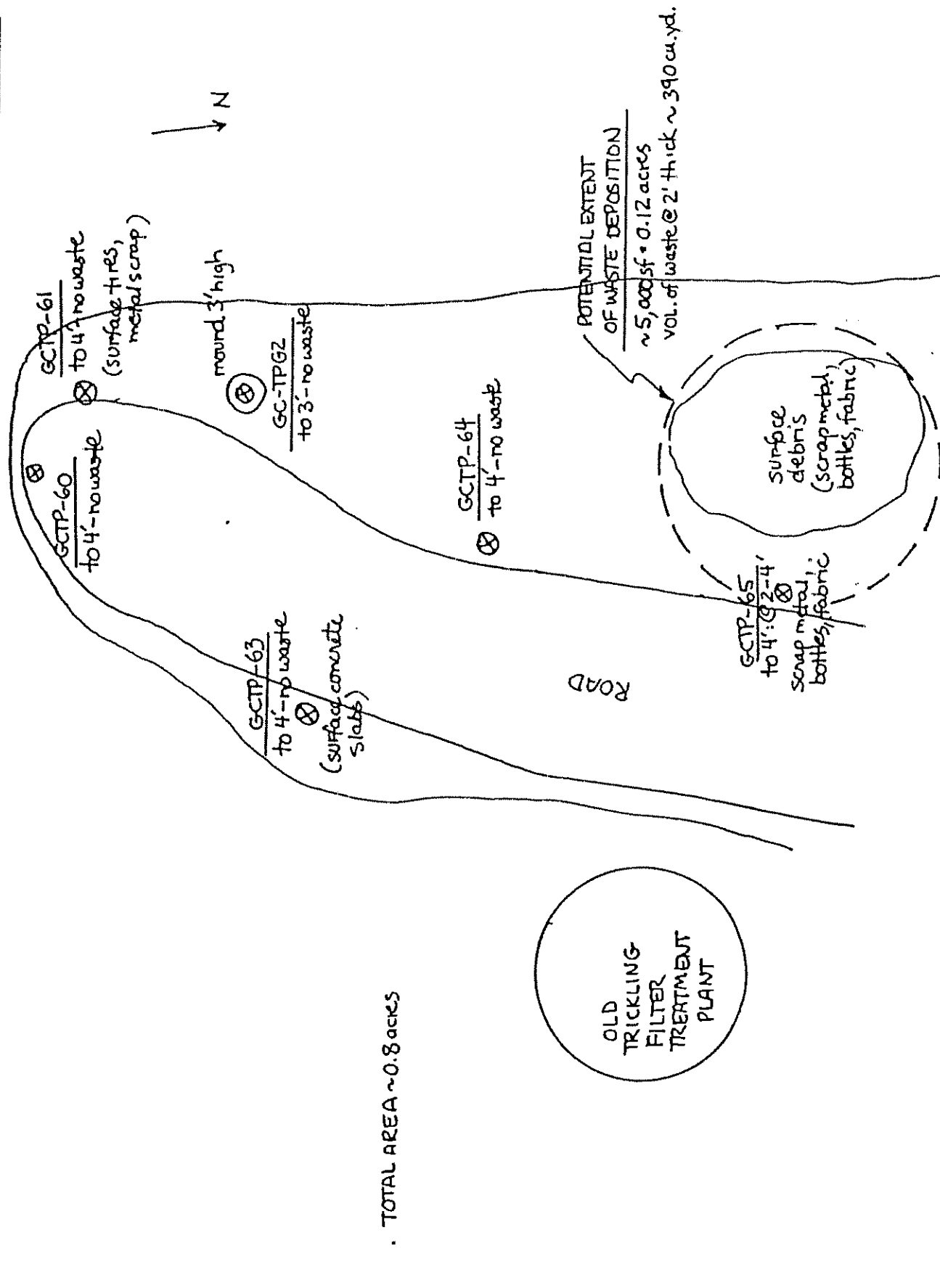
1" ~ 50'





CONCORD PHASE II  
 DEC/GOLF COURSE DUMP  
 Area South of Known Dump/Below Former Treatment Plant

CONCORD PHASE II  
 DEC/GOLF COURSE DUMP  
 Area Adjacent to Former Treatment Plant

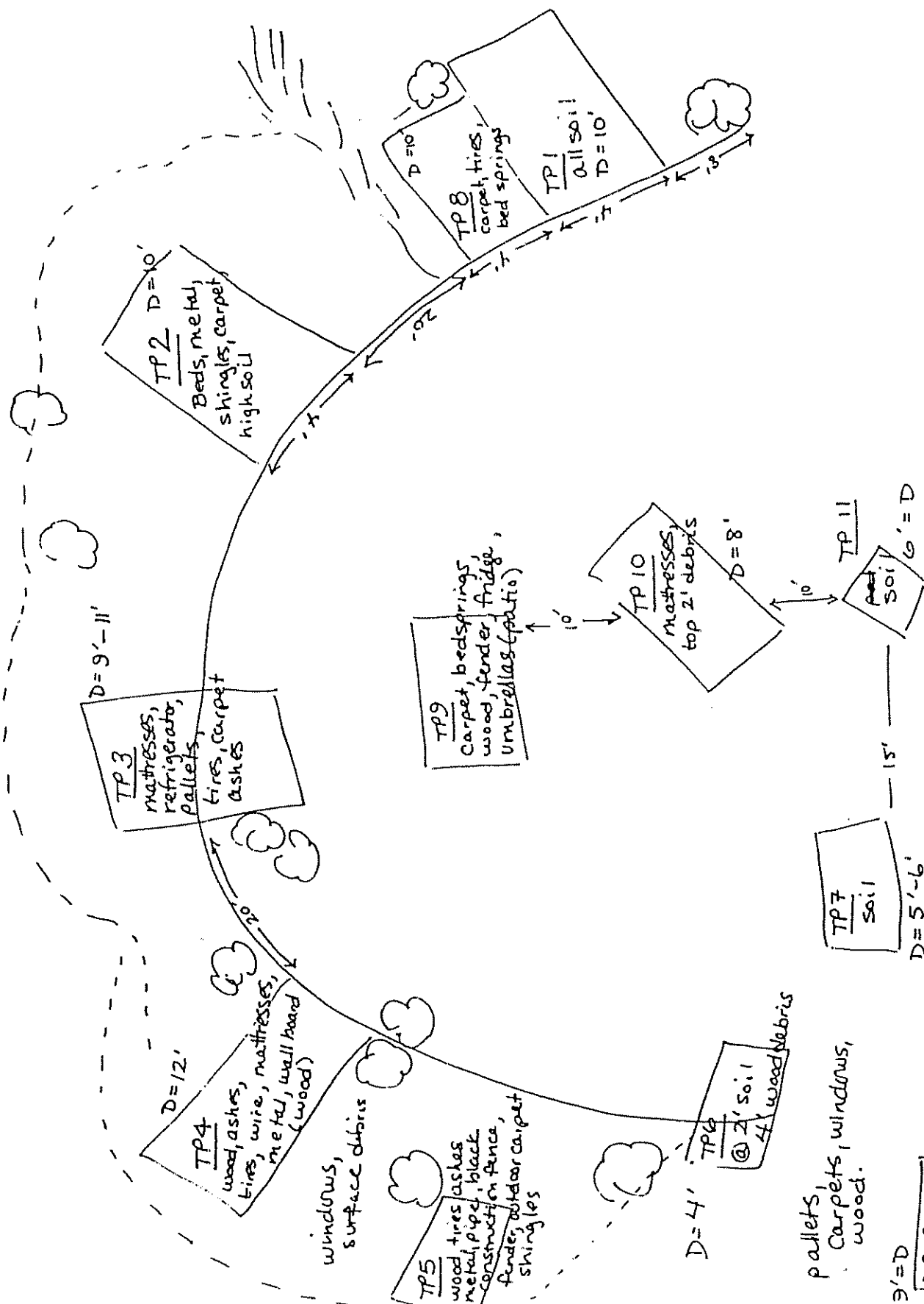


TOTAL AREA  $\sim 0.8 \text{ acres}$

1"  $\sim 40'$

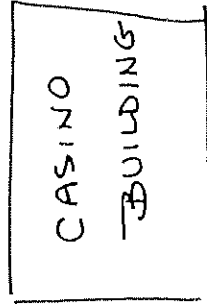
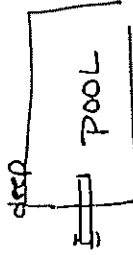
# CONCORD PHASE II CHALET DUMP SITE

Area East of Ski Chalet within Former Mine Area



TP1 (@ center of pool)  
old heater, air conditioners,  
bed springs, dryers, tires

TP2 (@ deep end of pool)  
hot water tanks, metal,  
pallets, brick, carpet,  
rubber hoses, conduit



TP6 D=6'  
chairs, rocks,  
pails in surface,  
no buried waste

D=5'

TP7 D=6'-7'  
bags of  
spinder,  
pipes, wood debris,  
paint, pails, carpet,  
plywood, metal pipes,  
concrete block

TP5  
Bicycle, carpet,  
car, linoleum,  
wood debris,  
carpet, lawnmowers,  
shingle

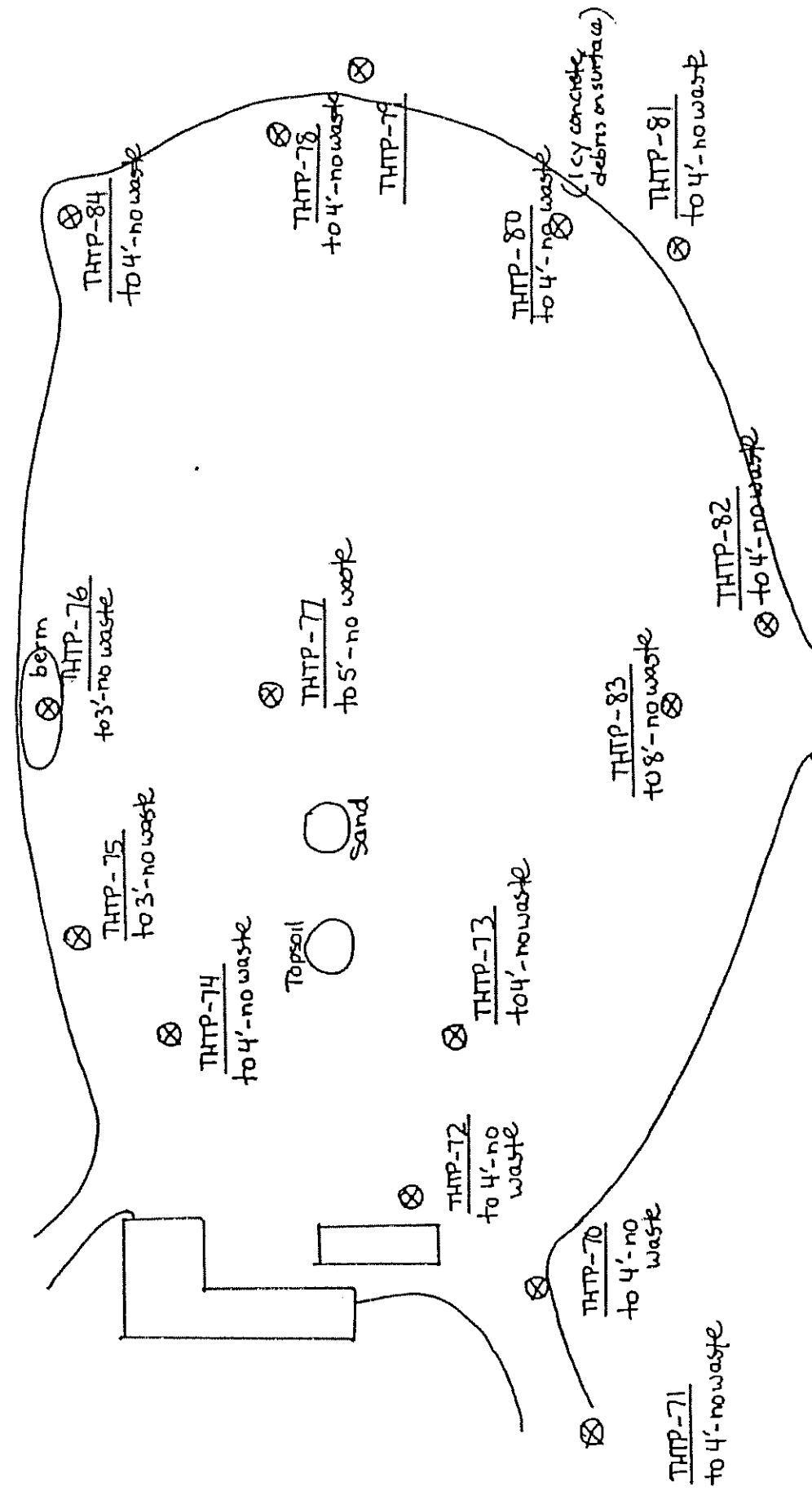
TP8  
soil and  
rock

D=6'  
TP3 hot water tanks,  
metal, boards, motor oil, quart  
containers, hoses, bed  
frames

TP9  
soil and  
rock

TP4 D=6'  
Soil

CONCORD PHASE II  
CASINO DUMP SITE  
Area off of Rock Ridge Drive at Former Casino

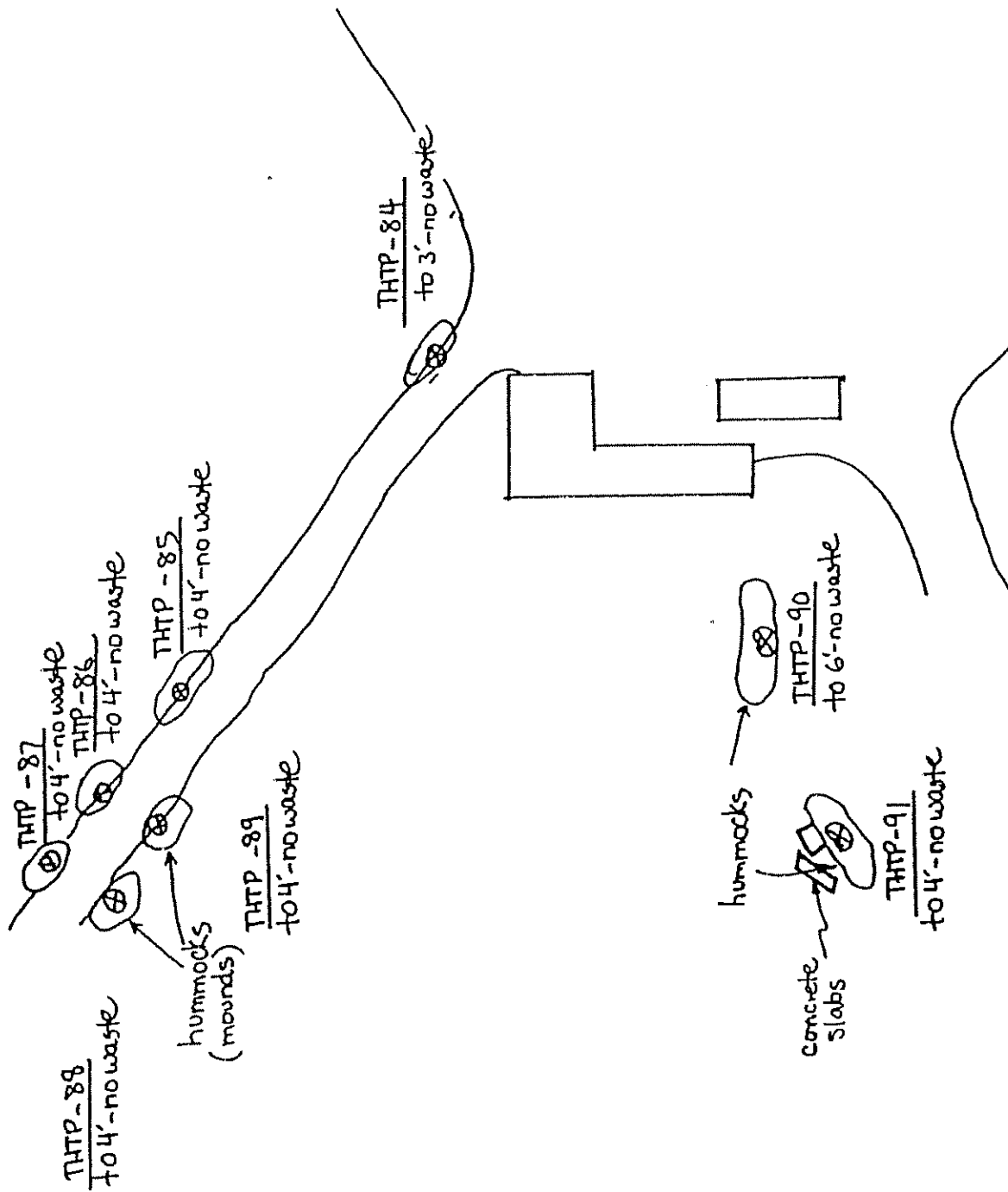


Total Area ~2.25 acres

CONCORD PHASE II  
THOMPSONVILLE ROAD

1" ~ 60'

CONCORD PHASE II  
THOMPSONVILLE ROAD  
Behind Sheds



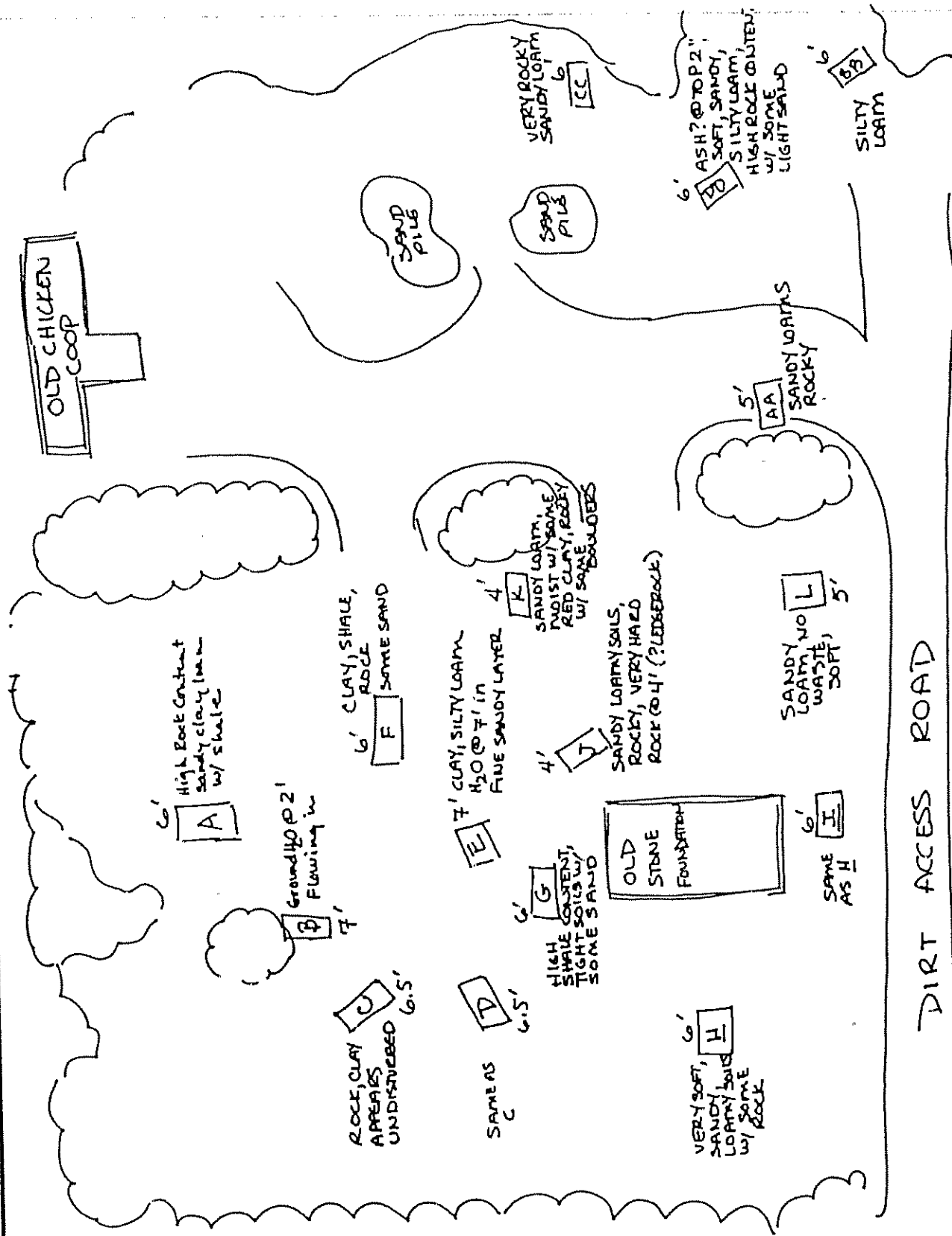
1"~60'

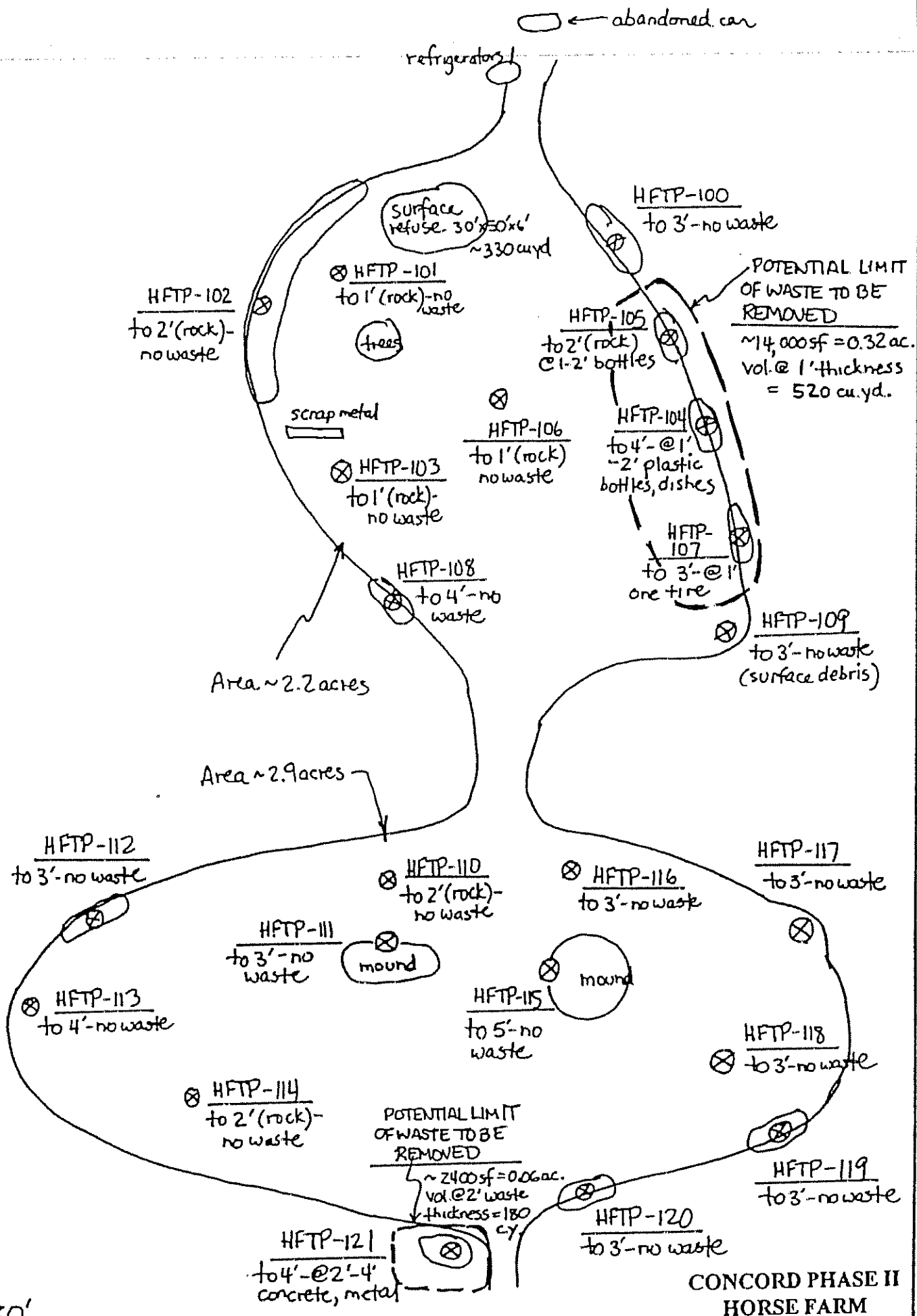


# CONCORD PHASE II THOMPSONVILLE ROAD SITE

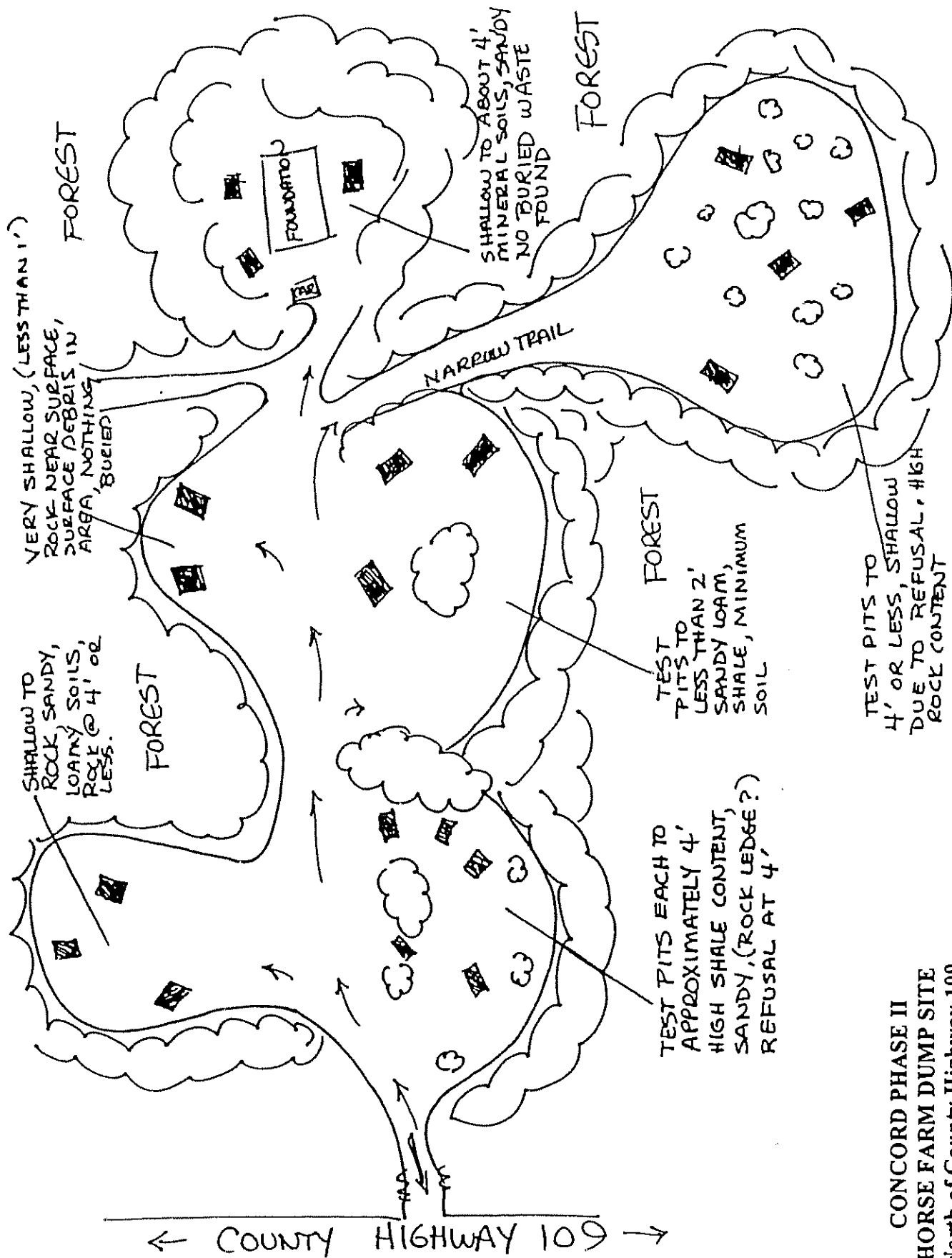
DIRT ACCESS ROAD

← THOMPSONVILLE ROAD →



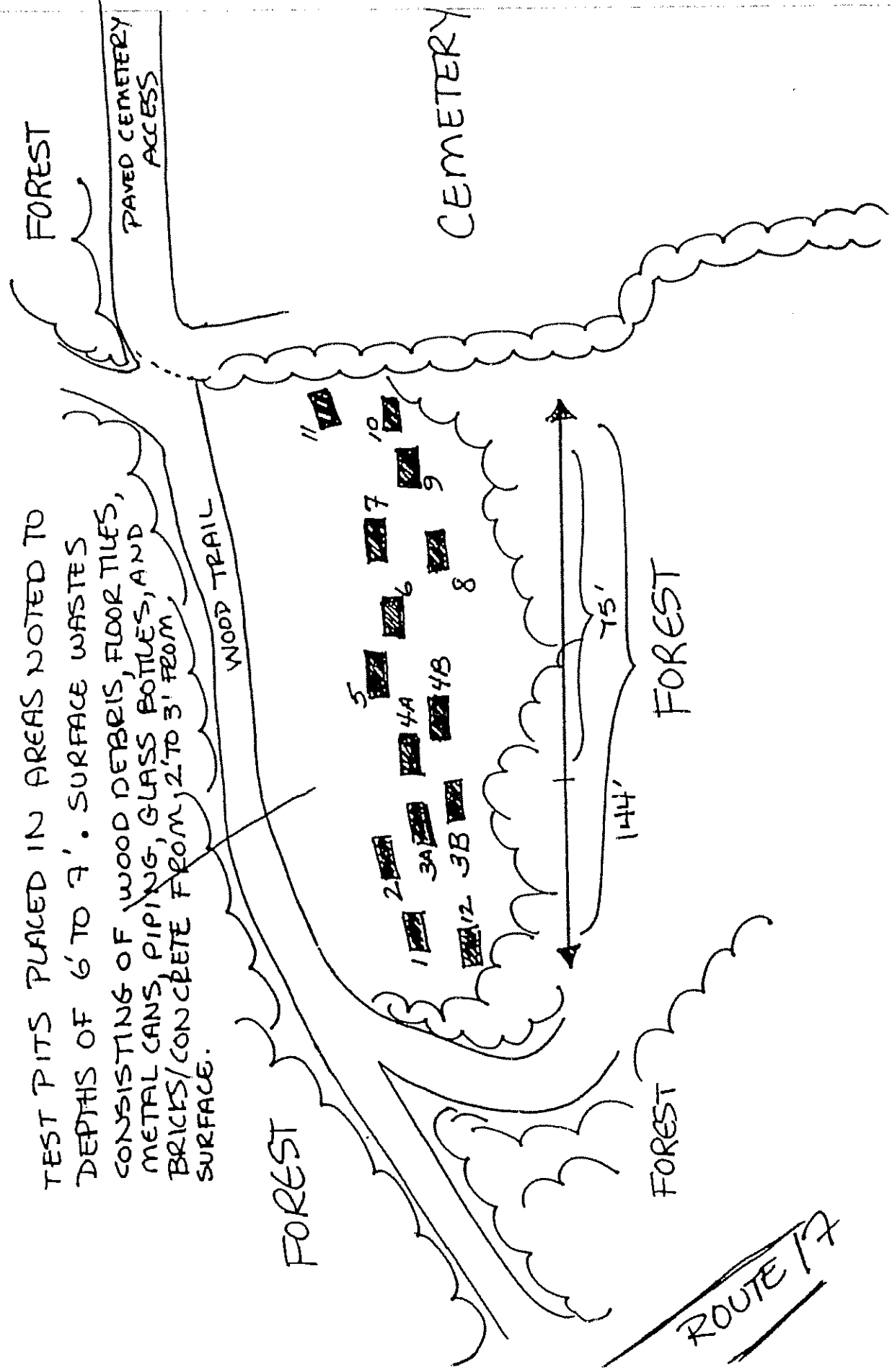


1" ~ 80'



CONCORD PHASE II  
HORSE FARM DUMP SITE  
North of County Highway 109

TEST PITS PLACED IN AREAS NOTED TO DEPTHS OF 6' TO 7'. SURFACE WASTES CONSISTING OF WOOD DEBRIS, FLOOR TILES, METAL CANS, PIPING, GLASS BOTTLES, AND BRICKS/CONCRETE FROM 2' TO 3' FROM SURFACE.



CONCORD PHASE II  
CEMETERY DUMP SITE  
Between Thompsonville Road and NYS Route 17

## Concord Resort Solid Waste Disposal Chart

Landfills	Type of Waste Removed	Amount Cubic Yards	Disposal/Recycling Facility
Horse Farm LF	Misc. Wood Debris, Metal, Tires, Old Cars	20	Thompson Sanitation
Chalet LF	Misc. Wood Debris, Metal, Tires, Drums, Logs & Plastic	*	Thompson Sanitation
Kiamesha LF/Golf Coarse LF	Misc. Wood Debris, Metal, Tires, Logs,	50	Thompson Sanitation & Teplitz Recycling
* Golf Maint. LF	Misc. Wood Debris, Metal, Tires, Old Batteries, Drums, Wood Pallets	*	Thompson Sanitation
Breezy Corners LF	Misc. Wood Debris, Metal, Tires, Furniture, White Goods	60	Teplitz Recycling
✓ Casino LF	Misc. Wood Debris, Metal, Tires, Drums, Logs & Plastic	30	Thompson Sanitation
Chicken Coop LF	Misc. Wood Debris, Metal, Logs Old Machinery Creosote	30	Teplitz Recycling
Gas Station LF	Misc. Wood Debris, Metal, Tires, Drums, Logs, Old Cars & Parts & Plastic	30	Thompson Sanitation
Main Parking Lot LF	Misc. Wood Debris, Metal, Tires, Drums, Logs, Old Cars & Parts & Plastic	60	Thompson Sanitation

• Notes:

1. Misc. wood removed from the landfill area were transported to the Chalet landfill Burn area and burned under the facilities burn permit.
2. Tires removed from various landfill have been stored in the Old Gas Station Building located on Concord Road awaiting disposal.
3. The 5-gallon pails of Creosote removed from the Chicken Coop Landfill area are also stored in Old Gas Station Building located on Concord Road awaiting disposal.
4. The Misc. Debris such as plastic, plastic drums, batteries etc. were all placed in dumpsters located in the maintenance shop area and disposed with the normal maintenance debris.



## **APPENDIX B**

**March 18, 2002 Memo**

**JM ASSOCIATES, Inc.**

• *On-Site Environmental Services* •

225 Railroad Avenue  
Bedford Hills, New York 10507  
(914) 241-3795 TEL  
(914) 241-4499 FAX

March 18, 2002

Mr. Andrew Lent  
Engineering Geologist II  
NYS DEC Region 3  
Division of Solid Waste  
200 White Plains Road, 5<sup>th</sup> Floor  
Tarrytown, NY 10591

RE: The Concord Hotel Resort, Kiamesha Lake, NY  
Summary Report of Site Clean-up Activities

Dear Mr. Lent:

On January 4, 2002, as a representative of the New York State Department of Environmental Conservation (DEC), you and I performed a joint inspection of the several Solid Waste Management Facilities (SWMFs) or landfills at the above-referenced facility. I have submitted periodic reports to the Agency on the progress that has been made by the new owners in the continued effort to voluntarily remediate the on-site landfill areas. The previous facility owners violated the DEC 6NYCRR Part 360 regulations by creating these landfill areas. Substantial progress has been made by the present owners in the cleanup of the landfill areas.

The following is summary of the work performed at each of the landfill areas:

Since the November 8<sup>th</sup> report the following voluntary clean-up work has been performed:

1. Horse Farm Landfill Area: As your inspection revealed all of the solid waste has been removed and properly disposed from this area and "No Further Action is Required." A DEC Construction and Demolition (C&D) Debris Tracking Document (manifest) for the disposal of 20 cubic yards of metal taken to Thompson Sanitation for recycling is on file at the facility.



The waste tires from this area were placed in a dumpster located at the maintenance shop. The wood debris was collected and stacked at The Chalet landfill area where accumulated wood is burned under the facility's a burn permit.

Additional solid waste was discovered across the street, behind, and on the side of the old horse barns. This area was also cleaned and the waste disposed of. Some large steel beams were also discovered in the woods behind the barns. Some of the steel has been reused by the facility and the remaining steel will be reused in the future by the facility.

2. Chalet Landfill Area: Continual cleanup of this area is on going. Logs from this area have been removed and burned under the facility's burn permit. Tires have been removed along with many empty plastic and metal 30 and 55-gallon drums. Removals have been made from the open face of the landfill to remove protruding metal, wood and other solid waste. Additional removals are still required. When all of the surface debris has been satisfactorily removed the area will be capped with two feet of clean soil. Some of the other listed landfill areas, because of their locations, take priority over the final cleanup of this area.

3. Kiamesha Creek Landfill: Substantial cleanup of this area has been performed. All of the metal scattered and dumped in the wooded area has been removed. The old trickling filter bed located south of the landfill area has been removed. The gravel used in the filter is being recycled and used as drainage and roadbed materials throughout the facility. Leaves and brush collected from various areas is brought to an area the near the old trickling filter and either burned under the facility burn permit and or composted to be used as mulch on the property. It is our opinion that "No further Work is Required" in this area.

4. Golf Maintenance Yard Landfill: The surface tires, metal and miscellaneous debris has been removed. Tires have also been removed and disposed from the streambed. The face of the slope still requires some work. This is one of our priority areas and in-house personnel will continue to make removals. The wood pallets will be removed and burned under the facility's burn permit.

5. Main Parking Lot Landfill: Surface clean up of the main parking lot, along with the removal of all solid waste from the streambed, has been performed. The old empty steel tanks located at the southern end of the landfill area have been recently pulled out of the wooded area, cut up and placed in dumpsters for disposal. Some additional

cleanup is still pending on the sloping open face of the northern end of the landfill. This open face will be capped with clean fill and the future plan for this entire area is to be a new parking lot paved with impervious materials.

6. Breezy Corners Cottages: The removal of the solid waste from the abandoned swimming pool has been completed. The pool has been filled in with exempt masonry and clean fill. The surface debris behind the pool in the wooded area has been substantially completed. A small amount of metal still remains to be removed and when removed, "No Further Action will be Required."

7. Casino Dump: The surface debris from the face of the landfill has been substantially completed. The loading of the waste into the dumpster for disposal still remains to be completed. The removal of the solid waste from the abandoned swimming pool still remains to be completed. After the waste has been removed the swimming pool will be filled with exempt masonry and clean soil.

8. Chicken Coop (Thompsonville Road Dump): The clean up of this area is substantially complete. The old chicken coop building has been demolished and removed. The contents of the building have been removed and disposed of. The concrete floor of the old building remains. A few pieces of metal debris still remain behind the old building as well as some miscellaneous debris in the wooded area near the entrance of the landfill area. Wood stumps have been removed and the area is substantially clean. As requested, a test pit will be made in the removed stump area to determine the extent and type of solid waste which was placed in the stump area. The results of the test pit excavation will be reported in a follow-up report.

Previous reports summarize some of the other cleanup work performed on areas where illegal dumping was found on the property.

A site map showing the location of each of the above landfill areas is included as part of this report. A land surveyor prepared a separate detailed map for each of the landfill areas.

In your letter dated January 8, 2002 you requested a summary of any analytical data performed to date. No soil or water sampling has been performed to date. The cleanup work being performed on the various landfill areas has not indicated that any hazardous waste dumping and the drums removed were all empty with no visible signs of staining near the drums. No sampling or testing was required.

During the first and second quarter of this year continual cleanup efforts will be made to complete the minor cleanup work at the Gas Station, Breezy Corners Cottages, Casino and Chicken Coop Landfill areas. It is hopeful that all of these areas will be satisfactorily cleaned and a "No Further Action Required" designation can be made by the Department.

As was indicated to you at your last site inspection the Phase I Environmental Remediation Work for the main complex buildings was started but has been temporarily suspended. The work included in the contract included, but not limited to, the removal of all Asbestos Containing Materials (ACM), the PCB light bulbs and ballasts, the unused cleaning materials classified as hazardous materials from the main complex of buildings. It also includes the removal and disposal of the Underground Storage Tanks (USTs) along with the associated contaminated soil as a result of the leaking USTs from the old gas station site. The completion date of this Phase I Environmental Work has not been finalized but it is hopeful that the work will progress shortly and be completed by the middle of next year.

As you can see from this report and my previous reports, continued progress has been made in the removal of previously environmental violations. The implementation of a Solid Waste Management Plan (which controls the solid waste disposal practices for the facility) the installation of "NO DUMPING" signs and the chaining off of areas to discourage illegal dumping allows us to see progress in the reduction of previous improper waste disposal practices. Our ultimate goal is a facility in full environmental compliance.

As always, please do not hesitate to contact me if you have any questions.

Sincerely,

John Manfredi, C.E.

*Attachments*

cc: L. Cappelli, Cappelli Enterprises, Inc.  
H. Zabatta, Concord Associates LLP  
L. Tallarini, Concord Associates, LLP



## **APPENDIX C**

### **Quality Assurance Project Plan**

# **QUALITY ASSURANCE PROJECT PLAN**

**THE CONCORD HOTEL & RESORT SITE**  
**Concord Road, Kiamesha Lake**  
**Thompson, NY 12751**

**OCTOBER 2004**

**Prepared for:**

**Concord Associates, LP**  
**115 Stevens Ave**  
**Valhalla, NY 10595**

**Prepared By:**

**JM Associates, Inc.**  
**225 Railroad Ave**  
**Bedford Hills, NY 10507**

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## 1.0 INTRODUCTION

JM Associates has prepared a Quality Assurance Project Plan (QAPP) for the Remedial Investigation (RI) and Interim Remedial Measures (IRM) that will be conducted at the Concord Hotel & Resort Site located on Concord Road, Kiamesha Lake, Thompson, New York ("the Site") under the New York State Brownfield Cleanup Program (BCP). The QAPP presents the project description, project organization, data quality objectives, and data management procedures for implementing investigation activities at the site. The QAPP also identifies the specific quality control (QC) checks and quality assurance (QA) auditing processes to be undertaken during field operations at the site.

### 1.1 Project Description and Objective

Site background information is discussed in the RI/IRM Work Plan. The project consists of remediating the site for the development of the site into a hotel/retail space complex. The objective of the IRM activities is to excavate historically leaking underground storage tanks (USTs) at the site and surrounding contaminated soil, to properly dispose of remaining on site chemicals and to complete the removal of asbestos containing material (ACM) in areas of the Main Hotel Complex. The objective of the RI is to determine the extent of the International Golf Course Dump Site, to conduct soil sampling in septic system locations and to determine if on site contamination has impacted Kiamesha Creek and/or groundwater at the site. If groundwater has been impacted, the extent of the contamination will also be determined. Once the RI is complete, remedial alternatives for solid waste disposal and groundwater, if impacted, will be evaluated.

### 1.2 Site Description

The Site is located on Concord Road, Kiamesha Lake, Town of Thompson New York and occupies approximately 378 acres of the total 1,729 acre property. The site consists of three main areas; Zones 1, 2 and 3. Zone 1 consists of areas in the northwestern portion of the property and includes the Main Hotel Complex, the Main Parking Area Dump Site, the Gas Station and the International Golf Club House and Maintenance Building. The total area of Zone 1 is approximately 203 acres. Zone 2 consists of areas in the south/southeastern central portion of the site and includes the Monster Club House, the Chalet House and Chalet Dump Site and the Golf Maintenance Building and Golf Maintenance Dump Site. The total area of Zone 2 is approximately 170 acres. Zone 3 consists of the International Golf Course Dump Site, located in the northern central portion of the site, north of Zone 2. The total area of Zone 3 is approximately 5 acres.

### 1.3 Data Quality Objectives

The data collected during the IRM and RI will be utilized to provide information to satisfy the following Data Quality Objectives (DQO):

- Determine the extent of soil contamination at the site and excavate contaminated areas to levels that are below NYSDEC Recommended Soil Cleanup Objectives

(RSCO) as defined by NYSDEC Technical and Administrative Guidance Memorandum #4046 (TAGM 4046).

- Determine if Kiamesha Creek is being affected.
- Determine the extent of groundwater contamination based on NYSDEC Groundwater Quality Standards as per New York State Codes, Rules and Regulations (NYCRR) Part 703.

DQOs are specified based on the intent of the data use and are defined with respect to the type, number and location of samples that will be collected, and the quality assurance levels associated with the respective analysis. Table 1 summarized specific samples to be collected as part of the RI and IRM.

## **2.0 PROJECT ORGANIZATION**

This section describes the project organization and the project team that has been assigned to complete the RI and IRM. The responsibilities of each of the project positions are outlined below. Multiple project duties may be assigned to one team member.

### **2.1 Environmental Project Manager (Project Manager)**

The Environmental Project Manager (PM) is responsible for the overall technical and logistical aspects of the project and for implementation of the RI/IRM Work Plan. The PM is responsible for assuring that project staff completes their objectives in accordance with the work plan and the project schedule. In addition, the PM is responsible for reviewing and assessing the performance of subcontractors. The PM serves as the main point of contact for the Volunteer's Project Manager and the project team. The PM is responsible for maintaining project files and for project budget and schedule tracking. The PM is also responsible for contact with government agencies. The PM for this project is Mr. John Manfredi, of JM Associates, Inc.

### **2.2 Project Quality Assurance Officer**

The Quality Assurance Officer (QAO) is responsible for conducting periodic field and sampling audits, interfacing with the analytical laboratory to make requests and resolve problems, interfacing with the data validator and for reviewing or developing a project specific data usability summary report (DUSR). The QAO will be responsible for ongoing surveillance of project activities, for ensuring conformance to this Quality Assurance Project Plan (QAPP), and for evaluating the effectiveness of its requirements. The QAO has access to any personnel or subcontractors, as necessary, to resolve technical problems and take corrective action as appropriate and has the authority to recommend that work be stopped when that work appears to jeopardize quality. The QAO will be available to respond to immediate QA/QC problems. The QAO reports directly to the PM. The QAO for this project is John Manfredi of JM Associates.

### **2.3 Health and Safety Officer**

The Health and Safety Officer (HSO) is responsible for implementation of site-specific health and safety requirements and emergency contingency response as presented in the Health and Safety Plan (HASP). They are responsible for hazard communication information, oversight of training employees in safe operating procedures and advising the PM on any matters which involve the health and safety of personnel completing the investigation field work. The HSO for this project is Joe Mazzurco of IMF Safety Services, Inc.

## 2.4 Subcontractors

Several subcontractors will be used throughout the course of the RI and IRM. The subcontractors anticipated to be used are as follows:

Soil Boring Advancement and      General Borings, CT  
Well Installation:

Site Surveying:      York Laboratory, CT  
Laboratory Analysis:

Data Usability Review:      Carole A. Corrado-Tomlins, NY.

## 2.5 Volunteer's Project Manager

The Volunteer's Project Manager will interface directly with the PM to ensure compliance with the Work Plan and overall regulatory compliance. They will inform the PM of the schedule for the overall development project and coordinate with the PM as necessary. The Volunteer's Project Manager is Henry Zabatta of Concord Associates, LP. The Volunteer's Project Manager is ultimately responsible for compliance with the Work Plan and timely completion of work and compliance with submittal requirements.

## 2.6 NYSDEC Project Manager

The NYSDEC Project Manager will interface directly with the Volunteer's Project Manager and the PM. The NYSDEC Project Manager is the central contact for all regulatory agencies involved in the project, including the New York State Department of Health (NYSDOH). The NYSDEC's Project Manager will monitor the project and ensure that it is being implemented to the NYSDEC's satisfaction. All submittals and correspondence from the EPM or the Volunteer's Project Manager will be directed to the NYSDEC Project Manager. The NYSDEC PM for this project is Andrew Lent of the NYSDEC Region 3 Tarrytown office.

### 3.0 QUALITY ASSURANCE OBJECTIVES

The QA objective is to develop and implement procedures for sampling and analytical testing that will provide data of known quality that is consistent with the intended use of the information. This section identifies the objectives by describing the use of the data, specifying the applicable field checks, and defining the acceptable criteria for data quality.

#### 3.1 Data Requirements

The laboratory quantitation limits to be used are in accordance with NYSDEC Analytical Services Protocols (ASP). A list of the compounds being analyzed for and their respective quantitation limits is provided in Table 2. In certain instances, the laboratory cannot achieve the quantitation limits. Often this occurs because there are high concentrations of the target analyte, or an interfering compound are present, necessitating sample dilution, or often, resulting in an interference that requires an elevated quantitation limit. The laboratory indicates these instances with footnotes.

#### 3.2 Level of Quality Control

The field sampling team will use different types of QA/QC samples to ensure and document the integrity of the sampling procedures and laboratory handling procedures. A summary of quality assurance mechanisms is provided in Table 3. The measured data will also be evaluated through a Data Usability Summary Report (DUSR). In order to achieve the project DQOs, specific data quality requirements such as Precision, Accuracy, Representativeness, Completeness, Comparability and Sensitivity are required. These requirements are discussed below.

##### 3.2.1 Precision

Precision is defined as the measure of agreement among repeated measurements of the same property under identical or substantially similar conditions. Sampling precision will be measured by the collection of duplicate samples taken during the sampling to demonstrate reproducible analytical data. Precision is reported as the relative percent difference (RPD) between two samples. The RPD is calculated as follows:

$$RPD = \frac{(x_1 - x_2)}{\left[ \frac{(x_1 + x_2)}{2} \right]} \times 100$$

where:

RPD = relative percent difference

$x_1$  = first sample value

$x_2$  = second sample value (duplicate)

Laboratory duplicates and field duplicates will be used to evaluate precision. The laboratory duplicate RPDs provide an indication of analytical precision while field duplicate RPDs provide an indication of overall field precision. Frequency limits for laboratory precision are included in the associated analytical methods. Field duplicate samples will be collected at a frequency of one per twenty samples collected per matrix. Laboratory precision will be evaluated using Matrix Spike and Matrix Spike Duplicates.

### 3.2.2 Accuracy

Accuracy is defined as a measure of bias or of the overall agreement of a measurement to a known value. The difference is usually expressed as either a percent recovery or as a percent bias. Accuracy includes both precision and recovery and is expressed as percent recovery (% REC). The Matrix Spike (MS) sample is used to determine the percent recovery (% REC) which is calculated as follows:

$$\%REC = \frac{(SSR - SR)}{SA} \times 100$$

where:

SSR = spiked sample results

SR = sample results

SA = amount of spike added

The quality control areas that generate accuracy information include system monitoring (surrogate compound) recovery, matrix spike and matrix spike duplicates and matrix spike blanks and laboratory control samples.

Sampling accuracy is assessed by the use of a field blank. The field blank will help in quantifying the possibility of the introduction of a contaminant by either problems in the collection or handling of the samples. One field blank will be collected per sampling event.

### 3.2.3 Representativeness

Representativeness is the degree to which data accurately and precisely represents selected characteristics of the environmental area from which it was obtained. The representativeness of samples is assured by adherence to sampling procedures described in the RI/IRM Work Plan. The objectives for representativeness are to minimize the effects of bias from improper sampling and handling. Equipment blanks and rinsate blanks will be collected as a measure of representativeness.

### 3.2.4 Completeness

Completeness is a measure of the amount of valid data needed to be obtained from a measurement system as compared to the amount of data expected from the measurement

system. Completeness is defined as the percentage of all results that are not affected by failing QC qualifiers, and should be between 70 and 100% of all analyses performed. Sufficient duplicates and backup samples will be collected to assure a high return of valid data for the samples collected.

The objective of completeness in laboratory reporting is to provide a thorough data support package. The laboratory data package provides documentation of sample analysis and results in the form of summaries, QC data, and raw analytical data. The laboratory will be required to submit data packages that follow NYSDEC ASP reporting format.

### **3.2.5 Comparability**

Comparability is a qualitative term that expresses the measure of confidence that one data set can be compared to another data set from a different phase or program. The methodologies used for the collection and analysis of samples as documented in the QAPP are expected to provide comparable data. Standardized methods of sample collection, holding times and preservation will be used as per NYSDEC ASP protocols.

### **3.2.6 Sensitivity**

The sensitivity objectives for this plan require that data generated by the analytical laboratory achieve quantitation levels low enough to meet the required detection limits specified by NYSDEC ASP and to meet all site-specific standards, criteria and guidance values (SGCs) established for this project. All the appropriate quantitation limits and SGCs are presented in Table 2.

## **3.3 Quality Control Samples**

Quality Control samples are collected to meet the QC objective of providing data of known and acceptable quality. QC check samples to be analyzed and evaluated include field blank samples, spike samples and duplicate samples. QC samples are summarized in Table 3.

## **4.0 SAMPLING PROCEDURES**

Samples will be collected in accordance with the appropriate sampling method. Samples will be collected in the appropriate containers and in accordance with the appropriate preservation, storage and holding times as outlined in Table 4.

### **4.1 Sample Collection**

When collecting samples, a new jar will be used for each sample. Disposable sampling equipment will be used for each sample or equipment will be decontaminated between sampling locations. Each sample will be collected in the appropriate sample jar as provided by the laboratory. Containers will be inspected prior to use to ensure their integrity. When using instruments to measure field parameters, the meter will be calibrated each day prior to use. Proper personal protective equipment (PPE) will be used for sampling. Gloves used for sample collection will be disposable and a new pair used for collection of each sample.

### **4.2 Sample Custody**

Proper chain-of-custody procedures will be followed. Custody procedures involve proper sample identification, chain-of-custody forms, proper sample storage, and proper packaging and shipping procedures.

Sample containers will be labeled with the following information:

1. Project name and address
2. Sample identification (sample number and ID)
3. Name of person collecting sample
4. Date and time of collection
5. Preservation, if applicable
6. Type of sample and analyses to be performed
7. Initials of sampler, or signature

At the time of sampling, the person sampling will properly fill out the chain-of-custody form. Once sampling is complete, the sampler will properly package the samples for shipping, or deliver the samples directly to the laboratory. In either case, all samples will be received by the laboratory within 24 hours of sample collection. Laboratory personnel will then assume custody of the samples.

Once the laboratory assumes custody of the samples, they will be checked for label identification and accuracy of chain-of-custody forms. The laboratory is NYSDOH-certified and will follow proper sample custody procedures.



### 4.3 Equipment Decontamination

Before sampling activities begin, a decontamination area will be established, if necessary. If dedicated, disposable sampling equipment is used, a decontamination area will not be necessary. If decontamination is necessary, sampling equipment will be decontaminated by a wash and scrub with low phosphate detergent, a tap water rinse followed by a thorough rinse with de-ionized water, and then allowed to air dry. Disposable equipment, including PPE, will be collected in plastic bags and placed in a designated storage area in preparation for proper disposal.

### 4.4 Documentation

Field personnel will document all necessary information in field notebooks. The date and time of field activities will be clearly marked and observations as to the activities performed that day will be made. Each entry will be signed and dated by the person making the entry. Information to be documented at the time of sampling includes:

- Name of project and site address
- Date and time
- Weather
- Name and contact information of sampler
- Names of other personnel on site
- Sample ID and sample matrix
- Sample location (mark on site map with proper sample ID)
- Type of sample (composite, grab, duplicate, blank)
- Depth of sample
- Field observations
- Field measurements
- Purge information (for groundwater sampling)
- Calibration of field instrumentation
- Method of sample shipping or delivery
- Circumstances or observations pertinent to the sampling

### 4.5 Calibration

Calibration procedures performed by the laboratory will be in accordance with the particular sampling method being performed and in accordance with standard laboratory procedures. Field calibration will be performed each day in the field in accordance with the manufacturer's instructions regarding the specific field instrument being used. Calibration information will be documented in the field notebook at the time of calibration. Information to be documented includes the calibrator's name, the standards used for calibration and the source of the standard (manufacturer's instructions), the date and time of calibration, the name of the instrument and model number, and any corrective actions taken.

## 5.0 ANALYTICAL PROCEDURES

Analytical procedures to be used are from the United States Environmental Protection Agency's SW-846 Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods. The Specific methods to be used are outlined in Table 1.

## **6.0 DATA REDUCTION, REVIEW AND REPORTING**

The process of data reduction, review and reporting ensures that the final data accurately reflects site conditions. Data reduction performed by the laboratory will adhere to ASP data reduction procedures. The laboratory to be used for this project is York Laboratories of Stratford, CT. The qualifications of York Laboratory are attached as Appendix A. All data is reviewed prior to use in the reports. Field data is reviewed to ensure accuracy of sampling procedures including sample collection, instrument calibration, and proper chain-of-custody procedures. Sampling is also reviewed to ensure that proper QC samples were collected at the proper frequency. Laboratory data is reviewed by the lab to ensure compliance with sampling protocol including proper holding times, sample preservation, proper detection limits, etc.

Reporting in the field is completed in bound field notebooks. Laboratory reports will conform to NYSDEC ASP Category A data deliverable packages. A Data Usability Summary Report (DUSR) will be prepared in accordance with NYSDEC "Guidance for Developing a Data Usability Summary Report". The DUSR will be prepared by a qualified third party and will be submitted with the final report. The DUSR will determine whether the final results can be used as reported, with limitations or cannot be used at all.

The DUSR will be prepared by Carole A. Corrado-Tomlins of The Data Quality Indicator & Associates, Inc. Ms. Corrado-Tomlins' resume is attached as Appendix B.

## **7.0 INTERNAL QUALITY CONTROL**

Internal quality control procedures detect potential problems at the source and, if necessary, trace the pathways to identify potential locations for introduction of contamination. QC checks are used to monitor project activities to determine whether QA objectives are being met.

### **7.1 Laboratory Quality Control**

All analytical procedures and QA/QC protocols will be followed as per EPA methods and the Laboratory's Internal Procedures. The QC criteria are specific to each approved analytical methods and will be followed accordingly.

### **7.2 Field Quality Control**

Field QC procedures monitor the data quality as it is affected by field procedures. Field QC samples consist of blanks and duplicates. The sample types and frequency are summarized below.

#### **7.2.1 Trip Blank**

A trip blank consists of reagent water prepared by the laboratory and sealed in the appropriate sampling container. Trip blanks are placed in the sample cooler prior to sample collection and remain unopened until the samples are returned to the laboratory for analysis. This sample focuses on external sources of contamination and sampling container quality. For each trip to the laboratory, one trip blank will be completed. Trip blanks will be included as part of each sampling event for VOCs and will be analyzed on an as needed basis.

#### **7.2.2 Rinsate Blank (Equipment Blank)**

Rinsate blanks, or equipment blanks, may be collected for each type of equipment used each day a decontamination event is carried out. The rinsate blank is collected by pouring de-ionized water over the decontaminated sampling equipment to determine the possibility of cross-contaminations. Rinsate blanks will be collected when decontamination occurs and will be analyzed on an as needed basis.

#### **7.2.3 Field Blank**

Some of the required blanks will consist of routine field blanks, which are collected by pouring the de-ionized water directly from the source into the sample container.

#### **7.2.4 Temperature Blank**

Each cooler will contain a temperature blank, which the laboratory will use to confirm that the samples are chilled to 4°C. Temperature blanks will be included with each cooler of samples chipped or delivered to the laboratory.

#### **7.2.5 Duplicates**

Blind duplicates are grab samples collected to monitor overall precision. One duplicate will be collected and submitted per twenty (20) samples collected, or one (1) sample per sampling event, whichever is greater.

### **7.3 Data Assessment Procedures**

The field and laboratory data will be assessed for precision, accuracy, representativeness, comparability and completeness using the field and lab QC samples.

## **8.0 PERFORMANCE AND SYSTEM AUDITS**

Performance and system audits will be performed on a periodic basis to ensure that the field activities are implemented in accordance with the approved RI/IRM Work Plan and in accordance with good work practices.

Internal laboratory audits are carried out periodically. Results of internal audits will be reviewed by the QAO. The laboratory is also audited as part of the various certification programs in which it participates. The laboratory will maintain proper certifications for all sub-categories of solid and hazardous waste.

Field audits are conducted periodically by the PM. The PM monitors subcontractors and field personnel to ensure appropriate procedures are being utilized.

## **9.0 PREVENTATIVE MAINTENANCE**

J.M. Associates personnel will check all field equipment to make sure that it is in good working order prior to field sampling activities (cleaned, charged, calibrated correctly). The calibration and documentation procedures discussed in previous sections will also be followed. The maintenance of equipment is tracked and routine maintenance procedures are followed. J.M. Associates will ensure that subcontractors inspect their equipment and ensure it is in proper working order.

## **10.0 CORRECTIVE ACTION**

The QA/QC program enables problems with the data or field procedures to be identified, controlled, and corrected. Any person identifying an unacceptable condition will bring the problem to the attention of the QAO and PM. The occurrence will be documented in the field log as well as any corrective action taken.

Deviations or problems identified by the laboratory will be documented in the data package. Corrective action may be taken and will also be documented. Corrective actions may include re-sampling, reanalysis of samples, or modifying the project procedures.



## **11.0 QA/QC REPORTS**

Communication is an important aspect of a QA/QC Program and is integral to implementation of this QAPP. Reports will be prepared as needed by the QAO for submittal to the PM and the Volunteer's Project Manager. These reports will include a periodic assessment of the precision, accuracy and completeness of the sampling, results of audits, corrective actions taken, QA/QC problems noted and resolutions to problems encountered and recommendations to outstanding issues.

Laboratory noncompliance reports will be filed with the laboratory project manager. The reports will include accuracy and precision data, quality problems and the status of corrective actions implemented. QA/QC problems encountered will be discussed between laboratory management and QA personnel and appropriate corrective action measures will be implemented.

**Table 1**  
**Data Quality Objectives**  
**Samples to be Collected**

Media	Location	Type	Frequency	Analysis	Analytical Method	Other sampling	Objective
Soil	Sidewall of excavation	Composite	1 per 30 linear feet	VOCs	EPA 8021	PID, visual inspection	To confirm excavation of petroleum contaminated soil associated with USTs
	Bottom of excavation	Composite	1 per 900 square feet	SVOCs	EPA 8270	PID, visual inspection	To confirm excavation of petroleum contaminated soil associated with USTs
				VOCs	EPA 8021		
				SVOCs	EPA 8270	PID, visual inspection	To determine if contamination exists in septic fields
				VOCs	EPA 8021		
Soil	Septic Fields	Composite	3 samples	SVOCs	EPA 8270	PID, visual inspection	To determine if contamination exists in septic fields
Surface Water	Kiamasha Creek	Grab	4 samples	VOCs	EPA 8021		To determine if the Creek has been impacted by septic discharge or solid waste disposal
				SVOCs	EPA 8270		
				Metals	EPA 6010		
Sediment	Kiamasha Creek	Grab	At least 6	VOCs	EPA 8021		To determine if the Creek has been impacted by septic discharge or solid waste disposal
				SVOCs	EPA 8270		
				Metals	EPA 6010		
Groundwater	Throughout Site	Grab		VOCs	EPA 8021		To determine extent of groundwater contamination
				SVOCs	EPA 8270		
				Metals (selected samples)	EPA 6010		

**Table 2**  
**Quantitation Limits and SCGs**

Parameter	Soil Quantitation Limit ppb	Groundwater Quantitation Limit ppb	SCGs* Soil (ppm) / Groundwater (ppb)
1,2,4-Trimethylbenzene	5	1	10 / 5
1,3,5-Trimethylbenzene	5	1	3.3 / 5
Benzene	5	1	0.06 / 1
Ethylbenzene	5	1	5.5 / 5
Isopropylbenzene	5	1	2.3 / 5
Naphthalene	5	1	13 / 10
n-Butylbenzene	5	1	10 / 5
n-Propylbenzene	5	1	3.7 / 5
o-Xylene	10	2	2.3 / 5
p & m Xylenes	10	2	2.3 / 5
p-Isopropyltoluene	5	1	10 / 5
sec-Butylbenzene	5	1	10 / 5
tert-Butylbenzene	5	1	10 / 5
Toluene	5	1	1.2 / 5
Total Xylenes	10	2	2.3 / 5
Acenaphthene	330	1	50 / 20
Anthracene	330	1	50 / 50
Benzo(a)anthracene	330	1	0.224 / 0.002
Benzo(a)pyrene	330	1	0.061 / ND
Benzo(b)fluoranthene	330	1	0.220 / 0.002
Benzo(g,h,i)perylene	330	1	50 / --
Benzo(k)fluoranthrene	330	1	0.220 / 0.002
Chrysene	330	1	0.4 / 0.002
Dibenz(a,h)anthracene	330	1	0.0143 / --

Fluoranthene	330	1	50 / 50
Fluorene	330	1	50 / 50
Indeno(1,2,3-cd)pyrene	330	1	3.2 / 0.002
Naphthalene	330	1	13 / 10
Phenanthrene	330	1	50 / 50
Pyrene	330	1	50 / 50

\*SCGs for soil are in accordance with NYSDEC TAGM 4046 and for groundwater are in accordance with NYCRR Part 703

**Table 3**  
**Quality Control Samples**

Media	Field QC Sample				Laboratory QC Samples		
	Field Duplicate	Field Blank	Trip Blank	Rinsate Blank	Reagent Blank	Matrix Spike	Matrix Spike Duplicate
Soil/Sediment	5% (1 per 20 samples)	5% (1 per 20 samples)	1/day or shipment (whichever greater)	As necessary	1 per analysis batch	1 per analysis batch	5% or 1 per analysis batch
Groundwater/Surface Water	5% (1 per 20 samples)	5% (1 per 20 samples)	1/day or shipment (whichever greater)	As necessary	1 per analysis batch	1 per analysis batch	5% or 1 per analysis batch

**Table 4**  
**Sample Preservation, Storage and Holding Times**

Media	Parameter	Container	Preservative	Maximum Holding Time
Soil/Sediment	VOCs	Glass, Teflon lined septum cap	4 deg C	7 days
	SVOCs	4 oz glass jar with Teflon lined cap	4 deg C	10 days after VTSR to extraction; 40 days for analysis
Groundwater/Surface Water	VOCs	(2) 40 ml vials with teflon lined septum cap	4 deg C	7 days
	SVOCs	1-liter glass amber jar with Teflon lined cap	4 deg C	5 days after VTSR to extraction; 40 days for analysis

## **APPENDIX A**

### **York Laboratory Qualifications**

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**YORK**  
ANALYTICAL LABORATORIES, INC.

**YORK**  
ANALYTICAL LABORATORIES, INC.  
~~XX~~

***Statement  
of  
Qualifications***



# ***I. Introduction***

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**YORK**  
ANALYTICAL LABORATORIES, INC.

# I. Introduction

*York's charter is to provide superior service for a wide range of analysis needs to consulting engineers, industry and government, in support of regulated activities under the applicable environmental regulations*



York Analytical Laboratories, Inc. is a full service independent analytical laboratory providing analyses of water, wastewater, soil, solid waste, hazardous waste and air in support of environmental needs.

## A. Background of the Firm

York Analytical Laboratories, Inc. (YORK), is an independent, privately owned analytical laboratory. Our charter is to provide superior service for a wide range of analysis needs in support of regulated activities under the applicable environmental regulations including Underground Storage Tank programs, Resource Conservation and Recovery Act, The Clean Water Act, CERCLA/SARA, TSCA, Clean Air Act, and specific Land Transfer requirements (ECRA, Super Lien, etc.). As one of the pioneers in the air pollution measurement field, our former sister company, York Services Corporation (YSC) was one of the first full service air quality firms in the country. During the late 1960's and early 1970's YSC developed numerous methodologies for the sampling and analysis of air and emissions from a number of different industrial sources. Additionally, we were one of first commercial laboratories to be involved in groundwater, solid waste, hazardous waste, soils, and air. These environmental laboratory analysis operations, which were an outgrowth of our air quality monitoring studies, were incorporated as York Analytical Laboratories, Inc. in 1990.

## B. Staffing and Facilities

York's key management personnel each have over twenty years of experience in environmental analysis. This extensive experience includes all aspects of sampling and analysis. All of our staff have earned graduate and/or undergraduate degrees in various related disciplines including chemistry, biology, engineering and environmental sciences. This team of experienced professionals is equipped with the multi-disciplinary expertise, to provide a high level of support to our clients. Our staff provides technical support to assist clients with Quality Assurance Project Plans, definition of proper methodologies and data quality objectives, and data interpretation. These value-added services are a point of differentiation from other analytical laboratories, we routinely offer as an investment in our client relationships.

Our new Stratford, Connecticut laboratory and offices, includes 8,500 sq. ft. of working laboratory area with an additional 3,500 sq. ft. available for future expansion. The laboratory facilities are equipped with modern state-of-the-art instrumentation and equipment to address the analysis of all environmental matrices. Our laboratory facility is designed to reduce the potential for cross contamination. Separate laboratory environments are provided for volatiles, sample preparation, and sample control to minimize cross-contamination potential. The instrumentation laboratories are segregated by discipline (organics analysis, sample preparation, wet chemistry and atomic spectroscopy)

**YORK**

*York's expert staff provides technical support to assist our clients with Quality Assurance Project Plans, definition of proper methodologies and data quality objectives, and data interpretation. These value-added services are a point of differentiation, from other laboratories, that we routinely offer as an investment in our relationships with our clients.*

and are provided with separate recirculating air conditioning systems to reduce cross-contamination from common laboratory solvents (methylene chloride, acetone, hexane and toluene) used in sample extractions. The laboratory maintains comprehensive licenses in various states including New York, Connecticut, New Jersey, Pennsylvania and Rhode Island.

### **C. Services**

York provides analysis for all environmental matrices in support of the environmental regulations under the following guidelines or regulations:

- Resource Conservation and Recovery Act (RCRA)
- Clean Water Act (CWA)
- CERCLA/SARA (Superfund)
- Clean Air Act (CAA)
- OSHA/NIOSH
- Land Transfer Regulations
- NYSDEC STARS/UST and T.A.G.M. programs

Key instrumentation and equipment in support of the methods to address analyses for these regulations include:

- Gas Chromatography/Mass Spectrometry
- Gas Chromatography
- Furnace and Flame Atomic Absorption
- Inductively Coupled Plasma
- Infrared Spectrophotometry
- Ion Chromatography
- Full wet chemistry and microbiology laboratories

The foundation for the quality of information and data generated by our laboratory is the company's Quality Assurance Program which is implemented through comprehensive Standard Operating Procedures. These procedures ensure that the client's data quality objectives are both fully understood and delivered, on a timely basis.

#### ***Data Validation and Technical Support Services***

York, also provides independent data validation and technical support services. These services which are independent from York's traditional laboratory services focus on performing professional services in the areas of analytical data validation and review and interpretation of analytical data related to environmental investigations (i.e. Site and/or Remedial investigations).

*We define service as "providing quality data within the time frame committed with superior technical support at a fair price."*

Data validation and QA/QC issues associated with technical support are performed by highly qualified personnel certified by the USEPA for data validation. Additionally, members of our staff have had experience in both laboratory analysis and field sampling which provides in depth understanding of work plan development including:

- Analytical requirements
- Project Specific data quality objectives
- State and Federal Data Validation Guidelines

### **D. Key Clients**

York serves engineering consulting firms, major municipalities, utilities and industry, without geographical limitations, including:

#### **Consulting Engineers/Remediation Firms**

- IT Corporation/PMS Construction/NYCDDC
- Lro-Kassner/NYCDDC
- Eder Associates/Gannett-Fleming
- Clean Harbors
- Lehrer, McGovern, Bovis
- Malcolm Pirnie, Inc.
- Metcalf & Eddy, Inc.
- Ira D. Conklin
- Fleet Environmental
- Roy F. Weston
- Lenard Engineering
- Leggette Brashears and Graham
- Conestoga-Rovers
- Handex Environmental
- Fanning Phillips & Molnar
- TRC Environmental
- Waste Management

#### **Municipalities**

- New York City Department of Environmental Protection
- Connecticut Department of Environmental Protection
- Connecticut Department of Transportation
- Hartford Metropolitan District, Connecticut
- New York City Department of Design and Construction

**YORK**

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### **Utilities**

- Central Hudson Gas and Electric Company
- Consolidated Edison, New York
- Niagra Mohawk Power Corporation, New York

### **Industry**

- Connecticut-American Water Company
- Clairol, Inc.
- Cytec, Inc.
- Crompton Manufacturing Corp. (Uniroyal Chemical)
- General Motors
- IBM
- Metro- North Railroad
- Long Island Railroad

### ***E. Summary***

**W**e pride ourselves on our level of service to our client. We define service as "providing quality data within the time frame committed with superior technical support at a fair price."

The balance of this document provides brief insight into our ability to provide superior service by describing our capabilities, specific project experience, staff equipment and quality assurance practices.

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## ***II. Services, Facilities and Experience***

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**YORK**  
ANALYTICAL LABORATORIES, INC.

## **II. Services, Facilities and Experience**

*With over 30 years of dedicated service to the environmental consulting industry, YAL can provide unparalleled experience to meet your analytical needs.*

York Analytical Laboratories, Inc. (YORK), is an independent, privately owned analytical laboratory which provides superior service for a wide range of analysis needs in support of regulated activities under the applicable environmental regulations.

### **A. Services**

York's combination of extensive experience and modern instrumentation provides the ability to support a wide range of analyses. Our in-house capabilities address all the analyses in support of programs under the following guidelines or regulations:

- Resource Conservation and Recovery Act
- Clean Water Act
- CERCLA/SARA (Superfund)
- Clean Air Act
- OSHA/NIOSH
- Land Transfer Regulations
- NYSDEC STARS/UST/TAGM programs

#### **1. Resource Conservation and Recovery Act (RCRA)**

York provides analysis of groundwater, soils, solid waste and hazardous waste and air in support of RCRA requirements. These analyses most often include determination of potential contaminants in the categories of target volatile organics, semi-volatile (Base/Neutral/Acid extractable) organics, pesticides, PCBs, herbicides, metals, cyanide, sulfide, ignitability, corrosivity, reactivity, and total petroleum hydrocarbons.

Analyses are conducted in accordance with EPA mandated procedures described in the methods manual designated as "SW-846." York maintains these procedures on our computer database through ChemSoft, Inc. Who provides automatic updating of methods as changes are released by EPA.

The analytical methods most commonly employed in our laboratory include direct analysis of the sample or TCLP extraction followed by methods 601/602, 8021 or 8260 for volatiles using Gas Chromatography and Gas Chromatography/Mass Spectrometry (GC/MS); methods 625 or 8270 for base/neutral/acid extractables (GC/MS); methods 8081 and 8082 for pesticides/PCB (GC); method 8151 for herbicides (GC) and the 6000 and 7000 series for metals (ICP and/or Furnace/Flame Atomic Absorption).

## **2. Clean Water Act (CWA)**

Under the CWA York provides analyses supporting the effluent guidelines of the National Pollutant Discharge Elimination System (NPDES or SPDES) and the Safe Drinking Water Act (SDWA). Analyses offered include Volatiles, BNAs, Pesticides, PCBs, Trace Metals and conventional parameters such as BOD<sub>5</sub>, COD and other wet chemistry parameters. Analyses are performed in accordance with the EPA methods described in the Federal Register (EPA 600 Series, 500 series and others) and Standard Methods for the Examination of Water and Wastewater, 19th edition.

Under the NPDES programs (40 CFR122), Volatiles are determined by GC/MS according to EPA method 624; BNAs are determined by GC/MS using method 625, Pesticides/PCBs are determined by method 608, and other parameters are determined in accordance with the EPA Chemical Analysis of Water and Wastes or Standard Methods.

For SDWA support, York provides routine analyses of water quality parameters including microbiological analyses (coliforms), Certificate of Occupancy parameters and determination of other regulated parameters in accordance with the EPA methodologies.

## **3. CERCLA/SARA (Superfund)**

York can provide analysis in support of projects under these programs. We are fully versed with current EPA Contract Laboratory Program protocols for organics and inorganics. We are staffed to provide the hard copy deliverables on an as-required basis for the Target Compound List (TCL) and Target Analyte List (TAL) organics and inorganics respectively.

## **4. Clean Air Act (CAA)**

York's long history of providing air quality monitoring services allows us to offer a significant expertise in this area. Analysis in support of the CAA and ambient air monitoring programs include full capabilities for sampling and analysis for:

- Velocity, moisture, particulates, CO, CO<sub>2</sub>, Sox, Nox, volatile organics, semivolatiles, heavy metals, total hydrocarbons and HCL using EPA Methods 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 (and related continuous emissions monitoring methods) 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23 (sampling), 24, 25, 25A, 26 & 29
- Sampling and analysis for organics and inorganics in support of BIF regulations for the burning of hazardous wastes in industrial furnaces and boilers



- Sampling and analysis of ambient and process air for organics using VOST sampling methodology with GC/MS analysis
- Sampling and analysis for ambient air target and non-target volatile organics utilizing EPA Methods TO-14A and TO-15 SUMMA passivated canisters with analysis by GC/MS techniques
- Odor studies utilizing multi-disciplinary approaches

In addition to regulated airborne contaminants, York also provides the following services:

- Odor identification using GC/MS techniques
- Indoor Air Quality studies in commercial and residential facilities

An area of specialization at York involves characterization and quantitation of target and non-target volatile organics employing SUMMA passivated canisters using critical orifice sampling techniques. York can provide sampling of ambient air for parts per trillion levels of volatiles using GC/MS/SIM techniques. In addition, for ambient air, York can provide volatiles determination in land-fill gas, geoprobe samples, and process gas for volatile constituents.

## **5. OSHA/NIOSH**

York provides sampling and analysis for workplace atmospheres for most common organics and inorganics used in industrial environments. Sampling is conducted routinely using personal sampling pumps and analysis of sampling media using gravimetric, GC, AA and spectrophotometric techniques with NIOSH methods.

## **6. Land Transfer Regulations**

York provides full analytical support to meet our client's needs for the various state regulations governing commercial land transfers such as Super Lien (CT), and ECRA (NJ), etc. Analysis of groundwater, soil, building materials, storage tanks (USTs and ASTs) and air are performed in accordance with EPA SW-846 protocols where applicable. Typical analyses provided include Volatiles, PCB, Metals, and TPH can be customized to meet the history of a particular site as determined by Phase I investigations.

York is thoroughly versed in the data deliverable requirements for the various states under their particular programs.

## **7. NYSDEC STARS/SPOTS Program**

York has extensive experience with the NYSDEC Petroleum Contamination Guidance Documents known as the STARS Memorandum and SPOTS Memorandum. York routinely conducts analyses to determine whether groundwater or soil under these guidance documents are hazardous and/or petroleum contaminated. York applies state-of-the-art GC/MS instrumentation to achieve the lower detection limit required for the target compounds listed in these memoranda. York also provides related data packages for NYSDEC ASP A and ASP B formats to support these data.

### **B. Facilities**

York is a full service laboratory, located at 120 Research Drive, Stratford, CT. This highly accessible location is within a two hour drive from most points of service to effectively service our clients in the northern New Jersey, New York, Connecticut, Massachusetts and Rhode Island areas.

York maintains a 12,000 sq. ft. Office and laboratory facility at its Stratford, CT location. Of this total, 8,500 sq. ft. is dedicated to laboratory activities. The layout of the laboratory is shown at the end of this Section as Figure 2.1. Separate recirculating air conditioning systems are in place in the various laboratories to minimize cross-contamination between the various analysis disciplines.

York also maintains its own machine shop for various applications and to expedite fabrication of specialized sampling equipment.

#### **1. Analytical Equipment**

York maintains all of the analytical instrumentation and support equipment to provide analysis in support of our client's needs. A substantial inventory of stock chemicals, gases, commercially purchased standards, glassware and the like is also available.

York utilizes a Windows 2000 Server network with a Microsoft SQL Server 7.0-based Laboratory Information Management System (LIMS) to provide for sample log-in, sample tracking, data and results entry, and final laboratory report generation.

Our instrumentation laboratories are equipped with state-of-the-art analysis systems including the most prominent equipment as follows:

- Gas Chromatography/Mass Spectrometry/Data Systems  
Hewlett Packard 5790, 5971, 5972 Systems-Windows Chemstations
- Gas Chromatographs  
Hewlett Packard 5890-Chemstation Systems  
Perkin Elmer Auto System GC with TURBOCHROM
- Atomic Absorption Spectrophotometers  
Perkin Elmer 1100, 4100ZL Systems
- Inductively Coupled Plasma Spectrometers  
Perkin Elmer Optima 3000XL (Axial)
- Ion Chromatograph  
Dionex 120 with AS40 autosampler
- Infrared Spectrophotometer
- Total Organic Carbon Analyzer
- Computerized gas mass flow controller dilution systems

In addition to instrumentation, our laboratories maintain numerous ancillary sample preparation equipment including TCLP extraction systems, including zero-head space extractors, fume hoods and analytical balances. Table 2.1 at the end of this Section contains a detailed listing of instrumentation and ancillary equipment.

## 2. Certifications/Licenses

York is currently certified to perform analyses in support of environmental programs in the following states:

- State of Connecticut License No. PH-0723
- State of New York NELAP/ELAP No. 10854
- State of New Jersey No. CT-401
- State of Rhode Island No. 93
- State of Pennsylvania No. 68-3123

Also, by virtue of the January 24, 2001 initiation of the NELAP (National Environmental Laboratory Approval Program), York is also reciprocally licensed in 8 other NELAC accrediting authority states (CA, FL, NH, IL, KS, LA, OR, UT).

Our licenses support analysis of air, water, wastewater, and solid and hazardous waste for:

- Volatiles
- Semi-volatiles (BNA)
- Pesticides/PCBs/Herbicides
- Metals
- Conventional parameters (including Biological)

**YORK**



### 3. Quality Assurance Program

York provides analytical laboratory services that conform to the needs of our clients and satisfies regulatory requirements.

To meet this standard of service, York has developed a Quality Assurance Program which defines our day to day operations in the Laboratory through the execution of comprehensive Standard Operating Procedures. This program is fully documented, endorsed by company management, and available for review.

Analytical data is used for many purposes including: compliance with regulatory requirements, determination of the presence, concentration and movement of potentially hazardous materials in the environment, potential effects on determination of protection required for individuals, and possible actions necessary for the disposal or treatment of hazardous materials. In all cases, data for any application must be of known quality.

It is the purpose of the York Quality Assurance Program to provide data of known quality which conforms to the requirements of specific protocols. To achieve this objective, a QA program is in place which controls procedures for:

- Preservation of samples
- Receipt and handling of samples
- Preparation and analysis of samples
- Analytical equipment maintenance
- Data rejection/acceptance/verification
- Data reporting

The broad objectives of the York QA Program are achieved by implementation of the following key program elements:

1. Maintain an effective, ongoing quality control program which measures and verifies laboratory performance
2. Meet data requirements for accuracy, precision, recovery and completeness through strict adherence to SOPs which reflect approved methodologies.
3. Recognize and provide corrective actions for any factor that affect data quality.
4. Maintain complete records of sample submittal, client communications, laboratory performance, and completed analyses and support data to provide data quality verification.

The specific related actions are detailed in the York QA Manual and related Standard Operating Procedures.

Other related Quality Assurance practices at York include participation in various state laboratory performance evaluation sample analyses and site inspections, various client site inspections, the use of external controls where available, and participation in the EPA WP and WS performance evaluation audits.

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## C. Experience

As stated previously, York has had significant experience in all aspects of environmental analysis. Our experience has developed a successful client mix comprised of industry, remediation firms, consulting engineers, and governmental agencies.

Listed below is a cross section of our client base, noting some recent projects, which illustrates our capabilities to handle multi-discipline projects dealing with simple to complex matrices.

1. **Metro North Commuter Railroad** - Full analytical support for SPDES permits, groundwater remediation systems, RIFS programs, and emergency response support.
2. **Marin Environmental** - Full support analyses for Brownfields Redevelopment projects for Stop & Shop and Rite-Aid
3. **New York City DEP/Associated Engineers** - Multi-year ambient air study involving sampling and analysis of approx. 1,000 samples for airborne particulate (PM10), metals, sulfate, and volatile organics using SUMMA canisters-TO-14
4. **Cytec Industries** - Developed a direct aqueous injection GC/MS/SIM Method for the determination of methyl carbamate in river water to determine plume of contamination down to a 5 ppb lower limit detection.
5. **Black & Veatch/IBM** - In conduction with Black & Veatch, York performed analyses of groundwater and industrial effluents throughout a major manufacturing facility. Analyses included volatiles, semi-volatiles, metals and TOC.
6. **SEA Consultants/U.S. Postal Service** - Project involved analytical support for major U.S. Postal Service waste characterization program in the northeastern part of the country. Program involved numerous TCLP analyses for volatiles, semi-volatiles, pesticides/herbicides and metals along with physical characteristics.
7. **Lehrer McGovern Bovis/Thacker Engineering J.V./New York City Department of General Services** - Project involves analytical support for a major underground storage tank decommissioning program in the five boroughs of NYC. Analysis includes volatiles, semi-volatiles, metals, TCLP parameters, and geoprobe gas analysis. All analytical work done with NYSDEC ASP Category A and B deliverables.
8. **IT Corp./PMS Construction-New York City Dept. Of Design and Construction** - Conducted numerous analyses in support of multi-

**YORK**

year/ multi-New York City borough petroleum-impacted sites.  
Required ASP-B deliverables.

9. **Environmental Concepts, Inc./Consolidated Edison** - Analytical support for comprehensive facility UST program in all New York City locations.
10. **Rockland County, New York** - Conducted odor study involving compound identification using GC/MS techniques.
11. **BMS/Clairel, Inc.** - Weekly analysis of wastewater treatment plant effluent for conventional parameters.
12. **Roy F. Weston Corp.** - Analysis of numerous Summa Canister whole air samples in the environs of a remediation project for TO-14 constituents. Project involved NYSDEC ASP B-like deliverables packages.
13. **Edgeboro Disposal, Inc., New Jersey** - Comprehensive sampling and analysis program to characterize raw landfill gas for volatiles, semi-volatiles, pesticides and PCB's. PCB methods involved EPA M680 (SIM).
14. **State of Connecticut DEP** - Master Services Agreement to provide on-call laboratory services for State facilities and agencies.
15. **State of Connecticut DOT** - Master Services Agreement to provide on-call laboratory support services for DOT
16. **Malcolm-Pirnie, Inc.** - Analysis of ground water, soil and building materials for volatiles, PCBs and metals at a major Bridgeport, CT chemical facility. Project required EPA Level III deliverables.
17. **General Motors Delco Chassis Div.** - Routine analysis of wastewater, waste oil and storm water for 1.2 million S.F. facility.
18. **Fort Drum, NY/Malcolm Pirnie** - Task order contract for analysis support for U.S Army facility. Project involved analysis of wastes, soil and groundwater with ASP B deliverables.
19. **Metcalf & Eddy/Swiss Bank** - York provided hundreds of analyses of soil and water in support of major land transfer project. Analyses involved 4 hour turn-around for QA/QC deliverables.
20. **Numerous Consulting/Engineering Firms** - Analysis of landfill monitoring wells samples and surface waters for regulated parameters in support of Superfund activities as well as routine state requirements (i.e. NYCRR Part 360)

SCALE 1" = 10'

**YORK ANALYTICAL LABS**  
**120 RESEARCH DRIVE STRATFORD, CT 02/2004**

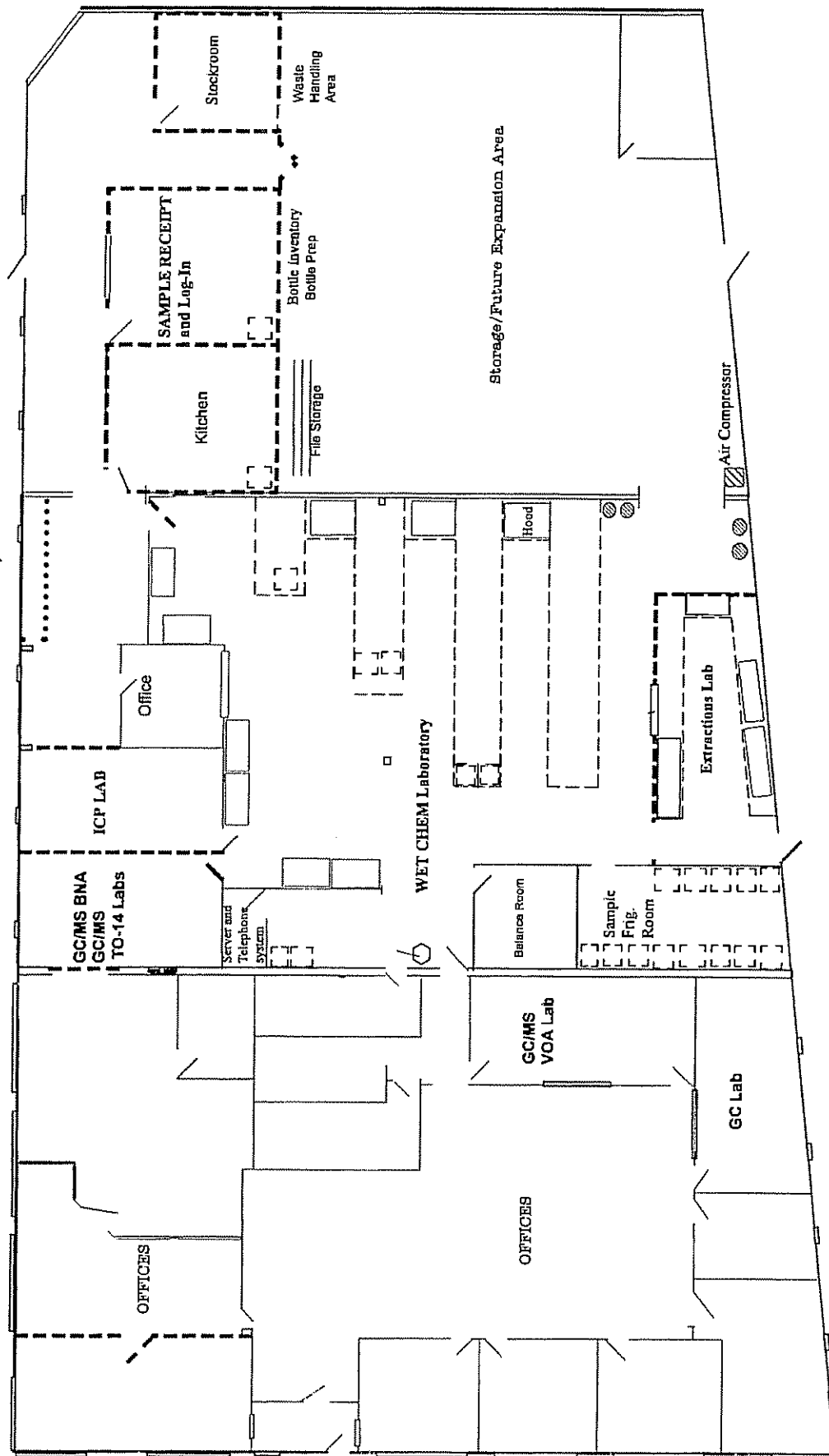


Figure 2-1

**Table 2-1**

<b>Equipment &amp; Instrumentation</b>	<b>Quantity</b>
Atomic Absorption Hollow Cathode Lamps (Buck & PE)	29
Atomic Absorption System (Perkin Elmer PE 1100, B AAS)	1
Atomic Absorption System (Perkin Elmer PE 1100)	1
Atomic Absorption System, FAA (Perkin Elmer PE 4100, Zeeman GFAA)	1
Autoclave (National Autoclave)	1
Autoclave (National Steril-Quik 1975)	1
Autoclave, 1 CF (Sybron/Barnstead, C-2260)	1
Autosampler for O.I. System (MPM-16)	1
Autosampler Heater System for O.I. System (MHC-16)	1
Autosampler for VOCs Tekmar LSC2000/2016 ALS	2
Autosampler for VOCs ARCHON/Tekmar LSC-3000	1
Balances, Analytical (Mettlers AE100 H45), Balance (Mettler AT 200)	3
Balance, Analytical (Mettler H-51)	1
Balance, Analytical (S/P 120, ASP, Inc.)	1
Balance, Analytical, Air Pollution (Mettler H-15)	1
Balance, Top Loading (ASP Z-3000, ASP, Inc.)	1
Balance, Top Loading (Mettler PM-4600)	1
Balance, Triple Beam (Ohaus)	1
Barometer (Airguide Model 211B)	1
Centrifuge, Clinical (IEC)	1
Chart Recorder, 10" (Linear 1200)	1
Class S Weights, 10 mg to 100 g (Troemner, Inc.)	1
Clean-up System-Florisil/Alumina- 12 Position (Supelco, Inc.)	1
Cold Vapor Mercury/Hydride System (Buck Scientific, Inc.)	1
Computer (Digital 2001 Computer, Monitor, Keyboard)	1
Computer (Digital Dec Station 3IGSX Computer, Monitor and Keyboard)	3
Computers (Pentium systems)	25
Conductance Meter, Field/Laboratory Model (YSI)	1
Conductivity Meter (YSI)	1



<i>Equipment &amp; Instrumentation</i>	<i>Quantity</i>
Coolers, 2 qt. (Rubbermaid)	10
Coolers, 5 qt. (Igloo)	20
Coolers, 30 qt. (Coleman)	50
Data Station System (Varian CDS 401 #CDS402-1341)	1
Dec Station (Digital 316 SX)	1
Dessicator, Stainless Steel, 1 CF (Boekel)	2
Dessicator, Stainless Steel, 3 CF (Boekel)	1
Diazomethane generator, Wheaton/Aldrich DIAZALD KIT	1
Dispensing Pipet, 1.0 mL (Eppendorf, Inc.)	1
Dispensing Pipet, 5 L-100 L (Eppendorf, Inc.)	1
Distillation System, Ammonia (Wheaton)	2
Draeger Bellows Pump	1
Extraction Apparatus, Liquid-Liquid (Supelco, Inc.)	1
Extractors, Zero Headspace	8
Eye Wash Station, Portable (Bel-Art, Inc.)	1
Eyewash System (Speakman Company)	1
Flash Point Apparatus (Pensky-Martin, Closed Cup)	1
Funnel Rack, Wooden, 12 Position (MacAlaster Bicknell)	2
Furnace (Thermolyne Type 1500)	1
Furnace, Muffle Furnace, 1.5 CF (Gardsmen)	1
Gas Chromatograph (HP 5890 ECD,FID ALS7673,HP ChemSta.)	1
Gas Chromatograph (HP 5890 dual ECD dual ALS7673,HP ChemSta.)	1
Gas Chromatograph (HP 5890II,G.S.V.FPD,ICD)	1
Gas Chromatograph (Perkin Elmer PE 1000 HallPID Detectors)	1
Gas Chromatograph (Perkin Elmer PE 8410 FID,GP100 Printer)	1
Gas Chromatograph (Perkin Elmer PE 8500 GC SN 041426006068)	1
Gas Chromatograph, Portable (AID621,FID)	1
Gas Chromatograph/Mass Spectrometer/Data System (HP 5890 II/5971 &5972/ Chem Station)	4
Gas Chromatograph/Mass Spectrometer/Data System (HP 5890 II/5970/w/ ALS 7673	2
Gas Concentration System/Interface TO-14/15-ENTECH 7000	1
Gas Dilution System (EnviroNics Model 2000)	1
Gas Leak Detector (GM 21-250)-Helium detector	1
Gas Regulators, Brass (Airco, Inc.)	10
Gas Regulators, SS (Airco,Inc.)	7
Gel Permeation Chromatograph -OI AP-1000 18 sample autosystem-GPC	1
Glass Desiccator	4
Heater (Lab-Line Multi Boil Heater No. 2090)	1
Hot Plate (Corning PC-100 1 SF)	6
Hot Plate (Thermolyne Type 2200)	1
Hot Plate/Stirrer (Cimarec 3, Thermolyne)	1

<i>Equipment &amp; Instrumentation</i>	<i>Quantity</i>
Hot Plate/Stirrer (Corning PC-351)	1
Hot Plate/Stirrer (Nuova II, Sybron/Nalge)	1
Hot Plate/Stirrer (Thermolyne Cimarec 2)	1
Hot Plate/Stirrer (Thermolyne Cimarec 3)	1
Incubator (Lab-line No. 3554-17)	2
Incubator, 20C, BOD (VWR 2005)	1
Incubator, Electric (Hotpack 28912)	1
Incubator, Low Temp., 2 CF (Blue M)	1
Inductively Coupled Plasma (OES-PE-Optima 3000XL-Axial)	1
Ion Chromatograph Dionex 120 with AS40 ALS-PeakNet 6 software	1
Laboratory Hoods (Labconco, others)	9
LIMS System (Labworks Windows NT/98/2000 LIMS 25 User NT Server)	1
Microbial Air Sampler, 2 Stage (Anderson, Inc.)	1
Microscope (Olympus CH-2)	1
Microscope, Stereoscope (STEREOZOOM-3, B& L)	1
Oven, 1 CF (Blue M)	1
Oven, 3 CF (Baxter S/P Tempcon)	1
Oven, 5 CF (Blue M)	1
Oven, CEM Microwave (MDS-2000)	1
Oven, Radiant Heat (Lab-Line Imperial II)	1
Oxygen Meter/BOD Probe (VWR 122372)	1
pH/ISE Meter, Portable (Orion Serial)	1
pH Meter (Corning Model 10)	1
pH Meter (Orion EA 940)	1
pH Meter/Specific Ion Meter (Orion SA-720)	1
Photocopier (Cannon NP4835S)	2
Printer (HP Laserjet 2100, 2 MB RAM)	4
Printer (HP Laserjet IV, 2 MB RAM)	4
Printer (HP LaserJet 4000N)	4
Printer (Okidata Microline 320)	1
Printer, Color Inkjet (Epson Stylus 900)	1
Printer, Laser 1200 dpi Resolution (Lexmark Optra R+)	1
Pump, Liquid, Peristaltic, 4 gpm (Cole-Parmer)	1
Pump, Vacuum (GE)	1
Pump, Vacuum (GE)	1
Pumps, Personal Sampling (SKC & Gillian)	6
Purge & Trap (Tekmar ALS 2016)	1
Purge & Trap (Tekmar LCS 2000)	1
Purge & Trap autosampler systems-Archon 51 position samplers	3
Purge & Trap systems-Tekmar 3000	3
Reflux/Distillation System	5

<i>Equipment &amp; Instrumentation</i>	<i>Quantity</i>
Refrigeration Freezer (Kenmore)	1
Refrigerator (Sanyo)	1
Refrigerator (Summit)	1
Refrigerator (VWR Scientific)	1
Refrigerator (Welbilt 1.5 C.F.)	3
Refrigerator (Westinghouse)	1
Refrigerator, 10 CF (Sears)	1
Refrigerator, 14 CF (Gibson)	2
Refrigerator, Flammable Materials Storage (GCA Corp. Precision 813)	1
Refrigerator(Sanyo,1.5 C.F.)	2
Sample Concentrator (Nutech Model 8533-TO-14/VOST)	1
Sample Concentrator (O.I 4460A)	1
Sample Concentrator (Supelco, Inc. Mini-VAP-6 )	1
Sample Concentrator (Zymak Turbo VAP II ZW8001)	1
Sample Concentrator (Zymark Tubro VAP II ZW8001)	1
Sample Concentrator (Zymark Turbo VAP II SN 04051)	1
Sonic Cleaning System (Branson 1200)	1

<b>Equipment &amp; Instrumentation</b>	<b>Quantity</b>
Sonic Disruptor (Tekmar)	3
Sonic Disruptor & Sound Enclosure (Heat Systems, Inc.)	3
Sonic Disruptor Sound Chamber	3
Soxhlet Extraction Apparatus, 3 Bay w/Setups (Electro, Inc.)	1
Specific Ion Electrode, Chloride (Orion)	1
Specific Ion Electrode, Chlorine (Orion)	1
Specific Ion Electrode, Fluoride (Orion)	1
Spectrophotometer (Bausch & Lomb Spectronic 20)	1
Spectrophotometer, Visible (Milton-Roy, SPEC-20)	1
Steam Bath (Boekel)	1
Steam Washer (Labconco)	1
Stirrer, Gang, 6 Position (Phipps & Bird)	1
Storage Cabinet (Se-Cur-All)	2
Storage Cabinet, Solvent, Safety (Justrite, Inc.)	2
TCLP Extraction Pressure Filtration System (Millipore)	2
TCLP Extraction System (Millipore, Inc.)	4
TCLP Rotator, 12 Position (Assoc. Design & Mfg 12)	1
TCLP Spinner (Millipore)	2
TCLP-ZHE Volatile Extraction System	12
Thermometers, NBS(NIST)Traceable (ASP, Inc.)	2
Thermometers, Various Ranges (ASP, Inc.)	10
Total Organic Carbon Analyzer (ALS- Shimadzu)	1
TPH-Oil-in-Water Analyzer (Buck Scientific HC-404)	1
Turbidity Meter (Lamotte Model 2008)	1
Vortex - Genie SI)	1
Water Bath (25-100C, ASP, Inc.)	1
Water Bath for Incubator (Millipore)	1
Water Purification System (MILLI-Q, Millipore, Inc.)	1
Water Sampling System, Automatic/Compositing (ISCO, Inc.)	1

### ***III. Key Personnel Resumes***

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**YORK**  
ANALYTICAL LABORATORIES, INC.

### III. Key Personnel Resumes

#### Robert Q. Bradley

Managing Director

*Mr. Bradley has over 25 years experience as an analytical chemist, and in the management of laboratory operations. He is fully versed with all current methods of analysis of water, wastewater, solid and hazardous waste and air using classical as well as instrumental techniques.*

As Managing Director of York Analytical Laboratories, Inc., Mr Bradley is responsible for all operations of the lab. His extensive experience as both an analytical chemist, and in the management of laboratory facilities provides a combination of technical knowledge and managerial insight that is unequalled in the industry. His specialized expertise includes:

- Laboratory Management
- Analytical Chemistry
- Data Evaluation and Validation
- Environmental Chemistry
- Air Analysis

Mr. Bradley is fully versed with all current methods of analysis of water, wastewater, solid and hazardous waste and air using classical as well as instrumental techniques. He has extensive instrumental experience in the areas of Gas Chromatography, Gas Chromatography/Mass Spectrometry, Infrared Spectrophotometry, Atomic Spectroscopy and wet chemistry techniques.

Mr. Bradley also has had extensive experience involving hazardous waste assessments according to RCRA and CERCLA guidelines. He has spearheaded mobile laboratory programs at major New England landfills where hundreds of drums of hazardous waste were assessed.

He has had extensive experience in the sampling and analysis of airborne emissions from municipal and hazardous waste landfills. This experience is centered around sampling and analysis for target and non-target volatile and semi-volatile organics, as well as target trace metals.

He has had extensive experience in the analysis techniques related to industrial hygiene and ambient air studies including NIOSH, EPA, APHA, and other methods. He also has had significant experience in the sampling and analysis of water, wastewater, and particulate and gaseous emissions employing ASME, EPA, NYSDEC, EPA CLP and other methodologies.

Mr. Bradley has also been instrumental in the development of gas chromatographic/mass spectrometry methods for the evaluation of organic contaminants in the process waste streams of various industries. These developments include rapid screening methods, methods for removal of circumvention of potential interferences, and novel approaches to the quantification and identification of organic compounds. His other developments include gas chromatographic techniques for the sample analysis of sulfur gases from refineries, Kraft paper mills, and coke oven gas systems; procedure for sampling and analysis in the fiber glass industry; development of ion-specific filter medium determining the character of ambient particulate in proximity with stationary sources; development of gas chromatography procedures for quantifying gasoline contamination of surface waters; development of qualitative procedures for the determination of gasoline brand and fuel oil types when found in well supplies and aquifers.

**YORK**

He has had experience in the evaluation of many products including hazardous waste adsorbents; water purification devices; air filtration media and plastics

Mr Bradley is experienced in the supervision of technical and sales staff providing the analytical services required for environmental analyses. He has analyzed and interpreted data and prepared reports for various industrial and government clients. He is experienced in the evaluation, selection, and cost control of analytical procedures developed and used in the laboratory, the establishment and maintenance of quality control/quality assurance programs for analytical methods and the training of personnel in the performance of analytical procedures. He has also developed, specified and implemented various LIMS products for analysis and process control laboratories.

#### **Education**

- B.S. Chemistry Georgetown University, Washington, D.C.
- M.S. Chemistry (additional course work) Georgetown University, Washington, D.C.
- Additional Course Work

#### **Professional Affiliations**

- American Chemical Society
- American Water Works Association
- Association of Official Analytical Chemists
- American Management Association
- American Society for Testing and Materials
- Association of Consulting Chemists
- Environmental Assessment Association
- Spill Control Association of America

#### **Selected Publications**

New Approach to the Synthesis of 2-aryl Substituted Aziridinium Salts and Reactivity Studies, given at the American Chemical Society Meeting, 1972, New York by D.R. Crist, Georgetown University, Washington, D.C.

R.Q. Bradley, The Chemistry of Nitrogen and Sulfur Oxides, 1977, York Research Corporation, In-house paper.

R.Q. Bradley, A Routine Gas Chromatographic Method for the Determination of Gasoline in Water in the parts per billion (ppb) Range, York Research Corporation, In-house paper.

R.Q. Bradley, R.S. Kearton, Oil and Gas Spill Source Identification, The Petroleum Marketer Magazine, September-October, 1977.

R.Q. Bradley, Dynamic Headspace Hydrocarbon Concentration versus "Real" Gasoline Concentration in Water, York Research/Exxon Co., U.S.A. proprietary report, 1976.

R.Q. Bradley, D.A. Sommerer, Magnesia FGD Process Testing on a Coal-fired Power Plant, Environmental Protection Technology Series, EPA-600/2-77-165, August 1977.

R.Q. Bradley, Analytical Techniques for the Characterization of Raw and Treated Coke Oven Gas, In-house manual, January, 1979.

R.Q. Bradley, Strategies for the Sampling & Analysis of Volatile Organics in Air, Connecticut's Environment, March 1995.

**YORK**

### **III. Key Personnel Resumes**

#### **Philip A. Murphy, III**

**Laboratory Operations Manager / QA/QC Officer**

*Mr. Murphy has over 15 years experience in environmental analysis. He has extensive experience in the analysis of wastewater for microbiological, metals and general wet chemistry parameters.*

As Operations Manager at York, Mr. Murphy is responsible for the day-to-day operations of the laboratory. His specialized expertise includes:

- Laboratory Operations Management
- Drinking Water Analysis
- Inorganics Analysis (Metals, Classic Chemistry)
- Microbiological Analysis
- Air Analysis using applicable Protocols
- Indoor Air Quality Studies
- QA/QC Implementation

Mr. Murphy has over fifteen years experience in environmental analysis. He has extensive experience in the analysis of wastewater for microbiological, metals and general wet chemistry parameters. He has conducted numerous indoor air quality evaluations, sampling and analyzing for fungi and molds, volatile organic compounds and inorganic parameters in industrial, commercial and residential environments.

Mr. Murphy also has extensive experience with USEPA Standard Method analyses in support of NPDES, SPDES, RCRA, CWA, SWDA and CAA Programs. His experience includes wet chemistry, physical and microbiological procedures, as well as graphite furnace, flame atomic absorption and gas chromatography.

Mr. Murphy is also a certified Laboratory Director for public health applications in the State of Connecticut, and has expertise in sample handling and chain-of-custody procedures.

#### **Education**

- B.S./Aquatic Biology University of Connecticut
- M.S./Environmental Biology University of Bridgeport, Connecticut

#### **Professional Affiliations**

- American Microbiological Society
- American Chemical Society
- Trout Unlimited, Mianus, C (Served as President, Secretary, Stream Action Committee Chair and on the Board of Directors)

**YORK**



### **III. Key Personnel Resumes**

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#### **Richard H. August**

**Senior Chemist/Manager - Client Services**

*Mr. August has over 18 years of environmental laboratory experience with all current methods of analysis for water, wastewater, solid, hazardous waste and air, as well as experience as a Laboratory Manager with large Massachusetts based company. He has extensive experience with methods development and documentation in the areas of Gas Chromatography, Gas Chromatography/Mass Spectrometry, infrared, Spectrophotometry and wet chemistry techniques.*

Mr. August has over eighteen years of environmental laboratory experience. He has extensive experience with all current methods of analysis for water, wastewater, solid, hazardous waste and air. Having had five years of experience as a Laboratory Manager with large Massachusetts based company, Mr. August has extensive experience with methods development and documentation in the areas of Gas Chromatography, Gas Chromatography/Mass Spectrometry, infrared, Spectrophotometry and wet chemistry techniques. He also has had experience in analytical methods (NIOSH, OSHA, EPA) associated with Indoor Air Quality and Industrial Hygiene studies. His areas of specialization include:

- Environmental Regulations (EPA, RCRA, STARS, SPOTS, UST)
- Client Service and Laboratory Analysis for Volatiles and Semi-Volatiles
- OSHA/NIOSH Analysis
- QA/QC Programs

Mr. August has also been involved with the development, implementation and maintenance of laboratory Quality Assurance/Quality control programs.

Mr. August has had extensive experience in Hazardous Waste Assessments in accordance with RCRA and CERCLA, and has been involved with analysis and classification of hundreds of drums of unknown waste.

At YAL, Mr. August is responsible for client services. His responsibilities include sales and marketing of laboratory services as well as business development. He provides technical support to clients for specific compliance purposes, specific analysis strategies, guidance on appropriate analytical methods and helps to ensure that all data quality objectives are met. He is also involved with the organics analysis, analysis and interpretation of data as well as the preparation of technical reports for various industrial and governmental clients.

#### **Education**

- B.S./Biology, Southern Connecticut State University
- Continuing Graduate Studies, Environmental Science Program, University of New Haven, New Haven, CT

### **III. Key Personnel Resumes**

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#### **Johanna Pozzi-Woodfield**

**Group Leader - Gas Chromatography**

*Ms. Pozzi has over 15 years experience in environmental laboratory analysis with a specialized expertise in Organics Analysis, Gas Chromatography/Mass, Spectrometry and Gas Chromatography Methods*

Ms. Pozzi has over fifteen years of experience in environmental laboratory analysis. Previously, she was Manager of Organics Analyses for an environmental laboratory. Her responsibilities included the overall supervision of the Organics Department for the analysis of water, wastewater, soil, sediment and oil. In addition, she held full responsibility for the in-house Quality Control Program.

Ms. Pozzi has extensive experience in the analyses of organics in accordance with SW-846 Methods, 8010/8015/8020/8021, 8240, 8260, 8270, 8151, 8015M and 8081. She is also familiar with troubleshooting analytical systems.

Prior to her environmental laboratory experience, she was a Quality Control Supervisor in the Specialty Chemical and Plating industries.

At York, Ms. Pozzi is responsible for all organics analyses with special emphasis on Gas Chromatography methods. These methods are applied to all environmental matrices, including air.

Her instrumental experience includes use of gas chromatography utilizing many detectors including: electron capture, flame photometric, nitrogen/phosphorous, flame ionization and thermal conductivity.

#### **Education**

- B.S./Chemistry, University of New Haven

**YORK**

### III. Key Personnel Resumes

#### John R. Gale

Assistant Laboratory Operations Manager /  
Safety & Health Officer

*Mr. Gale has over 20 years experience in the analysis of water, wastewater, solid and hazardous waste and specialized expertise in volatiles analysis (water, soil, air) by GC/MS, wet chemistry analysis and OSHA regulations.*

Mr. Gale has had over 20 years of experience in the analysis of water, wastewater, solid and hazardous waste for conventional pollutants in accordance with Standard Methods, EPA Methods and SW-846 Methods.

He is also highly versed in all OSHA and laboratory safety guidelines.

He has an extensive background in the preparation and analysis of varied matrices for inorganic species and purgeable organic compounds, extractable base-neutral and acid organic compounds, pesticides and PCB's according to EPA Methods. He is thoroughly versed in the clean-up of pesticide/PCB extracts utilizing column chromatography methods. Mr. Gale also has extensive experience in extraction techniques - liquid/liquid continuous extractions and sonic disruption extractions. Mr. Gale is also experienced with analyses of samples for volatiles and semi-volatiles by GC/MS using USEPA Contract Lab Program Protocols and is involved with routine maintenance and troubleshooting of the GC/MS systems and Gas Chromatographs.

His experience also includes the analysis of petroleum products and fossil fuels by ASTM and ASME methods including bomb calorimetry and elemental analysis.

At York Mr. Gale is responsible for all inorganics analysis and sample preparation and extraction staff in the laboratory.

#### Education

- A.S./Chemistry Sacred Heart University, Bridgeport, CT

#### Occupational Certifications

- 40 Hour HAZMAT OSHA Certified

YORK

### III. Key Personnel Resumes

#### Michael Woodfield

*Group Leader, Metals Preparation and Analysis*

*Mr. Woodfield has over 10 years experience in laboratory analysis with specialized expertise in Zeeman Atomic Absorption, Inductively Coupled Plasma (Axial & Radial), Flame Atomic Absorption and Organics Analysis.*

Mr. Woodfield has over ten years of experience in environmental laboratory analysis. Previously, Mr. Woodfield was involved in inorganics analysis using common spectroscopic methods. He also has performed organics analyses including Gas Chromatography and Gas Chromatography/Mass Spectrometry. He is fully versed in all the related SW-846 analysis.

Mr. Woodfield also has extensive experience in metals analysis utilizing flame atomic absorption(AA), Zeeman graphite furnace AA and Inductively Coupled Plasma (ICP)

He also has extensive experience in sampling of groundwater and effluents relative to CTDEP requirements. Mr. Woodfield is also experienced with all wet chemistry procedures typically utilized in the industry.

At York Mr. Woodfield is currently responsible for all analyses of trace metals utilizing ICP, GFAA, FAA and Mercury. He has extensive experience in all related QA/QC procedures. In addition, he is responsible for QA/QC and client interface as a secondary role.

#### Education

- B S /Chemistry, Paul Smith's College, Paul Smith's, NY

YORK

### **III. Key Personnel Resumes**

#### **Johanna Pozzi-Woodfield**

**Group Leader - Gas Chromatography**

*Ms. Pozzi has over 10 years experience in environmental laboratory analysis with a specialized expertise in Organics Analysis, Gas Chromatography/Mass Spectrometry and Gas Chromatography Methods*

Ms. Pozzi has over ten years of experience in environmental laboratory analysis. Previously, she was Manager of Organics Analyses for an environmental laboratory. Her responsibilities included the overall supervision of the Organics Department for the analysis of water, wastewater, soil, sediment and oil. In addition, she held full responsibility for the in-house Quality Control Program.

Ms. Pozzi has extensive experience in the analyses of organics in accordance with SW-846 Methods, 8010/8015/8020, 8240, 8260, 8150, 8015M and 8080. She is also familiar with troubleshooting analytical systems.

Prior to her environmental laboratory experience, she was a Quality Control Supervisor in the Specialty Chemical and Plating industries.

At York, Ms. Pozzi is responsible for all organics analyses with special emphasis on Gas Chromatography methods. These methods are applied to all environmental matrices, including air.

Her instrumental experience includes use of gas chromatography utilizing many detectors including: electron capture, flame photometric, nitrogen/phosphorous, flame ionization and thermal conductivity.

#### **Education**

- B S /Chemistry, University of New Haven

**YORK**

### III. Key Personnel Resumes

#### Nezar Mejalli

Senior Systems Engineer/LIMS Administrator/MIS Professional

*Mr. Mejalli has over 5 years experience in computer hardware and software applications with special emphasis on environmental laboratory software and network/work station systems*

Mr. Mejalli has over five years of experience in the environmental industry serving in various capacities including air quality engineering and computer systems design, build and training

As an environmental engineer at York, his role involved the following

- 1 Designed and automated a Continuous Emissions Monitoring Network for ambient air encompassing Manhattan's North River Water Pollution Control Facility, utilizing a total of eight different data sites within the plant and in the surrounding community
- 2 Designed and automated a prototype Air Quality Monitoring Station for hydrogen sulfide and implemented into the existing Continuous Emissions Monitoring Network
- 3 Authored numerous monthly reports, quarterly reports and annual reports with respect to the data generated by the monitoring system
- 4 Directly responsible to the New York City Department of Environmental Protection Agency and the New York State Department of Environmental Conservation for the upkeep of the Monitoring Network, and the validity of data
- 5 Engineered vital components to monitor for Dioxins throughout the State of Connecticut via semi-volatile organic compounds (SVOC) samplers
- 6 Directly responsible for field samples, data collection and data validity
- 7 Directly responsible for the maintenance of Air Quality Monitoring Stations
- 8 Operated and maintained numerous samplers for inhalable particulate (PM<sub>10</sub>), semi-volatile organic compounds (SVOC) and volatile organic compounds (VOC)

As Network/Computer Administrator he was

- 9 Directly responsible for troubleshooting, maintaining and safeguarding Pentium based PC desktop workstations and the Pentium based network server
- 10 Directly responsible for the troubleshooting and maintenance of all the computers in the companies

In his present role as Senior Systems Engineer he has full MIS responsibility and has

- Designed and implemented 4 twenty-five user Novell Network and Windows NT 4 into Sister Company to optimize data evaluation, report generation and overall company production
- Managed a one hundred thousand-dollar budget for the implementation of the Novell and Windows NT Networks

#### Education

B.S./Electrical Engineering, Manhattan College, Riverdale, NY

**YORK**

NEW YORK STATE DEPARTMENT OF HEALTH  
WADSWORTH CENTER

Antonia C. Novello, M.D., M.P.H., Dr.P.H.



Expires 12:01 AM April 01, 2005  
Issued April 01, 2004  
Revised June 08, 2004

**CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE**

*Issued in accordance with and pursuant to section 502 Public Health Law of New York State*

MR. ROBERT Q. BRADLEY  
YORK ANALYTICAL LABORATORIES INC  
120 RESEARCH DRIVE  
STRATFORD CT 06615 United States

NY Lab Id No: 10854  
EPA Lab Code: CT00106

*is hereby APPROVED as an Environmental Laboratory in conformance with the  
National Environmental Laboratory Accreditation Conference Standards for the category  
ENVIRONMENTAL ANALYSES POTABLE WATER  
All approved analytes are listed below:*

**Drinking Water Metals I**

Arsenic, Total	EPA 200.7
Barium, Total	EPA 200.7
Cadmium, Total	EPA 200.7
Chromium, Total	EPA 200.7
Copper, Total	EPA 200.7
Iron, Total	EPA 200.7
Lead, Total	SM 18-19 3113B
Manganese, Total	EPA 200.7
Mercury, Total	EPA 245.1
Selenium, Total	SM 18-19 3114B
Silver, Total	EPA 200.7
Zinc, Total	EPA 200.7

**Drinking Water Metals II**

Antimony, Total	ASTM D3697-92
Beryllium, Total	EPA 200.7
Nickel, Total	EPA 200.7
Thallium, Total	EPA 200.8

**Drinking Water Miscellaneous**

Methyl tert-butyl ether	EPA 524.2
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**Drinking Water Non-Metals**

Color	SM 18-20 2120B
Corrosivity	SM 18-19 2330

**Drinking Water Non-Metals**

Cyanide	EPA 335.4
Fluoride, Total	EPA 300.0
Hydrogen Ion (pH)	EPA 150.1
Nitrate (as N)	EPA 300.0
Solids, Total Dissolved	SM 18-20 2540C

**Drinking Water Trihalomethanes**

Bromodichloromethane	EPA 524.2
Bromoform	EPA 524.2
Chloroform	EPA 524.2
Dibromochloromethane	EPA 524.2

**Volatile Aromatics**

1,2,3-Trichlorobenzene	EPA 524.2
1,2,4-Trichlorobenzene	EPA 524.2
1,2,4-Trimethylbenzene	EPA 524.2
1,2-Dichlorobenzene	EPA 524.2
1,3,5-Trimethylbenzene	EPA 524.2
1,3-Dichlorobenzene	EPA 524.2
1,4-Dichlorobenzene	EPA 524.2
2-Chlorotoluene	EPA 524.2
4-Chlorotoluene	EPA 524.2
Benzene	EPA 524.2
Bromobenzene	EPA 524.2

Serial No.: 23619

Property of the New York State Department of Health. Valid only at the address shown. Must be conspicuously posted. Valid certificates have a raised seal. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (516) 485-5570 to verify laboratory's accreditation status.



NEW YORK STATE DEPARTMENT OF HEALTH  
WADSWORTH CENTER

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NY Lab Id No 10854  
EPA Lab Code CT00106

*is hereby APPROVED as an Environmental Laboratory in conformance with the  
National Environmental Laboratory Accreditation Conference Standards for the category*

**ENVIRONMENTAL ANALYSES POTABLE WATER**

*All approved analytes are listed below:*

**Volatile Aromatics**

Chlorobenzene	EPA 524.2
Ethyl benzene	EPA 524.2
Hexachlorobutadiene	EPA 524.2
Isopropylbenzene	EPA 524.2
n-Butylbenzene	EPA 524.2
n-Propylbenzene	EPA 524.2
o-Xylene	EPA 524.2
p-Isopropyltoluene (P-Cymene)	EPA 524.2
sec-Butylbenzene	EPA 524.2
Styrene	EPA 524.2
tert-Butylbenzene	EPA 524.2
Toluene	EPA 524.2

**Volatile Halocarbons**

1,1,1,2-Tetrachloroethane	EPA 524.2
1,1,1-Trichloroethane	EPA 524.2
1,1,2,2-Tetrachloroethane	EPA 524.2
1,1,2-Trichloroethane	EPA 524.2
1,1-Dichloroethane	EPA 524.2
1,1-Dichloroethene	EPA 524.2
1,1-Dichloropropene	EPA 524.2
1,2,3-Trichloropropane	EPA 524.2
1,2-Dichloroethane	EPA 524.2
1,2-Dichloropropane	EPA 524.2

**Volatile Halocarbons**

1,3-Dichloropropane	EPA 524.2
Bromochloromethane	EPA 524.2
Bromomethane	EPA 524.2
Carbon tetrachloride	EPA 524.2
Chloroethane	EPA 524.2
Chloromethane	EPA 524.2
cis-1,2-Dichloroethene	EPA 524.2
cis-1,3-Dichloropropene	EPA 524.2
Dibromomethane	EPA 524.2
Dichlorodifluoromethane	EPA 524.2
Methylene chloride	EPA 524.2
Tetrachloroethene	EPA 524.2
trans-1,2-Dichloroethene	EPA 524.2
trans-1,3-Dichloropropene	EPA 524.2
Trichloroethene	EPA 524.2
Trichlorofluoromethane	EPA 524.2
Vinyl chloride	EPA 524.2

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Issued April 01, 2004

Revised June 08, 2004

**CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE**

*Issued in accordance with and pursuant to section 502 Public Health Law of New York State*

MR. ROBERT Q. BRADLEY  
YORK ANALYTICAL LABORATORIES INC  
120 RESEARCH DRIVE  
STRATFORD CT 06615 United States

NY Lab Id No: 10854  
EPA Lab Code: CT00106

*is hereby APPROVED as an Environmental Laboratory in conformance with the  
National Environmental Laboratory Accreditation Conference Standards for the category  
ENVIRONMENTAL ANALYSES NON POTABLE WATER  
All approved analytes are listed below:*

**Benzidines**

3,3 -Dichlorobenzidine	EPA 625 SW-846 8270C
Benzidine	EPA 625 SW-846 8270C

**Chlorinated Hydrocarbon Pesticides**

4,4 -DDE	EPA 608 SW-846 8081A
4,4 -DDT	EPA 608 SW-846 8081A
4,4-DDD	EPA 608 SW-846 8081A
Aldrin	EPA 608 SW-846 8081A
alpha-BHC	EPA 608 SW-846 8081A
beta-BHC	EPA 608 SW-846 8081A
Chlordane Total	EPA 608 SW-846 8081A
delta-BHC	EPA 608 SW-846 8081A
Dieldrin	EPA 608 SW-846 8081A

**Chlorinated Hydrocarbon Pesticides**

Endosulfan I	EPA 608 SW-846 8081A
Endosulfan II	EPA 608 SW-846 8081A
Endosulfan sulfate	EPA 608 SW-846 8081A
Endrin	EPA 608 SW-846 8081A
Endrin aldehyde	EPA 608 SW-846 8081A
Heptachlor	EPA 608 SW-846 8081A
Heptachlor epoxide	EPA 608 SW-846 8081A
Lindane	EPA 608 SW-846 8081A
Toxaphene	EPA 608 SW-846 8081A

**Chlorinated Hydrocarbons**

1,2,4-Trichlorobenzene	EPA 625 SW-846 8260B SW-846 8270C
2-Chloronaphthalene	EPA 625

Serial No.: 23620

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NEW YORK STATE DEPARTMENT OF HEALTH  
WADSWORTH CENTER

Antonia C. Novello, M.D., M.P.H., Dr.P.H.



Expires 12:01 AM April 01, 2005  
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Revised June 08, 2004

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ENVIRONMENTAL ANALYSES NON POTABLE WATER  
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Chlorinated Hydrocarbons		Demand	
2-Chloronaphthalene	SW-846 8270C	Biochemical Oxygen Demand	EPA 405 1
Hexachlorobenzene	EPA 625	Haloethers	
	SW-846 8270C		
Hexachlorobutadiene	EPA 625		
	SW-846 8260B	4-Bromophenylphenyl ether	EPA 625
	SW-846 8270C	4-Chlorophenylphenyl ether	EPA 625
Hexachlorocyclopentadiene	EPA 625		SW-846 8270C
	SW-846 8270C	Bis (2-chloroisopropyl) ether	EPA 625
Hexachloroethane	EPA 625		SW-846 8270C
	SW-846 8270C	Bis(2-chloroethoxy)methane	EPA 625
			SW-846 8270C
Chlorophenoxy Acid Pesticides		Bis(2-chloroethyl)ether	EPA 625
2,4,5-T	EPA 1978, p 115		SW-846 8270C
	SM 18-20 6640B	Nitroaromatics and Isophorone	
	SW-846 8151A		
2,4,5-TP (Silvex)	EPA 1978, p 115		
	SM 18-20 6640B	2,4-Dinitrotoluene	EPA 625
	SW-846 8151A		SW-846 8270C
2,4-D	EPA 1978, p 115	2,6-Dinitrotoluene	EPA 625
	SM 18-20 6640B		SW-846 8270C
	SW-846 8151A	Isophorone	EPA 625
			SW-846 8270C
Dicamba	EPA 1978, p 115	Nitrobenzene	EPA 625
	SW-846 8151A		SW-846 8270C

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**ENVIRONMENTAL ANALYSES NON POTABLE WATER**

*All approved analytes are listed below:*

Nitrosoamines		Polychlorinated Biphenyls	
N-Nitrosodi-n-propylamine	EPA 625 SW-846 8270C	PCB-1016	EPA 608 SW-846 8082
N-Nitrosodiphenylamine	EPA 625 SW-846 8270C	PCB-1221	EPA 608 SW-846 8082
		PCB-1232	EPA 608 SW-846 8082
Nutrient		PCB-1242	EPA 608
Ammonia (as N)	EPA 350.3	PCB-1248	SW-846 8082
Nitrate (as N)	EPA 300.0		EPA 608
Nitrite (as N)	EPA 300.0		SW-846 8082
Phosphorus, Total	EPA 365.2		EPA 608 SW-846 8082
Phthalate Esters		Polynuclear Aromatics	
Benzyl butyl phthalate	EPA 625 SW-846 8270C	Acenaphthene	EPA 625 SW-846 8270C
Bis(2-ethylhexyl) phthalate	EPA 625 SW-846 8270C	Acenaphthylene	EPA 625 SW-846 8270C
Diethyl phthalate	EPA 625 SW-846 8270C	Anthracene	EPA 625 SW-846 8270C
Dimethyl phthalate	EPA 625 SW-846 8270C	Benzo(a)anthracene	EPA 625 SW-846 8270C
Di-n-butyl phthalate	EPA 625 SW-846 8270C	Benzo(a)pyrene	EPA 625 SW-846 8270C
Di-n-octyl phthalate	EPA 625 SW-846 8270C	Benzo(b)fluoranthene	EPA 625 SW-846 8270C

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ENVIRONMENTAL ANALYSES NON POTABLE WATER  
All approved analytes are listed below:*

**Polynuclear Aromatics**

Benzo(ghi)perylene	EPA 625 SW-846 8270C
Benzo(k)fluoranthene	EPA 625 SW-846 8270C
Chrysene	EPA 625 SW-846 8270C
Dibenzo(a,h)anthracene	EPA 625 SW-846 8270C
Fluoranthene	EPA 625 SW-846 8270C
Fluorene	EPA 625 SW-846 8270C
Indeno(1,2,3-cd)pyrene	EPA 625 SW-846 8270C
Naphthalene	EPA 625 SW-846 8270C
Phenanthrene	EPA 625 SW-846 8270C
Pyrene	EPA 625 SW-846 8270C

**Priority Pollutant Phenols**

2,4,6-Trichlorophenol	EPA 625 SW-846 8270C
2,4-Dichlorophenol	EPA 625 SW-846 8270C
2,4-Dimethylphenol	EPA 625 SW-846 8270C
2,4-Dinitrophenol	EPA 625 SW-846 8270C
2-Chlorophenol	EPA 625 SW-846 8270C
2-Methyl-4,6-dinitrophenol	EPA 625 SW-846 8270C
2-Nitrophenol	EPA 625 SW-846 8270C
4-Chloro-3-methylphenol	EPA 625 SW-846 8270C
4-Nitrophenol	EPA 625 SW-846 8270C
Pentachlorophenol	EPA 625 SW-846 8270C
Phenol	EPA 625 SW-846 8270C

**Priority Pollutant Phenols**

2,4,5-Trichlorophenol	EPA 625 SW-846 8270C
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**Purgeable Aromatics**

1,2-Dichlorobenzene	EPA 624 SW-846 8260B SW-846 8270C
1,3-Dichlorobenzene	EPA 624 SW-846 8260B SW-846 8270C
1,4-Dichlorobenzene	EPA 624 SW-846 8260B SW-846 8270C
Benzene	EPA 624 SW-846 8260B
Chlorobenzene	EPA 624 SW-846 8260B
Ethyl benzene	EPA 624 SW-846 8260B
Toluene	EPA 624 SW-846 8260B
Total Xylenes	EPA 624 SW-846 8260B

**Purgeable Halocarbons**

1,1,1-Trichloroethane	EPA 624 SW-846 8260B
1,1,2,2-Tetrachloroethane	EPA 624

**Purgeable Halocarbons**

1,1,2,2-Tetrachloroethane	SW-846 8260B
1,1,2-Trichloroethane	EPA 624 SW-846 8260B
1,1-Dichloroethane	EPA 624 SW-846 8260B
1,1-Dichloroethene	EPA 624 SW-846 8260B
1,2-Dichloroethane	EPA 624 SW-846 8260B
1,2-Dichloropropane	EPA 624 SW-846 8260B
2-Chloroethylvinyl ether	SW-846 8260B
Bromodichloromethane	EPA 624 SW-846 8260B
Bromoform	EPA 624 SW-846 8260B
Bromomethane	EPA 624
Carbon tetrachloride	EPA 624 SW-846 8260B
Chloroethane	EPA 624 SW-846 8260B
Chloroform	EPA 624 SW-846 8260B

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Purgeable Halocarbons		TCLP Additional Compounds	
Chloromethane	EPA 624 SW-846 8260B	Cresol	SW-846 8270C
cis-1.3-Dichloropropene	EPA 624 SW-846 8260B	Methylethyl ketone (2-butanone)	SW-846 8260B
Dibromochloromethane	EPA 624 SW-846 8260B	Pyridine	SW-846 8270C
Dichlorodifluoromethane	EPA 624 SW-846 8260B	Wastewater Metals I	EPA 200 7
Methylene chloride	EPA 624 SW-846 8260B		SW-846 3005A
Tetrachloroethene	EPA 624 SW-846 8260B	Barium, Total	SW-846 3010A
trans-1.2-Dichloroethene	EPA 624 SW-846 8260B	Cadmium, Total	SW-846 6010B
trans-1.3-Dichloropropene	EPA 624 SW-846 8260B		EPA 200 7
Trichloroethene	EPA 624 SW-846 8260B	Chromium, Total	SW-846 3005A
Trichlorofluoromethane	SW-846 8260B		SW-846 3010A
Vinyl chloride	EPA 624 SW-846 8260B	Copper, Total	SW-846 3020-A
			SW-846 6010B
Residue		Iron, Total	EPA 200 7
Solids, Total Suspended	EPA 160 2		SW-846 3005A
			SW-846 3010A
			SW-846 6010B
			SW-846 3005A

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**Wastewater Metals I**

Iron, Total	SW-846 3010A
	SW-846 6010B
Lead, Total	EPA 200.7
	SW-846 3005A
	SW-846 3010A
	SW-846 3020-A
	SW-846 6010B
Magnesium, Total	EPA 200.7
	SW-846 3005A
	SW-846 3010A
	SW-846 6010B
Manganese, Total	EPA 200.7
	SW-846 3005A
	SW-846 3010A
	SW-846 6010B
Nickel, Total	EPA 200.7
	SW-846 3005A
	SW-846 3010A
	SW-846 3020-A
	SW-846 6010B
Silver, Total	EPA 200.7
	SW-846 3005A
	SW-846 6010B

**Wastewater Metals II**

Aluminum, Total	EPA 200.7
	SW-846 3005A
	SW-846 3010A
	SW-846 6010B
Antimony, Total	EPA 200.7
	SW-846 3005A
	SW-846 6010B
Arsenic, Total	EPA 200.7
	SW-846 3005A
	SW-846 3010A
	SW-846 6010B
Beryllium, Total	EPA 200.7
	SW-846 3005A
	SW-846 3010A
	SW-846 3020-A
	SW-846 6010B
Chromium VI	EPA 218.4
	SM 18-19 3111C
	SW-846 7190
Mercury, Total	EPA 245.1
	EPA 245.2
	SW-846 7470A
Selenium, Total	EPA 200.7

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**ENVIRONMENTAL ANALYSES NON POTABLE WATER**

*All approved analytes are listed below*

**Wastewater Metals II**

Selenium, Total	SW-846 3005A
	SW-846 3010A
	SW-846 6010B
Vanadium, Total	EPA 200 7
	SW-846 3005A
	SW-846 3010A
	SW-846 3020-A
	SW-846 6010B
Zinc, Total	EPA 200 7
	SW-846 3005A
	SW-846 3010A
	SW-846 6010B

**Wastewater Miscellaneous**

Cyanide, Total	EPA 335 2
Oil & Grease Total Recoverable	EPA 413 1
Surfactant (MBAS)	SM 18-20 5540 C

**Wastewater Metals III**

Molybdenum, Total	EPA 200 7
	SW-846 3005A
	SW-846 3020-A
	SW-846 6010B
Thallium, Total	EPA 200 7
	SW-846 3005A
	SW-846 3010A
	SW-846 3020-A
	SW-846 6010B

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ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE  
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**Characteristic Testing**

Corrosivity	SW-846 1110
E P Toxicity	SW-846 1310
Ignitability	SW-846 1010
Reactivity	SW-846 Ch7. Sec. 7.3
TCLP	SW-846 1311

**Chlorinated Hydrocarbon Pesticides**

4,4 -DDE	SW-846 8081A
4,4 -DDT	SW-846 8081A
4,4-DDD	SW-846 8081A
Aldrin	SW-846 8081A
alpha-BHC	SW-846 8081A
beta-BHC	SW-846 8081A
Chlordane Total	SW-846 8081A
delta-BHC	SW-846 8081A
Dieldrin	SW-846 8081A
Endosulfan I	SW-846 8081A
Endosulfan II	SW-846 8081A
Endosulfan sulfate	SW-846 8081A
Endrin	SW-846 8081A
Endrin aldehyde	SW-846 8081A
Heptachlor	SW-846 8081A
Heptachlor epoxide	SW-846 8081A
Lindane	SW-846 8081A

**Chlorinated Hydrocarbon Pesticides**

Methoxychlor	SW-846 8081A
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**Chlorinated Hydrocarbons**

1,2,4-Trichlorobenzene	SW-846 8270C
2-Chloronaphthalene	SW-846 8270C
Hexachlorobenzene	SW-846 8270C
Hexachlorobutadiene	SW-846 8270C
Hexachlorocyclopentadiene	SW-846 8270C
Hexachloroethane	SW-846 8270C

**Chlorophenoxy Acid Pesticides**

2,4,5-T	SW-846 8151A
2,4,5-TP (Silvex)	SW-846 8151A
2,4-D	SW-846 8151A
Dicamba	SW-846 8151A

**Haloethers**

Bis (2-chloroisopropyl) ether	SW-846 8270C
Bis(2-chloroethoxy)methane	SW-846 8270C

**Metals I**

Barium. Total	SW-846 6010B
Cadmium. Total	SW-846 6010B
Chromium. Total	SW-846 6010B
Lead. Total	SW-846 6010B

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DOH-3317 (3/97)

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Metals I		Polychlorinated Biphenyls	
Nickel, Total	SW-846 6010B	PCB-1016	SW-846 8082
Silver, Total	SW-846 6010B		SW-846 8270C
Metals II		PCB-1221	SW-846 8082
Antimony, Total	SW-846 6010B	PCB-1232	SW-846 8082
Arsenic, Total	SW-846 6010B		SW-846 8270C
Selenium, Total	SW-846 6010B	PCB-1242	SW-846 8082
Miscellaneous			SW-846 8270C
Hydrogen Ion (pH)	SW-846 9040B	PCB-1248	SW-846 8082
	SW-846 9045C		SW-846 8270C
		PCB-1254	SW-846 8082
Nitroaromatics and Isophorone			SW-846 8270C
2,4-Dinitrotoluene	SW-846 8270C	PCB-1260	SW-846 8082
2,6-Dinitrotoluene	SW-846 8270C		SW-846 8270C
Isophorone	SW-846 8270C		
Nitrobenzene	SW-846 8270C		
Phthalate Esters		Polynuclear Aromatic Hydrocarbons	
Benzyl butyl phthalate	SW-846 8270C	Acenaphthene	SW-846 8270C
Bis(2-ethylhexyl) phthalate	SW-846 8270C	Acenaphthylene	SW-846 8270C
Diethyl phthalate	SW-846 8270C	Anthracene	SW-846 8270C
Di-n-butyl phthalate	SW-846 8270C	Benzo(a)anthracene	SW-846 8270C
Di-n-octyl phthalate	SW-846 8270C	Benzo(a)pyrene	SW-846 8270C
		Benzo(b)fluoranthene	SW-846 8270C
		Benzo(ghi)perylene	SW-846 8270C
		Chrysene	SW-846 8270C
		Dibenzo(a,h)anthracene	SW-846 8270C

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**Polynuclear Aromatic Hydrocarbons**

Fluoranthene	SW-846 8270C
Fluorene	SW-846 8270C
Indeno(1,2,3-cd)pyrene	SW-846 8270C
Naphthalene	SW-846 8270C
Phenanthrene	SW-846 8270C
Pyrene	SW-846 8270C

**Priority Pollutant Phenols**

2,4,6-Trichlorophenol	SW-846 8270C
2,4-Dichlorophenol	SW-846 8270C
2,4-Dimethylphenol	SW-846 8270C
2,4-Dinitrophenol	SW-846 8270C
2-Chlorophenol	SW-846 8270C
2-Methyl-4,6-dinitrophenol	SW-846 8270C
2-Nitrophenol	SW-846 8270C
4-Chloro-3-methylphenol	SW-846 8270C
4-Nitrophenol	SW-846 8270C
Pentachlorophenol	SW-846 8270C
Phenol	SW-846 8270C

**Purgeable Aromatics**

1,2-Dichlorobenzene	SW-846 8021B
	SW-846 8260B
1,3-Dichlorobenzene	SW-846 8021B

**Purgeable Aromatics**

1,3-Dichlorobenzene	SW-846 8260B
1,4-Dichlorobenzene	SW-846 8021B
	SW-846 8260B
Benzene	SW-846 8021B
	SW-846 8260B
Chlorobenzene	SW-846 8021B
	SW-846 8260B
Ethyl benzene	SW-846 8021B
	SW-846 8260B
Toluene	SW-846 8021B
	SW-846 8260B

**Purgeable Halocarbons**

1,1,1-Trichloroethane	SW-846 8021B
	SW-846 8260B
1,1,2,2-Tetrachloroethane	SW-846 8021B
	SW-846 8260B
1,1,2-Trichloroethane	SW-846 8021B
	SW-846 8260B
1,1-Dichloroethane	SW-846 8021B
	SW-846 8260B
1,1-Dichloroethene	SW-846 8021B
	SW-846 8260B
1,2-Dichloroethane	SW-846 8021B

Serial No : 22495

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DOH-3317 (3/97)



NEW YORK STATE DEPARTMENT OF HEALTH  
WADSWORTH CENTER

Antonia C. Novello, M.D., M.P.H., Dr.P.H.



Expires 12:01 AM April 01, 2005  
Issued April 01, 2004

**CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE**

*Issued in accordance with and pursuant to section 502 Public Health Law of New York State*

MR. ROBERT Q. BRADLEY  
YORK ANALYTICAL LABORATORIES INC  
120 RESEARCH DRIVE  
STRATFORD CT 06615 United States

NY Lab Id No: 10854  
EPA Lab Code: CT00106

*is hereby APPROVED as an Environmental Laboratory in conformance with the  
National Environmental Laboratory Accreditation Conference Standards for the category  
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE  
All approved analytes are listed below:*

**Purgeable Halocarbons**

1,2-Dichloroethane	SW-846 8260B
1,2-Dichloropropane	SW-846 8021B
	SW-846 8260B
2-Chloroethylvinyl ether	SW-846 8021B
	SW-846 8260B
Bromodichloromethane	SW-846 8021B
	SW-846 8260B
Bromoform	SW-846 8021B
	SW-846 8260B
Bromomethane	SW-846 8021B
	SW-846 8260B
Carbon tetrachloride	SW-846 8021B
	SW-846 8260B
Chloroethane	SW-846 8021B
	SW-846 8260B
Chloroform	SW-846 8021B
	SW-846 8260B
Chloromethane	SW-846 8021B
	SW-846 8260B
cis-1,3-Dichloropropene	SW-846 8021B
	SW-846 8260B
Dibromochloromethane	SW-846 8021B
	SW-846 8260B

**Purgeable Halocarbons**

Dichlorodifluoromethane	SW-846 8021B
	SW-846 8260B
Methylene chloride	SW-846 8021B
	SW-846 8260B
Tetrachloroethene	SW-846 8021B
	SW-846 8260B
trans-1,3-Dichloropropene	SW-846 8021B
	SW-846 8260B
Trichloroethene	SW-846 8021B
	SW-846 8260B
Trichlorofluoromethane	SW-846 8021B
	SW-846 8260B
Vinyl chloride	SW-846 8021B
	SW-846 8260B

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ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE  
All approved subcategories and/or analytes are listed below:*

**Chlorinated Hydrocarbon Pesticides**

Toxaphene SW-846 8081A

**Metals II**

Chromium VI SW-846 7196A

Mercury, Total SW-846 7471A

**Miscellaneous**

Cyanide, Total SW-846 9010B

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ENVIRONMENTAL ANALYSES AIR AND EMISSIONS*

*All approved analytes are listed below:*

**Chlorinated Hydrocarbons**

1,2,4-Trichlorobenzene	40 CFR PART 60 1984 METH 18
Hexachlorobutadiene	40 CFR PART 60 1984 METH 18
Hexachloroethane	40 CFR PART 60 1984 METH 18

**Polychlorinated Biphenyls**

EPA, 1980  
NYS DOH 311-1  
EPA, 1980  
NYS DOH 311-1

**Metals I**

Lead, Total	ASTM D3559-90A	PCB-1232
	ASTM D3559-90B	
	EPA 239 1	PCB-1242
	SM 15 303B	

**PCB-1248**

EPA, 1980  
NYS DOH 311-1  
EPA, 1980  
NYS DOH 311-1  
EPA, 1980  
NYS DOH 311-1

**Metals II**

Beryllium, Total	40 CFR 61 1984 METH 104	PCB-1254
Mercury, Total	40 CFR 61 METH. 101	
	EPA 245 1	PCB-1260
	EPA 245 2	
	NYS DOH APC-16	
	SM 16 303F	

**Polynuclear Aromatics**

Benzo(a)pyrene  
Naphthalene

40 CFR PART 50 1984 APP B  
40 CFR PART 60 1984 METH 18

**Miscellaneous Air**

Nitrogen Oxide	40 CFR 60 METH 7
	40 CFR 60 METH 7A
Particulates	40 CFR 60 APP A METH 5
	40 CFR PART 50 1985 APP B
Sulfur Dioxide	40 CFR 60 METH 6

**Purgeable Aromatics**

1,2-Dichlorobenzene  
1,4-Dichlorobenzene  
Benzene

40 CFR PART 60 1984 METH 18  
40 CFR PART 60 1984 METH 18  
40 CFR PART 60 1984 METH 18  
EPA TO-14A

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**Purgeable Aromatics**

Chlorobenzene	40 CFR PART 60 1984 METH 18
Ethyl benzene	40 CFR PART 60 1984 METH 18 EPA TO-14A
Toluene	40 CFR PART 60 1984 METH 18
Total Xylenes	EPA TO-14A

**Purgeable Halocarbons**

1,1,2,2-Tetrachloroethane	40 CFR PART 60 1984 METH 18
1,1-Dichloroethane	40 CFR PART 60 1984 METH 18
1,1-Dichloroethene	40 CFR PART 60 1984 METH 18
1,2-Dichloroethane	40 CFR PART 60 1984 METH 18
1,2-Dichloropropane	40 CFR PART 60 1984 METH 18
Carbon tetrachloride	40 CFR PART 60 1984 METH 18 EPA TO-14A
Chloroform	40 CFR PART 60 1984 METH 18 EPA TO-14A
Methylene chloride	40 CFR PART 60 1984 METH 18
Tetrachloroethene	40 CFR PART 60 1984 METH 18 EPA TO-14A
Vinyl chloride	40 CFR. PART 61 1984 APP B METH 1

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DOH-3317 (3/97)



## **APPENDIX B**

### **Resume for DUSR**



## **AREAS OF EXPERIENCE/EXPERTISE**

Interpretation of laboratory analytical data, analytical method design/evaluation, sampling techniques and design, project quality assurance/quality control, laboratory auditing, data validation/integrity/usability, and laboratory program management

## **EDUCATION**

BS (Biology/Ecology) 1986; State University of New York at Plattsburgh  
AA (Chemistry) 1986; State University of New York at Plattsburgh  
AA (Environmental Science) 1986; State University of New York at Plattsburgh  
AA (Coral Reef Productivity); 1985/1986 State University of New York, Overseas Program in Oceanography – San Salvador, Bahamas

## **CERTIFICATIONS/REGISTRATIONS**

USEPA Data Quality Objectives (February 1997)  
USEPA Integrating Quality Assurance into Project Development (March 1998)  
USEPA Orientation to Quality Assurance (February 1997)  
EPA Region II Inorganic Data Validation (March 1995)  
EPA Region II Organic Data Validation (October 1994)  
OSHA 40-Hour Hazardous Waste Operations Safety Training  
OSHA 8-Hour Supervisor Training  
New York State Emergency Medical Technician (#137223)  
Standard First Aid and CPR  
PADI Open Water Diver (#87233839)  
Hewlett Packard GC/MS Training (July 1993)  
Restek's Capillary Chromatography Seminar (September 1992)  
Hewlett Packard GC/MS and other hyphenated techniques (January 1991)

## **MEMBERSHIPS/POSITIONS**

Poughkeepsie Area Chamber of Commerce  
Dutchess County Legislature: Board of Directors - Resource Recovery Agency Board

## **PROFESSIONAL SOCIETIES**

American Society for Quality (member)

### **Courses Completed:**

Basic Skills Used in Auditing  
Internal Auditing Basics  
Auditing Fundamentals I  
Auditing Fundamentals II  
Process Auditing Techniques

## CONFERENCES

“Fecal Coliform Collection and Data Interpretation”: Presented at the Mississippi Water Environment Association, Jackson, MS (June 2002).

## PUBLICATIONS

“How to Hire an Environmental Testing Laboratory”: Featured in *The Environmental Manager's Compliance Advisor* (Issue EM 559, January 21, 2002).

“Drinking Water Labs Face Stricter Regs- Recommendations to Improve Operations and QA/QC”: Featured in *The Environmental Manager's Compliance Advisor* (Issue EM 566, May 6, 2002).

## GENERAL EXPERIENCE

### **Environmental Laboratory**

Performed laboratory analyses in Inorganic and Organic parameters, including classical chemistry, metals, volatiles, semivolatiles, pesticides, herbicides, and PCB analyses. Additionally, served in management and Quality Assurance Officer roles within laboratories.

### **A/E Engineering-Consulting**

Performed the following: data validation and usability reports for State and Federal Programs, expert reports for purposes of litigation, on-site project specific laboratory audits, field sampling collection, and project design to meet discharge permit requirements, quality assurance manager, and company Data Quality Assurance expert.

## DETAILED EXPERIENCE

2002 to Date

The Data Quality Indicator & Associates, Inc.

- **Hudson River PCBs Site.** Assisted in the preparation of the Quality Assurance Project Plan for the Design Support Sediment Sampling and Analysis Oversight. Assisted MPI, EPA, and USACE with the following: document review of laboratory specific extraction/analysis SOPs for PCB homolog analysis; performed three separate on-site audits of the government oversight laboratory; and performed data validation of over 250 split sediment samples analyzed via EPA Method 680 using data validation guidelines developed by General Electric.
- **Mississippi Department of Environmental Quality.** Contracted to evaluate Bacteriological data generated from sampling conducted at Targeted Pathogen TMDL Locations in the Pearl River and South Independent Stream Basins (Non-Contact Recreational Season – Nov-Dec 2000). Data assessment consisted of precision measurements and statistical examination of fecal coliform data.
- **Mississippi Department of Environmental Quality.** Contracted to evaluate Bacteriological data generated from sampling conducted at Targeted Pathogen TMDL Locations in the Pearl River and South Independent

**DETAILED EXPERIENCE (Continued)**

- Stream Basins (Contact Recreational Season – Sept-Oct 2001). Data assessment consisted of precision measurements and statistical examination of fecal coliform data.
- **Mississippi Department of Environmental Quality.** Contracted to evaluate Bacteriological data generated from sampling conducted at Targeted Pathogen TMDL Locations in the Yazoo River Basin (Contact Recreational Season – Sept-Oct 2001). Data assessment consisted of precision measurements and statistical examination of fecal coliform data.
- **Mississippi Department of Environmental Quality.** Contracted to evaluate Bacteriological data generated from sampling conducted at Targeted Pathogen TMDL Locations in the Pearl River and South Independent Stream Basins (Non-Contact Recreational Season – Nov-Dec 2001). Data assessment consisted of precision measurements and statistical examination of fecal coliform data.
- **Mississippi Department of Environmental Quality.** Contracted to evaluate Bacteriological data generated from sampling conducted at Targeted Pathogen TMDL Locations in the Yazoo River Basin (Non-Contact Recreational Season – Nov-Dec 2001). Data assessment consisted of precision measurements and statistical examination of fecal coliform data.
- **Mississippi Department of Environmental Quality.** Contracted to evaluate Bacteriological data generated from sampling conducted at Targeted Pathogen TMDL Locations in the Pascagoula, Pearl, Tombigbee, Big Black, Tennessee and Northern Independent Stream Basins (Non-Contact Recreational Season – Nov 2001-Feb 2002). Data assessment consisted of precision measurements and statistical examination of fecal coliform data.
- **Philips Lighting Company:** Contracted by Hampton-Clarke to review approximately 250 arsenic, lead, and mercury data to determine the health risk evaluation and environmental impacts. Data validation performed in accordance with EPA Region III - Innovative Approaches to Data Validation finalized June 1995.
- **Former Metal Finishing Corporation Site (Toa Baja, Puerto Rico):** Contracted to review total metals data in soil and groundwater to determine the health risk evaluation and environmental impacts.
- **Quality Electroplating Corporation Site (Toa Baja, Puerto Rico):** Contracted to review total metals, semivolatiles, and pesticide/PCB data in soil and groundwater samples to determine the health risk evaluation and environmental impacts.
- **City of Sacramento:** Contracted to assist in the preparation of a technical memorandum to investigate potential sources of cyanide contamination at WWTP within the City of Sacramento County, Ca.
- **New Rochelle:** Contracted to review classical chemistry and organic analysis on a quarterly basis to monitor environmental conditions in groundwater samples due to contaminated from Underground Storage Tanks.

## DETAILED EXPERIENCE

1995 to 2002

Malcolm Pirnie, Inc.

- **Former Olathe Naval Air Station (NAS) Site Investigation (FUDS):** Responsible for data validation of more than 60,000 data records resulting from a site investigation of 32 areas of concern. Matrices sampled included soil, water (surface and groundwater), concrete, and sediment; analyses included volatiles, semivolatiles, metals, pesticides, PCBs, herbicides, total recoverable petroleum hydrocarbons, and water quality parameters. Duties included coordinating efforts of other data validators and writing/compiling final data validation reports for submittal to the client. Also developed a separate Quality Control Summary Report (QCSR) as part of data validation efforts. Validation was performed in accordance with National Functional Guidelines and qualifiers applied were those established by EPA Region VII.
- **Data Validation on Services at Aberdeen Proving Ground MD:** Responsible for technical review of third-party Contract Laboratory Protocol (CLP) data validation of analytical data from remedial investigations. Results from soil, sediment, surface water, and groundwater sampling were analyzed for metals, phosphorus, volatiles, semivolatiles, pesticides, PCBs, explosives, sulfur compounds, thiodiglycol, radiologicals, and IMPA/MPA. The validation was performed according to the U.S. EPA National Functional Guidelines with Region III modifications. More than 200 samples from four areas of concern were validated.
- **Quality Assurance Program Plan (QAPP) for Environmental Investigations at Fort Drum NY:** Task manager responsible for preparation and implementation of an installation-wide QAPP for all investigations expected to be performed at the Fort Drum military installation by all architect-engineers working at the site. The QAPP covers sampling of soil, sediment, surface water, groundwater, air, and dust, and analysis for metals, phosphorus, petroleum hydrocarbons, volatiles, semivolatiles, pesticides, herbicides, and dioxins.
- **Sampling and Analysis Services at Fort Drum NY:** Responsible for data validation of analytical data from sampling of soil, groundwater, sediment, pure product, dust, and paint chips. Data validation performed in accordance with U.S. EPA National Functional Guidelines with Region II modifications and adapted to New York State analytical protocols and SW-846 methodologies.
- **Laboratory Audits:** Responsible for auditing the technical capabilities and regulatory status of numerous Corps-validated analytical laboratories used for projects with the Kansas City, Baltimore, Philadelphia, and New York Districts of the Corps.
- **Quality Assurance Program Plan (QAPP) for Environmental Investigations at the Defense Personnel Support Center, Philadelphia PA:** Site Chemist responsible for preparation and implementation of a facility-wide QAPP for all investigations expected to be performed at the facility by all architect-engineers working at the site. The QAPP covers sampling of soil, sediment, surface water, groundwater, air, and dust/bulk for DDX analysis.
- **Merritt Smith Consulting:** Served as on-site consultant to evaluate laboratory facilities located in San Francisco Wastewater Treatment Plants; prepared a technical set of QA guidelines for labs to follow.

## DETAILED EXPERIENCE (Continued)

- **Envirosource:** Performed a number of litigation support services for a hazardous waste landfill's lawsuit with the local government. Activities included review of laboratory files for accuracy of reporting and analysis, performing field studies on groundwater collected on-site to demonstrate that the presence of radiological parameters was associated with sediments and not the aqueous fraction of the sample, assisted in preparing and reviewing expert reports for the defendant, reviewed and commented on reports prepared by the plaintiff.
- **Naval Facilities Engineering Command, Northern Division:** Performed an Environmental Baseline Survey for the Prison Complex, which included data validation and evaluation of data associated with sampling events conducted to evaluate potential storage, release, or disposal of hazardous substances or petroleum products in or around the subject property.
- **Naval Facilities Engineering Command, Northern Division:** Performed an Environmental Baseline Survey for the Prison Complex, which included a survey covering all buildings associated with activities related to the prison complex area.
- **North East Ohio Regional Sewer District – Southerly WWTP:** As part of a long-term cyanide monitoring protocol of the plant influent and effluent, served as site chemist to evaluate and address cyanide analytical methods and concentrations. Developed and oversaw standard operating procedures for two different cyanide methods (EPA 1677 and SM 4500).
- **Quality Assurance Project Plan (QAPjP) for Fried Industries Superfund Site, New Jersey:** Site Chemist responsible for preparation and implementation of an work plans, which covered sampling of soil, sediment, surface water, groundwater, air, and dust/bulk.
- **Puerto Rico Aqueduct and Sewer Authority – Ocean Outfall for the Ponce Regional Wastewater Treatment Plant:** Quality Assurance Manager for all activities conducted as part of the 301(h) waiver decision developed to monitor the impact of the approved discharge on the marine biota. Responsible for the following: field and laboratory audits, oversight of field sample collection techniques, data validation, evaluation, and usability of biological and laboratory analytical data, review of subcontract agreements for all laboratory subcontractors on this project, and monitoring of overall quality of the project activities.
- **USACE, Baltimore District: Fort Drum RCRA Closure Building T-4819:** Served as site chemist for a RCRA plan closure of interim-permitted hazardous waste storage building. Performed data validation on floor rinsate, surface soil, and wipe samples (volatiles, semivolatiles, pesticides, PCBs, and metals) and provided usability summary of the data for the building closure.
- **New York City Department of Environmental Protection: Odor Control Design Evaluation for the Manhattan & Bronx Grit Chambers of the Wards Island Water Pollution Control Plant / Bronx NY.** Performed data validation, evaluation, and usability analysis of laboratory-generated data analyses submitted from sample collection of hydrogen sulfide (H<sub>2</sub>S) emissions study for off-site grit chamber facilities serving the plant. The data were used to develop H<sub>2</sub>S emissions estimates from various unit processes for use in developing building ventilation/odor control scenarios, and to evaluate potential off-site impacts using ambient air modeling. In addition, performed an on-site visit to laboratory facility to resolve laboratory data issues.

**DETAILED EXPERIENCE (Continued)**

- **New York City Department of Environmental Protection: VOC & Odor Emissions Studies at Dewatering Facilities / New York NY.** Performed data validation, evaluation, and usability analysis of laboratory-generated data analyses submitted from sample collection of odor control systems at Wards Island, Tallman Island, and Jamaica Water Pollution Control Plants. Building and process air entering and exiting the wet scrubbers and activated carbon vessels were analyzed for hydrogen sulfide, odorous organic compounds, VOCs, and ammonia. The efficiency and performance of the odor control systems were evaluated on the basis of the analytical data. In addition, performed an on-site visit to laboratory facility to resolve laboratory data issues.
- **New York City Department of Environmental Protection: Engine Emissions Studies / New York NY.** Performed data validation, evaluation, and usability analysis of on-site and off-site laboratory-generated data analyses submitted from sample collection of engine testing program at the Tallman Island and Coney Island Water Pollution Control Plants. Data analyses consisted of methods performed to determine the emissions of criteria pollutants and VOCs from internal combustion engines burning digester gas, natural gas, and diesel fuels. Testing results were used in Title V permitting development.
- **New York City Department of Environmental Protection: Kensico Flow Control Modifications – Aerator No. 2 (Delaware Aerator) / Town of Mt. Pleasant NY.** Prepared a Sampling and Analytical Plan (SAP) describing field tasks required to complete the Supply and Discharge Conduit assessment located at Aerator No. 2, Kensico, New York. The SAP outlined field activities, laboratory analyses, and control and disposal of contaminated materials.
- **NYC Transit Authority: Kingsbridge – Phase II.** Conducted a Phase II investigation of a vehicle storage lot to be acquired by NYC Transit. Prepared a Field Work Plan, over-sighted the direct push contractor, collected subsurface soil and groundwater samples, and validated analytical data. Assisted with preparation of findings report that summarized field observations and compared detected contaminant concentrations to state regulatory standards.
- **Puerto Rico Aqueduct and Sewer Authority: Title V Services for 14 Facilities / PR.** Performed data validation, evaluation, and usability analysis of laboratory generated data analyses submitted from sample collection of 12 wastewater treatment plants, 2 water treatment plants, and 2 maintenance facilities owned by the Authority. The data were used to evaluate the applicability of Title V regulations to each facility (major and nonmajor source status). In addition, performed an on-site visit to laboratory facility in San Juan, PR to resolve laboratory data issues.
- **Mississippi Department of Environmental Quality.** Responsible for evaluating Bacteriological data generated from sampling conducted at Targeted Pathogen TMDL Locations in the Pearl River and South Independent Stream Basins. Data assessment consisted of precision measurements and statistical examination of fecal coliform data.
- **USACE, Baltimore District: Remedial Investigation at the Skaneateles Weekend Training Site for the 77<sup>th</sup> Regional Support Command:** Served as site chemist performing laboratory coordination, site sampling, and data validation for activities related to historical release from gasoline underground storage tanks.

## DETAILED EXPERIENCE (Continued)

- **USACE, Baltimore District: Remedial Investigation/Remedial Design, Hancock Field Army Complex:** Coordinated and assisted with soil, surface water, and groundwater field investigations. Performed data validation and data usability reports, and, prepared final investigation reports.
- **USACE, Baltimore District: Sampling and Analysis at Fort Drum:** Responsible for data validation of analytical data from sampling of soil, groundwater, sediment, pure product, dust, and paint chips. Data validation was performed in accordance with USEPA National Functional Guidelines with Region II modifications and adapted to NYS analytical protocols and SW-846 methodologies.
- **USACE, Fort Worth District: Fort Wingate Depot: Soil Background Investigation:** Served as site chemist for an investigation of background concentrations of 30 constituents in the surface soil at a 22,000-acre former munitions storage facility. Prepared Chemical Data Acquisition Plan, performed data validation of over 100 samples (total metals, total phosphorus, nitrate/nitrite, total kjeldahl nitrogen, ammonia-nitrogen, sulfate, and pH), and prepared the Quality Control Summary Report of that investigation. In addition, provided support regarding usability of the data to the USACE statistician.
- **USACE, Fort Worth District: Lone Star Army Ammunition Plant, G and O Pond Units – Affected Property Assessment:** Served as site chemist for a RCRA facility investigation to further characterize the G and O Pond Units. Prepared Chemical Data Acquisition Plan, performed data validation of over 200 samples (total recoverable metals, total metals, SPLP metals, cyanide, hexavalent chromium, TOC, TOX, phenols, explosives, volatiles, semivolatiles, nitrate, nitrite, sulfate, and chloride), and prepared the Quality Control Summary Report of that investigation.
- **USACE, Kansas City District: Brewster Wellfield Superfund Site: Groundwater Treatment and Design:** Performed a bench-scale study of viable treatability technology for groundwater softening. The study included the use of raw groundwater from the site in order to set up the bench-scale process. Rigorous sampling was conducted and field kits were used to assess design parameters.
- **USACE, Kansas City District: Sampling and Analysis at Fort Drum:** Project leader for a responsive sampling and analysis services project. The work consisted of: Proposal preparation for numerous sampling assignments; Coordination of field sampling personnel and analytical laboratory; Collection of samples for evaluation under RCRA and New York State guidelines for hazardous waste; and Analysis of chemical data and report preparation.
- **USACE, Omaha District: Former Glasgow Air Force Base: Remedial Investigation:** Evaluated analytical data collected during remedial activities at 16 former tank sites to evaluate the aerial and vertical extent of contaminated soils and groundwater, resulting from past use of the underground and aboveground storage tanks at the former tank locations. Performed data validation and usability summaries and prepared a Quality Control Summary Report for the USACE.
- **USEPA, Region 2: Franklin Burns Superfund Site:** During the RI/FS, evaluated dioxin-furan groundwater data

**DETAILED EXPERIENCE (Continued)**

- **USEPA, Region 2: White Chemical Corporation Superfund Site:** During the RI/FS, evaluated dioxin-furan data.
- **USEPA, Region 2: ARCS Preremedial Program:** Compilation of the information/data gathered into a site inspection prioritization (SIP) report for submittal to the USEPA. A recommendation was provided based on existing data stating whether the site needed further investigation.
- **USEPA, Region 2: ARCS Preremedial Program:** Performance of sampling activities which included the collection of surface soil samples to determine the absence or presence of contamination on-site.
- **USEPA, Syosset Landfill TMA Investigation:** On this controversial project, evaluated data to identify whether trimellitic anhydride (TMA) was being emitted from the Syosset Landfill, a former Superfund Site, and poisoning local residents. Worked with the EPA and OSHA to develop a modified protocol which could detect TMA at low levels. Assisted in the report preparation process.
- **City Of White Plains: Drum Investigation Activities:** Responsible for the following: define data quality objectives, procurement of certified laboratory, drum sampling, data validation and usability of analytical data, and preparation of final Report of Findings including recommendations to the NYSDEC.
- **City Of White Plains: Drum Removal Activities:** Removal of over 45 hazardous and non-hazardous drums. As task leader, responsible for the following: define data quality objectives, procurement of certified laboratory, prepared specifications for drum removal and soil removal activities, provided oversight of all field activities, pre and post excavation sampling, data validation and usability of analytical data, and preparation of final Report of Findings to the NYSDEC.
- **Central Contra Costa Sanitary District (CCCSD): Cyanide Assessment:** Served as chemist to evaluate and address cyanide analytical methods and concentrations within CCCSD's WWTP.
- **Cytec Industries: NPDES Permit Issues:** Evaluated usability of analytical laboratory data in accordance with the methods performed.
- **Stone & Webster Environmental Technology and Services: FUSRAP Maywood Superfund Site, PDI Work Plan: Preliminary Design Investigation Work Plan:** Twenty-four commercial and government properties, which potentially contained deposits of radioactive residues and/or hazardous chemicals in surface and subsurface soil. The PDI plan was developed to identify all data gaps and summarize the field activities necessary to acquire the additional information necessary to complete the remedial design action for each property. Site-specific information, including civil/property surveys, foundation designs, underground utilities, safety and logistical issues were examined. Radiological, chemical, geotechnical, and design gaps were identified. Properties were grouped into clusters and maps were prepared. To fill data gaps, specific methods and quantities of predesign data collection activities were developed for each cluster. Performed an RPD comparison study measuring reproducibility between the on-site and offsite laboratory data.
- **New York City Department of Environmental Protection: Newtown Creek Water Pollution Control Plant Upgrade: Aquifer Pumping Tests:** Evaluated data collected from a series of aquifer pumping tests which were conducted at the former Exxon, Mobil, and Williamsburg Steel sites.



**DETAILED EXPERIENCE (Continued)**

- **USACE, Kansas City District: Fried Industries Superfund Site – Remedial Design Investigation and Conceptual Design:** Evaluated soil and groundwater data collected from areas of concern.

1994

EA Engineering, Science, and Technology

As Scientist II:

- **USACE, Baltimore District, Fort Drum NY (Gasoline Alley):** Responsible for preparation of Chemical Data Acquisition Plan in accordance with the USCOE's technical guidelines
- **USACE, Kansas City District, Ellsworth Air Force Base NE:** Responsible for validating organic, inorganic, and miscellaneous analyses using the National Functional Guidelines for Organic and Inorganic Data Review.
- **USACE, Baltimore District, Fort Drum NY:** As field chemist, provided support during on-site investigation. Responsible for on-site laboratory setup, maintenance and troubleshooting, sample analysis, sample reporting, and data review and interpretation.
- **Idaho National Environmental Laboratory:** Responsible for preparing in-house data validation guidelines for polychlorinated dibenzo-p-dioxin (PCDD) and dibenzofuran (PCDF) analyses.

1990-1993

Pace, Inc.

- **As Gas Chromatography/Mass Spectrometry (GC/MS) Supervisor:** Provided technical training and support in areas of troubleshooting, data review, and spectral interpretation.
- **As GC/MS Volatile/Semivolatile Analyst:** Performed a wide spectrum of volatile and semivolatile analyses using state-of-the-art analytical instrumentation.

November 1987-March 1990

Nanco Environmental Services, Inc.

- **As Metals Analyst:** Performed analysis of heavy metals for diverse sample types including drinking water, groundwater, core samples, and soil samples.

June-November 1987

Institute of Ecosystem Studies  
The New York Botanical Garden

- **As Research Assistant I:** Responsible for inorganic analysis of on-going acid rain study conducted on the Hubbard Brook Ecosystem samples using a wide range of analytical equipment.



**APPENDIX D**

**Health and Safety Plan**

# **HEALTH AND SAFETY PLAN**

**THE CONCORD HOTEL & RESORT SITE**  
**Concord Road, Kiamesha Lake**  
**Thompson, NY 12751**

**OCTOBER 2004**

**Prepared for:**

**Concord Associates, LP**  
**115 Stevens Ave**  
**Valhalla, NY 10595**

**Prepared By:**

**JM Associates, Inc.**  
**225 Railroad Ave**  
**Bedford Hills, NY 10507**

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### **FIGURES**

- Figure 1 Site Location Map  
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### **APPENDICES**

- Appendix A Incident Report Form  
Appendix B Air Monitoring Log  
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## 1.0 INTRODUCTION

JM Associates has prepared this Site-Specific Health & Safety Plan (HASP) for the Remedial Investigation (RI) and Interim Remedial Measures (IRM) that will be conducted at the 221 Main Street Site located at Concord Road, Kiamesha Lake, Thompson, New York ("the Site") under the New York State Brownfield Cleanup Program (BCP). This HASP has been prepared in accordance with the industry standards of the Federal Occupational Safety and Health Administration (OSHA) as outlined in Title 20 of the Code of Federal Regulations, Parts 1910 and 1926 (20 CFR 1910 and 20 CFR 1926). The HASP is designed to establish site-specific health and safety procedures that will be followed during Site activities in order to minimize exposure of site workers and the community to physical and chemical hazards that may be present at the Site. The HASP will be adhered to by all personnel involved in the investigation. Procedures followed in this HASP are implemented to ensure that workers on the Site as well as people working near the site and the surrounding community are protected from exposures to site contaminants.

## 2.0 SITE DESCRIPTION

Site background information is discussed in the RI/IRM Work Plan. The site is located in the Town of Thompson, Sullivan County, New York as shown on Figure 1, and is occupied by an inactive hotel complex with associated facilities including a swimming pool, tennis courts and two active golf courses. The Site consists of three main areas; Zones 1, 2 and 3. Zone 1 consists of areas in the northwestern portion of the property and includes the Main Hotel Complex, the Main Parking Area Dump Site, the Gas Station and the International Golf Club House and Maintenance Building. The total area of Zone 1 is approximately 203 acres. Zone 2 consists of areas in the south/southeastern central portion of the site and includes the Monster Club House, the Chalet House and Chalet Dump Site and the Golf Maintenance Building and Golf Maintenance Dump Site. The total area of Zone 2 is approximately 170 acres. Zone 3 consists of the International Golf Course Dump Site, located in the northern central portion of the site, north of Zone 2. The total area of Zone 3 is approximately 5 acres. The three areas of the Site are shown on Figure 2.

Soil at the Site is impacted by petroleum products due to historically leaking underground storage tanks (USTs). Four solid waste dump sites exist throughout the Site and groundwater impact is unknown. The Site occupies approximately 378 acres of the total 1,729 acre property. The Site is located in a rural area and is surrounded by residential properties. A small shopping center, retail and food establishments are also located in the vicinity of the Site. Kiamesha Lake, a Class A water body, is located adjacent to the Site to the west, as shown on Figure 1. Kiamesha Creek and its tributaries flow through the Site. As outlined in the Phase II Report completed by Environmental Compliance Services, Inc. (ECSI), dated September 1998, the Leisure Time Water Company, a drinking water supply bottler, is located on the southwestern banks of Kiamesha Lake. Also noted in the Phase II is the existence of Kiamesha Artesian Spring Water Co. located at the northeast portion of the Lake. The Kiamesha Artesian Spring Water Co.

provides potable water to nearby Village and Town residents and businesses, including the Concord facilities.

### **3.0 WORK OBJECTIVE**

The objective of the work being performed at the Site is to remove underground storage tanks and associated contaminated soil, to remove chemicals stored on site. To remove asbestos containing material (ACM), to evaluate the extent of solid waste disposal in Zone 3, to determine impacts to Kiamesha Creek and to determine if groundwater has been impacted. The objectives of the work will be completed in two phases. The first phase is an IRM to remove the USTs and associated contaminated soil, to remove chemicals stored on site and to remove ACM in certain areas of the Main Hotel Complex. The second phase is a RI to determine the extent of solid waste disposal in Zone 3, to determine if Kiamesha Creek has been impacted and to determine if groundwater has been impacted.

#### **3.1 Work Activities**

Specific work activities to be performed include:

- Excavation of USTs and contaminated soil;
- Confirmatory soil sampling;
- Test Pit Investigation;
- Surface water and sediment sampling;
- Monitoring well installation;
- Groundwater sampling.

Safety procedures required for each of the activities to be performed are described in subsequent sections of this HASP.

### **4.0 PERSONNEL**

Personnel at the Site include a project manager, a Health and Safety Officer (HSO), and subcontractors. Visitors may also be on the Site at various times.

#### **4.1 Health and Safety Officer (HSO)**

The Health and Safety Officer (HSO) is responsible for coordination of health and safety procedures and is responsible for compliance with the HASP. The HSO will ensure that all site personnel and visitors read and sign the HASP. All safety concerns should be referred to the HSO. The HSO will make any necessary modifications to the HASP should site conditions change. The HSO will communicate daily with the Project Manager. The HSO for this project is Joe Mazzuco of IMF Safety Services, Inc.



#### 4.2 Project Manager

The Project Manager (PM) is responsible for the overall coordination of work at the Site. All subcontractors and other personnel report to the Project Manager. The Project Manager is required to read and sign the HASP and to adhere to HASP procedures. The Project Manager communicates daily with the HSO. The Project Manager for this project is John Manfredi of JM Associates.

#### 4.3 Subcontractors

J.M. Associates requires that all site contractors work under their own site-specific health and safety plans. J.M. Associates is not responsible for the health and safety of the site contractors. The site contractors will, however, be required to read and sign this site-specific HASP and agree to comply with the procedures outlined in this HASP.

#### 4.4 Visitors

All visitors will be required to sign and read this HASP and agree to follow the procedures outlined in this HASP. Site visitors will not be allowed in designated areas of the Site where work in contaminated areas is being performed as outlined in this HASP.

#### 4.5 Training

Training is required of all employees working in the exclusion and contamination reduction zones. The training requirements are as follows:

- 8 hour awareness class
- Three days of supervised field experience
- HASP training

Documentation of the required training for workers is kept in company files in the J.M. Associates main office.

### 5.0 SITE CONTROL

Prior to the start of field activities, the HSO will be responsible for the designation of the exclusion zone, contamination reduction zone and support zone when intrusive activities are being completed.

The exclusion zone will be defined as the immediate work area and the area within ten feet of the work area. The exclusion zone is the area where the greatest potential hazard exists. **Only authorized workers with the required training are allowed in this zone.**

A contamination reduction zone will be defined by the HSO daily. This zone will be located outside of the exclusion zone, and upwind of the exclusion zone whenever

possible. The contamination reduction zone will be used for the storage of equipment and personnel decontamination.

The support zone will be defined as an outermost area outside the contamination reduction zone. The support zone is a clean area where administrative and support employees remain and where communications are held. Normal work clothes are allowed in this zone. The support zone will be located upwind from high hazard areas as appropriate.

## **6.0 EMERGENCY INFORMATION**

A map of the Site and designated work zones are included as Figures 1 and 2.

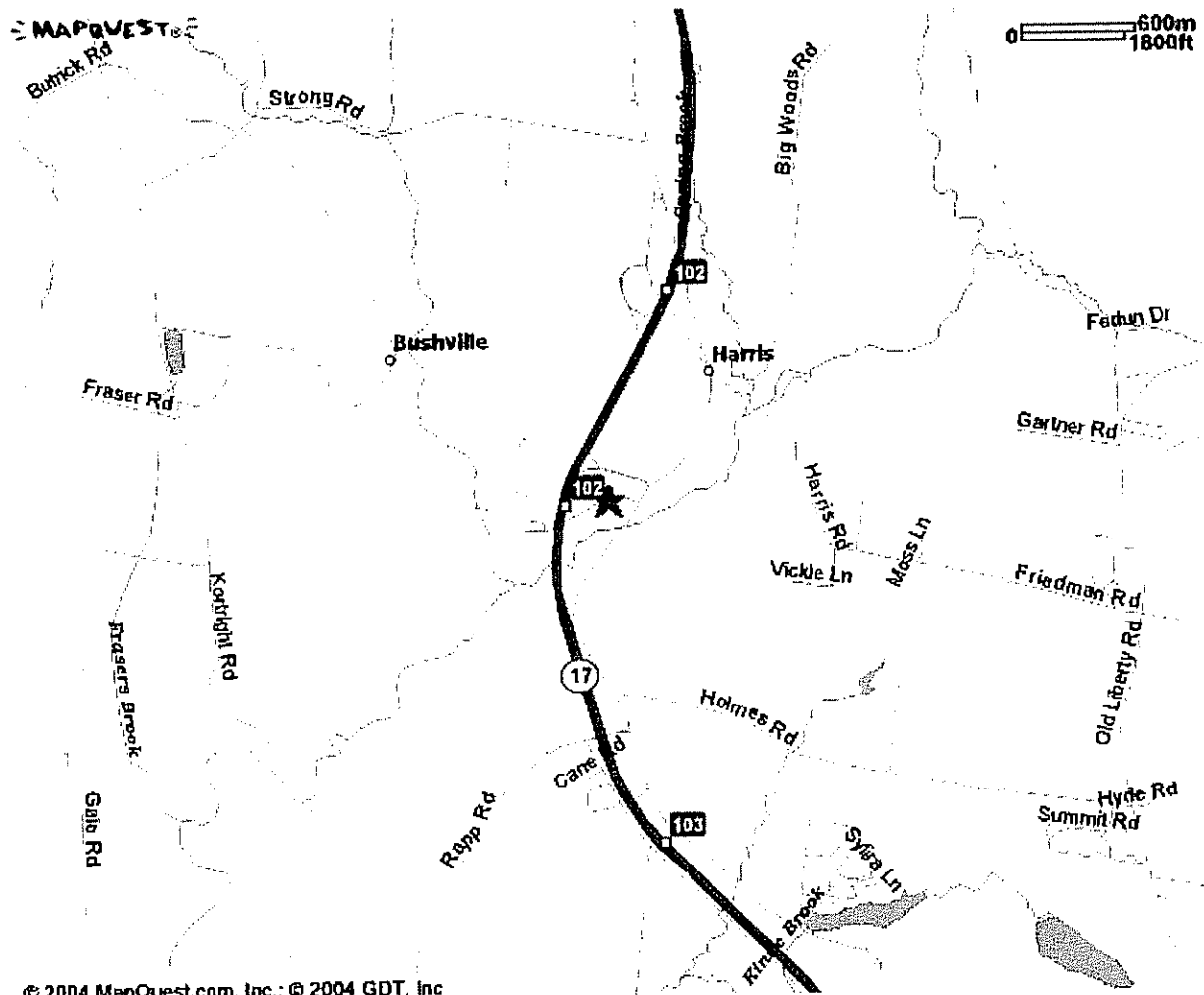
Site Address:	Concord Road Thompson, NY 12571
Health and Safety Officer (HSO):	Joe Mazzuco
General Emergency:	911
Police Department:	Non-emergency: (845) 794-4422 Emergency 911
Fire Department:	Non-emergency: (845) 794-6330 Emergency 911
Ambulance:	Non-emergency: (845) 794-6330 Emergency 911
Hospital:	Catskill Regional Medical 68 Harris Bushville Rd, Harris, NY (845) 794-3300

Directions to Hospital (see attached Map): 5 Miles  
From Concord Road going SOUTH, take a LEFT onto Route 42. Merge onto NY-17W. Take the exit- exit number 102- toward HARRIS/BUSHVILLE. Turn RIGHT onto OLD NY-17/CR-174. Turn RIGHT onto HARRIS BUSHVILLE RD/CR-75. End at 68 Harris Bushville Rd Harris NY.

Poison Control Center:	911
J.M. Associates Information:	225 Railroad Ave Bedford Hills, NY 10507 (914) 241-3795
Signal for Emergency:	Warning Shout

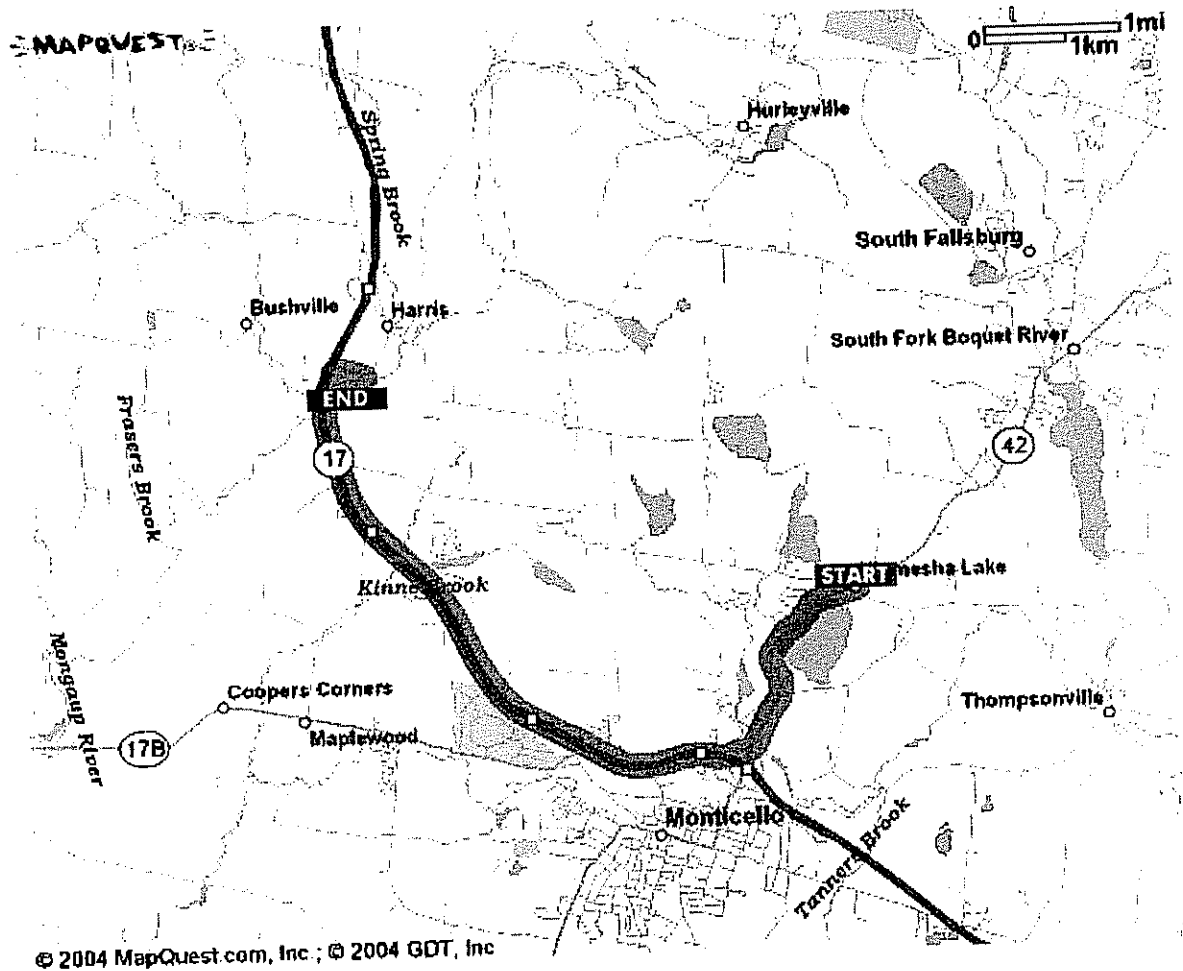
## MAP OF HOSPITAL LOCATION

Catskill Regional Medical  
68 Harris Bushville Rd, Harris, NY  
(845) 794-3300



## DIRECTIONS TO HOSPITAL

From Concord Road going SOUTH, take a LEFT onto Route 42. Merge onto NY-17W. Take the exit- exit number 102- toward HARRIS/BUSHVILLE. Turn RIGHT onto OLD NY-17/CR-174. Turn RIGHT onto HARRIS BUSHVILLE RD/CR-75. End at 68 Harris Bushville Rd Harris NY



Point of Meeting for Emergency: J.M. Associates Project Vehicle

Communication: Cell Phones, Verbal Communication

## 7.0 HAZARD EVALUATION

The potential physical and chemical hazards for this project have been evaluated. Existing information including past experience and past sampling results were used in the evaluation process.

### 7.1 Physical Hazards

Physical hazards for this project include electrical exposure, mechanical exposure, fire/explosion, noise exposure and heat or cold stress. Precautions will be taken to avoid physical hazards and include general safe working practices and proper personal protective equipment. Heat stress and cold stress can be avoided by dressing appropriately and taking necessary work breaks.

### 7.2 Chemical Hazards

The chemical hazards for this site include contact with contaminated soil and groundwater and with chemicals being stored on site. The chemicals known to be associated with the site are petroleum products. Chemicals to be introduced to the site include those from sampling activities, including sample preservatives, and from fuel and oil associated with on-site vehicles. Possible exposures to chemical hazards include dermal contact, inhalation and ingestion.

### 7.3 Health Risk Analysis

OSHA Permissible Exposure Limits (PELs) for the main contaminants of concern at the Site are outlined in Table 1 below.

Compound	NIOSH PEL (ppm)	OSHA PEL (ppm)	NIOSH PEL (STEL) (ppm)
Toluene	100	200	150
Xylene	100	100	150

### 7.4 Task Risk Analysis

A summary of the tasks planned for this project and their associated potential hazards are listed in table 2 below. The protective measures anticipated for each hazard are also outlined.

Task	Hazard	Preventative Measure
Excavation, drilling, installation of monitoring wells	<ul style="list-style-type: none"> <li>• Heavy equipment</li> <li>• Dermal and inhalation exposure to contaminants</li> <li>• Contact with underground utilities</li> <li>• Excavations</li> </ul>	Level D with Levels C upgrade if ambient air VOC concentrations measured with a PID exceed 100 ppm. Do not enter excavations.
Soil, groundwater, surface water and sediment sampling	<ul style="list-style-type: none"> <li>• Exposure to contaminants</li> </ul>	Level D

### 7.5 Traffic Hazards

Traffic at the Site will be limited to necessary construction vehicles. Designated parking areas will be established and personal vehicles will be limited to the designated parking areas. Traffic will be monitored and additional safety measures and traffic control measures will be implemented as needed.

### 8.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)

Personal Protective Equipment (PPE) will be utilized by on-site personnel. It is anticipated that Level D will be sufficient at all times during construction. The levels of PPE are outlined in Table 3 below, along with the conditions under which they will be utilized.

Level of PPE	Application
<b>Level D</b> Work uniform: <ul style="list-style-type: none"> <li>• Long sleeve shirt and pants or coveralls</li> <li>• Hard Hat</li> <li>• Safety Glasses</li> <li>• Steel-toe work boots</li> <li>• Hearing protection (as required)</li> </ul>	PID $\leq$ 100 ppm over 15 minute duration PID $\leq$ 200 ppm under 15 minute duration  (Levels monitored above background levels)
<b>Level C</b> Respirator: <ul style="list-style-type: none"> <li>• Full-face air purifying respirator with VOC cartridges and dust pre-filters</li> </ul> Work Uniform: <ul style="list-style-type: none"> <li>• Chemical resistant suit – Tyvek or equivalent</li> </ul>	PID > 100 ppm (or 250 ppm as above) PID < 750 ppm over 15 minute duration  (Levels monitored above background levels)

<ul style="list-style-type: none"> <li>• Hard Hat</li> <li>• Safety Glasses</li> <li>• Steel-toe work boots with chemical resistant boot covers</li> <li>• Chemical resistant gloves</li> <li>• Hearing protection (as required)</li> </ul> <p>Procedures:</p> <ul style="list-style-type: none"> <li>• Buddy System</li> <li>• Two-way radios</li> </ul>	
---	--

If conditions exceed Level C, work is stopped and emergency evacuation procedures followed.

## 9.0 AIR MONITORING

The RI and IRM activities will be completed outdoors, and will therefore be well-ventilated. Air monitoring will be completed in the exclusion zones to establish action levels for worker respiratory protection and to determine when upgraded PPE is necessary. Direct reading instruments will be used for initial and periodic air monitoring. All air monitoring equipment will be calibrated each day and will be inspected to ensure they are in good working condition. Table 4 below summarizes the air monitoring to be performed at the Site. Additional air monitoring is outlined in Section 13.1.

Instrument	Frequency	Action Level	Action
Photoionization Detector (PID)	When readings are detected	150 ppm (above background)	Upgrade PPE as indicated in Table 3 above.

## 10.0 DECONTAMINATION

It is not expected that PPE will require decontamination. Disposable gloves and sampling equipment will be used and containerized in drums for proper disposal. If Level C PPE is required, disposal boot covers, Tyvek suits, safety glasses, gloves and duct tape will be used. To decontaminate, the disposable materials will be drummed for proper testing and disposal. If necessary, heavy construction equipment will be decontaminated by steam-cleaning and washing with water spray prior to leaving the contamination reduction zone. All waste water would be containerized, tested and properly disposed of.

## 11.0 INCIDENT REPORTING

All injuries and incidences must be reported to the HSO. The HSO will take appropriate action to prevent further exposure or injury. Following an incident, an incident report will be completed. An example of the incident report is included in Appendix A. The

HSO will investigate the event and take corrective action as needed. In the event of a hazardous material spill or reportable release, the appropriate regulatory agencies will be notified by the HSO.

## **12.0 EMERGENCY RESPONSE**

Hospital and emergency contact information is included in Section 6.0. For non-emergencies, a first-aid kit will be located on site in the J.M. Associates project vehicle.

If an upgrade to Level C PPE is necessary, verbal hazard communication may become difficult. Under those circumstances, a universal set of hand signals will be used as follows:

Hand gripping throat	Can't breathe
Grip partner's wrist	Leave work area immediately
Hand on top of head	Need assistance
Thumbs up	Okay, I'm alright, I understand
Thumbs down	No, negative, I do not understand

If Level C PPE is used, the buddy system will be put in place. The buddy system ensures that no employee works alone in the exclusion zone. When working under the buddy system, employees are paired and must always be in close proximity of each other. If one employee needs to leave the exclusion zone, both employees must leave.

### **12.1 Evacuation and Emergency Response**

In the even of an emergency, notify the HSO immediately. The signal to evacuate is a warning shout. All personnel will evacuate to the J.M Associates project vehicle unless otherwise defined by the HSO at the start of the work day.

### **12.2 Spills**

All spills and leaks must be reported to the HSO. If the spill is a threat to human health or the environment, the area should be evacuated and the HSP immediately notified.

## **13.0 COMMUNITY HEALTH AND SAFETY PLAN (CHASP)**

Safe working procedures will be adhered to in accordance with this HASP to ensure protection of the surrounding community. There are several establishments in close proximity to the work area. Construction fencing will be erected around the work areas to ensure confinement of contaminated work areas. Signs will be posted to warn the public to stay out of designated areas.



### 13.1 Community Air Monitoring Plan (CAMP)

Expanded air monitoring will be completed at the downwind perimeter of each designated work area when intrusive activities are being completed in the AOCs. The CAMP is designed to provide a measure of protection for the downwind community, not directly involved with the work, from potential airborne contaminant releases as a direct result of RI and IRM activities.

#### 13.1.1 VOC Monitoring

VOCs will be monitored at the downwind perimeter of the exclusion zone or work zone during on-site work. Monitoring will be completed using a PID capable of calculating 15 minute averages. The meter will be calibrated daily and inspected to ensure it is in good working order. Upwind concentrations will be measured at the start of the work day and periodically to establish background conditions. Continuous air monitoring will be completed during intrusive work activities, including excavation and installation of monitoring wells. Continuous air monitoring will also be completed during the collection of soil gas samples, since the samples will be collected from inside occupied buildings. Periodic monitoring will be conducted during groundwater sampling activities.

All 5 minute readings will be recorded on the logs included in Appendix B. Instantaneous levels used for decision making purposes, if any, will also be recorded. Appropriate conditions will be taken if any of the action levels described below are met during monitoring. Upon completion of the appropriate steps, the HSO must be notified of the conditions that occurred and the steps that were taken.

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.
- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.
- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

### 13.1.2 Particulate Monitoring

During intrusive activities, continuous particulate monitoring will be conducted at the downwind perimeters of the exclusion zone. Monitoring will be completed with a meter capable of measuring particulate matter less than 10 micrometers in size (PM-10) and that is capable of calculating a 15 minute running average concentration. The meter will have an audible alarm to indicate exceedance of the action level. The meter will be calibrated daily and inspected to ensure it is in good working order. Upwind concentrations will be measured at the start of the work day and periodically to establish background conditions.

All 5 minute readings will be recorded on the logs included in Appendix B. Instantaneous levels used for decision making purposed, if any, will also be recorded. Appropriate conditions will be taken if any of the action levels outlined below are met during monitoring. Upon completion of the appropriate steps, the HSO must be notified of the conditions that occurred and the steps that were taken. Fugitive dust migration will be visually assessed during all work activities. Water will be used to suppress excessive fugitive dust as needed and for general dust suppression.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m<sup>3</sup>) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m<sup>3</sup> above the upwind level and provided that no visible dust is migrating from the work area.
- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m<sup>3</sup> above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m<sup>3</sup> of the upwind level and in preventing visible dust migration.

## **APPENDIX A**

### **Incident Report Form**

# GLOBAL REMEDIATION INCIDENT / LESSON LEARNED REPORTING FORM

**COMPLETE & SUBMIT WITHIN 24 HRS OF INCIDENT**

INCIDENT/FILE NO. \_\_\_\_\_

☐ Employee ☐ Contractor ☐ 3rd Party

☐ INITIAL ☐ FINAL

☐ SAFETY ☐ ENVIRONMENTAL

ORIGINAL TO: Functional Manager

COPIES TO: Denise Amtrani

## Business Client

☐ Fuels  
☐ Refining  
☐ Supply  
☐ Upstream  
☐ Chemical  
☐ Lubes  
☐ Other \_\_\_\_\_

## Global Remediation

☐ U.S. Retail Service Stations  
☐ Major Projects  
☐ Technical and Support Services  
☐ Americas South  
☐ Europe/Africa/ME  
☐ Asia Pacific  
☐ Other \_\_\_\_\_

## Incident Type

### SAFETY

Type of Incident (check all that apply):

☐ Injury  
☐ Illness  
☐ Motor Vehicle Incident  
☐ Lesson Learned  
☐ Property/Equipment Damage  
☐ Critical Safety Device Failure  
☐ Other \_\_\_\_\_

If injury/illness (check one):

☐ Fatality  
☐ Lost Time  
☐ Medical Treatment  
☐ 1st Aid Administered (only)  
☐ Restricted Work Activity  
☐ Other \_\_\_\_\_

### ENVIRONMENTAL

Type of Incident (check all that apply):

☐ Environmental Release/Spill  
☐ Exceedance  
☐ Notice of Violation (NOV)  
☐ Environmental Fine/Penalty  
☐ Consent Order  
☐ Lesson Learned  
☐ Other \_\_\_\_\_

## Background Information

Company Name: \_\_\_\_\_ (ExxonMobil or Contractor Company)

Location of Incident: \_\_\_\_\_ Site/Facility/Store #: \_\_\_\_\_  
City: State

Name: \_\_\_\_\_ Social Security #: \_\_\_\_\_ (EM Employee only)  
First Middle Last

Home Address: \_\_\_\_\_ Phone: \_\_\_\_\_  
(No. & Street) City State

Age: \_\_\_\_\_ Gender: ☐ Male ☐ Female

Occupation (Job Title): \_\_\_\_\_

# Years Worked for Company (Incl. Heritage Exxon & Mobil years): \_\_\_\_\_ Years of Service in Current Position: \_\_\_\_\_

Supervisor's Name: \_\_\_\_\_ Supervisor's Phone #: \_\_\_\_\_

EM Contact: \_\_\_\_\_ EM Contact Phone #: \_\_\_\_\_

## Initial Summary Information

1. Date of Incident: \_\_\_\_\_  
Mo. Day Yr.

Time of Incident: \_\_\_\_\_ ☐ a.m. ☐ p.m.

GO TO NEXT PAGE →

## Root Cause Analysis

\*(It is important to carefully examine the events and conditions of what happened during an event to determine the root causes and identify fixable problems. Keep asking "Why" until you get to the bottom or root cause. Too often, we look for the easy or quick answer and never identify the real problems.)  
(Check All Appropriate Boxes)

### Possible Root Causes

- |  |  |   |  |
|--|--|---|--|
| <input type="checkbox"/> <b>Human Performance</b><br>(Ex: Human errors or mistakes; deviation from procedure, work omitted or forgotten, broken rules, incorrect calculations, etc ) | <input type="checkbox"/> <b>Equipment Difficulty</b><br>(Ex: Preventive maintenance problem, design error, unexpected failure, faulty parts) | <input type="checkbox"/> <b>Natural Phenomenon/Sabotage</b><br>(Ex: Tornado, hurricane, natural disaster that is not reasonably protected by facility design, Deliberate & harmful intentions ) | <input type="checkbox"/> <b>Other</b><br>(Ex: Cause does not fit into any other category ) |
|--|--|---|--|

Part Injured	Type Injury/Illness	Type of Incident	Physical Agent
<input type="checkbox"/> Head/Face/Neck	<input type="checkbox"/> Amputation	<input type="checkbox"/> Trip, Slip, or Fall	<input type="checkbox"/> Fixed Equipment, Machinery, Piping, Fittings
<input type="checkbox"/> Eye	<input type="checkbox"/> Fracture/Contusion	<input type="checkbox"/> Over-exertion	<input type="checkbox"/> Portable Equipment, Hoses
<input type="checkbox"/> Arm, Wrist, Hand, Finger	<input type="checkbox"/> Burn/Inflammation	<input type="checkbox"/> Exposure - Vapor/Fume/Dust	<input type="checkbox"/> Solvents/Solvent Vapors/Gases
<input type="checkbox"/> Chest/Neck	<input type="checkbox"/> Embedded Body Puncture/ Foreign Body	<input type="checkbox"/> Splash/Spray	<input type="checkbox"/> Chemicals - Corrosive, Irritants, Others
<input type="checkbox"/> Groin/Abdomen	<input type="checkbox"/> Sprain/Strain/Hernia	<input type="checkbox"/> Temperature Extreme	<input type="checkbox"/> Chemicals - Other
<input type="checkbox"/> Back	<input type="checkbox"/> Laceration/Abrasion	<input type="checkbox"/> Struck by or Against	<input type="checkbox"/> Drums, Pails, Bags
<input type="checkbox"/> Leg	<input type="checkbox"/> Dermatitis/Irritation/ Eczema/ Rash	<input type="checkbox"/> Contact By or With	<input type="checkbox"/> Ladders, Scaffolds, Stairs, Walking Surfaces
<input type="checkbox"/> Foot/Toes/Ankle	<input type="checkbox"/> Occupational Illness, Other	<input type="checkbox"/> Caught In, On, or Between	<input type="checkbox"/> Hand or Portable Tools
<input type="checkbox"/> Shoulder	<input type="checkbox"/> Frostbite	<input type="checkbox"/> Aggravation of Pre-Existing Condition	<input type="checkbox"/> Vehicles, Forklifts, Transports
<input type="checkbox"/> Knee	<input type="checkbox"/> Heat stroke/sunstroke/ heat exhaustion	<input type="checkbox"/> Exceedance: ___ Water ___ Air ___ Other	<input type="checkbox"/> Metals
<input type="checkbox"/> Respiratory System	<input type="checkbox"/> Disorder Assoc. with Repetitive Motion; Vibration	<input type="checkbox"/> Other: _____	<input type="checkbox"/> Environmental heat
<input type="checkbox"/> None	<input type="checkbox"/> None		<input type="checkbox"/> Radiation
<input type="checkbox"/> Other: _____	<input type="checkbox"/> Other: _____		<input type="checkbox"/> Noise/vibration/pressure
			<input type="checkbox"/> Other: _____

15 If employee received first aid/medical treatment, where? \_\_\_\_\_

16 Employee Comments (use space below or attach additional sheet)

GO TO NEXT PAGE →

## Initial Summary Information (cont.)

2. State what individual(s) was doing when injured (be specific).

3. Facts of How Incident Occurred? As known as of date of this report. (Describe fully)

4. Damage control measures/response actions taken. What is being done to minimize or contain the incident?

5. Effect on Company operations.

6. Was alcohol/drug use suspected? ☐ Yes ☐ No If yes, summarize actions/testing where legally permissible.

7. Name of employee and/or contractors involved (if more than 1 individual or personal injury) Extent of injuries

Name	Employee/Contractor?	Company	Extent of injuries
1.			
2.			
3.			

8. Had individual(s) been instructed in the Safe Work Procedure for this job? ☐ Yes ☐ No

9. Were third-party individuals/property involved? ☐ Yes ☐ No If yes, complete below.

Name of Third-Party Personnel Involved	Extent of Injuries to Third Party Personnel	Extent of Damages to Third Party Property
1.		
2.		
3.		

10. Facilities or equipment damage: Extent of damage:  
☐ Company-Owned/Operated ☐ Contractor-Owned/Operated ☐ <\$50k ☐ ≥ \$50k

11. Authorities/Agencies involved or notified; extent and nature of their actual or anticipated involvement.

Authority/Agency Involved	Type (State/Federal/Local)	When Notified	Extent & Nature of Their Actual or Anticipated Involvement
1.			
2.			
3.			
4.			

12. Extent and nature of media coverage, actual or expected. (For boxes checked, describe coverage)  
☐ None ☐ TV ☐ Radio ☐ Newspaper ☐ Other

13. Equipment and/or Product Checks Performed: ☐ Equipment (Equipment name) ☐ Product (Product name)  
 Quality Check(s) Performed? ☐ Yes ☐ No If yes, by Who? When?

GO TO NEXT PAGE →

## Initial Investigation Findings & Follow-up Action Items

17. Investigation Initiated? ☐ Yes ☐ No If yes, by Who? \_\_\_\_\_ When? \_\_\_\_\_

18. Preliminary investigation findings and conclusions regarding the cause of the incident.

19. Corrective action measures being implemented. (See following outline on requirements for reporting Personnel injury)

20. Recommendations to Prevent Future

Recommendation	Person Responsible for Implementation	Due Date

21. OIMS System Relationship (Check all that apply i.e. 3a or 6c, etc.) \*Indicate the specific System the incident relates to based on the root cause analysis.

- ☐ System 1 Management Leadership, Commitment and Accountability
- ☐ System 2 Risk Assessment and Management
- ☐ System 3a Design Practices and Standards
- ☐ System 3b Project Management / Quality Control
- ☐ System 4a Drawings and Other Documentation
- ☐ System 4b Hazard Communication
- ☐ System 4c Maintaining Operating Permits & Communicating SHE Regs
- ☐ System 4d Data Integrity
- ☐ System 5a Selection, Placement & Assessment of Employees
- ☐ System 5b Initial, Ongoing & Refresher Training
- ☐ System 5c Personnel Safety & Occupational Health
- ☐ System 6a Facility Operation, Inspection & Maintenance Procedures
- ☐ System 6b Work Permit Procedures
- ☐ System 6c Critical Safety Devices
- ☐ System 6d Hazardous Emissions / Waste Tracking & Compliance
- ☐ System 6e Facility Abandonment / Temporary Shutdown
- ☐ System 7 Management of Changes
- ☐ System 8 Third-Party Services
- ☐ System 9 Incident Reporting, Investigation and Analysis
- ☐ System 10a Community Awareness
- ☐ System 10b Emergency Response
- ☐ System 1J Operations Integrity Assessment and Improvement

I have reviewed this form with ExxonMobil Representative.

\_\_\_\_\_  
Employee/Contractor/3rd Party Signature

\_\_\_\_\_  
Date

I have reviewed this form with above person.

\_\_\_\_\_  
ExxonMobil Representative Signature

\_\_\_\_\_  
Date

### PRELIMINARY CONCLUSIONS

Initial incident reports may need to be submitted based on incomplete information. Affiliates should ensure the following:

- Initial reports should be clearly marked as being an "Initial Report."
- The initial report should be as factual as possible. Avoid speculation and note when information or conclusions are tentative.

The initial report should indicate that it will be supplemented or corrected as necessary to accurately reflect the cause of the incident as more complete information becomes available.

**APPENDIX B**  
**Air Monitoring Log**



## Air Monitoring Log

[illegible]

## ACKNOWLEDGEMENT OF HASP

By signing below, I attest that I have read the Health and Safety Plan for the 221 Main Street Site and I agree to follow all procedures outlined therein.

[illegible]



## **APPENDIX E**

### **Citizen Participation Plan**

**CITIZEN PARTICIPATION PLAN**  
**THE CONCORD HOTEL & RESORT SITE**  
**Concord Road, Kiamesha Lake**  
**Thompson, NY 12751**

**October 2004**

**Prepared for:**

**Concord Associates, LP**  
**115 Stevens Ave**  
**Valhalla, NY 10595**

**Prepared By:**

**JM Associates, Inc.**  
**225 Railroad Ave**  
**Bedford Hills, NY 10507**

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3.0 PROJECT DESCRIPTION	2
4.0 CITIZEN PARTICIPATION ACTIVITIES	3
5.0 PROJECT CONTACTS	4
6.0 DOCUMENT REPOSITORIES AND LIST OF AVAILABLE DOCUMENTS	4
7.0 PROJECT MAILING LIST	5

## **FIGURES**

- 1 Site Location Map
- 2 Site Zones

## **APPENDICES**

- A Hazardous Waste Site Program Glossary and Acronyms
- B Fact Sheet

## 1.0 INTRODUCTION

The New York State Department of Environmental Conservation (NYSDEC), the New York State Department of Health (NYSDOH), and Concord Associates, LP ("the Applicant") are committed to informing and involving the public during the remedial process at the Concord Hotel & Resort Site under the New York State Brownfield Cleanup Program (BCP). Citizen participation promotes public understanding of the responsibilities and remedial activities associated with this process. Citizen participation provides the Applicant and the NYSDEC with an opportunity to gain public input to support a comprehensive remedial program which is protective of both public health and the environment.

The Remedial Investigation (RI) of a site is a detailed study to determine how much hazardous waste contamination there is at the Site, how far it extends, and potential threats to public health and the environment. An Interim Remedial Measure (IRM) is a discrete action which can be conducted at a site relatively quickly to reduce the risk to people's health and the environment from a well-defined hazardous waste problem. A Remedial Action (RA) takes place to remediate contamination delineated during an RI that was not addressed as part of an IRM.

The CPP describes activities to be conducted throughout the project. The CP activities are designed to achieve the following objectives:

- Help the interested and affected public to understand the contamination problems at the Concord Hotel & Resort Site, and the nature and progress to investigate and clean up the site;
- Ensure open communication between the public and project staff throughout the remedial process;
- Create opportunities for the public to contribute information, opinions and perspectives that have potential to influence decisions about the site's investigation and cleanup.

The Applicant is conducting a remedial program NYSDEC oversight. NYSDEC will implement the CP activities described in this CPP. NYSDOH will participate in many of these activities.

## 2.0 SITE BACKGROUND

The site is located on Concord Rd, Kiamesha Lake, Town of Thompson, Sullivan County, New York as shown on Figure 1. The Site occupies approximately 378 acres of the 1,729 acre property. The Site is located in a rural area and is surrounded by residential properties. A small shopping center, retail and food establishments are also located in the vicinity of the Site. Kiamesha Lake, a Class A waterbody, is located adjacent to the Site to the west, as shown on Figure 1. Kiamesha Creek and its tributaries flow through the Site. As outlined in the Phase II Report completed by Environmental Compliance Services, Inc. (ECSI), dated September 1998, the Leisure Time Water Company, a drinking water supply bottler, is located on the southwestern banks of Kiamesha Lake. Also noted in the Phase II is the existence of Kiamesha Artesian Spring Water Co. located at the northeast portion of the Lake. The Kiamesha Artesian

Spring Water Co. provides potable water to nearby Village and Town residents and businesses, including the Concord facilities.

The site consists of three main areas; Zones 1, 2 and 3. Zone 1 consists of areas in the northwestern portion of the property and includes the Main Hotel Complex, the Main Parking Area Dump Site, the Gas Station and the International Golf Club House and Maintenance Building. The total area of Zone 1 is approximately 203 acres. Zone 2 consists of areas in the south/southeastern central portion of the site and includes the Monster Club House, the Chalet House and Chalet Dump Site and the Golf Maintenance Building and Golf Maintenance Dump Site. The total area of Zone 2 is approximately 170 acres. Zone 3 consists of the International Golf Course Dump Site, located in the northern central portion of the site, north of Zone 2. The total area of Zone 3 is approximately 5 acres.

### **3.0 PROJECT DESCRIPTION**

The planned development for the site consists of the construction of a hotel and recreation complex with retail establishments.

Underground storage tanks (USTs) at the site have historically leaked and have impacted surrounding soils at the Gas Station and Golf Maintenance Building. The USTs and impacted soil will be removed as an Interim Remedial Measure (IRM). The objective of the IRM will be to remove and dispose of all impacted soil and the remaining USTs. The material will be disposed of off-site at a licensed disposal facility. Confirmatory samples will be collected to ensure the contaminated material is removed. During the IRM, remaining chemicals and pesticides stored on site will be removed from the site and properly disposed of. Chemicals are currently being stored in the Gas Station building, the maintenance buildings and in the Main Hotel Complex. Asbestos containing material (ACM) will also be removed from portions of the Main Hotel Complex as part of the IRM.

Preliminary sampling completed during the Phase II has indicated that groundwater at the site may have been impacted by the petroleum contamination at the Gas Station and Golf Maintenance Building. It is unknown if the dump sites are affecting groundwater. A Remedial Investigation (RI) at the Site will be completed after the IRM to fully characterize groundwater conditions throughout the Site. In addition to a groundwater investigation, Zone 3 will also be investigated to determine the extent of the International Golf Course Dump Site. Test pits will be installed around the perimeter of the dump to determine the extent and depth of the waste mass.

Also during the RI, three septic systems existing at the Site will be sampled along with the discharge points of the systems into Kiamesha Creek. The Phase II also revealed the presence of seeps near the Creek at two of the dump sites; the Main Parking Area Dump Site and the International Golf Course Dump Site. Surface water and sediment samples will be collected from the Creek to determine if the septic systems and/or the dump sites have impacted the Creek.

A RI/IRM Work Plan dated October 2004 has been submitted to the NYSDEC that outlines the activities to be completed. The Work Plan was prepared in accordance with NYSDEC guidance documents and is available at the Document Repositories listed in Section 6.0 of this CPP.



## 4.0 CITIZEN PARTICIPATION ACTIVITIES

This section describes the CP activities to be conducted for this Brownfield Cleanup Project. Project staff will perform these activities to inform and involve the affected and interested community in the activities for the Concord Hotel & Resort Site.

A Fact Sheet has been distributed to the project mailing list (see Section 7.0) announcing the transition of the Site into the BCP from the Voluntary Cleanup Program (VCP) and the availability of the RI/IRM Work Plan at the document repositories. The Fact Sheet presented a brief description of the site, including what is known about the extent of contamination, and announced a 45-day public comment period on the Work Plan. It also outlined upcoming activities and identified State contacts that can provide additional site information. A copy of this Fact Sheet is attached in Appendix B.

When the 45-day comment period is over, and the Work Plan is approved by the NYSDEC and NYSDOH, the work will be completed. A Fact Sheet will be mailed at that time to announce the start of the field work.

Once the IRM work is complete, the findings and a description of the activities completed will be submitted to the NYSDEC in an IRM Report. After completion of the RI activities, a RI Report will be submitted. At the time of the Report submission, a Fact Sheet will be mailed that presents the findings of the RI and IRM and that outlines the next steps to be taken at the Site based on the findings.

CP activities for this site include:

- Establishment of Document Repositories.
- Creation of a mailing list for the Potentially Affected/Interested Public. Individuals and groups included in the Contact List (see Section 7.0 of this CPP) will receive all mailings. The list will be updated as needed.
- Identification of the NYSDEC and NYSDOH Project Managers for the project and the ways for the public to contact them. Interested persons are encouraged to contact staff at any time with additional issues or information needs.
- Mailing of a Fact Sheet announcing the availability of the RI/IRM Work Plan and a 45-day public comment period on the Work Plan to the Public Contact List (see Appendix B).
- Mailing a Fact Sheet prior to the commencement of field activities notifying the public when the construction activities will begin. A copy of the approved RI/IRM Work Plan will be placed in the document repositories.
- Mailing an RI and IRM Complete Fact Sheet and announcing the availability of the RI and IRM Reports to the Public Contact List. The RI Report will evaluate alternatives for remediating the Site.

- Development and submittal of a Remedial Action Work Plan which outlines the chosen remedy for the Site. At the time of the Work Plan submission to the NYSDEC, a Fact Sheet will be mailed and a 45-day public comment period on the Work Plan will be announced.
- Mailing of a Fact Sheet prior to commencement of construction activities related to the remediation outlined in the Remedial Action Work Plan.
- After completion of the work, a Final Engineer's Report, also called a Remedial Action Report, will be prepared summarizing the work performed. A Fact Sheet will be mailed describing the Engineer's Report.
- A Fact Sheet will be mailed to the Public Contact list after the remediation has been deemed complete and a Certificate of Completion (COC) is issued by the NYSDEC.

## **5.0 PROJECT CONTACTS**

For additional information about the program to investigate and remediate the Concord Hotel & Resort Site, the public is encouraged to contact any of the following project staff:

New York State Department of Environmental Conservation (NYSDEC):

Andrew Lent  
NYSDEC Region 3  
200 White Plains Rd, 5<sup>th</sup> Floor  
Tarrytown, NY 10591  
(914) 332-1835

New York State Department of Health (NYSDOH):

Project Manager  
NYSDOH  
Flannigan Square  
547 River Street  
Troy, NY 12180  
(800) 458-1158 x2-7880

## **6.0 DOCUMENT REPOSITORIES AND LIST OF AVAILABLE DOCUMENTS**

Two document repositories have been established to provide the public with convenient access to important project documents and other information. This information will include reports, data and other information gathered and developed during the course of the BCP Project. The Document Repositories are established at the following locations:

Crawford Public Library  
Reference Desk  
187 Broadway #189  
Monticello, NY 12701  
(845) 794-4660

Hours of Operation:

Monday, Tuesday, Thursday, Friday	10:00 am – 6:00 pm
Wednesday	10:00 am – 7:30 pm
Saturday	11:00 am – 3:00 pm
Sunday	Closed

NYSDEC  
Region 3 Office  
21 South Putt Corners Rd  
New Paltz, NY 12561  
(845) 256-3000

Hours of Operation:

Monday to Friday	9:00 am - 4:45 pm
------------------	-------------------

### Available Documents

The documents available in the repositories are:

- Remedial Investigation and Interim Remedial Measure Work Plan, J.M. Associates, October 2004
- Citizen Participation Plan for the Concord Hotel & Resort Site, J.M. Associates, October 2004
- Brownfield Cleanup Program Fact Sheet, Work Plan Availability and Comment Period Announcement, October 2004

As new documents are generated during the remedial process, they will be placed in the repositories.

## **7.0 PROJECT MAILING LIST**

The following mailing list has been developed to help NYSDEC keep the community informed about and involved in the remedial process for the Concord Hotel & Resort Site. The list includes adjacent property owners, local officials and local media. This list will be reviewed periodically and updated as appropriate.

Note: The adjacent/affected property owner and resident portion of the list is maintained confidentially in project files at the NYSDEC Region 3 Office.

**Federal Elected Officials**

Senator Hillary R. Clinton  
United States Senate  
476 Russell Senate Office Building  
Washington, D.C. 20510

Senator Charles Schumer  
United States Senate  
313 Hart Senate Office Building  
Washington, D.C. 20510

Representative Maurice Hinchey  
291 Wall St.  
Kingston, NY 12401

**State Officials**

Marc Moran, Regional Director  
NYSDEC – Region 3 Office  
21 South Putt Corners Road  
New Paltz, New York 12561

Wendy Rosenbach, Public Affairs Officer  
NYSDEC – Region 3 Office  
21 South Putt Corners Road  
New Paltz, New York 12561

Ram Pergadia  
NYSDEC – Region 3 Office  
21 South Putt Corners Road  
New Paltz, New York 12561

Michael J. Knipfing  
NYSDEC – Region 3 Office  
21 South Putt Corners Road  
New Paltz, New York 12561

Denise D'Ambrosio, Esq.  
NYSDEC DEE  
200 White Plains Road, 5<sup>th</sup> Floor  
Tarrytown, NY 10591-5805

Andrew Lent  
NYSDEC Region 3  
200 White Plains Road, 5<sup>th</sup> Floor  
Tarrytown, NY 10591-5805

Gary Litwin  
NYSDOH  
Flannigan Square  
547 River Street  
Troy, NY 12180

**State Elected Officials**

Senator John J. Bonacic  
815 Legislative Office Building  
Albany, NY 12247

Assembly Member Aileen M. Gunther  
417 Legislative Office Building  
Albany, NY 12248

**County and Town Officials**

Briggs, Daniel L  
County Manager  
100 North Street  
County Government Center  
Monticello, NY 12701

Sullivan County Clerk  
Cooke, George L.  
100 North Street  
County Government Center  
Monticello, NY 12701

Mayor Gary P. Sommers  
Village of Monticello  
2 Pleasant Street  
Monticello, New York 12701

Commissioner Dr. William Pammer, Jr.  
Sullivan County Planning & Community  
Development  
Sullivan County Government Center  
100 North Street, P.O. Box 5012  
Monticello, NY 12701-5192

Director  
New York State Department of Health  
Monticello District Office  
50 North Street #2  
Monticello, NY 12701

Anthony Cellini  
Town of Thompson Supervisor  
4052 Route 42  
Monticello, NY 12701

Norman Kaufman, Chairman  
Village of Monticello Planning Board  
2 Pleasant Street  
Monticello, New York 12701

Allen Mendels, Chairman  
Village of Monticello Zoning Board  
2 Pleasant Street  
Monticello, New York 12701

Councilman Peter Briggs  
4052 Route 42  
Monticello, NY 12701

Councilman William Rieber  
4052 Route 42  
Monticello, NY 12701

Councilman Stewert Satenstein  
4052 Route 42  
Monticello, NY 12701

Councilman John Washington  
4052 Route 42  
Monticello, NY 12701

Clarence A. Decker.  
Water Department Superintendent  
NYS Route 42  
Kiamesha Lake, New York 12751

Donald S. Price  
Town Clerk, Town of Thompson  
4052 Route 42  
Monticello, NY 12701

## Media

Editor  
Hudson Valley Business Journal  
86 East Main Street  
Wappingers Falls, New York 12590

Editor  
The River Reporter  
PO Box 150  
Narrowsburg, NY 12764

Editor  
The Sullivan County Democrat  
P.O. Box 1035  
10 St. John Street  
Monticello, NY 12701

Editor  
The Times Herald Record  
40 Mulberry Street  
PO Box 2046  
Middletown, NY 10940

Editor  
The Towne Crier  
PO Box 321  
Livingston Manor, NY 12758

News Director  
Time Warner Cable 6  
P.O. Box 887  
Middletown, NY 10940

News Director  
Hudson Valley News Network  
42 Marcy Lane  
Middletown NY 10941

News Director  
WDNB  
286 Broadway  
Monticello, NY 12701

News Director  
WJFF Radio Catskill  
4765 State Rt. 52  
P.O. Box 546  
Jeffersonville, NY 12748

News Director  
WSUL  
PO Box 98.3  
198 Bridgeville Rd  
Monticello, NY 12701

News Director  
WVOS  
Mountain Broadcasting Corp  
Sullivan Ave  
Liberty, NY 12754

**Other Interested Parties**

Crawford Public Library  
Reference Desk  
187 Broadway #189  
Monticello, NY 12701

# **APPENDIX A**

## **Hazardous Waste Site Program Glossary and Acronyms**

# Hazardous Waste Site Program Glossary and Acronyms

## GLOSSARY

This glossary defines terms associated with New York's hazardous waste site citizen participation program, and important elements of the hazardous waste site remedial program. Words in **bold** in the definitions are defined elsewhere in the glossary. A list of acronyms often used in the remedial program begins on page D-7.

<b>Administrative Record</b>	Part of a site's <b>Record of Decision</b> which lists and defines documents used in the development of NYSDEC's decision about selection of a remedial action.
<b>Availability Session</b>	A scheduled gathering of program staff and members of the public in a casual setting, without a formal presentation or agenda but usually focusing on a specific aspect of a site's remedial process.
<b>Citizen Participation</b>	A program of planning and activities to encourage communication among people affected by or interested in hazardous waste sites and the government agencies responsible for investigating and remediating them.
<b>Citizen Participation Plan</b>	A document which must be developed at a site's <b>Remedial Investigation</b> stage. A CP Plan describes the citizen participation activities that will be conducted during a site's remedial process.
<b>Citizen Participation Record</b>	A document prepared at a major remedial stage which describes the citizen participation activities required at that stage. A CP Record also directs a scoping process to determine if additional citizen participation activities are appropriate and feasible.



### 3      **Hazardous Waste Site Program Glossary and Acronyms**

#### **Citizen Participation Specialist**

A staff member from an NYSDEC central office or regional office who has specialized training and experience to assist a **project manager** and other staff to plan, conduct and evaluate a site-specific citizen participation program.

#### **Classification**

A process to place a hazardous waste site within a category which defines its hazardous waste status and its threat or potential threat to public health and the environment. Sites are listed along with their classifications in the **Registry of Inactive Hazardous Waste Disposal Sites**.

**Class 1** - causing or representing an imminent danger of causing irreversible or irreparable damage to public health or environment -- immediate action required.

**Class 2** - significant threat to public health or environment -- action required.

**Class 2a** - temporary classification assigned to a site for which there is inadequate or insufficient data for inclusion in any other classification.

**Class 3** - does not present a significant threat to public health or environment -- action may be deferred.

**Class 4** - site properly closed -- requires continued management.

**Class 5** - site properly closed -- no further action required.

**Delisted** - site no longer considered an inactive hazardous waste disposal site.

#### **Comment Period**

A time period for the public to review and comment about various documents and DER actions. For example, a 30-day comment period is provided when DER issues a **Proposed Remedial Action Plan (PRAP)**, and when DER proposes to **Delist** a site from the **Registry of Inactive Hazardous Waste Disposal Sites**.

#### 4      **Hazardous Waste Site Program Glossary and Acronyms**

##### **Consent Order**

A legal and enforceable agreement negotiated between NYSDEC and a **responsible party**. The order sets forth agreed upon terms by which a responsible party will undertake site investigation and/or cleanup, or pay for the costs of those activities. The order includes a description of the remedial actions to be taken by the responsible party with NYSDEC oversight, and a schedule for implementation.

##### **Contact List**

Names, addresses and/or telephone numbers of individuals, groups, organizations, government officials and media affected by or interested in a particular hazardous waste site. The size of a contact list and the categories included are influenced by population density, degree of interest in a site, the stage of the remedial process and other factors. It is an important tool needed to conduct outreach activities.

##### **Delist**

Action by which DER removes a hazardous waste site from the **Registry of Inactive Hazardous Waste Disposal Sites** upon determination that: the site contains inconsequential amounts of hazardous waste; or that a remediated site no longer requires **Operation and Maintenance**; or that a remediated site does not require Operation and Maintenance. A proposal to delist a site triggers a public notification and **comment period** process.

##### **Division of Environmental Enforcement (DEE)**

A unit within the New York State Department of Environmental Conservation which works with the **Division of Environmental Remediation** and others to negotiate with **responsible parties** to achieve agreements for the investigation and remediation of hazardous waste sites. A negotiated agreement is contained in a **consent order**.

##### **Division of Environmental Remediation**

Formerly the **Division of Hazardous Waste Remediation**, a major program unit within the New York State Department of Environmental Conservation created to manage the hazardous waste site remedial program from site discovery through **Operation and Maintenance** activities. Staff include: engineers, geologists, chemists, attorneys, citizen participation specialists, environmental program specialists and support staff.

## 5 Hazardous Waste Site Program Glossary and Acronyms

**Division of Hazardous Waste Remediation** of (See **Division of Environmental Remediation**.)

<b>Document Repository</b>	A file of documents pertaining to a site's remedial and citizen participation programs which is made available for public review. The file generally is maintained in a public building near the hazardous waste site to provide access at times and a location convenient to the public.
<b>Enforcement</b>	NYSDEC's efforts, through legal action if necessary, to compel a <b>responsible party</b> to perform or pay for site remedial activities. NYSDEC may perform this effort by itself or in concert with other agencies.
<b>Environmental Quality Bond Act (EQBA)</b>	The 1986 Environmental Quality Bond Act which gives New York State bonding authority of up to \$1.2 billion to fund the State's share of the total cost of remediating hazardous waste sites in New York State.
<b>Fact Sheet</b>	A written discussion about part or all of a site's remedial process, prepared and provided by DER to the public. A fact sheet may focus on: a particular element of the site's remedial program; opportunities for public involvement; availability of a report or other information, or announcement of a <b>public meeting</b> or <b>comment period</b> . A fact sheet may be mailed to all or part of a site's <b>contact list</b> , distributed at meetings, placed in a <b>document repository</b> and/or sent on an "as requested" basis.
<b>Interim Remedial Measure (IRM)</b>	A discrete action which can be conducted at a site relatively quickly to reduce the risk to people's health and the environment from a well-defined hazardous waste problem. An IRM can involve removing contaminated soil and drums, providing alternative water supplies or securing a site to prevent access.
<b>National Priorities List</b>	The U.S. Environmental Protection Agency's list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial response using money from a special trust fund.

## 6 Hazardous Waste Site Program Glossary and Acronyms

<b>New York State Department of Health</b>	Agency within the executive branch of New York State government which: performs health-related inspections at suspected hazardous waste sites; conducts health assessments to determine potential risk from environmental exposure; reviews Risk Assessments prepared during the <b>Remedial Investigation and Feasibility Study</b> ; conducts health-related community outreach around sites; and reviews remedial actions to assure that public health concerns are adequately addressed.
<b>New York State Department of Law</b>	Agency within the executive branch of New York State government which takes the lead on hazardous waste sites requiring civil enforcement through court action. Litigation can involve negotiations and court action with <b>responsible parties</b> to clean up sites; natural resource damage claims, and recovery of remedial costs.
<b>New York State Registry of Inactive Hazardous Waste Disposal Sites</b>	The “Registry.” A document which NYSDEC is directed by law to maintain and which lists and provides information about every hazardous waste site in New York State which meets criteria established through a definition of hazardous waste and a <b>classification</b> system.
<b>Operable Unit</b>	A discrete part of an entire site that produces a release, threat of release, or pathway of exposure. An Operable Unit can receive specific investigation, and a particular remedy may be proposed. A <b>Record of Decision</b> is prepared for each Operable Unit.
<b>Operation and Maintenance</b>	A period in which remedial action may be conducted following construction at a site (for example, operation of a “pump and treat” system), or which is performed after a remedial action to assure its continued effectiveness and protection of people’s health and the environment. Activities can include site inspections, well monitoring and other sampling.
<b>Preliminary Site Assessment (PSA)</b>	A PSA is DER’s first investigation of a site. A PSA is performed to determine if a site meets New York State’s definition of an inactive hazardous waste disposal site by confirming the presence of hazardous waste and determining if the site poses a significant threat to public health or the environment.

## 7 Hazardous Waste Site Program Glossary and Acronyms

<b>Project Manager</b>	An NYSDEC staff member within the <b>Division of Environmental Remediation</b> (usually an engineer, geologist or hydro geologist) responsible for the day-to-day administration of remedial activities at, and ultimate disposition of, a hazardous waste site. The Project Manager works with legal, health, <b>citizen participation</b> and other staff to accomplish site-related goals and objectives.
<b>Proposed Remedial Action Plan (PRAP)</b>	An analysis by DER of each alternative considered for the remediation of a hazardous waste site and a rationale for selection of the alternative it recommends. The PRAP is created based on information developed during the site's <b>Remedial Investigation and Feasibility Study</b> . The PRAP is reviewed by the public and other state agencies.
<b>Public Meeting</b>	A scheduled gathering of <b>Division of Environmental Remediation</b> staff with the affected/interested public to give and receive information, ask questions and discuss concerns about a site's remedial program. Staff from other NYSDEC divisions, legal and health staff, and staff from consultants and a responsible party often also attend. A public meeting, unlike an <b>availability session</b> , generally features a formal presentation and a detailed agenda.
<b>Reclassification</b>	A process by which DER redefines the threat posed by a hazardous waste site to public health and the environment by developing and assessing site information and, based on findings and conclusions, assigning a new <b>classification</b> code.
<b>Record of Decision (ROD)</b>	A document which provides definitive record of the cleanup alternative that will be used to remediate a hazardous waste site. The ROD is based on information and analyses developed during the <b>Remedial Investigation/Feasibility Study</b> and public comment.

## 8 Hazardous Waste Site Program Glossary and Acronyms

### **Remedial Alternatives Report (RAR)**

A report that contains an evaluation of options for the remediation of any contamination in, on, or under, or emanating from, a property that includes an analysis of data and other information concerning the nature and extent of that property's contamination and is generally performed concurrently, and in an interactive fashion, with the site investigation.

### **Remedial Construction**

The physical development, assembly and implementation of the remedial alternative selected to remediate a site. Construction follows the **Remedial Design** stage of a site's remedial program.

### **Remedial Design**

The process following finalization of a **Record of Decision** in which plans and specifications are developed for the **Remedial Construction** of the alternative selected to remediate a site.

### **Remedial Investigation/ Feasibility Study (RI/FS)**

The RI fully defines and characterizes the type and extent of hazardous waste contamination at the site. The FS, which may be conducted during or after the RI, uses information developed during the RI to develop alternative remedial actions to eliminate or reduce the threat of hazardous waste contamination to public health and the environment.

### **Responsible Party**

An individual or business who: currently owns or operates a hazardous waste site; or historically owned or operated a site when hazardous waste was disposed; or generated hazardous waste at a site; or transported hazardous waste to a site.

### **Responsiveness Summary**

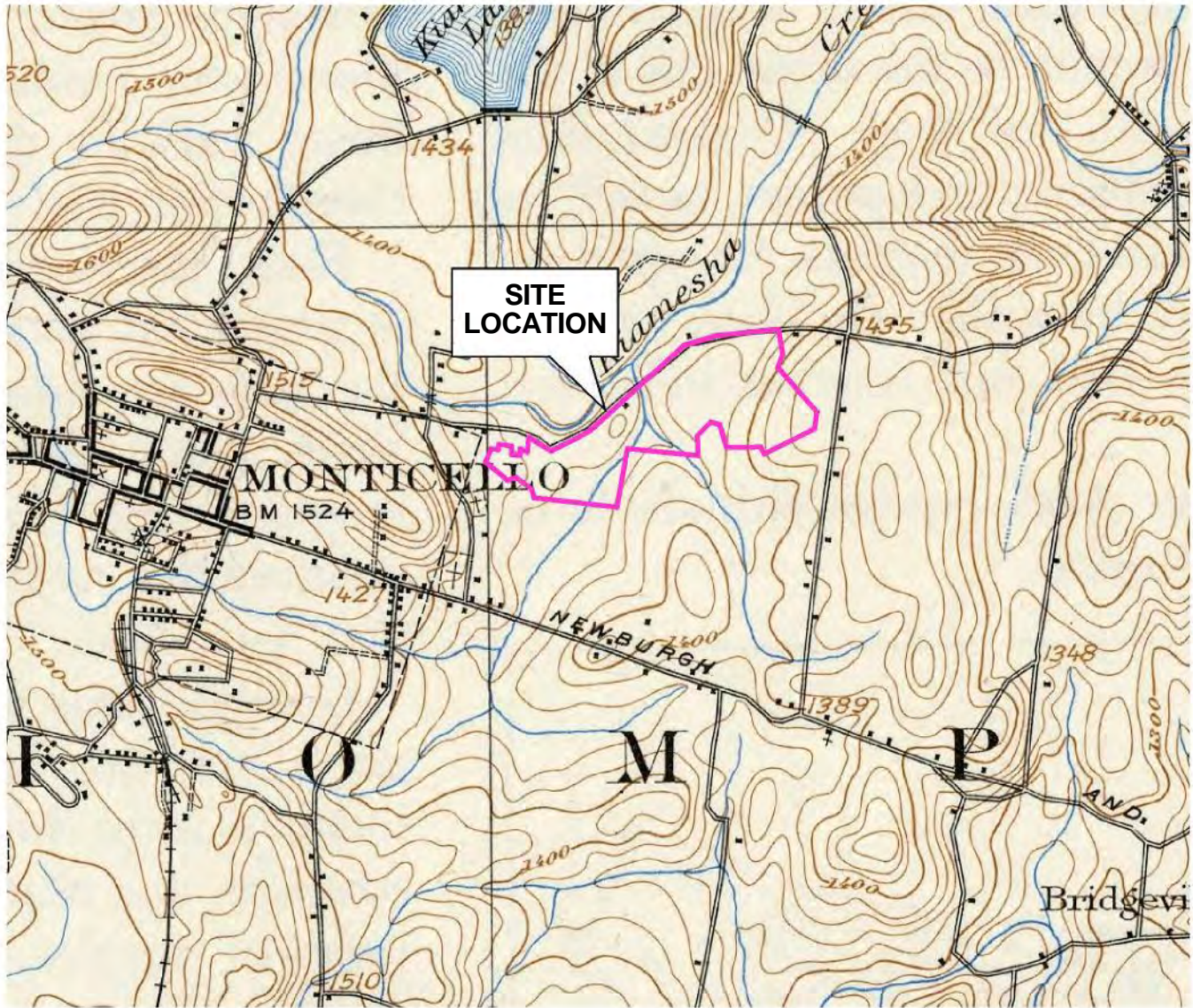
A written summary of major oral and written comments received by DER during a **comment period** about key elements of a site's remedial program, such as a **Proposed Remedial Action Plan**, and DER's response to those comments.

### **Site Investigation (SI)**

A process undertaken to determine the nature and extent of contamination in, on, and under, and emanating from a property. The **SI** includes the gathering of sufficient information to determine the necessity for, and the selection of the appropriate method of, remediation of contamination in, on, or under, or emanating from a property.

**APPENDIX C**  
**HISTORICAL TOPOGRAPHICAL MAPS**





**LEGEND:**

 PROJECT SITE BOUNDARY

**Concord Parcel 1 and 2**  
Thompson, New York

**1911 TOPOGRAPHIC MAP**



**Environmental Consultants**  
440 Park Avenue South, New York, N.Y. 10016

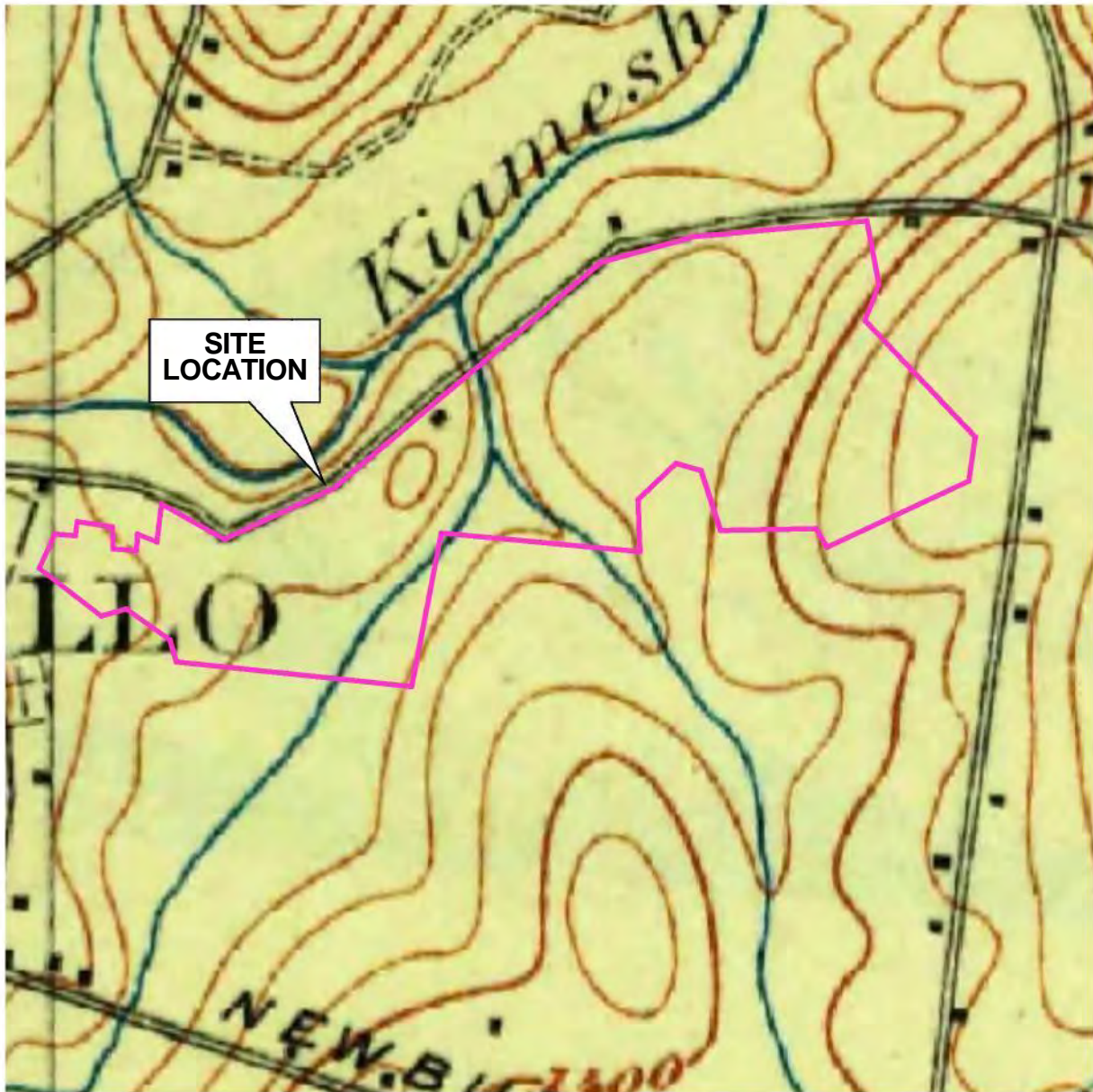
DATE  
**5.30.13**

PROJECT No.  
**40376**

SCALE  
**nts**

FIGURE  
**Appx C**





**LEGEND:**

— PROJECT SITE BOUNDARY

**Concord Parcel 1 and 2**  
Thompson, New York

**1916 TOPOGRAPHIC MAP**



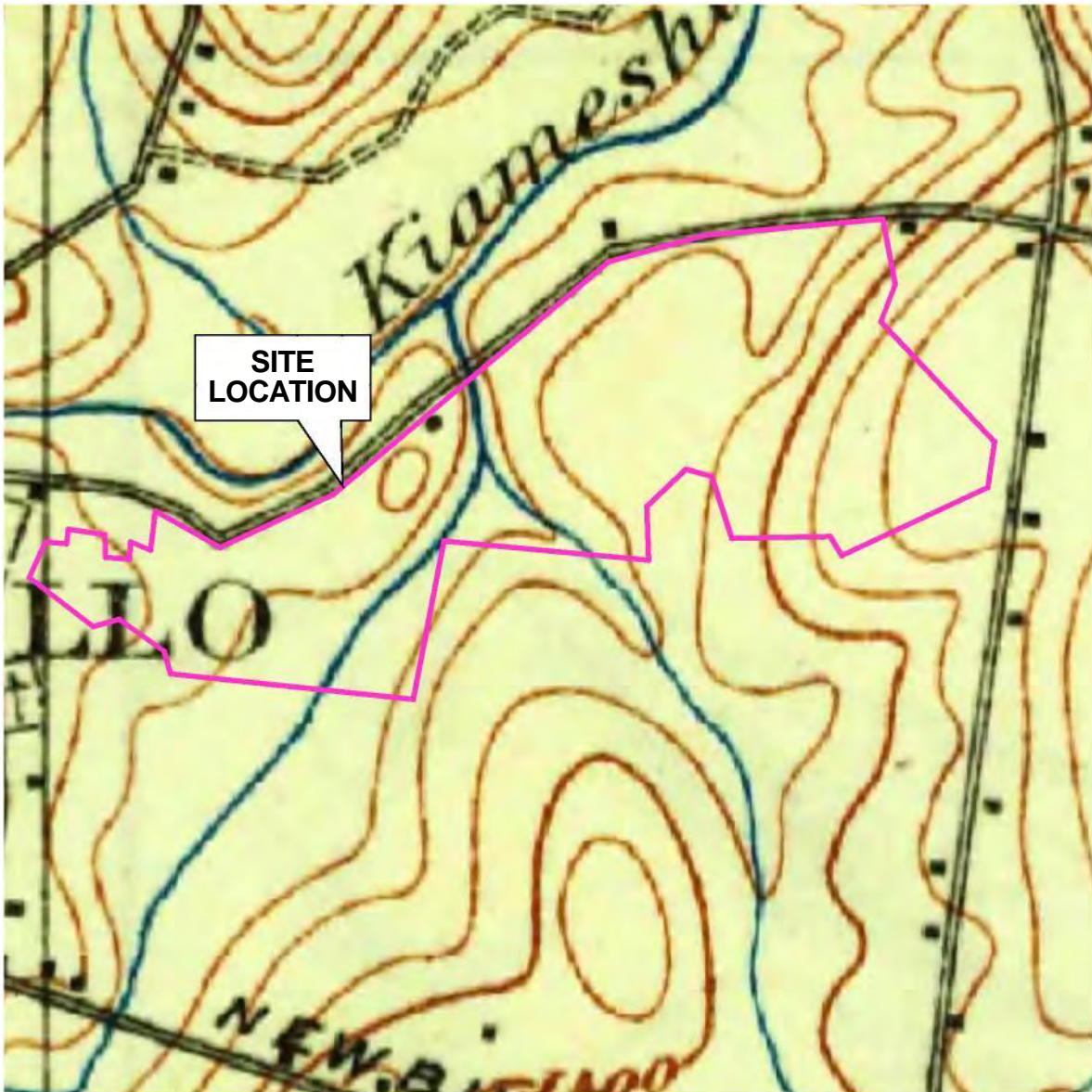
**Environmental Consultants**  
440 Park Avenue South, New York, N.Y. 10016

DATE  
**5.30.13**

PROJECT No.  
**40376**

SCALE  
**nts**

FIGURE  
**Appx C**



**LEGEND:**

— PROJECT SITE BOUNDARY

**Concord Parcel 1 and 2**  
Thompson, New York

**1925 TOPOGRAPHIC MAP**



**Environmental Consultants**  
440 Park Avenue South, New York, N.Y. 10016

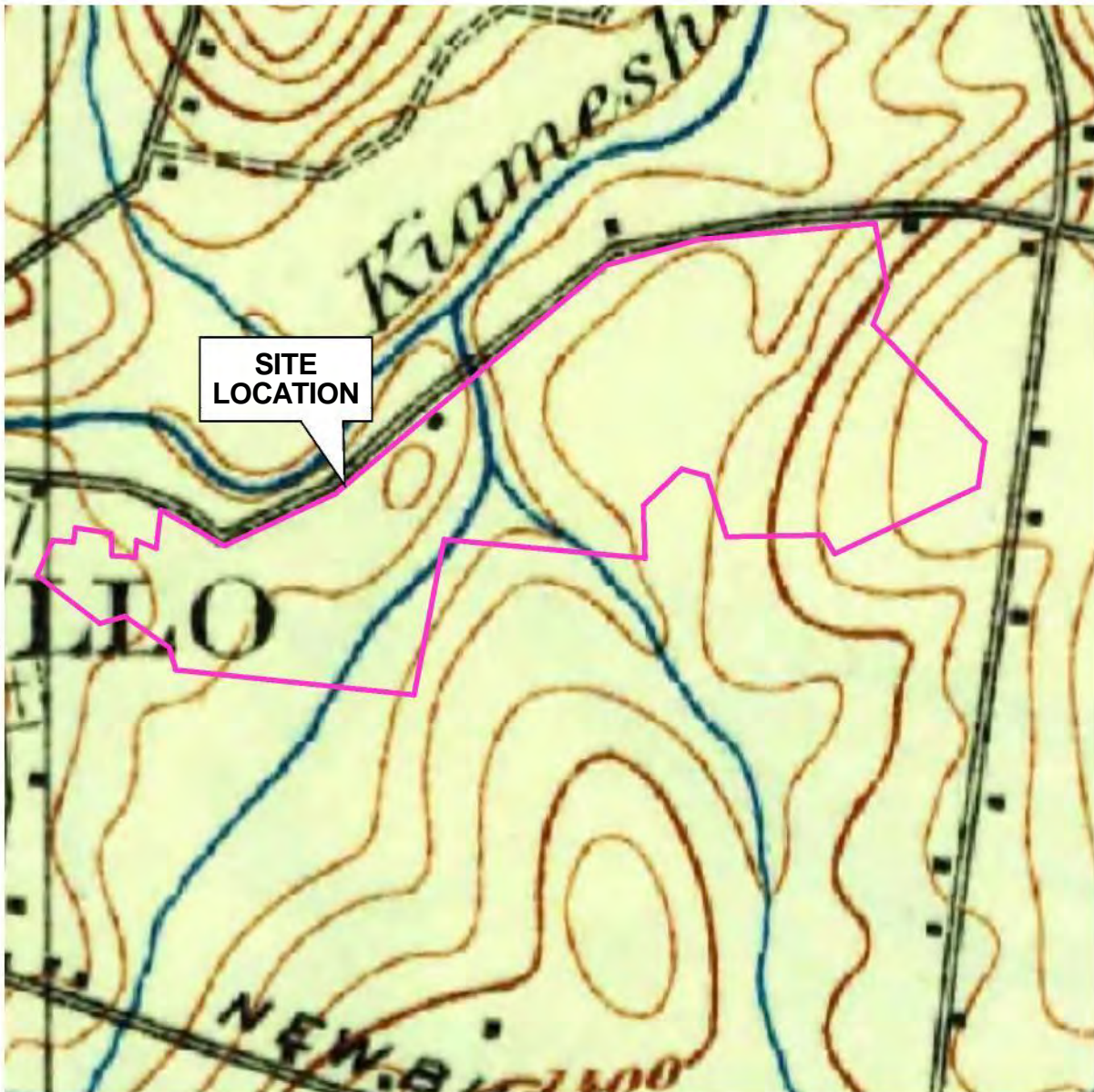
DATE  
**5.30.13**

PROJECT No.  
**40376**

SCALE  
**nts**

FIGURE  
**Appx C**





**LEGEND:**

— PROJECT SITE BOUNDARY

**Concord Parcel 1 and 2**  
Thompson, New York

**1931 TOPOGRAPHIC MAP**



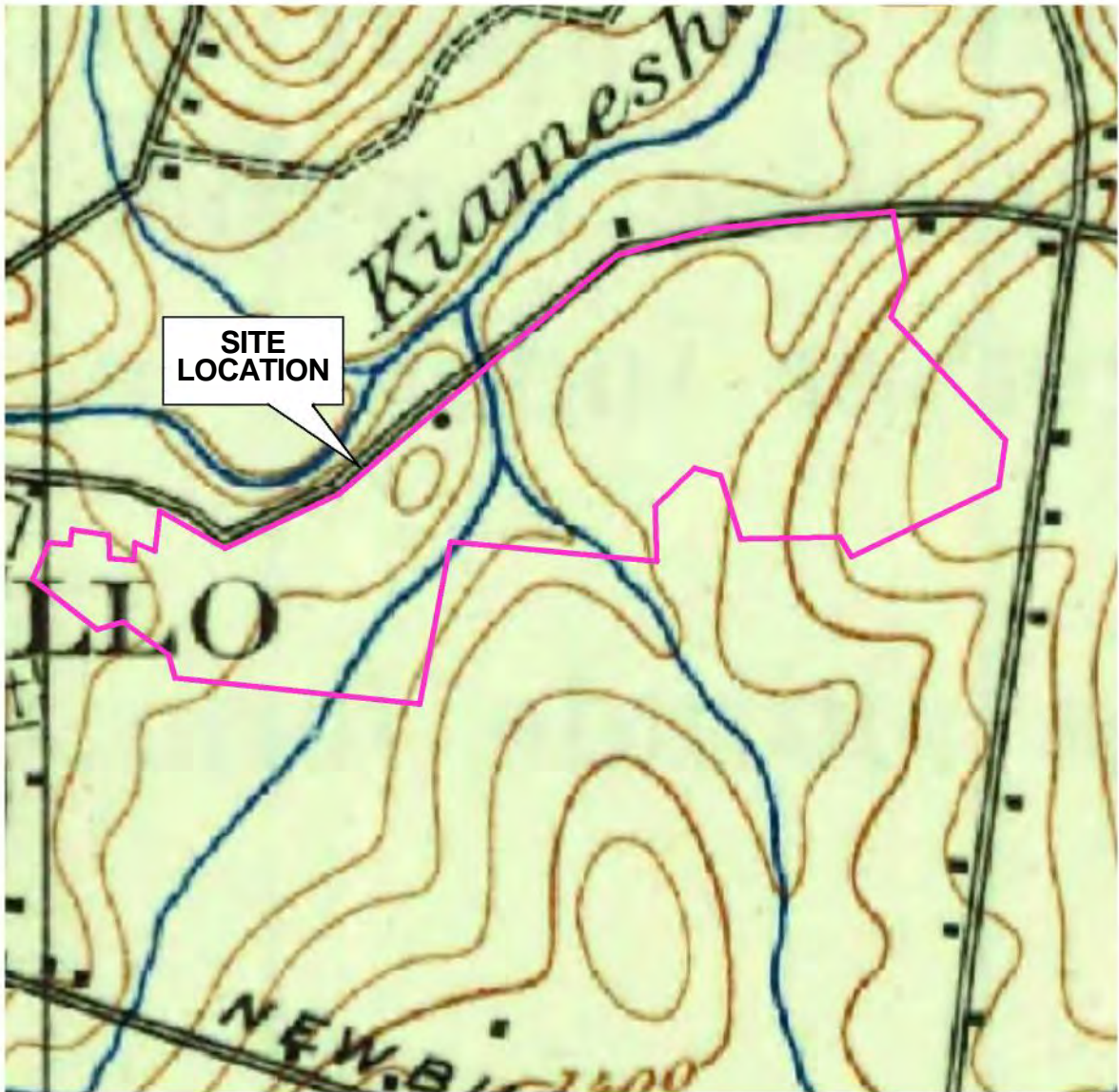
**Environmental Consultants**  
440 Park Avenue South, New York, N.Y. 10016

DATE  
**5.30.13**

PROJECT No.  
**40376**

SCALE  
**nts**

FIGURE  
**Appx C**



**LEGEND:**

 PROJECT SITE BOUNDARY

**Concord Parcel 1 and 2**  
Thompson, New York

**1938 TOPOGRAPHIC MAP**



**Environmental Consultants**  
440 Park Avenue South, New York, N.Y. 10016

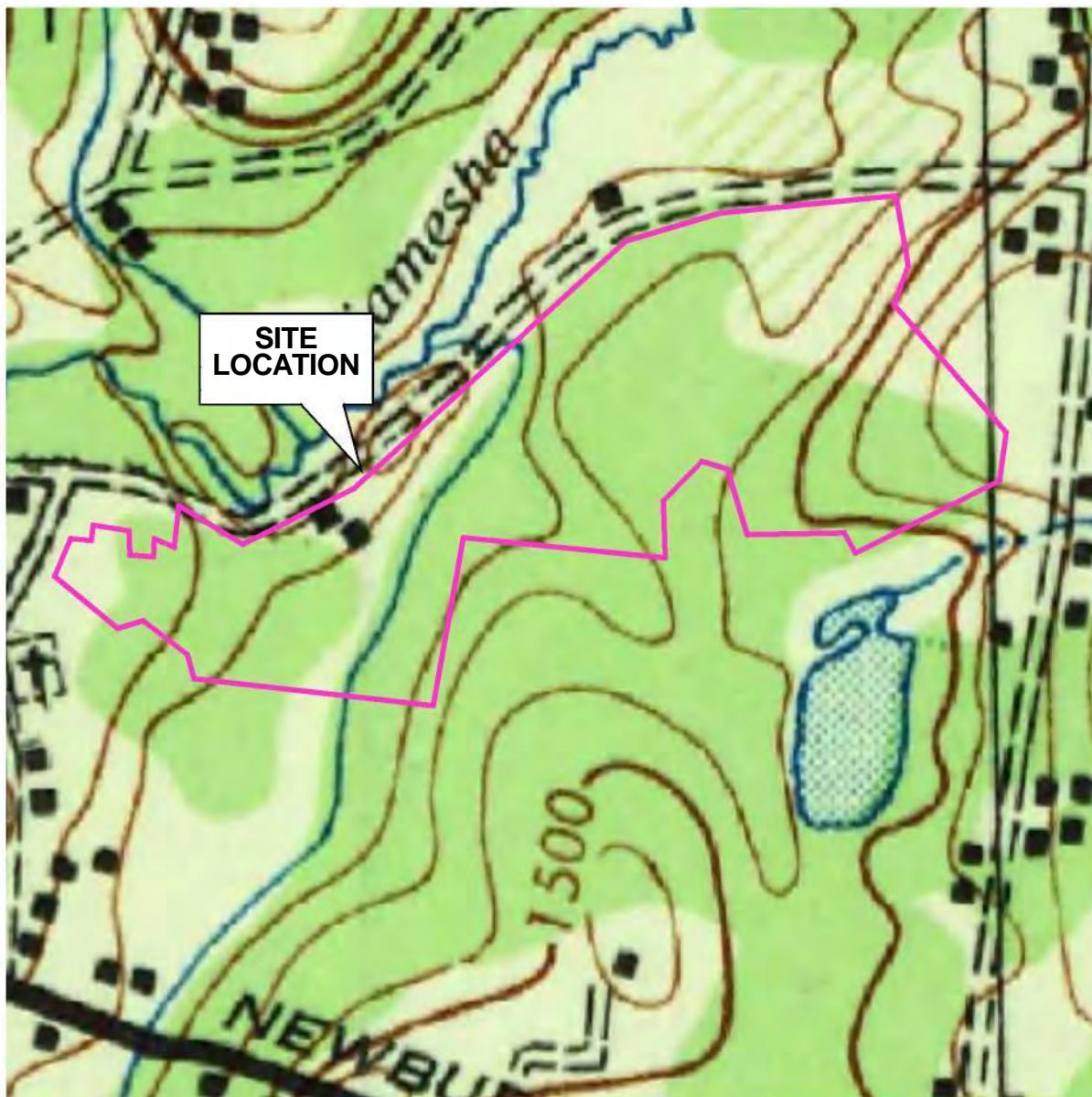
DATE  
**5.30.13**

PROJECT No.  
**40376**

SCALE  
**nts**

FIGURE  
**Appx C**





**LEGEND:**

— PROJECT SITE BOUNDARY

**Concord Parcel 1 and 2**  
Thompson, New York

**1944 TOPOGRAPHIC MAP**



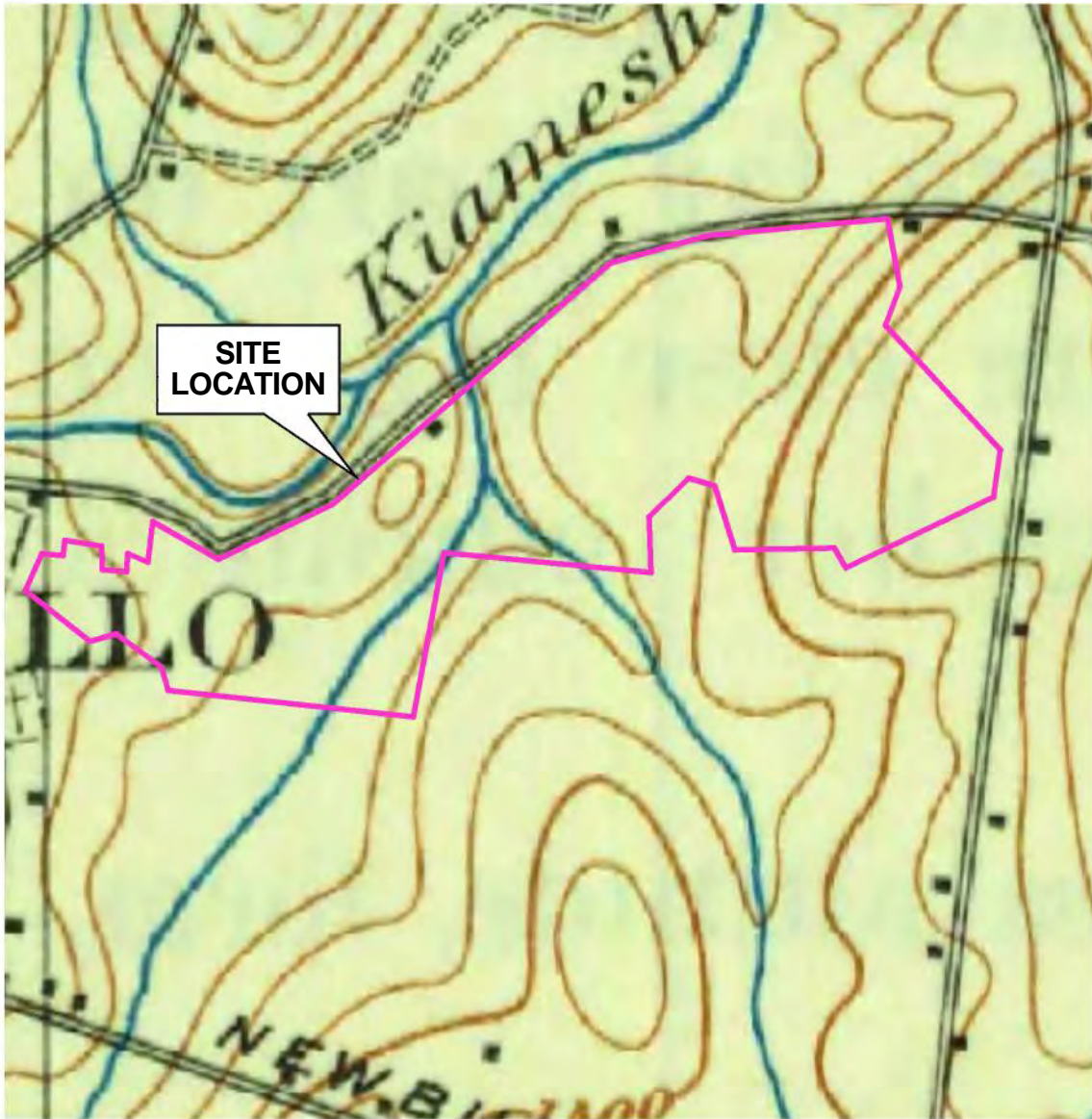
**Environmental Consultants**  
440 Park Avenue South, New York, N.Y. 10016

DATE  
**5.30.13**

PROJECT No.  
**40376**

SCALE  
**nts**

FIGURE  
**Appx C**



**LEGEND:**

 PROJECT SITE BOUNDARY

**Concord Parcel 1 and 2**  
Thompson, New York

**1946 TOPOGRAPHIC MAP**



**Environmental Consultants**  
440 Park Avenue South, New York, N.Y. 10016

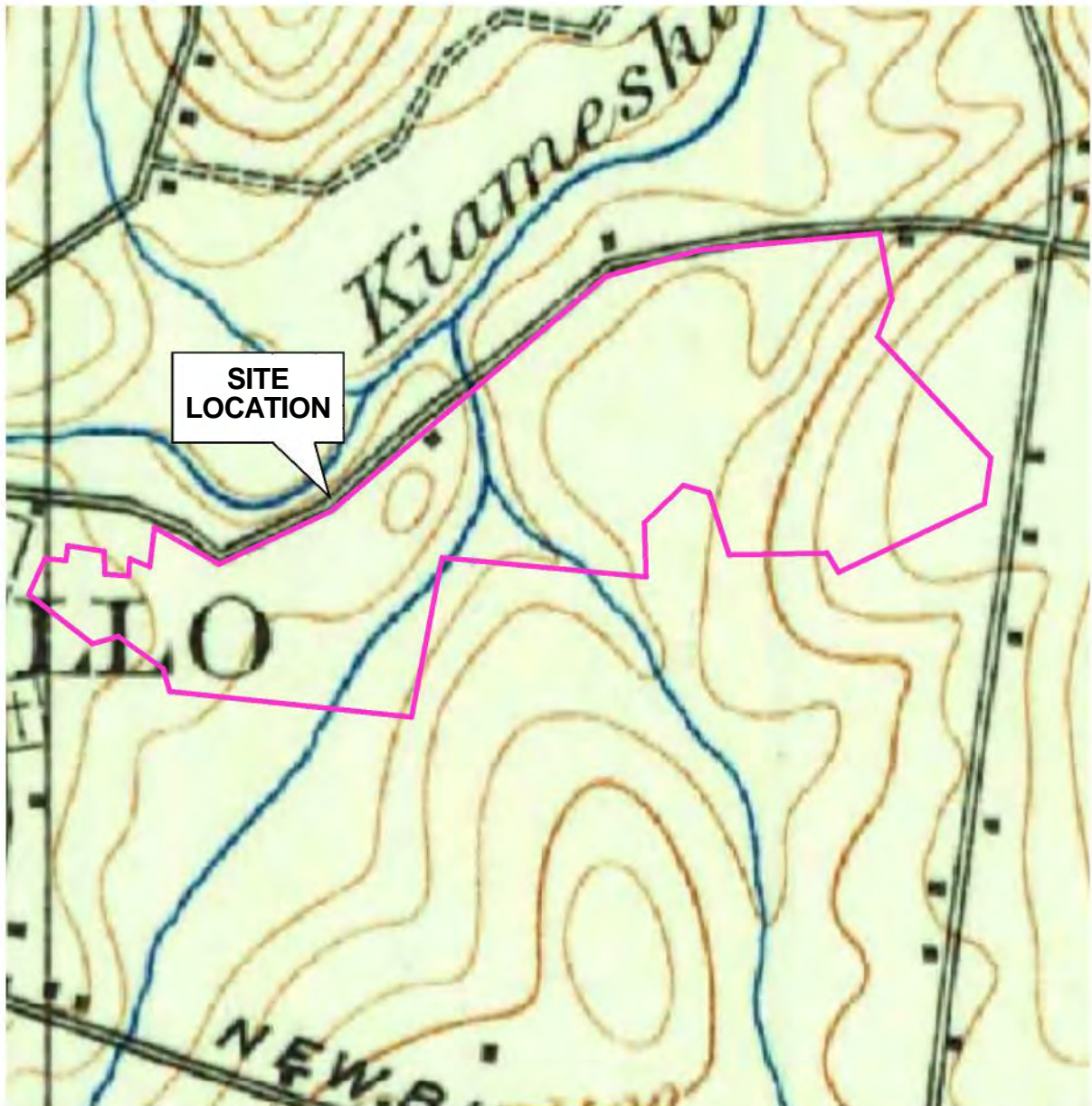
DATE  
**5.30.13**

PROJECT No.  
**40376**

SCALE  
**nts**

FIGURE  
**Appx C**





**LEGEND:**

 PROJECT SITE BOUNDARY

**Concord Parcel 1 and 2**  
Thompson, New York

**1956 TOPOGRAPHIC MAP**



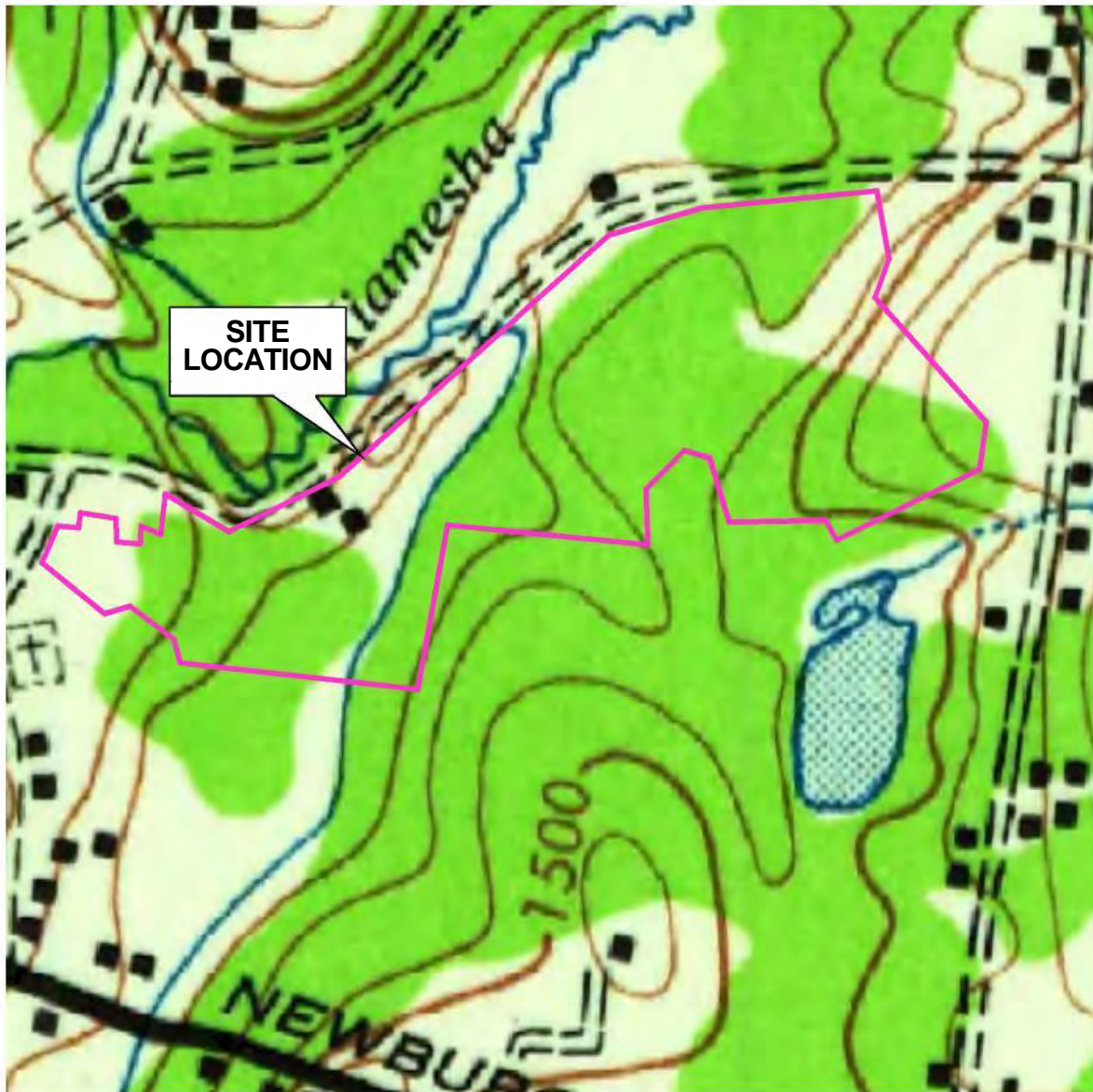
**Environmental Consultants**  
440 Park Avenue South, New York, N.Y. 10016

DATE  
**5.30.13**

PROJECT No.  
**40376**

SCALE  
**nts**

FIGURE  
**Appx C**



**LEGEND:**

— PROJECT SITE BOUNDARY

**Concord Parcel 1 and 2**  
Thompson, New York

**1961 TOPOGRAPHIC MAP**



**Environmental Consultants**  
440 Park Avenue South, New York, N.Y. 10016

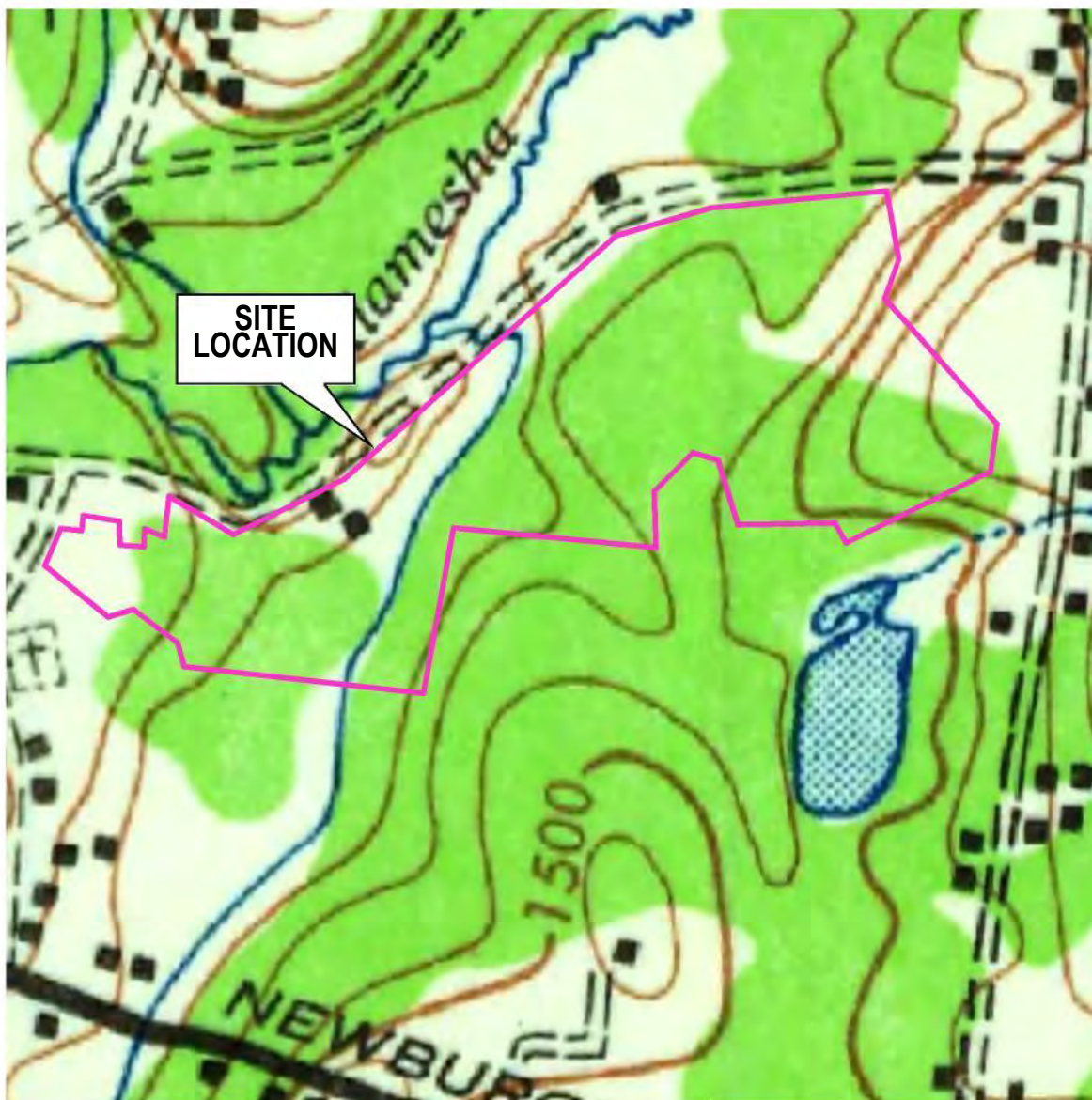
DATE  
**5.30.13**

PROJECT No.  
**40376**

SCALE  
**nts**

FIGURE  
**Appx C**





LEGEND:

 PROJECT SITE BOUNDARY

Concord Parcel 1 and 2  
Thompson, NeW York

**1964 TOPOGRAPHIC MAP**



Environmental Consultants  
440 Park Avenue South, New York, N.Y. 10016

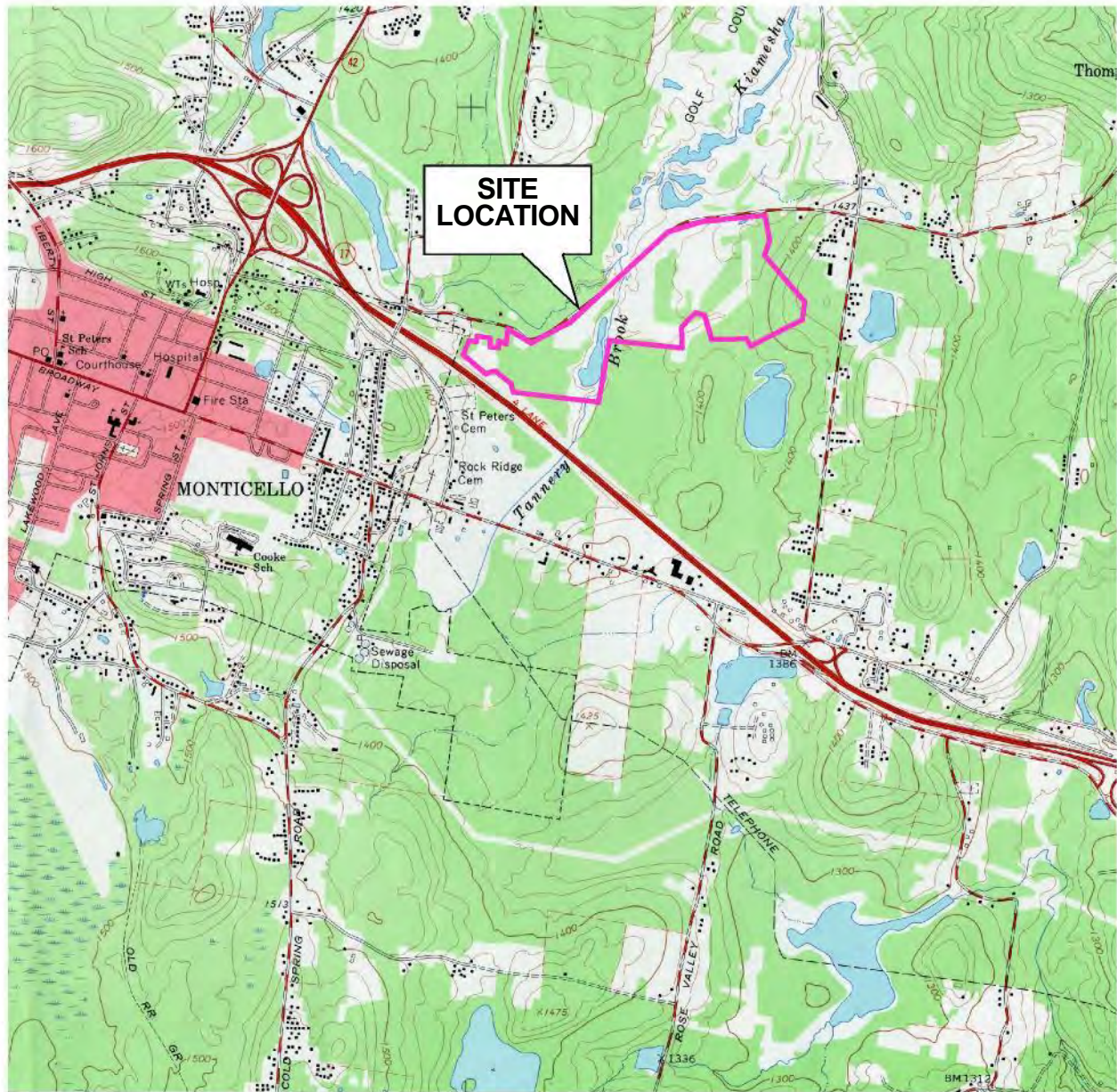
DATE  
**5.30.13**

PROJECT No.  
**40376**

SCALE  
**nts**

FIGURE  
**Appx C**





**LEGEND:**

 PROJECT SITE BOUNDARY

**Concord Parcel 1 and 2**  
Thompson, New York

**1966 TOPOGRAPHIC MAP**



**Environmental Consultants**  
440 Park Avenue South, New York, N.Y. 10016

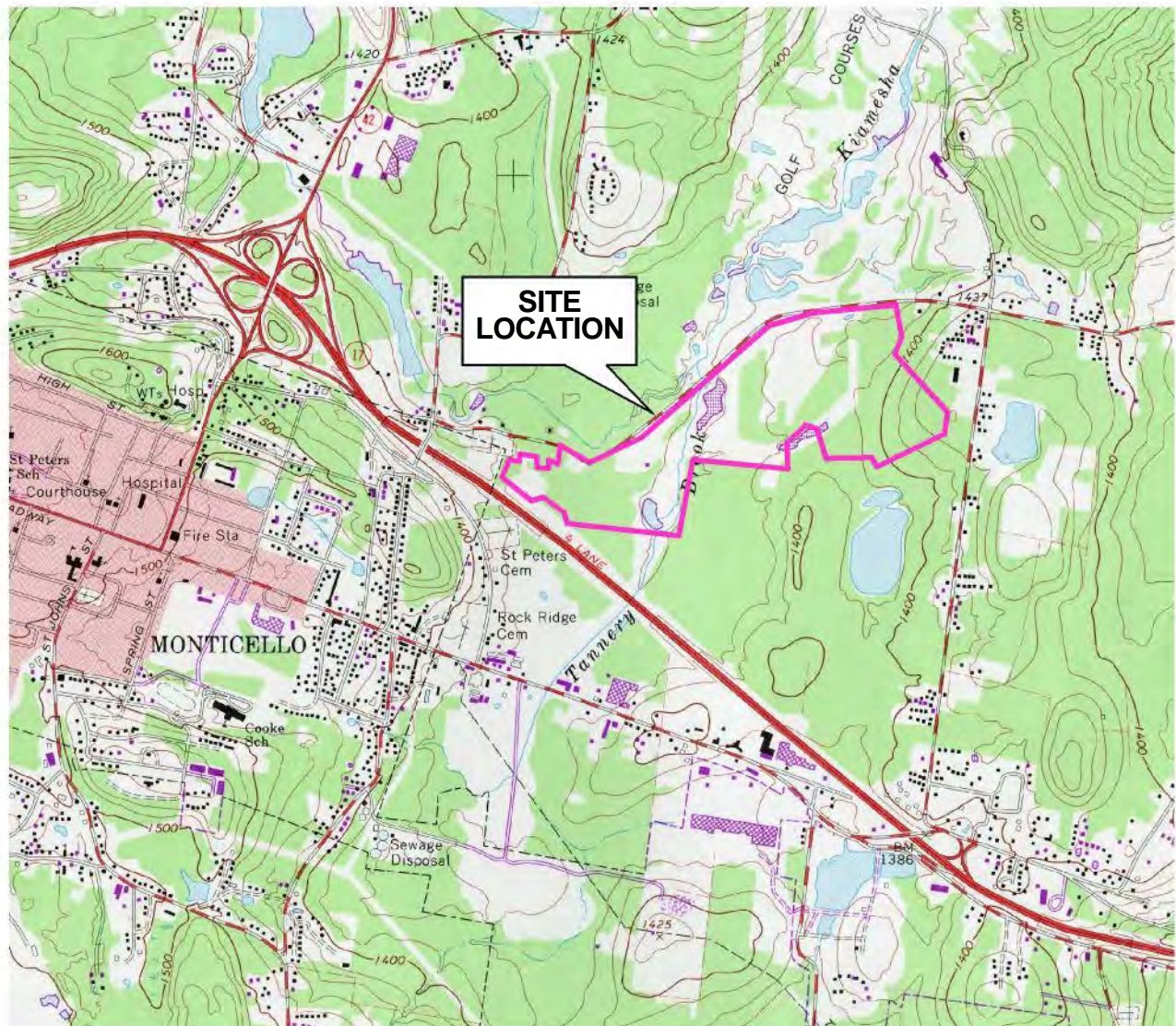
DATE  
**5.30.13**

PROJECT No.  
**40376**

SCALE  
**nts**

FIGURE  
**Appx C**





**LEGEND:**

 PROJECT SITE BOUNDARY

**Concord Parcel 1 and 2**  
Thompson, New York

**1982 TOPOGRAPHIC MAP**



**Environmental Consultants**  
440 Park Avenue South, New York, N.Y. 10016

DATE  
**5.30.13**

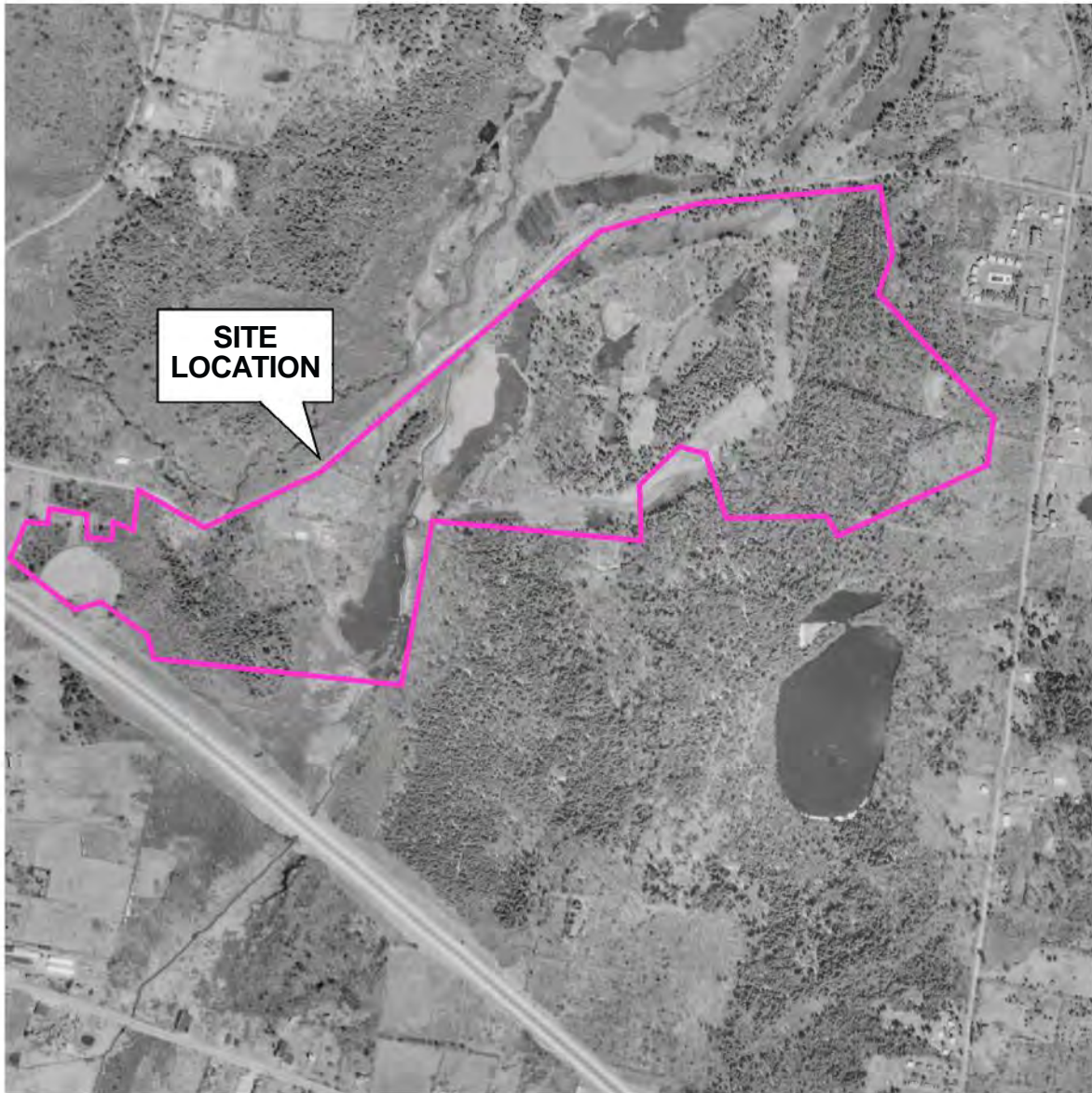
PROJECT No.  
**40376**

SCALE  
**nts**

FIGURE  
**Appx C**

**APPENDIX D**  
**HISTORICAL AERIAL PHOTOGRAPHS**





**LEGEND:**

 PROJECT SITE BOUNDARY

**Concord Parcel 1 and 2**  
Thompson, New York

**1963 HISTORIC AERIAL MAP**



**Environmental Consultants**  
440 Park Avenue South, New York, N.Y. 10016

DATE  
**5.30.13**

PROJECT No.  
**40376**

SCALE  
**nts**

FIGURE  
**Appx D**





**LEGEND:**

 PROJECT SITE BOUNDARY

**Concord Parcel 1 and 2**  
Thompson, New York

**2001 HISTORIC AERIAL MAP**



**Environmental Consultants**  
440 Park Avenue South, New York, N.Y. 10016

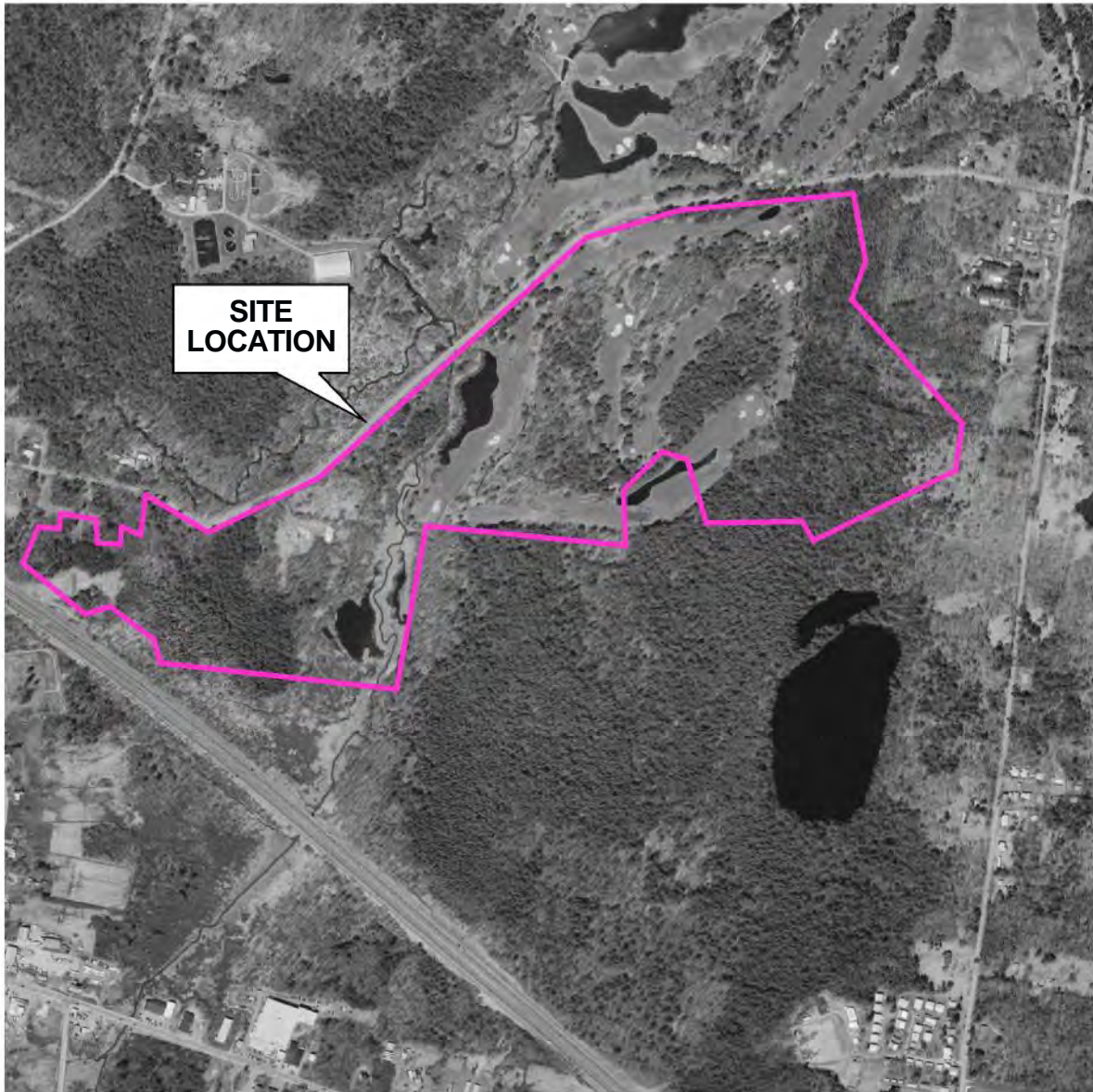
DATE  
**5.30.13**

PROJECT No.  
**40376**

SCALE  
**nts**

FIGURE  
**Appx D**





**LEGEND:**

 PROJECT SITE BOUNDARY

**Concord Parcel 1 and 2**  
Thompson, New York

**2004 HISTORIC AERIAL MAP**



**Environmental Consultants**  
440 Park Avenue South, New York, N.Y. 10016

DATE  
**5.30.13**

PROJECT No.  
**40376**

SCALE  
**nts**

FIGURE  
**Appx D**

**APPENDIX E**  
**REGULATORY RECORDS REVIEW**



# **T**OXICS ARGETING

## **PHASE I**

### **ENVIRONMENTAL DATABASE REPORT**

**PARCEL ONE AND TWO  
THOMPSON, NY 12701**

**MAY 21, 2013**

## **LIMITED WARRANTY AND DISCLAIMER OF LIABILITY**

### **Who is Covered**

This limited warranty is extended by Toxics Targeting, Inc. only to the original purchaser of the accompanying Environmental Report ("Report"). It may not be assigned to any other person.

### **What is Warranted**

Toxics Targeting, Inc. warrants that it uses reasonable care to accurately transcribe the information contained in this Report from the sources from which it is obtained. This limited warranty is in lieu of all other express warranties which might otherwise arise with respect to the Report. No one is authorized to change or add to this limited warranty.

### **What We Will Do**

If during the warranty period there is shown to be a material error in the transcription of the information contained in this Report from the sources from which it was obtained, Toxics Targeting, Inc. shall refund to the original purchaser the full purchase price paid for the Report. The remedy stated above is the exclusive remedy extended to the Purchaser by Toxics Targeting, Inc. for any failure of the Report to conform with this Warranty, or otherwise for breach of this Warranty or any other warranty, whether expressed or implied.

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Toxics Targeting, Inc. has not and can not verify the accuracy, correctness or completion of the information contained in this Report. Information is obtained from government agencies, site owners, and other sources, and errors are common in such information. Because Toxics Targeting, Inc. can not control the accuracy of the information contained in this Report, or the uses which may be made of the information, TOXICS TARGETING, INC. DISCLAIMS LIABILITY TO ANYONE FOR ANY EVENTS ARISING OUT OF THE USE OF THE INFORMATION. TOXICS TARGETING, INC. SHALL NOT BE LIABLE FOR ANY DAMAGE CAUSED BY THIS REPORT, WHETHER DIRECT OR INDIRECT, AND WHETHER OR NOT TOXICS TARGETING, INC. HAS BEEN ADVISED OF OR HAS KNOWLEDGE OF THE POSSIBILITY OF SUCH DAMAGES. TOXICS TARGETING, INC. EXPRESSLY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion or limitation may not apply to you.

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The period of warranty coverage is ninety days from the date of purchase of this Report. There shall be no warranty after the period of coverage. ANY AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR PARTICULAR USE SHALL HAVE NO GREATER DURATION THAN THE PERIOD OF WARRANTY STATED HERE, AND SHALL TERMINATE AUTOMATICALLY UPON THE EXPIRATION OF SUCH PERIOD. Some jurisdictions do not allow limitations on how long an implied warranty lasts, so the above exclusion or limitation may not apply to you.

**PLEASE REFER TO PAGES ONE AND FIVE FOR A DESCRIPTION OF SOME OF THE LIMITATIONS OF THIS ENVIRONMENTAL REPORT.**

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- *How to Use Your Report*
- *Toxic Site Databases Analyzed In Your Report*
- *Limitations Of the Information In Your Report*

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- *Table Two: Identified Toxic Sites By Direction*
- *Table Three: Identified Toxic Sites By Category*
- *Table Four: Identified Toxic Sites By Proximity*
- *Map One: One-Mile Radius Map*
- *Map Two: Half-Mile Radius Map*
- *Map Three: Quarter-Mile Radius Map*
- *Map Four: Quarter-Mile Radius Close-up Map*

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## **Section Three: Appendices**

- *USEPA ERNS Check*
- *Unmappable Sites*
- *Hazardous Waste Codes*
- *How Toxic Sites Are Mapped*
- *Information Source Guide*

## ***Introduction***

*Toxics Targeting* has combined environmental database searches, extensive regulatory analysis and sophisticated mapping techniques to produce your *Environmental Report*. It checks for the presence of 21 categories of government-reported toxic sites and provides detailed, up-to-date information on each identified site. The findings of your report are presented in an easy-to-understand format that:

1. ***Maps*** the approximate locations of selected government-reported toxic sites identified on or near a specified target address.
2. ***Estimates*** the distance and direction between the target address and each identified toxic site.
3. ***Reports*** air and water permit non-compliance and other regulatory violations.
4. ***Profiles*** some aspects of the usage, manufacture, storage, handling, transport or disposal of toxic chemicals at individual sites.
5. ***Summarizes*** some potential health effect information and drinking water standards for selected chemicals reported at individual sites.

## ***The Three Sections Of Your Report***

The first section highlights your report's findings by summarizing identified sites according to: **a)** distance intervals, **b)** direction, **c)** proximity to the target address and **d)** individual site categories. In addition, the locations of all identified toxic sites are illustrated on individual maps for each radius search distance used in your report. A close-up map illustrates the locations of all identified toxic sites, at the shortest radius search distance used in your report. Finally, a map of tax parcels and a table of selected information about those parcels are included.

The second section of your report contains *Toxic Site Profiles* that provide detailed information on each identified toxic site. The information in each *Toxic Site Profile* varies according to its source. Some toxic site categories have extensive information, some have limited information. All the information is updated on a regular basis.

The third section of the report contains appendices that identify: **1)** on-site spills reported to the national Emergency Response Notification System (ERNS), **2)** various toxic sites that cannot be mapped due to incomplete or erroneous addresses or other mapping problems, **3)** codes that characterize hazardous wastes reported at various facilities, **4)** methods used to map toxic sites identified in your report and **5)** information sources used in your report.

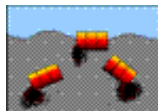
## ***How to Use Your Report***

- Check Table One to see the number of identified sites by distance intervals.
- Check Table Two to see identified sites sorted by direction.
- Check Table Three to see identified sites sorted by site categories.
- Check Table Four to see identified sites ranked by proximity to the target address.
- Use Table Five to get info for the subject parcel and every parcel found on the Tax Parcel Map
- Refer to the various maps to see the locations of identified toxic sites. Refer to the *Toxic Site Profile* and *Appendix* sections for additional information.

# Toxic Site Databases Analyzed In Your Report

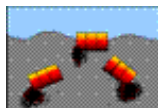
## Search Radius

One-Mile



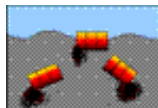
1) ***National Priority List for Federal Superfund Cleanup***: a listing of sites known to pose environmental or health hazards that are being investigated or cleaned up under the Federal Superfund program.

Half-Mile



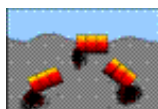
2) ***Delisted National Priority List Sites***: a listing of NPL sites that have been removed from the National Priority List.

One-Mile



3) ***New York Inactive Hazardous Waste Disposal Site Registry***: a state listing of sites that can pose environmental or public health hazards requiring investigation or clean up.

One-Mile



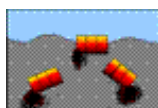
4) ***New York Inactive Hazardous Waste Disposal Site Registry Qualifying***: a state listing of sites that qualify for possible inclusion to the NYDEC Inactive Haz. Waste Disposal Site Registry.

One-Mile



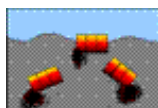
5) ***RCRA Corrective Action Activity (CORRACTS)***: waste facilities with RCRA corrective action activity reported by the USEPA.

Half-Mile



6) ***CERCLIS*** (Comprehensive Environmental Response, Compensation and Liability Information System): a federal listing of Non-NFRAP sites that can pose environmental or public health hazards requiring investigation or clean up.

Half-Mile



7) ***CERCLIS NFRAP***: a federal listing of CERCLIS sites that have no further remedial action planned.

Half-Mile



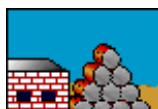
8) ***New York State Brownfield Cleanup Sites***: a listing of sites that are abandoned, idled or under-used industrial and commercial sites where expansion or redevelopment is complicated by real or perceived environmental contamination.

Half-Mile



9) ***New York Solid Waste Facilities Registry***: active and inactive landfills, incinerators, transfer stations or other solid waste management facilities.

Half-Mile



10) ***New York and Federal Hazardous Waste Treatment, Storage or Disposal Facilities***: sites reported by the NYS manifest system and the USEPA's Resource Conservation and Recovery Act Information System (RCRIS). Also includes the following database:

- ***RCRA violations***: waste facilities with violations reported by the USEPA pursuant to the Resource Conservation and Recovery Act..

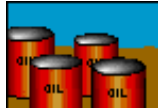
Half-Mile



11) ***Toxic Spills: active and inactive or closed*** spills reported to state environmental authorities, including *remediated* and *unremediated* leaking underground storage tanks. This database includes the following categories:

- Tank Failures
- Tank Test Failures
- Unknown Spill Cause or Other Spill Causes
- Miscellaneous Spill Causes

Quarter-Mile



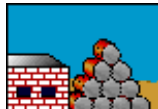
12) ***New York State Major Oil Storage Facilities:*** sites with more than a 400,000-gallon capacity for storing petroleum products.

Quarter-Mile



13) ***New York and Local Petroleum Bulk Storage Facilities:*** sites with more than a 1,100-gallon capacity for storing petroleum products.

Quarter-Mile



14) ***New York and Federal Hazardous Waste Generators and Transporters:*** sites reported by the NYS manifest system and the USEPA's Resource Conservation and Recovery Act Information System (RCRA). Also includes the following database:

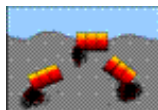
- ***RCRA violations:*** waste facilities with violations reported by the USEPA pursuant to the Resource Conservation and Recovery Act.

Quarter-Mile



15) ***New York Chemical Bulk Storage Facilities:*** sites storing hazardous substances listed in 6 NYCRR Part 597 in aboveground tanks with capacities of 185 gallons or more and/or underground tanks of any size

Half-Mile



16) ***New York Hazardous Substance Disposal Site Draft Study:*** a state listing of sites contaminated with toxic substances that can pose environmental or public health hazards. These sites are not eligible for state clean up funding programs.

Quarter-Mile



17) ***Federal Toxic Release Inventory Facilities:*** discharges of selected toxic chemicals to air, land, water or treatment facilities.

Quarter-Mile



18) ***Federal Air Discharges:*** Air pollution point sources monitored by U.S. EPA and/or state and local air regulatory agencies.

Quarter-Mile



19) ***Federal Permit Compliance System Toxic Wastewater Discharges:*** permitted toxic wastewater discharges.

Quarter-Mile



20) ***Federal Civil and Administrative Enforcement Docket:*** judiciary cases filed on behalf of the U. S. Environmental Protection Agency by the Department of Justice.

Property only



21) ***ERNS: Federal Emergency Response Notification System Spills:*** a listing of federally reported spills.

## *Limitations Of The Information In Your Report*

The information presented in your *Environmental Report* has been obtained from various local, state and federal government agencies. Please be aware that: **1)** additional information on individual sites may be available, **2)** newly discovered sites are continually reported and **3)** all map locations are approximate. As a result, this report is intended to be the **FIRST STEP** in the process of identifying and evaluating possible environmental threats to specific properties and can only serve as a guide for conducting on-site visits or additional, more detailed toxic hazard research.

*Toxics Targeting* tries to ensure that the information in your report is presented accurately and with minimal alteration. The only systematic changes that are made correct obvious address errors in order to allow sites to be mapped. Any address changes that are made are noted in the map information section at the top of each corresponding *Toxic Site Profile*. Since the information presented in your report is not edited, please be aware that it can contain reporting errors or typographical mistakes made by the site owners/operators or government agencies that produced the information. Please be aware of some other limitations of the information in your report:

- The map used by *Toxics Targeting* is the same one used by the U. S. Census. While the map is generally accurate, no map is perfect. In addition, *Toxics Targeting's* mapping methods estimate where toxic site addresses are located if the address is not specifically designated on the Census map. **FOR THESE REASONS, ALL MAP LOCATIONS OF ADDRESSES AND REPORTED TOXIC SITES SHOULD BE CONSIDERED APPROXIMATE AND SHOULD BE VERIFIED BY ON-SITE VISITS;**
- **UNDISCOVERED, UNREPORTED OR UNMAPPABLE TOXIC SITES MIGHT NOT BE IDENTIFIED BY THIS REPORT'S CHECK OF 21 TOXIC SITE CATEGORIES. TOXIC SITES REPORTED IN OTHER GOVERNMENT DATABASES MIGHT ALSO EXIST. FOR THESE REASONS, YOUR REPORT MIGHT NOT IDENTIFY ALL THE TOXIC SITES THAT EXIST IN THE AREA IT SEARCHES;**
- The appendix of your report contains a listing of sites that could not be mapped due to incomplete or erroneous address information or other mapping problems. This listing includes unmappable toxic sites in zip code areas within one mile of the target address as well as toxic sites without zip codes reported in the same county. **IF YOU WOULD LIKE INFORMATION ON ANY OF THE LISTED SITES, PLEASE CONTACT TOXICS TARGETING AND REFER TO THE SITE ID NUMBER.**
- Some toxic sites identified in your report may be classified as **known hazards**. Most of the toxic sites identified in your report involve **potential hazards** related to the on-site use, manufacture, handling, storage, transport or disposal of toxic chemicals. Some of the toxic sites identified in your report may be the addresses of parties responsible for toxic sites located elsewhere. **YOU SHOULD ONLY CONCLUDE THAT TOXIC HAZARDS ACTUALLY EXIST AT A SPECIFIC SITE WHEN GOVERNMENT AUTHORITIES MAKE THAT DETERMINATION OR WHEN THAT CONCLUSION IS FULLY DOCUMENTED BY THE FINDINGS OF AN APPROPRIATE SITE INVESTIGATION UNDERTAKEN BY LICENSED PROFESSIONALS;**
- Compass directions and distances are approximate. Compass directions are calculated from the subject property address to the mapped location of each identified toxic site. The compass direction does not necessarily refer to the closest property boundary of an identified toxic site. The compass direction also can vary substantially for toxic sites that are located very close to the subject property address.
- The information presented in your report is a summary of the information that *Toxics Targeting* obtains from government agencies on reported toxic sites. **YOU MAY BE ABLE TO OBTAIN ADDITIONAL INFORMATION ABOUT REPORTED SITES WITH THE FREEDOM OF INFORMATION REQUEST FORM LETTERS THAT ARE PROVIDED ON THE INSIDE OF THE BACK COVER.**



# Section One:

## Report Summary

- *Table One: Number of Identified Toxic Sites By Distance Interval*
- *Table Two: Identified Toxic Sites By Direction*
- *Table Three: Identified Toxic Sites By Category*
- *Table Four: Identified Toxic Sites By Proximity*
- *Map One: One-Mile Radius Map*
- *Map Two: Half-Mile Radius Map*
- *Map Three: Quarter-Mile Radius Map*
- *Map Four: Quarter-Mile Radius Close up Map*

## NUMBER OF IDENTIFIED SITES BY DISTANCE INTERVAL

Database Searched	0 – 100 ft	100 ft – 1/8 mi	1/8 mi – 1/4 mi	1/4 mi – 1/2 mi	1/2 mi – 1 mi	Site Category Totals
<b>ASTM–Required 1 Mile Search</b>						
National Priority List (NPL) Sites	0	0	0	0	0	0
NYS Inactive Hazardous Waste Disposal Site Registry	0	0	0	0	1	1
NYS Inactive Haz Waste Disposal Site Registry Qualifying	0	0	0	0	0	0
RCRA Corrective Action (CORRACTS) Sites	0	0	0	0	0	0
<b>ASTM–Required 1/2 Mile Search</b>						
Delisted National Priority List (NPL) Sites	0	0	0	0	Not searched	0
CERCLIS Superfund Non–NFRAP Sites	0	0	0	0	Not searched	0
CERCLIS Superfund NFRAP Sites	0	0	0	0	Not searched	0
Brownfields Sites						
Voluntary Cleanup Program	0	0	0	0	Not searched	0
Environmental Restoration Program	0	0	0	0	Not searched	0
Brownfield Cleanup Program	0	0	0	0	Not searched	0
NYSDEC Solid Waste Facilities / Landfills	0	0	0	0	Not searched	0
RCRA Hazardous Waste Treatment, Storage, Disposal Sites	0	0	0	0	Not searched	0
NYS Toxic Spills						
Active Tank Failures	0	0	0	0	Not searched	0
Active Tank Test Failures	0	0	0	0	Not searched	0
Active Spills – Unknown / Other Causes	0	0	0	0	Not searched	0
Active Spills – Miscellaneous Causes	0	0	0	0	Not searched	0
Closed Tank Failures	0	0	0	2	Not searched	2
Closed Tank Test Failures	0	0	0	1	Not searched	1
Closed Spills – Unknown / Other Causes	0	0	0	4	Not searched	4
Closed Spills – Miscellaneous Causes	0	0	0	0(4)	Not searched	0(4)
<b>ASTM–Required Property &amp; Adjacent Property (1/4 Mile Search)</b>						
NYS Major Oil Storage Facilities	0	0	0	Not searched	Not searched	0
Local & State Petroleum Bulk Storage Sites	0	0	0	Not searched	Not searched	0
RCRA Hazardous Waste Generators & Transporters	0	0	1	Not searched	Not searched	1
NYS Chemical Bulk Storage Sites	0	0	0	Not searched	Not searched	0
Emergency Response Notification System (ERNS)	0	Not searched	Not searched	Not searched	Not searched	0
Institutional Controls / Engineering Controls (IC/EC)	See databases for NPL, CERCLIS, Inactive Hazardous Waste Disposal Site Registry and Brownfield Sites.					
<b>ASTM–Required Databases Distance Interval Totals</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>7(4)</b>	<b>1</b>	<b>9(4)</b>

Numbers in ( ) indicate spills not mapped and profiled in this report, and are listed at the end of the active and closed spills sections. See these lists for a description of the parameters involved with identifying these spills.

NOTE: Table continues on next page.

**Non-ASTM Databases 1/2 Mile Search**

Hazardous Substance Waste Disposal Sites	0	0	0	0	Not searched	0
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**Non-ASTM Databases 1/4 Mile Search**

Toxic Release Inventory Sites (TRI)	0	0	0	Not searched	Not searched	0
Permit Compliance System (PCS) Toxic Wastewater Discharges	0	0	0	Not searched	Not searched	0
Air Discharges	0	0	0	Not searched	Not searched	0
Civil & Administrative Enforcement Docket Facilities	0	0	0	Not searched	Not searched	0

<b>Non-ASTM Databases Distance Interval Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>Not Searched</b>	<b>0</b>
--	----------	----------	----------	----------	---------------------	----------

<b><i>Distance Interval Totals</i></b>	<b><i>0</i></b>	<b><i>0</i></b>	<b><i>1</i></b>	<b><i>7(4)</i></b>	<b><i>1</i></b>	<b><i>9(4)</i></b>
--	-----------------	-----------------	-----------------	--------------------	-----------------	--------------------

Numbers in ( ) indicate spills not mapped and profiled in this report, and are listed at the end of the active and closed spills sections. See these lists for a description of the parameters involved with identifying these spills.

# Identified Toxic Sites by Direction

## Parcel One and Two Thompson, NY 12701

\* Compass directions can vary substantially for sites located very close to the subject property address.

### Sites less than 100 feet from subject property sorted by distance

Map Id#	Site Name	Site Street	Approximate Distance & Direction From Property	Toxic Site Category
No sites found less than 100 feet from subject property				

### Sites between 100 ft and 660 ft from the subject property sorted by direction and distance

Map Id#	Site Name	Site Street	Approximate Distance & Direction From Property	Toxic Site Category
No sites found between 100 feet and 660 feet				

### Sites equal to or greater than 660 ft from subject property sorted by direction and distance

Map Id#	Site Name	Site Street	Approximate Distance & Direction From Property	Toxic Site Category
7	COMMUNITY RESORCE CTR	934 EAST BROADWAY	2035 feet to the SSW	Closed Status Spill (Unk/Other Cause)
1	MONTICELLO VILLAGE LANDFILL	WAVERLY RD.	4736 feet to the SSW	NYSDEC Inactive Haz Waste Disposal Site
4	MILLER RESIDENCE	2 NELSHORE DR	1951 feet to the WSW	Closed Status Tank Test Failure
6	SCALESI RESIDENCE	7 THORNTON AVENUE	1955 feet to the WSW	Closed Status Spill (Unk/Other Cause)
2	COMBINED ENERGY SVCS.	BROADWAY	2360 feet to the WSW	Closed Status Tank Failure
8	COMBINED ENERGY SERVICES	88 BROADWAY	2360 feet to the WSW	Closed Status Spill (Unk/Other Cause)
3	FRIENDLY INN	104 BROADWAY	2430 feet to the WSW	Closed Status Tank Failure
9	NYS DOT	THOMPSONVILLE RD OVER RT 17	1003 feet to the W	Hazardous Waste Generator/Transporter
5	SEWAGE TREATMENT PLANT	ROCK RIDGE DRIVE	1643 feet to the NW	Closed Status Spill (Unk/Other Cause)

# Identified Toxic Sites by Category

## Parcel One and Two Thompson, NY 12701

\* Compass directions can vary substantially for sites located very close to the subject property address.

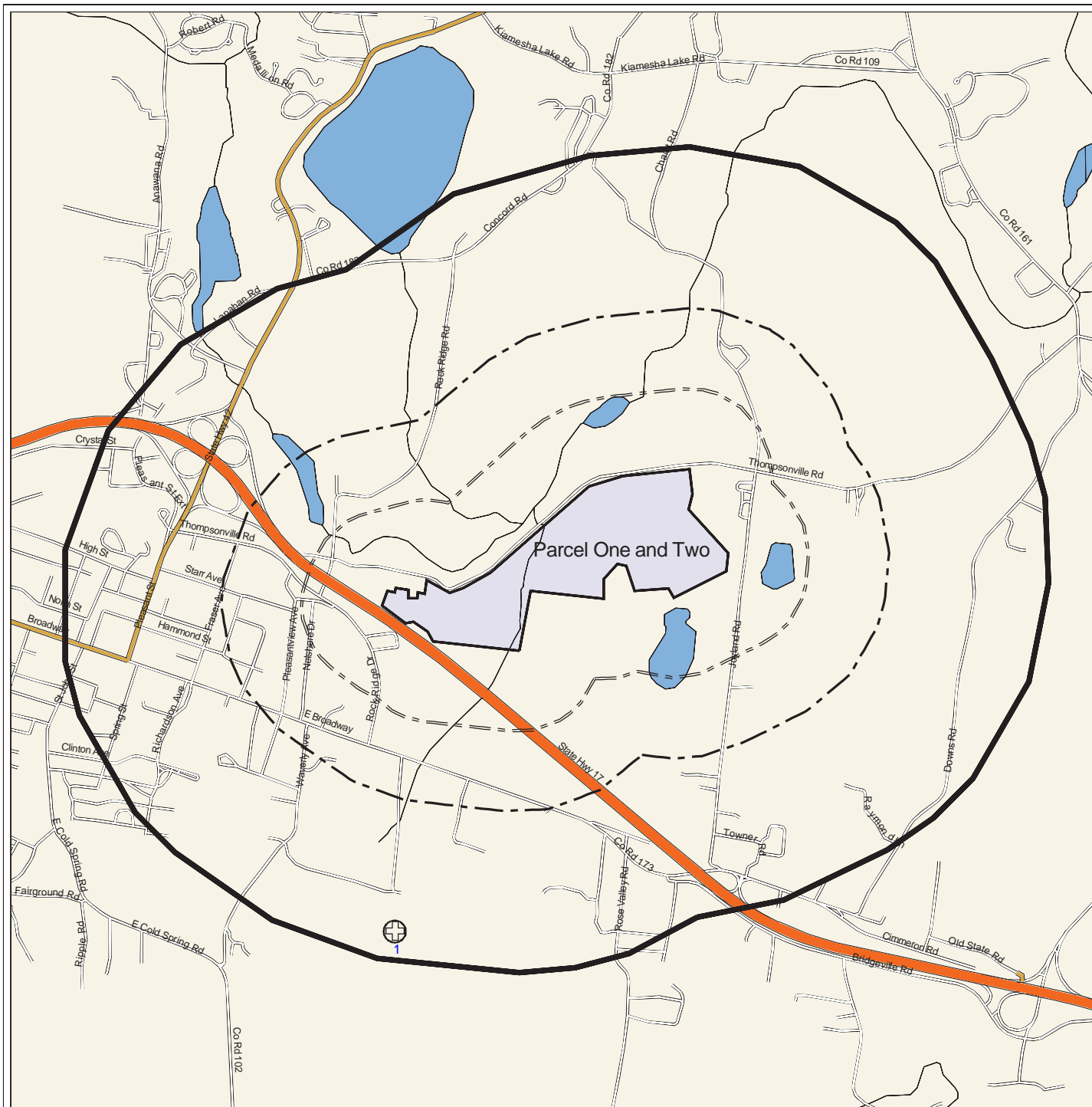
NYSDEC Inactive Haz. Waste Disposal Site Registry -- Total Sites – 1			Database searched at 1 MILE – ASTM required search distance: 1 Mile	
MAP ID	FACILITY ID	FACILITY NAME	FACILITY STREET	DISTANCE & DIRECTION
1	353002	MONTICELLO VILLAGE LANDFILL	WAVERLY RD.	4736 feet to the SSW
Closed Status Tank Failures -- Total Sites – 2			Database searched at 1/2 MILE – ASTM required search distance: 1/2 Mile	
MAP ID	FACILITY ID	FACILITY NAME	FACILITY STREET	DISTANCE & DIRECTION
2	9213384	COMBINED ENERGY SVCS.	BROADWAY	2360 feet to the WSW
3	9804518	FRIENDLY INN	104 BROADWAY	2430 feet to the WSW
Closed Status Tank Test Failures -- Total Sites – 1			Database searched at 1/2 MILE – ASTM required search distance: 1/2 Mile	
MAP ID	FACILITY ID	FACILITY NAME	FACILITY STREET	DISTANCE & DIRECTION
4	0009345	MILLER RESIDENCE	2 NELSHORE DR	1951 feet to the WSW
Closed Status Spills (Unknown Causes & Other Causes) -- Total Sites – 4			Database searched at 1/2 MILE – ASTM required search distance: 1/2 Mile	
MAP ID	FACILITY ID	FACILITY NAME	FACILITY STREET	DISTANCE & DIRECTION
5	9709149	SEWAGE TREATMENT PLANT	ROCK RIDGE DRIVE	1643 feet to the NW
6	0235032	SCALESI RESIDENCE	7 THORNTON AVENUE	1955 feet to the WSW
7	9701589	COMMUNITY RESORCE CTR	934 EAST BROADWAY	2035 feet to the SSW
8	9900162	COMBINED ENERGY SERVICES	88 BROADWAY	2360 feet to the WSW
Hazardous Waste Generators, Transporters -- Total Sites – 1			Database searched at 1/4 MILE – ASTM required search distance: Property & Adjacent	
MAP ID	FACILITY ID	FACILITY NAME	FACILITY STREET	DISTANCE & DIRECTION
9	NYR000113886	NYS DOT	THOMPSONVILLE RD OVER RT 17	1003 feet to the W

# Identified Toxic Sites by Proximity

## Parcel One and Two, Thompson, NY 12701

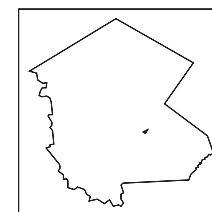
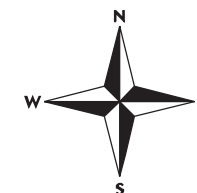
\* Compass directions can vary substantially for sites located very close to the subject property address.

Map Id#	Site Name	Site Street	Approximate Distance & Direction From Property	Toxic Site Category
9	NYS DOT	THOMPSONVILLE RD OVER RT 17	1003 feet to the W	Hazardous Waste Generator/Transporter
5	SEWAGE TREATMENT PLANT	ROCK RIDGE DRIVE	1643 feet to the NW	Closed Status Spill (Unk/Other Cause)
4	MILLER RESIDENCE	2 NELSHORE DR	1951 feet to the WSW	Closed Status Tank Test Failure
6	SCALESI RESIDENCE	7 THORNTON AVENUE	1955 feet to the WSW	Closed Status Spill (Unk/Other Cause)
7	COMMUNITY RESORCE CTR	934 EAST BROADWAY	2035 feet to the SSW	Closed Status Spill (Unk/Other Cause)
2	COMBINED ENERGY SVCS.	BROADWAY	2360 feet to the WSW	Closed Status Tank Failure
8	COMBINED ENERGY SERVICES	88 BROADWAY	2360 feet to the WSW	Closed Status Spill (Unk/Other Cause)
3	FRIENDLY INN	104 BROADWAY	2430 feet to the WSW	Closed Status Tank Failure
1	MONTICELLO VILLAGE LANDFILL	WAVERLY RD.	4736 feet to the SSW	NYSDEC Inactive Haz Waste Disposal Site

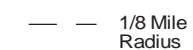
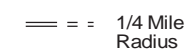
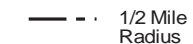
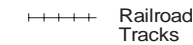


# Toxics Targeting 1 Mile Buffer Search Map

Parcel One and Two  
Thompson, NY 12701

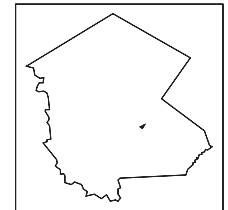
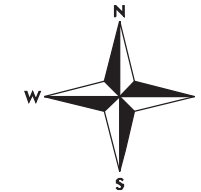


Sullivan County



Scale: 1 inch = 2422 feet

# Toxics Targeting 1/2 Mile Buffer Search Map Parcel One and Two Thompson, NY 12701



Sullivan County

- Delisted NPL Site
- CERCLIS Superfund Non-NFRAP Site
- CERCLIS Superfund NFRAP Site
- Hazardous Waste Treater, Storer, Disposer
- Hazardous Substance Waste Disposal Site
- Solid Waste Facility
- Brownfields Site
- Hazardous Material Spill

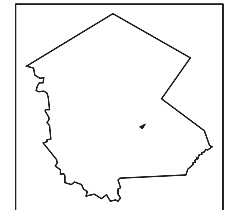
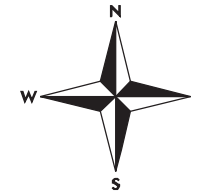
- Subject Area
- Waterbody
- County Border
- Railroad Tracks
- 1 Mile Radius
- 1/2 Mile Radius
- 1/4 Mile Radius
- 1/8 Mile Radius



Scale: 1 inch = 1635 feet



# Toxics Targeting 1/4 Mile Buffer Search Map Parcel One and Two Thompson, NY 12701



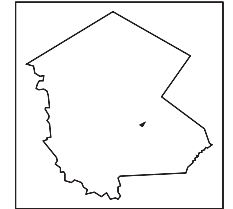
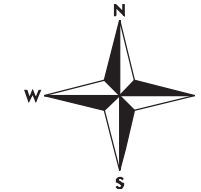
Sullivan County



- |                            |                                    |
|----------------------------|------------------------------------|
| Major Oil Storage Facility | Enforcement Docket Facility        |
| Chemical Storage Facility  | Air Release                        |
| Toxic Release              | Petroleum Bulk Storage Facility    |
| Wastewater Discharge       | Hazardous Waste Generator, Transp. |
| Subject Area               | Waterbody                          |
| County Border              | Railroad Tracks                    |
| 1/4 Mile Radius            | 1/8 Mile Radius                    |

Scale: 1 inch = 1241 feet

# Toxics Targeting 1/4 Mile Buffer Closeup Map Parcel One and Two Thompson, NY 12701



Sullivan County

- |   |  |
|---|--|
| National Priority List (NPL) *                    | Delisted NPL Site **                         |
| CERCLIS Superfund Non-NFRAP Site **               | CERCLIS Superfund NFRAP Site **              |
| Inactive Hazardous Waste Disposal Registry Site * | Inact. Haz Waste Disp. Registry Qualifying * |
| Hazardous Waste Treater, Storer, Disposer **      | RCRA Corrective Action Facility *            |
| Hazardous Substance Waste Disposal Site **        | Solid Waste Facility **                      |
| Major Oil Storage Facility ***                    | Brownfields Site **                          |
| Chemical Storage Facility ***                     | Hazardous Material Spill **                  |
| Toxic Release ***                                 | Petroleum Bulk Storage Facility ***          |
| Wastewater Discharge ***                          | Hazardous Waste Generator, Transp. ***       |
| Enforcement Docket Facility ***                   | Air Release ***                              |
| Subject Area                                      | Waterbody                                    |
| County Border                                     | Railroad Tracks                              |
| 1/4 Mile Radius                                   | 1/8 Mile Radius                              |

\* 1 Mile Search Radius  
\*\*\* 1/4 Mile Search Radius

\*\* 1/2 Mile Search Radius



Scale: 1 inch = 1241 feet

## Section Two: Toxic Site Profiles

The heading of each *Toxic Site Profile* refers to the site's map location and details:

- The facility name, address, city, state, and zip code.
- Any changes that were made to a site's address in order to map its location.
- The site mapping method that was used (see *How Sites are Located*, at the end of this section for more information).

*Toxic Site Profiles* summarize information provided by site owners or operators and government agencies regarding various toxic chemical activities reported at each site, such as:

- Whether chemicals were stored, produced, transported, discharged or disposed of.
- The name of chemicals and their Chemical Abstract Series (CAS) numbers.
- The amount of chemicals and the units (gallons/pounds) the chemical was measured in.
- Whether the site or storage tanks at the site are currently active or inactive.
- Special codes used by government agencies to regulate hazardous waste activities at some sites, or a complete description of the codes follows the profiles section.

For selected individual chemicals reported at various toxic sites, some potential health effect summary information appears below the site profile. Each potential health effect summary identifies chemicals by name and by Chemical Abstract Series (CAS) Number. An "x" under each potential health effect heading indicates positive toxicity testing results reported by the National Institute of Occupational Safety and Health's Registry of Toxic Effects of Chemical Substances (RTECS). Some chemicals (mostly appearing in profiles of Hazardous Waste facilities), are reported as mixtures, and RTECS health effect information is only available for individual chemicals. In addition, RTECS only provides information on approximately 100,000 common chemicals. Consequently, the absence of potential health effect summary information for a particular chemical identified in a Toxic Site Profile does not necessarily mean that the chemical does not pose potential health effects.

The Maximum Contaminant Level (MCL) in drinking water allowed for selected chemicals is also noted. In most cases, the only applicable MCL has been set by the New York State Department of Health (NYSDOH). Where NYSDOH has not set an MCL, the federal standard, if one exists, is listed and is marked by an asterisk.

Presented below are column headings that describe the health effect definitions used in RTECS and applicable New York State and federal drinking water standards. Reference sources for information presented in this section are also provided.

ACUTE TOX: **Acute Toxicity:** Short-term exposure to this chemical can cause lethal and non-lethal toxicity effects not included in the following four categories.

TUMOR TOX: **Tumorigenic Toxicity:** The chemical can cause an increase in the incidence of tumors.

MUTAG TOX: **Mutagenic Toxicity:** The chemical can cause genetic alterations that are passed from one generation to the next.

REPRO TOX: **Reproductive Toxicity:** May signify one of the following effects: maternal effects, paternal effects, effects on fertility, effects on the embryo or fetus, specific developmental abnormalities, tumorigenic effects, or effects on the newborn (only positive reproductive effects data for mammalian species are referenced).

IRRIT TOX: **Primary Irritant:** The chemical can cause eye or skin irritation.

MCL: **Drinking Water Standard - Maximum Contaminant Level (MCL)** listed under Drinking Water Supplies, 10 NYCRR Part 5, Subparts 1.51(f),(g), and (h) for NYDOH MCL's and under the Safe Drinking Water Act, 40 CFR 141, Subparts B and G, (\* indicates value for total trihalomethanes) for federal MCL's.

Reference Source for Toxicity Information: Registry of Toxic Effects of Chemical Substances (RTECS), NIOSH (on-line database); For further information, contact: NIOSH, 4676 Columbia Parkway, Cincinnati, OH, 45226, 800/35-NIOSH.

Reference Source for Drinking Water Standards: New York State Department of Health, Bureau of Toxic Substances Assessment, 2 University Place, Room 240, Albany, NY 12203, 518/458-6373.

U.S. Environmental Protection Agency, Office of Drinking Water, 401 M St SW, Mailstop WH-556, Washington, DC, 20460, 202/260-5700.

Inactive Hazardous Waste Disposal Site Classifications:

- 1 -- Causing or presenting an imminent danger of causing irreversible or irreparable damage to the public health or the environment -- immediate action required;
- 2 -- Significant threat to the public health or environment -- action required;
- 3 -- Does not Present a significant threat to the environment or public health -- action may be deferred;
- 4 -- Site properly closed --requires continued management;
- 5 -- Site properly closed, no evidence of present or potential adverse impact -- no further action required;
- 2a -- This temporary classification has been assigned to sites where there is inadequate data to assign them to the five classifications specified by law;
- A -- Work underway and not yet complete;
- P -- Potential Site;
- D<sub>1</sub>, 2, 3 -- Delisted Site (1: hazardous waste not found; 2: remediated; 3: consolidated site or site incorrectly listed);
- C -- Remediation Complete (formerly D2).



***NO NATIONAL PRIORITIES LIST (NPL) SITES IDENTIFIED WITHIN 1 MILE SEARCH RADIUS***

**INACTIVE HAZ WASTE DISPOSAL REGISTRY OR REGISTRY-QUALIFYING SITES IDENTIFIED WITHIN 1 MILE SEARCH RADIUS**

PLEASE NOTE: \* Compass directions can vary substantially for sites located very close to the subject property address.

**Map Identification Number 1****MONTICELLO VILLAGE LANDFILL**  
WAVERLY RD.

THOMPSON, NY 12784

**Facility Id: 353002**  
TT-Id: 120A-0004-033**MAP LOCATION INFORMATION**Site location mapped by: MAP COORDINATE – LARGE SITE  
Approximate distance from property: 4736 feet to the SSW**ADDRESS CHANGE INFORMATION**Revised street: NO CHANGE  
Revised zip code: 12701

This facility has been deleted from the reported data. Data reflects last reported information.

\*\*\*\*\*

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
DIVISION OF HAZARDOUS WASTE REMEDIATION  
INACTIVE HAZARDOUS WASTE DISPOSAL SITE INFORMATION

CLASSIFICATION CODE: D1

REGION: 3

SITE CODE: 353002

EPA ID: NYD980534762

CLASSIFICATION CODE DESCRIPTION:

Delisted site - hazardous waste not found

NAME OF SITE: Monticello Village Landfill

STREET ADDRESS: Waverly Rd.

TOWN/CITY: Thompson

ZIP: 12784

COUNTY: Sullivan

SITE TYPE: Dump- Structure- Lagoon- Landfill-X Treatment Pond-

ESTIMATED SIZE: 45 Acres

**SITE OWNER/OPERATOR INFORMATION:**

CURRENT OWNER(S):

NAME.....: Sullivan County

ADDRESS...: 100 North Street, Monticello, NY 12701

OWNER DURING DISPOSAL:

NAME.....: Village of Monticello

OPERATOR(S) DURING DISPOSAL:

NAME.....: Village of Monticello

ADDRESS...: 2 Pleasant Street, Monticello, NY 12701

HAZARDOUS WASTE DISPOSAL PERIOD:

## SITE DESCRIPTION:

The site is 170 acres in size with a 45-acre active portion. A portion of Tannery Brook, heavy vegetation and marshland can be found on the landfill. The landfill was obtained by the County from the Village of Monticello in January 1983. The site only handles household garbage, demolition material, brush and light industrial waste with no hazardous wastes. Sewage sludge was accepted in the past as well as chemicals from Nestle Synfleur Company. A Phase I investigation has been completed. A Municipal Waste hydrogeology study has been completed. Results of samples taken from monitoring wells in the area indicate high levels of iron, phenols, lead, total xylenes and manganese. There is also surface water contamination. There has been no documentation of hazardous waste disposal at this site. This site will be referred to the Division of Solid Waste for proper closure under Part 360.

## CONFIRMED HAZARDOUS WASTE DISPOSED:

TYPE

QUANTITY

ANALYTICAL DATA AVAILABLE FOR:	Air-	Surface Water-X	Groundwater-X	Soil-	Sediment-
APPLICABLE STANDARDS EXCEEDED IN:	Groundwater-	Drinking Water-	Surface Water-	Air-	

## GEOTECHNICAL INFORMATION:

SOIL/ROCK TYPE:

GROUNDWATER DEPTH:

LEGAL ACTION:	Type:	State-	Federal-
STATUS:	Negotiation in Progress-	Order Signed-	
REMEDIAL ACTION:	Proposed- Under Design-	In Progress-	Completed-
NATURE OF ACTION:			

## ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

Possible groundwater contamination from normal landfilling practices. There have been no environmental problems discovered or associated with the disposal of hazardous waste.

## ASSESSMENT OF HEALTH PROBLEMS:



***NO RCRA CORRECTIVE ACTION SITES IDENTIFIED WITHIN 1 MILE SEARCH RADIUS***





***NO CERCLIS SUPERFUND SITES IDENTIFIED WITHIN 1/2 MILE SEARCH RADIUS***



***NO BROWNFIELDS SITES IDENTIFIED WITHIN 1/2 MILE SEARCH RADIUS***



***NO SOLID WASTE FACILITIES IDENTIFIED WITHIN 1/2 MILE SEARCH RADIUS***



***NO HAZARDOUS WASTE TREATMENT/STORAGE/DISPOSERS IDENTIFIED WITHIN THE 1/2 MILE SEARCH RADIUS***



## ***HAZARDOUS MATERIAL SPILLS INTRODUCTION***

The Hazardous Material Spills in this section are divided into eight spill cause groupings. These include:

Active Spills Section: Spills with incomplete paperwork that may or may not be cleaned up (See Date Cleanup Ceased)

- 1) Tank Failures
- 2) Tank Test Failures
- 3) Unknown Spill Cause or Other Spill Cause Hazardous Spills
- 4) Miscellaneous Spill Causes: Equipment Failure, Human Error, Tank Overfill, Deliberate Spill, Traffic Accidents, Housekeeping, Abandoned Drum, Vandalism and Storms.

Closed Status Spills Section: Spills with completed paperwork that may or may not be cleaned up (See Date Cleanup Ceased)

- 5) Tank Failures
- 6) Tank Test Failures
- 7) Unknown Spill Cause or Other Spill Cause Hazardous Spills
- 8) Miscellaneous Spill Causes: Equipment Failure, Human Error, Tank Overfill, Deliberate Spill, Traffic Accidents, Housekeeping, Abandoned Drum, Vandalism and Storms.

All spills within each spill cause category are presented in order of proximity to the subject site address.

**Please note that spills reported within 0.25 mile (or one-eighth mile in New York City) are mapped and profiled.**

**Between 0.25 mile (or one-eighth mile in New York City) and 0.5 mile, only the following spills are mapped and profiled:**

- \* Tank Failures;
- \* Tank Test Failures;
- \* Unknown Spill Cause or Other Spill Cause;
- \* Spills greater than 100 units of quantity; and
- \* Spills reported in the NYSDEC Fall 1998 MTBE Survey.

A table at the end of each section presents a listing of reported Miscellaneous Spills with less than 100 units located between 0.25 mile (or one-eighth mile in Manhattan) and 0.5 mile. These spills are neither mapped nor profiled.



***NO ACTIVE TANK FAILURES IDENTIFIED WITHIN 1/2 MILE SEARCH RADIUS***



***NO ACTIVE TANK TEST FAILURES IDENTIFIED WITHIN 1/2 MILE SEARCH RADIUS***



***NO ACTIVE UNKNOWN CAUSE SPILLS AND OTHER CAUSE SPILLS IDENTIFIED WITHIN 1/2 MILE SEARCH RADIUS***





***NO ACTIVE HAZARDOUS SPILLS – MISC. SPILL CAUSES – EQUIPMENT FAILURE, HUMAN ERROR, TANK OVERFILL, DELIBERATE SPILL, TRAFFIC ACCIDENT, HOUSEKEEPING, ABANDONED DRUM, VANDALISM AND STORMS – IDENTIFIED WITHIN 1/2 MILE SEARCH RADIUS.***  
All spills mapped and profiled within 1/4 mile. Between 1/4 mile and 1/2 mile search radius, spills reported to be greater than 100 units and spills reported in the NYSDEC Fall 1998 MTBE Survey are mapped and profiled. Spills reported to be less than 100 units are listed in a table at the end of this section.

**THE FOLLOWING ACTIVE SPILLS FOR THIS CATEGORY WERE REPORTED BETWEEN 1/4 MILE AND 1/2 MILE SEARCH RADIUS FROM THE SUBJECT ADDRESS. THESE SPILLS WERE REPORTED TO BE LESS THAN 100 UNITS IN QUANTITY AND CAUSED BY: EQUIPMENT FAILURE, HUMAN ERROR, TANK OVERFILL, DELIBERATE SPILL, TRAFFIC ACCIDENT, HOUSEKEEPING, ABANDONED DRUM, VANDALISM, OR STORMS. THESE SPILLS ARE NEITHER MAPPED NOR PROFILED IN THIS REPORT.**

FACILITY ID      FACILITY NAME  
No dropped spills found for this category

STREET

CITY



### CLOSED STATUS TANK FAILURES IDENTIFIED WITHIN 1/2 MILE SEARCH RADIUS

Please Note: \* – Compass directions can vary substantially for sites located very close to the subject property address.

#### Map Identification Number 2



#### COMBINED ENERGY SVCS.

BROADWAY

MONTICELLO, NY

Spill Number: 9213384

Close Date: 09/30/1993

TT-Id: 520A-0179-801

#### MAP LOCATION INFORMATION

Site location mapped by: MANUAL MAPPING (3)

Approximate distance from property: 2360 feet to the WSW

#### ADDRESS CHANGE INFORMATION

Revised street: 88 BROADWAY

Revised zip code: 12701

Source of Spill: COMMERCIAL/INDUSTRIAL

Notifier Type: Affected Persons

Caller Name: KEN WOLFIRE

DEC Investigator: DVWEHRFR

Spiller: SAME

Notifier Name:

Caller Agency: USEPA

Contact for more spill info:

Spiller Phone: (914) 794-1210

Notifier Phone:

Caller Phone: (908) 321-4349

Contact Person Phone:

Category: Known petroleum or hazardous material release with minimal potential for fire/explosion (indoors or outdoors), drinking water contamination, or releases to surface waters.

Class: Willing RP – DEC Field Response – Corrective Action Initiated, Taken Over, or Completed by RP or Other Agency

Spill Date	Date Cleanup Ceased	Cause of Spill	Meets Cleanup Standards	Penalty Recommended
02/28/1993	09/30/1993	TANK FAILURE	NO	NO

Material Spilled	Material Class	Quantity Spilled	Units	Quantity Recovered	Units	Resource(s) Affected
UNKNOWN PETROLEUM	PETROLEUM	0	UNKNOWN	0	UNKNOWN	SOIL

Caller Remarks:

NOTIFIER INDICATES PRODUCT LEAKING FROM A/G TANK

DEC Investigator Remarks:

Prior to Sept, 2004 data translation this spill Lead\_DEC Field was "WEHRFRITZ"

**Map Identification Number 3****FRIENDLY INN**  
104 BROADWAY

MONTICELLO, NY

**Spill Number: 9804518****Close Date: 10/31/1998**

TT-Id: 520A-0179-717

**MAP LOCATION INFORMATION**

Site location mapped by: MANUAL MAPPING (3)

Approximate distance from property: 2430 feet to the WSW

**ADDRESS CHANGE INFORMATION**

Revised street: NO CHANGE

Revised zip code: 12701

Source of Spill: INSTITUTIONAL, EDUC, GOV, OTHER

Notifier Type: Other

Caller Name: ANNETTE CONNOR

DEC Investigator: UNASSIGNED

Spiller: CHET PATEL – FRIENDLY INN

Notifier Name: EMPLOYEES

Caller Agency: LUZON OIL CO.

Contact for more spill info: CHET PATEL

Spiller Phone: (914) 856-6611

Notifier Phone:

Caller Phone: (914) 434-7805

Contact Person Phone: (914) 856-6611

Category: Known petroleum or hazardous material release with minimal potential for fire/explosion (indoors or outdoors), drinking water contamination, or releases to surface waters.

Class: Willing RP – DEC Field Response – Corrective Action Initiated, Taken Over, or Completed by RP or Other Agency

Spill Date	Date Cleanup Ceased	Cause of Spill	Meets Cleanup Standards		Penalty Recommended	
07/10/1998		TANK FAILURE	YES		NO	
Material Spilled	Material Class	Quantity Spilled	Units	Quantity Recovered	Units	Resource(s) Affected
#2 FUEL OIL	PETROLEUM	0	GALLONS	0	GALLONS	SOIL

**Caller Remarks:**

DURING TANK PULL, CONTAMINATED SOIL ENCOUNTERED

**DEC Investigator Remarks:**

Prior to Sept, 2004 data translation this spill Lead\_DEC Field was " "



### CLOSED STATUS TANK TEST FAILURES IDENTIFIED WITHIN 1/2 MILE SEARCH RADIUS

Please Note: \* – Compass directions can vary substantially for sites located very close to the subject property address.

#### Map Identification Number 4



#### MILLER RESIDENCE

2 NELSHORE DR

MONTICELLO, NY

Spill Number: 0009345

Close Date: 05/15/2006

TT-Id: 520A-0179-703

#### MAP LOCATION INFORMATION

Site location mapped by: MANUAL MAPPING (3)

Approximate distance from property: 1951 feet to the WSW

#### ADDRESS CHANGE INFORMATION

Revised street: NO CHANGE

Revised zip code: 12701

Source of Spill: PRIVATE DWELLING

Spiller: DHUD

Spiller Phone: (845) 292-0200

Notifier Type: Other

Notifier Name: ANGEL PAGON

Notifier Phone: (845) 292-0200

Caller Name: ANGEL PAGON

Caller Agency: REALTY CO

Caller Phone: (845) 292-0200

DEC Investigator: DVWEHRFR

Contact for more spill info: ERIC CAFARO

Contact Person Phone: (917) 693-8826

SPILL LIEN INFORMATION --- Note: PIN is Project Id Number; OAG is Office of Attorney General; Nat. Code is National Code

PIN	Amount of lien	Property Owner	Date lien request rec'd from OAG	Date lien request sent to Nat. Code	Date filed lien rec'd from Nat. Code	Date copies mailed to OAG	Date release requested from OAG	Date executed release sent to OAG
01621	22531.99	William Miller	03/27/2002	06/03/2002	08/02/2002	08/02/2002	11/04/2004	11/08/2004

Category: Known or probable release, where, without action, there is a potential for a fire/explosion hazard (indoors or outdoors), contamination of drinking water supplies, or significant release to surface waters.

Class: Unknown RP – DEC Field Response – DEC Corrective Action Required

Spill Date	Date Cleanup Ceased	Cause of Spill	Meets Cleanup Standards	Penalty Recommended
11/14/2000		TANK TEST FAILURE	YES	YES

Material Spilled	Material Class	Quantity Spilled	Units	Quantity Recovered	Units	Resource(s) Affected
#2 FUEL OIL	PETROLEUM	100.00	GALLONS	75.00	GALLONS	SOIL

---

Caller Remarks:

realty company purchased a house and found that there is oil in the basement.

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## DEC Investigator Remarks:

House sold by HUD with exiting spill in basement from AG tank that failed. Oil ran into drain, and surfaced in basement with heavy rain. Attorney Generals office is persuing the responsible parties.

Limited Subsurface investigation completed by Atlantic Testing Labs on 2/23/06. Report rec on 4/3/06. NFA letter sent 5/15/06.


**CLOSED STATUS UNKNOWN CAUSE SPILLS AND OTHER CAUSE SPILLS IDENTIFIED WITHIN 1/2 MILE SEARCH RADIUS**

Please Note: \* – Compass directions can vary substantially for sites located very close to the subject property address.

**Map Identification Number 5**

**SEWAGE TREATMENT PLANT**

ROCK RIDGE DRIVE

MONTICELLO, NY

**Spill Number: 9709149**
**Close Date: 11/05/1997**

TT-Id: 520A-0288-177

**MAP LOCATION INFORMATION**

Site location mapped by: MANUAL MAPPING (4)

Approximate distance from property: 1643 feet to the NW

**ADDRESS CHANGE INFORMATION**

Revised street: NO CHANGE

Revised zip code: 12701

Source of Spill: UNKNOWN

Notifier Type: DEC

Caller Name: JOHN SANSALONE

DEC Investigator: DVWEHRFR

Spiller: UNK – TOWN OF THOMPSON

Notifier Name: MIKE BUZZELLI

Caller Agency: NYS DEC

Contact for more spill info: BILL CULLIGAN

Spiller Phone:

Notifier Phone: (914) 256-3121

Caller Phone: (914) 256-3019

Contact Person Phone: (914) 294-5280

Category: Known petroleum or hazardous material release with minimal potential for fire/explosion (indoors or outdoors), drinking water contamination, or releases to surface waters.

Class: Willing RP – DEC Field Response – Corrective Action Initiated, Taken Over, or Completed by RP or Other Agency

Spill Date	Date Cleanup Ceased	Cause of Spill	Meets Cleanup Standards		Penalty Recommended	
11/05/1997		UNKNOWN	YES		NO	
Material Spilled	Material Class	Quantity Spilled	Units	Quantity Recovered	Units	Resource(s) Affected
UNKNOWN PETROLEUM	PETROLEUM	0	GALLONS	0	GALLONS	SEWER

**Caller Remarks:**

JOHN SANSALONE WAS INSPECTING THE PLANT. A QUANTITY OF BLACK OIL CAME THROUGH THE PLANT IN THEIR INFLUENT. THE FLOW HAS STOPPED.

**DEC Investigator Remarks:**

Prior to Sept, 2004 data translation this spill Lead\_DEC Field was "WEHRFRITZ"  
 11/05/97 POSSIBLE SOURCE, THE CONCORDE; THE PRESENCE OF OIL IS

REGULAR; CURRENTLY CHECKING IN NEARBY SEWER MANHOLES;

**Map Identification Number 6****SCALESI RESIDENCE**

7 THORNTON AVENUE

MONTICELLO, NY

**Spill Number: 0235032****Close Date: 05/28/2003**

TT-Id: 520A-0179-689

**MAP LOCATION INFORMATION**

Site location mapped by: ADDRESS MATCHING

Approximate distance from property: 1955 feet to the WSW

**ADDRESS CHANGE INFORMATION**

Revised street: 7 THORNTON AVE

Revised zip code: 12701

Source of Spill: PRIVATE DWELLING

Notifier Type: Local Agency

Caller Name: DAVID TRAVER

DEC Investigator: rxamato

Spiller: SAME

Notifier Name: GEORGE COXACHUK

Caller Agency: DEC

Contact for more spill info: JOHN SCALES, JR.

Spiller Phone: (516) 826-8599

Notifier Phone: (845) 794-4911

Caller Phone: (845) 256-3000

Contact Person Phone: (516) 335-2882

Category: Known release which created a fire/explosion hazards (inside or outdoors), drinking water supply contamination, or significant releases to surface waters.

Class: Unable or Unwilling RP – DEC Field Response – DEC Corrective Action Required

Spill Date	Date Cleanup Ceased	Cause of Spill	Meets Cleanup Standards		Penalty Recommended	
12/30/2002		OTHER	YES		NO	
Material Spilled	Material Class	Quantity Spilled	Units	Quantity Recovered	Units	Resource(s) Affected
#2 FUEL OIL	PETROLEUM	0	GALLONS	0	GALLONS	SURFACE WATER

**Caller Remarks:**

VILLAGE OF MONTICELLO DPW NOTIFIED OF FUEL OIL IN BASEMENT BEING PUMPED OUT BY SUMP PUMP. APPEARS OIL TANK TIPPED, OIL LINE BROKE CAUSING SPILL. UNKNOWN DISCHARGE POINT OF SUMP PUMP. HOUSE IS VACANT/UNOCCUPIED.

**DEC Investigator Remarks:**

Prior to Sept, 2004 data translation this spill Lead\_DEC Field was "SMITH"

INITIALLY UNABLE TO CONTACT OWNER. VILLAGE INFORMED DEC THAT OIL IS FLOATING ON TOP OF APPROX. 3" WATER IN BASEMENT. VILLAGE HAS DISCONNECTED SUMP PUMP, BUT UNABLE TO DETERMINE DISCHARGE POINT DUE TO SNOW COVER. ECO STABAK ON SITE AND CONFIRMED SPILL IN BASEMENT, HE WAS ALSO UNABLE TO FIND SUMP PUMP DISCHARGE POINT. DEC HIRED TRI-STATE TO RESPOND.

DEC WAS ABLE TO CONTACT OWNER LATER. OWNER GIVEN OPPORTUNITY TO HIRE CONNTRACTOR AND RETAINED TRI-STATE HIMSELF BECAUSE THEY WERE RESPONDING ALREADY.

DEC SPILLS RESPONDED, R. SMITH, AND MET TRI-STATE ON SITE. BASEMENT HAD MINOR AMOUNT OF PRODUCT ON WATER AND WAS VACCED OUT. TANK WAS ALSO EMPTIED BY TRI-STATE. HOME IS VACANT AND NOT HEATED. DOES NOT APPEAR LARGE QUANTITY OF OIL WAS LOST. SUMP PUMP DISCHARGE POINT FROM GARDEN HOSE WAS FOUND, NO EVIDENCE OF FREE PRODUCT DISCHARGE.

SPILLER TO RETAIN LUZON OIL TO RETURN TO SITE 12/31/02 FOR BETTER ASSESSMENT AND CLEANUP. SPOKE TO LUZON OIL, R. HALPRIN, ON 12/31/02 AND CONFIRMED THEY WILL FINISH CLEANUP FOR RP.

**Map Identification Number 7****COMMUNITY RESORCE CTR**

934 EAST BROADWAY

MONTICELLO, NY

**Spill Number: 9701589****Close Date: 06/15/1997**

TT-Id: 520A-0219-094

**MAP LOCATION INFORMATION**

Site location mapped by: MANUAL MAPPING (5)

Approximate distance from property: 2035 feet to the SSW

**ADDRESS CHANGE INFORMATION**

Revised street: NO CHANGE

Revised zip code: 12701

Source of Spill: INSTITUTIONAL, EDUC, GOV, OTHER

Notifier Type: Responsible Party

Caller Name: ROBERT HALPRIN

DEC Investigator: DVWEHRFR

Spiller: REMI THIBODEAU – COMMUNITY RESORCE CTR

Notifier Name: ROBERT HALPRIN

Caller Agency: LUZON ENVIRONMENTAL

Contact for more spill info: REMI THIBODEAU

Spiller Phone: (914) 796-1350

Notifier Phone: (914) 434-7805

Caller Phone: (914) 434-7805

Contact Person Phone: (914) 796-1350

Category: Known petroleum or hazardous material release with minimal potential for fire/explosion (indoors or outdoors), drinking water contamination, or releases to surface waters.

Class: Willing RP – No DEC Field Response – Corrective Action Initiated or Completed by RP or Other Agency

Spill Date	Date Cleanup Ceased	Cause of Spill	Meets Cleanup Standards	Penalty Recommended
05/06/1997		UNKNOWN	YES	NO

Material Spilled	Material Class	Quantity Spilled	Units	Quantity Recovered	Units	Resource(s) Affected
#2 FUEL OIL	PETROLEUM	0	GALLONS	0	GALLONS	SOIL

**Caller Remarks:**

REMOVED TANK AND FOUND CONTAMINATED SOIL.

**DEC Investigator Remarks:**

Prior to Sept, 2004 data translation this spill Lead\_DEC Field was "WEHRFRITZ"  
06/15/97 SOIL REMOVED BY LUZON;



**Map Identification Number 8****COMBINED ENERGY SERVICES**

88 BROADWAY

MONTICELLO, NY

**Spill Number: 9900162****Close Date: 05/16/2000**

TT-Id: 520A-0179-713

**MAP LOCATION INFORMATION**

Site location mapped by: MANUAL MAPPING (3)

Approximate distance from property: 2360 feet to the WSW

**ADDRESS CHANGE INFORMATION**

Revised street: NO CHANGE

Revised zip code: 12701

Source of Spill: GASOLINE STATION

Notifier Type: Responsible Party

Caller Name: WALTER TAYLOR

DEC Investigator: DVWEHRFR

Spiller: WALTER TAYLOR – COMBINED ENERGY SERVICE

Notifier Name: SAME

Caller Agency: COMBINED ENERGY SERVICES

Contact for more spill info: WALTER TAYLOR

Spiller Phone:

Notifier Phone:

Caller Phone: (914) 794-6226

Contact Person Phone: (914) 794-6226

Category: Known petroleum or hazardous material release with minimal potential for fire/explosion (indoors or outdoors), drinking water contamination, or releases to surface waters.

Class: Willing RP – DEC Field Response – Corrective Action Initiated, Taken Over, or Completed by RP or Other Agency

Spill Date	Date Cleanup Ceased	Cause of Spill	Meets Cleanup Standards		Penalty Recommended		
04/01/1999		OTHER	YES		NO		
Material Spilled		Material Class	Quantity Spilled	Units	Quantity Recovered	Units	Resource(s) Affected
GASOLINE		PETROLEUM	0	GALLONS	0	GALLONS	SOIL

**Caller Remarks:**

THE REMOVED FOUR TANKS 3 3,00 GALLON AND 1 4,00 GALLON TANK

NO PRODUCT LEAKED OUT OF THE TANKS.TANKS WERE REMOVED UNDER THE NEW

MANDATE.DELORES WEIFRITZ FROM DEC IS AWARE OF THE REMOVAL AND HAS BEEN ON SITE.

**DEC Investigator Remarks:**

Prior to Sept, 2004 data translation this spill Lead\_DEC Field was "WEHRFRITZ"

05/16/2000 SOIL STOCKPILED ON SITE UNTIL SOLID WASTE MAKES DETERMINATION ON DISPOSAL. SPILLS – NFA PER D.W.

***NO CLOSED STATUS HAZARDOUS SPILLS – MISC. SPILL CAUSES – EQUIPMENT FAILURE, HUMAN ERROR, TANK OVERFILL, DELIBERATE SPILL, TRAFFIC ACCIDENT, HOUSEKEEPING, ABANDONED DRUM, VANDALISM AND STORMS – WITHIN 1/2 MILE SEARCH RADIUS.***

All spills mapped and profiled within 1/4 mile. Between 1/4 mile and 1/2 mile search radius, spills reported to be greater than 100 units and spills reported in the NYSDEC Fall 1998 MTBE Survey are mapped and profiled. Spills reported to be less than 100 units are listed in a table at the end of this section.

**THE FOLLOWING CLOSED SPILLS FOR THIS CATEGORY WERE REPORTED BETWEEN 1/4 MILE AND 1/2 MILE FROM THE SUBJECT ADDRESS. THESE SPILLS WERE REPORTED TO BE LESS THAN 100 UNITS IN QUANTITY AND CAUSED BY: EQUIPMENT FAILURE, HUMAN ERROR, TANK OVERFILL, DELIBERATE SPILL, TRAFFIC ACCIDENT, HOUSEKEEPING, ABANDONED DRUM, VANDALISM OR STORMS. THESE SPILLS ARE NEITHER MAPPED NOR PROFILED IN THIS REPORT.**

FACILITY ID	FACILITY NAME	STREET	CITY
0913207	KIAMESHA WATER & SEWER BLDG	128 ROCK RIDGE DR	MONTICELLO
9611494	COLOR CONCEPTS	60 BROADWAY	MONTICELLO
8910644	RUSH RESIDENCE	104 BROADWAY	MONTICELLO
8710560	LANDFIELD GARAGE	99 BROADWAY	MONTICELLO



***NO OIL STORAGE FACILITIES LARGER THAN 400,000 GALLONS IDENTIFIED WITHIN 1/4 MILE SEARCH RADIUS***



***NO PETROLEUM BULK STORAGE FACILITIES LESS THAN 400,000 GALLONS IDENTIFIED WITHIN 1/4 MILE SEARCH RADIUS***



### HAZARDOUS WASTE GENERATORS/TRANSPORTERS IDENTIFIED WITHIN 1/4 MILE SEARCH RADIUS

PLEASE NOTE: \* Compass directions can vary substantially for sites located very close to the subject property address.

#### Map Identification Number 9



#### NYSDEC Name:

NYSDEC Address:

EPA (RCRA) Name:

EPA (RCRA) Address:

#### NYS DOT

THOMPSONVILLE RD OVER RT 17

NYSDOT REG 9-THOMPSONVILLE RD OVR RT 17

THOMPSONVILLE RD OVER RT 17

MONTICELLO, NY 12701

MONTICELLO, NY 12701

Facility Id: NYR000113886

TT-Id: 740A-0058-847

#### MAP LOCATION INFORMATION

Site location mapped by: MANUAL MAPPING (4)

Approximate distance from property: 1003 feet to the W

#### ADDRESS CHANGE INFORMATION

Revised street: NO CHANGE

Revised zip code: NO CHANGE

US EPA RCRA Type: SMALL QUANTITY GENERATOR

Land Disposal:

Receives offsite waste:

Storer:

Treatment facility:

Notification date: 02/19/2003

Incinerator:

Transporter:

Contact Name: THOMAS HOSKINS

Source Type: Implementer

Contact Phone: 607-721-8097

Contact Info Date: 01/01/2007

Contact Name: DENNIS WILSON

Source Type: Notification

Contact Phone: 607-721-8100

Contact Info Date: 02/19/2003

Contact Name: THOMAS HOSKINS

Source Type: Annual/Biennial Report

Contact Phone: 607-721-8097

Contact Info Date: 02/13/2006

#### NYS DEC Manifested Waste Summary:

Waste Codes, Waste Units, and Transaction Types are only shown for the most recently reported year.

WASTE CODE	WASTE DESCRIPTION	WASTE AMOUNT	WASTE UNITS	TRANSACTION TYPE	YEAR	HISTORIC MAXIMUM AMOUNT	YEAR
D006	Cadmium	36000	POUNDS	GENERATED	2005		
D008	Lead	44000	POUNDS	GENERATED	2005		



***NO CHEMICAL STORAGE FACILITIES IDENTIFIED WITHIN 1/4 MILE SEARCH RADIUS***



***NO HAZARDOUS SUBSTANCE WASTE DISPOSAL SITES IDENTIFIED WITHIN 1/2 MILE SEARCH RADIUS***



***NO TOXIC AIR, LAND AND WATER RELEASES IDENTIFIED WITHIN 1/4 MILE SEARCH RADIUS***





***NO WASTEWATER DISCHARGES IDENTIFIED WITHIN 1/4 MILE SEARCH RADIUS***



***NO AIR DISCHARGE FACILITIES IDENTIFIED WITHIN 1/4 MILE SEARCH RADIUS***



***NO CIVIL & ADMINISTRATIVE ENFORCEMENT DOCKET FACILITIES IDENTIFIED WITHIN THE 1/4 MILE SEARCH RADIUS***

U.S. EPA EMERGENCY RESPONSE NOTIFICATION SYSTEM (ERNS) SPILLS  
AT THE LOCATION OR POTENTIALLY AT THE LOCATION OF  
Parcel One and Two  
Thompson, NY 12701

\* Any ERNS Spills listed below are NOT mapped in this report \*

POTENTIALLY ONSITE ERNS:

\*\*\*\*\*

Spill Number (ID): 320004

Spill Date: 03/04/1993

Location: 42 THOMPSONVILLE RD

Spill City: THOMPSONVILLE NY

Material Spilled	Quantity Spilled	Units	Pounds	Quantity Released in Water	Units	Casno
UNKNOWN OIL	0.00	UNK	0.00	0.00	UNK	

Potentially Responsible Party (Discharger): COMBINED ENERGY SERVICES

Discharger Address: BROADWAY

MONTICELLO

NY

Dun and Bradstreet Number:

Organization Type: PRIVATE ENTERPRISE

Medium(s) Affected:

Air: F Land: T Water: F Groundwater: F Contained within Fixed Facility: F Other: F

Waterway Affected:

Damages Incurred: F Estimated Cost of Property Damage: \$0.00

Cause(s):

Transportation Accident: F Equipment Failure: F

Operator Error: F Natural Phenomenon: F

Dumping: F Other Cause: F

Unknown: T

Cause of the incident:

Source of Release:

Type of Transportation Involved: FIXED FACILITY

Action: NONE CALLER STATED THAT COMPANY WAS INFORMED OF PROBLEM ON 28FEB93 - CALLED NYSDEC

Description: ABOVEGROUND STORAGE TANK STORAGE TANK / CALLER REPORTED TANK LEAKING AT FACILITY ACROSS F

Miscellaneous:

\*\*\*\*\*

Unmappable facilities for 'Sullivan' County

NPL/CERCLIS/NYSDEC Inactive Haz. Waste or Reg. Qual. Sites

FACILITY ID	FACILITY NAME	STREET	CITY	ZIP
NYD980534762	MONTICELLO LF	BROADWAY	MONTICELLO	12701

Brownfields Sites

FACILITY ID	FACILITY NAME	STREET	CITY	ZIP
C353012	CONCORD HOTEL AND RESORT EXPANSION SITE	CONCORD ROAD	KIAMESHA LAKE	12701
B00123	KIAMESHA CONCORD PROPERTIES	CONCORD ROAD	THOMPSON	12701

Solid Waste Facilities

FACILITY ID	FACILITY NAME	STREET	CITY	ZIP
53C01	KIAMESHA COMPOST			UNKNOWN
53S11	LIBERTY ROAD			UNKNOWN
53W01	JOSE LEMA INDUSTRIES			UNKNOWN
53S03	SULLIVAN COUNTY LANDFILL	973 EAST BROADWAY	MONTICELLO	12701

Hazardous Spills - UNKNOWN CAUSE OR OTHER CAUSES - Active

FACILITY ID	FACILITY NAME	STREET	CITY	ZIP
1107041	SULLIVAN IRENE	ALL OF SULLIVAN COUNTY		UNKNOWN

Hazardous Spills - TANK FAILURES - Closed

FACILITY ID	FACILITY NAME	STREET	CITY	ZIP
8705686	SULL CO HWY PRODUCTS	BRIDGEVILLE		UNKNOWN
9416387	LEISURE TIME ICE	BOX 1	KIAMESHA	12751
9106928	EXXON AT CONCORD	CONCORD ROAD	KIAMESHA	12751
9009249	CONCORD HOTEL	CONCORD ROAD	KIAMESHA	12751
9902378	CONCORD HOTEL	CONCORD RD	KIAMESHA LAKE	12751
9904954	MOUNTAIN MALL	BROADWAY AVE	MONTICELLO	12701
9900250	KUTSHERS COUNTRY CLUB	KUTCHERS RD	MONTICELLO	12701
9706261	FORMER GULF STATION	470 EAST BROADWAY	MONTICELLO	12701
9215056	NEAR POST OFFICE	BROADWAY	MONTICELLO	12701

Hazardous Spills - TANK TEST FAILURES - Closed

FACILITY ID	FACILITY NAME	STREET	CITY	ZIP
9712994	CONCORD RESORT HOTEL	KIAMESHA LAKE	KIAMESHA	12751
9712993	CONCORD RESORT HOTEL	KIAMESHA LAKE	KIAMESHA	12751
9712992	CONCORD RESORT HOTEL	KIAMESHA LAKE	KIAMESHA	12751
9712342	CONCORD RESORT HOTEL	CHALET ROAD GOLF MAINT	KIAMESHA LAKE	12751
9712341	CONCORD RESORT HOTEL	CHALET ROAD GOLF MAIN	KIAMESHA LAKE	12751
9712340	CONCORD RESORT HOTEL	CHALET ROAD GOLF MAINT	KIAMESHA LAKE	12751
9712339	CONCORD RESORT HOTEL	CHALET ROAD -GOLF MAINT.	KIAMESHA LAKE	12751
9712307	CONCORD RESORT HOTEL	CONCORD RD	KIAMESHA LAKE	12751
9914743	RECOVERY CENTER	BROADWAY	MONTICELLO	12701
9602637	GENERAL ELECTRIC	RT 17A	MONTICELLO	12701
9108262	SULL.CO. COURT HOUSE	COURT HOUSE	MONTICELLO	12701
8906649	BANK OF NEW YORK	BROADWAY	MONTICELLO	12701
1002487	MONTICELLO MIDDLE SCHOOL	45 BREKEY AVE	MONTICELLO	12701
0501075	INN AT MOUNTAIN PINES	689 THOMPSONVILLE ROAD	THOMPSONVILLE	12785

Hazardous Spills - UNKNOWN CAUSE OR OTHER CAUSES - Closed

FACILITY ID	FACILITY NAME	STREET	CITY	ZIP
9315225	11111111111	UNKNOWN		UNKNOWN
9309398	11111111111	UNKNOWN		UNKNOWN
9303331	111111111	UNKNOWN		UNKNOWN
9213781	11111111111	UNKNOWN		UNKNOWN

9213569	111111111	UNKNOWN	UNKNOWN
9210666	111111111	UNKNOWN	UNKNOWN
9205091	111111111	UNKNOWN	UNKNOWN
9201285	ON HIGHWAY	STATE STREET & RT 17	UNKNOWN
8403079			UNKNOWN
8402095			UNKNOWN
9107762	MCKENZIE	OLD ROUTE 17	BRIDGEVILLE 12701
9705088	CONCORD HOTEL GOLF COURSE	BACK ROAD	CATSKILLS UNKNOWN
8903654	MASSARSKY RES.	29 KIAMESHA LAKE ESTATES	KIAMESHA LAKE 12751
0807342	CONCORD HOTEL AND RESORT	219 CONCORD RD	KIAMESHA LAKE 12751
8100185			KUTSCHERS UNKNOWN
0804953	STORM DRAIN	372 EAST BROADWAY	MONTICELLO 12701
9814375	BUDOFF FURNITURE	BROADWAY	MONTICELLO 12701
9801526	MONTICELLO SANITATION GAR	WAVERLY AVENUE	MONTICELLO 12701
9712024	MONTICELLO COLLISION	EAST BROADWAY	MONTICELLO 12701
9708721	LANDFILL	BROADWAY	MONTICELLO 12701
9510381	MULVEYS SPORT SHOP	ACROSS SUL. CO. LANDFILL	MONTICELLO 12701
9005145	LEXINGTON PARK APT.	RR 5 BOX 40 PT. JARVIS	MONTICELLO 12701
9003513	BRODIE	RD 3 BOX 477	MONTICELLO 12701
8807741	MANHOLE #106	BROADWAY	MONTICELLO 12701
8803629	ORETESKY GAS STATION	BROADWAY	MONTICELLO 12701
8604975	MELODY	MELODY TRAILER PARK	MONTICELLO 12701
8604065	COMM GEN HOSPITAL	COMM GEN HOSPITAL	MONTICELLO 12701
8601818		WIERK AVE	MONTICELLO 12701
8100092			MONTICELLO 12701
0906771	37 THOMPSON RD	37 THOMPSON RD	MONTICELLO 12701
0906441	PRIVATE PROERTY	8 ROCK RIDGE AVE	MONTICELLO 12701
0803686	THOMPSON RD PUMP STATION	THOMPSON ROAD	MONTICELLO 12701
0704436	MONTICELLO SEWER PLANT	38 PLANT DRIVE	MONTICELLO 12701
0604452	FORMER CONCORD RESORT	CONCORD ROAD	MONTICELLO 12701
0509057	MARTCO CONSTRUCTION SITE	21 NORTHWOOD LAKE AVE	MONTICELLO 12701
0503839	SULLIVAN CTY LANDFILL	91 LANDFILL DRIVE	MONTICELLO 12701
0501904	ON ROADWAY	BROADWAY/NORTHLAKE WOOD	MONTICELLO 12701
0405185	CCD PAINTING	246 EAST BRODAWAY	MONTICELLO 12701
0312235	AUTOMOTIVE STATION	WAVERLY AVENUE	MONTICELLO 12701
8101031		ROSCOE,GETTY	SULLIVAN UNKNOWN
9410226	ROBERT GREEN CHEVY	OLD RT. 17	THOMPSON UNKNOWN
9206114	AT TOWN STP	LINE 495 POLE 46	THOMPSON UNKNOWN
9106297	RAVEN	OLD RT. 17	THOMPSON UNKNOWN
8805396	PAINT SPILL	OLD RT. 17	THOMPSON UNKNOWN
8805154	TOYOTA	OLD RT. 17	THOMPSON UNKNOWN
8600439		WAVERLY RD.	THOMPSON UNKNOWN
0806554	CONCORD HOTEL AND RESORT	2119 KIAMESHA LAKE	THOMPSON UNKNOWN
0803905	CONCORD HOTEL	KIAMISHA LAKE	THOMPSON UNKNOWN
0803452	CONCOURT HOTEL AND RESORT	CONCOURT RD/ KIAMESHA LAK	THOMPSON 12701
0006846	OLD RT 17 AND	LINE 539 POLE 47	THOMPSONVILLE 12785
1108754	UNDERGROUND	INTERSECTION RTE 173 A - EXIT 106 OFF R	TOMPSON UNKNOWN
Hazardous Spills - MISC. SPILL CAUSES - Closed			
FACILITY ID	FACILITY NAME	STREET	CITY
7900635	01	UNKNOWN	UNKNOWN
8601349		MOHANAIN CAMP	BETHEL (T) UNKNOWN
0811158	TRACTOR ACCIDENT	RTE 17 E/B	BRIDGEVILLE 12701
0911890	IROQIOUS CLUB	50 TORONTO RD	IROQIOUS CLUB UNKNOWN
9935004	BETANCUR RESIDENCE	176 ROCK RIDGE ROAD	MONTICELLO 12701
9910745	TURICK'S GARAGE	WAVERLY AVE	MONTICELLO 12701
9707164	RT 42	FROM MCDONALD TO RT 17	MONTICELLO 12701
9703331	MONTICELLO CAR WASH	SO BROADWAY	MONTICELLO 12701
9603296	TRIUMPH AUTO GLASS	BROADWAY	MONTICELLO 12701
9104907	DANVETZ	83 AINNE BROOK PARK	MONTICELLO 12701

9100418	IN LAKE	OLD RT. 17	MONTICELLO	12701
9006588	EXIT 107	RT 17 EAST	MONTICELLO	12701
9005275	A & B TRANSMISSION CO.	OLD RT. 17	MONTICELLO	12701
9000796	ARC	EAST BROADWAY	MONTICELLO	12701
8906827	EXIT 103 WESTBOUND	RT 17	MONTICELLO	12701
8801203	JACK ORETSKY SERVICE STA.	BROADWAY AVE	MONTICELLO	12701
8701335	LORD ELECTRIC	RT 17	MONTICELLO	12701
1202350	POWER POLE	WAVERLY AVE	MONTICELLO	12701
1201801	COHEN RES.	179 VILLAN ROAD	MONTICELLO	12701
1113708	TRADING POST	312 EAST BROADWAY	MONTICELLO	12701
1103981	PARKING LOT	353 EAST BROADWAY	MONTICELLO	12701
1103979	ROADWAY/DITCHES	353 EAST BROADWAY	MONTICELLO	12701
0913570	VILLAGE OF MONTICELLO	38 PLANT DR	MONTICELLO	12701
0905164	EAST BROADWAY/ ALDI'S	ALDIS PLAZA	MONTICELLO	12701
0813876	MONROE RESIDENCE	88 OLD RT17	MONTICELLO	12701
0813736	FISHOF PROPERTY / SACKETT LAKE	10 LEE ROAD (PRIVATE RD)	MONTICELLO	12701
0805737	SPAGNA RESIDENCE	16 MELODY LANE	MONTICELLO	12701
0801380	POLE #14 &15	BROADWAY	MONTICELLO	12701
0708157	STAFFORD RESIDENCE	45 ROCKRIDGE AVE.	MONTICELLO	12701
0707904	ULTRA POWER CORP	STAR AVE	MONTICELLO	12701
0702744	OIL IN ROADWAY	THOMPSONVILLE RD	MONTICELLO	12701
0609840	CES	276 EAST BROADWAY	MONTICELLO	12701
0300334	LANDFILL PRETREATMENT PLT	91 LANDFILL DR	MONTICELLO	12701
0210533	COMBINED ENERGY SERVICER	216 EAST BROADWAY	MONTICELLO	12701
0102576	SULLIVAN CO LANDFILL	BROADWAY	MONTICELLO	12701
0102560	BETWEEN 104 AND 105	RT 17 E/B/	MONTICELLO	12701
0012872	SUNOCO GAS STATION	EAST BROADWAY	MONTICELLO	12701
0005752	TRAFFIC ACCIDENT	THOMPSONVILLE RD	MONTICELLO	12701
0003373	POLE 10 LINE #813	ROCKRIDGE RD	MONTICELLO	12701
9809589	ROUTE 17	AT EXIT 102 WEST BOUND	THOMPSON	12742
9711336	CONCORD RESORT	CONCORD RD	THOMPSON	UNKNOWN
9507633	CONCORD SUBSTATION	KIAMISHA LAKE ROAD	THOMPSON	UNKNOWN
9502351	RT. 17 W.B.	RT. 17 MM 179609 & 1349	THOMPSON	UNKNOWN
9106536	CASCADE AGRI-PAK INC.	OLD RT.17 EXIT 103	THOMPSON	UNKNOWN
8800326	SULLIVAN CO. RESIDENCY	OLD BRIDGEVILLE	THOMPSON	UNKNOWN
1204726	ROADWAY	STATE ROUTE 17 EXIT 105A	THOMPSON	UNKNOWN
0807584	CONCORD HOTEL	KIAMESHA LAKE	THOMPSON	UNKNOWN
0806867	CONCORD HOTEL	219 KIAMESHA LAKE	THOMPSON	UNKNOWN
0805786	CONCORD HOTEL	219 KIAMESHA LAKE	THOMPSON	UNKNOWN
0600076	MONSTER CLUB HOUSE	CONCORD ROAD	THOMPSON	12701
9509982	CES TERMINAL	THOMPSONVILLE RD	THOMPSONVILLE	12785
1200156	PAD MT. TRANS	SLEEPY HOLLOW APARTEMNTS	TOMPSON	UNKNOWN

#### Petroleum Bulk Storage Facilities

FACILITY ID	FACILITY NAME	STREET	CITY	ZIP
3-494461	REDDY TRUCKING CO. INC.	P.O. BOX 501	MONTICELLO	12701

#### Hazardous Waste Generation or Transport Facilities

FACILITY ID	FACILITY NAME	STREET	CITY	ZIP
NYD136098464	MALL CLEANERS MONTICELLO MALL	MONTICELLO MALL	MONTICELLO	12701
NYD982187627	MONTICELLO FORD LIN MERC INC	RD 2	MONTICELLO	12701
NYR000016477	A T & T CORP	RTE 17 EXIT 110 - APX 4 MI ON	MONTICELLO	12701
NYR000124677	HOME DEPOT 6172	68 THOMPSON SQUARE	MONTICELLO	12701

#### Wastewater Discharges

FACILITY ID	FACILITY NAME	STREET	CITY	ZIP
NY0088315	TWIN LAKES SALES INC.			UNKNOWN

#### Air Releases

FACILITY ID	FACILITY NAME	STREET	CITY	ZIP

3610500026	SULLIVAN HIGHWAY PROD - BRIDGEVILLE	P.O. BOX 392	MONTICELLO	12701
3610500030	MONTICELLO STP	THOMPSONVILLE ROAD	MONTICELLO	12701
3610560016	MONTICELLO STP	THOMPONVILLE RD	MONTICELLO	12701



**Hazardous waste codes presented in individual Toxic Information Profiles are defined below.**

D006 Cadmium

D008 Lead

Source: U. S. Environmental Protection Agency

# How Toxic Site Locations Are Mapped

Toxics Targeting maps toxic site locations on a digital version of the U. S. Census map or those used by local authorities using addresses and map coordinates provided by site owners/operators or government agencies. In order to allow site locations to be verified independently, the information used to map each site is presented in the first section of each Toxic Site Profile, along with a description of the mapping technique used and any address corrections that were made in order to locate toxic sites with incomplete or inadequate site location information. The mapping process is explained below.

Map Identification Number: 12

Site Name: Acme World Manufacturing, Inc.

Site Address: 55 Main Street

Anytown, NY 11797

## MAP LOCATION INFORMATION

Site location mapped by:

Address Matching

Note: Some sites have an address match location and a map coordinate location. Both locations are mapped because they can be equally correct.

or Map Coordinate

or Manual Mapping

or Site Visit

1) Most toxic sites are mapped by matching addresses provided by site owners/operators or government agencies with locations on a digital version of the street or parcel map. These site locations are identified with the method used to map them.

2) Some toxic sites are located using map coordinates provided by site owners/operators or government agencies. These site locations are identified "map coordinate." Map coordinates for Toxic Wastewater Discharges, Toxic Release Inventory sites and Major Oil Storage Facilities should be considered suspect.

3) Incomplete addresses or map coordinates require some site locations to be determined by commercial street maps (manual mapping), site visits, map coordinates from other databases and address location services. Application of any of these methods is identified accordingly.

## ADDRESS CHANGE INFORMATION

Revised Street: NO CHANGE

Revised zip code: NO CHANGE

4) Site addresses are sometimes corrected to eliminate obvious errors that prevent sites from being mapped. All address corrections are noted here.

# Information Source Guide

*Toxics Targeting's Environmental Reports* contain government and other information compiled on 18 categories of reported known or potential toxic sites. Each toxic site database is described below with information detailing a) the source of the information, b) the date when each database is covered to and c) when *Toxics Targeting* obtained the information..

1) **National Priority List for Federal Superfund Cleanup:** Toxic sites nominated for cleanup under the Federal Superfund program. Annual compilation of special two-page detailed profiles of NPL sites. Also includes delisted NPL sites.

ASTM required.\* Fannie Mae required.\*\*

Source: U. S. Environmental Protection Agency.<sup>1</sup>

Data attributes updated from: 5/2/2013.

Data obtained by Toxics Targeting: 5/2/2013.

New Facilities updated through: 5/2/2013.

Data obtained by Toxics Targeting: 5/2/2013.

2) **Inactive Hazardous Waste Disposal Site Registry:** New York State database that maintains information and aids decision making regarding the investigation and cleanup of toxic sites. The Registry's data includes two-page profiles noting site name, ID number, description, classification, cleanup status, types of cleanup, owner information, types and quantities of contaminants, and assessment of health and environmental problems. Also included are sites that qualify for possible inclusion on the Registry. These Registry Qualifying sites may or may not be on the Site Registry.

ASTM required.\* Fannie Mae required.\*\*

Source: New York State Department of Environmental Conservation.<sup>2</sup>

Data attributes updated through: 5/2/2013.

Data obtained by Toxics Targeting: 5/2/2013.

New Facilities updated to: 5/2/2013.

Data obtained by Toxics Targeting: 5/2/2013.

3) **Corrective Action Activity (CORRACTS):** U. S. Environmental Protection Agency database of hazardous facilities regulated pursuant to the Resource Conservation and Recovery Act (RCRA).

ASTM required.\* Fannie Mae required.\*\*

Source: U. S. Environmental Protection Agency<sup>1</sup>

Data attributes updated through: 4/11/2013.

Data obtained by Toxics Targeting: 4/17/2013.

New facilities updated through: 4/11/2013.

Data obtained by Toxics Targeting: 4/17/2013.

4) **CERCLIS:** Toxic sites listed in the Federal Comprehensive Environmental Response, Compensation and Liability Information System. Includes Active and No Further Remedial Action Planned (NFRAP) sites.

ASTM required.\* Fannie Mae required.\*\*

Source: U. S. Environmental Protection Agency.<sup>1</sup>

Data attributes updated through: 11/28/2011.

Data obtained by Toxics Targeting: 12/21/2011.

New Facilities updated through: 4/25/2013.

Data obtained by Toxics Targeting: 5/14/2013.

5) **Brownfield Programs:** NYS programs for sites that are abandoned, idled or under-used industrial and/or commercial sites where expansion or redevelopment is complicated by real or perceived environmental contamination.

ASTM required.\*

Source: New York State Department of Environmental Conservation.<sup>2</sup>

Data attributes updated through: 5/2/2013.

Data obtained by Toxics Targeting: 5/2/2013.

New Facilities updated to: 5/2/2013.

Data obtained by Toxics Targeting: 5/2/2013.

(a) **Brownfield Cleanup Program (BCP)**

(b) **Voluntary Cleanup Program (VCP)**

(c) **Environmental Restoration Program (ERP)**

6) **Solid Waste Facilities:** NYS Solid Waste Registry, including, but not limited to, landfills, incinerators, transfer stations, recycling centers.

ASTM required.\* Fannie Mae required.\*\*

Source: New York State Department of Environmental Conservation.<sup>2</sup>

Data updated to: 12/31/2001.

Data obtained by Toxics Targeting: 3/16/2002.

7) **RCRA Hazardous Waste Treatment, Storage or Disposal Facility Databases:**

(a) **Manifest Information:** New York State database of hazardous waste facilities and shipments regulated by the DEC's Bureau of Hazardous Waste Facility Compliance pursuant to NYS Law and the Resource Conservation and Recovery Act (RCRA).

ASTM required.\* Fannie Mae required.\*\*

Source: New York State Department of Environmental Conservation.<sup>2</sup>

New facilities updated through: 4/15/2013.

New facilities obtained by Toxics Targeting: 4/22/2013.

Manifest transactions data updated to: 4/15/2013.

Manifest transactions data obtained by Toxics Targeting: 4/22/2013.

(b) **RCRA Notifier & Violations Information:** U. S. Environmental Protection Agency database of hazardous facilities regulated pursuant to the Resource Conservation and Recovery Act (RCRA).

ASTM required.\* Fannie Mae required.\*\*

Source: U. S. Environmental Protection Agency<sup>1</sup>

New facilities updated through: 4/11/2013.

Data obtained by Toxics Targeting: 4/17/2013.

Data attributes updated through: 4/11/2013.

Data obtained by Toxics Targeting: 4/17/2013.

8) **Spills Information Database:** Spills reported to the DEC as required by one or more of the following: Article 12 of the Navigation Law, 6 NYCRR Section 613.8 (from Petroleum Bulk Storage Regulations) or 6 NYCRR Section 595.2 (from Chemical Bulk Storage Regulations). This database includes both *active* and *closed* spills.

ASTM required.\* Fannie Mae.\*\*

Source: NYS Department of Environmental Conservation.<sup>2</sup>

New spills through: 4/29/2013

Spill attribute data through: 4/29/2013

New spills data obtained by Toxics Targeting: 4/29/2013

Spill attribute data obtained by Toxics Targeting: 4/29/2013

Active spills: paperwork not completed.

Closed spills: paperwork completed.

Both active and closed spills may or may not have been cleaned up (see Date Cleanup Ceased in spill profiles).

9) **Major Oil Storage Facilities:** NYS database of facilities licensed pursuant to Article 12 of the Navigation Law, 6 NYCRR Parts 610 and 17 NYCRR Part 30, such as onshore facilities or vessels, with petroleum storage capacities equal to or greater than 400,000 gallons.

ASTM required.\* Fannie Mae required.\*\*

**Tank and other data withheld by NYSDEC as of 4/1/2002.**

Source: New York State Department of Environmental Conservation.<sup>2</sup>

Data updated through: 5/2/2013.

Data obtained by Toxics Targeting: 5/2/2013.

10) **Petroleum Bulk Storage Facilities:** County or State databases of aboveground and underground petroleum storage facilities.

ASTM required.\* Fannie Mae required.\*\*

All New York Counties except Cortland, Nassau, Rockland, Suffolk:

**NYS Petroleum Bulk Storage Database.** This includes all New York State counties except Cortland, Nassau, Rockland, Suffolk, and Westchester.

ASTM required.\* Fannie Mae required.\*\*

Source: NYS Department of Environmental Conservation.<sup>2</sup>

New facilities updated through: 5/2/2013.

Data obtained by Toxics Targeting: 5/2/2013.

Tank data updated through: 5/2/2013.

Data obtained by Toxics Targeting: 5/2/2013.

Westchester County: Data updated through 10/1/1998

Cortland County: **Cortland County Health Dept. Tank database.**

Source: Cortland County Health Department<sup>7</sup>

Data updated through: 7/15/2004

Data obtained by Toxics Targeting: 7/23/2004

Nassau County: a compilation of the following 2 databases:

**Heat producing products and other products:**

Source: Nassau County Department of Health.<sup>3</sup>

NOTE: This data is being withheld by the Nassau County DOH

Data updated through: 4/1/2001.

Data obtained by Toxics Targeting: 1/2/2002

**Generally non-heat producing products:**

Source: Nassau County Fire Marshal.<sup>4</sup>

Data updated through: 8/6/2009.

Data obtained by Toxics Targeting: 9/22/2009

Rockland County: **Rockland County Dept. of Health Tank database.**

Source: Rockland County Department of Health.<sup>5</sup>

Data updated through: 4/13/2004.

Data obtained by Toxics Targeting: 4/16/2004.

Suffolk County: **Suffolk County Dept. of Health Article 12 database**

Source: Suffolk County Department of Health Services.<sup>6</sup>

Data updated through: 6/21/2005.

Data obtained by Toxics Targeting: 7/12/2006.

11) **RCRA Hazardous Waste Generators and/or Transporters Databases:**

(a) **Manifest Information:** New York State database of hazardous waste facilities and shipments regulated by the NYS Department of Environmental Conservation's Bureau of Hazardous Waste Facility Compliance pursuant to New York State Law. ASTM required.\* Fannie Mae required.\*\* Source: New York State Department of Environmental Conservation.<sup>2</sup>

New facilities updated through: 4/15/2013.

New facilities obtained by Toxics Targeting: 4/22/2013.

Manifest transactions data updated to: 4/15/2013.

Manifest transactions data obtained by Toxics Targeting: 4/22/2013.

(b) **RCRA Notifier & Violations Information:** U. S. Environmental Protection Agency database of hazardous facilities regulated pursuant to the Resource Conservation and Recovery Act (RCRA).  
ASTM required.\* Fannie Mae required.\*\*

Source: U. S. Environmental Protection Agency<sup>1</sup>

New facilities updated through: 4/11/2013.  
Data attributes updated through: 4/11/2013.

Data obtained by Toxics Targeting: 4/17/2013.  
Data obtained by Toxics Targeting: 4/17/2013.

12) **Chemical Bulk Storage Facilities:** New York State database of facilities compiled pursuant to 6NYCRR Part 596 that store regulated substances listed in 6NYCRR Part 597 in aboveground tanks with capacities greater than 185 gallons and /or in underground tanks of any size.

**Tank and other data withheld by NYSDEC as of 4/1/2002.**

ASTM required.\* Fannie Mae required.\*\*

Source: New York State Department of Environmental Conservation.<sup>2</sup>

Data updated through: 5/2/2013.

Data obtained by Toxics Targeting: 5/2/2013.

13) **Hazardous Substance Waste Disposal Site Study:** NYS database of waste disposal sites that may pose threats to public health or the environment, but could not be remediated using monies from the Hazardous Waste Remedial Fund.

Source: New York State Department of Environmental Conservation.<sup>2</sup>

Data updated to: 5/16/2000.

Data obtained by Toxics Targeting: 5/16/2000.

14) **Toxic Release Inventory (TRI):** Federal database of manufacturing facilities required under Section 313 of the Federal Emergency Planning and Community Right-to-Know Act to report releases to the air, water and land of any specifically listed toxic chemical. See Fannie Mae requirement\*\* below.

Source: U. S. Environmental Protection Agency.<sup>1</sup> / NYS Department of Environmental Conservation<sup>2</sup>

Data updated through: 3/8/2004.

Data obtained by Toxics Targeting: 3/25/2004

15) **Toxic Wastewater Discharges (Permit Compliance System):** Federal database of discharges of wastewater to surface waters and groundwaters. See Fannie Mae requirement\*\* below. Source: U. S. Environmental Protection Agency.<sup>1</sup>

Data updated through: 6/17/2004.

Data obtained by Toxics Targeting: 7/19/2004.

16) **Air Discharge Facilities:** EPA AIRS database containing address information on each air emission facility and the type of air pollutant emission it is. Compliance information is also provided on each pollutant as well as the facility itself.

See Fannie Mae requirement\*\* below.

Source: U. S. Environmental Protection Agency<sup>1</sup>

Data updated through: 11/24/1999.

Data obtained by Toxics Targeting: 1/6/2000

17) **Civil Enforcement & Administrative Docket:** This database is the U. S. EPA's system for tracking administrative and civil judiciary cases filed on behalf of the agency by the Department of Justice. Fannie Mae required.\*\*

Source: U. S. Environmental Protection Agency.<sup>1</sup>

New Sites through: 10/14/1999.

Data updated through: 10/14/1999.

Data obtained by Toxics Targeting: 11/18/1999.

18) **Emergency Response Notification System (ERNS):** Federal database of spills compiled by the Emergency Response Notification System. On-site searches only.

ASTM required.\* See Fannie Mae requirement\*\* below.

Source: U. S. Environmental Protection Agency.<sup>1</sup>

Data updated through: 1/31/2000.

Data obtained by Toxics Targeting: 2/15/2000

\* American Society of Testing Materials: Standard Practice on Environmental Site Assessments: Phase I Environmental Site Assessment Process (E1527-05).

\*\* Fannie Mae's Part X Environmental Hazards Management Procedures specify 1.0 mile searches for "any state or Federal list of hazardous waste sites (e.g. CERCLIS, HWDMS etc.)." Searches for the property and adjacent properties are specified for "chemical manufacturing plants," "obvious high risk neighbors engaging in storing or transporting hazardous waste, chemicals or substances" and "...any documented or visible evidence of dangerous waste handling... (e.g. stressed vegetation, stained soil, open or leaking containers, foul fumes or smells, oily ponds, etc." Searches for property and adjacent properties can include sites up to a quarter mile away (W. Hayward, Director, Multi-Family Business Planning and Control, Fannie Mae, personal communication, 5/94).

<sup>1</sup>U. S. Environmental Protection Agency, 290 Broadway, NY, NY 10007-1866.

<sup>2</sup>NYS Department of Environmental Conservation, 625 Broadway, Albany, NY 12233.

<sup>3</sup>Nassau County Department of Health, Bureau of Land Resources Management, 240 Old Country Road, Mineola, NY 11501.

<sup>4</sup>Nassau County Fire Commission, Office of the Fire Marshal, 899 Jerusalem Avenue, P. O. Box 128, Uniondale, NY 11553.

<sup>5</sup>Rockland County Department of Health, The Dr. Robert Yeager Health Center, Building D, Sanatorium Road, Pomona, NY 10970.

<sup>6</sup>Suffolk County Department of Health, Hazardous Materials Management, 15 Horseblock Place, Farmingville, NY 11738-1220.

<sup>7</sup>Cortland County Department of Health, 60 Central Avenue, Cortland, NY 13045-2746

**APPENDIX F**  
**LOCAL RECORDS**









**SULLIVAN COUNTY**  
**TAX MAP DEPARTMENT**

FOR TAX PURPOSES ONLY  
NOT TO BE USED FOR CONVEYANCE

LEGEND APPLIES ONLY TO THE  
UNSHADED PORTION OF THE MAP

North American Datum 1983, New York East

**WEILER MAPPING**  
A DIVISION OF JAMES W. SEARALL COMPANY

1000 ROUTE 173, SUITE 100, NEW PALTZ, NY 12561  
TEL: 845-255-1000 FAX: 845-255-1001  
WWW.WEILERMAPPING.COM

REVISION TABLE			
DATE	CHANGES	DATE	CHANGES

SPECIAL DISTRICTS			
TYPE	SYMBOL	NAME	ARLID NO.

LEGEND			
STATE OR COUNTY LINE	TAX MAP BLOCK NO.		
CITY TOWN OR VILLAGE LINE	FILED PLAN LOT NO.		
BLOCK LIMIT	FILED PLAN BLOCK NO.		
SPECIAL DISTRICT LINE	TAX MAP LOT NO.		
EASEMENT LINE	AREA (Calculated)		
PROPERTY LINE	AREA (Calculated)		
FILED PLAN LOT LINE	DIMENSION (From Deed)		
PATENT LINE	DIMENSION (Scaled)		
MATCH LINE	STREAM		

**TOWN OF THOMPSON**  
SULLIVAN COUNTY, NEW YORK

North American datum 1983, State Plane New York East Feet







MARILEE J. CALHOUN  
Town Clerk

KELLY M. MURRAN  
Deputy Town Clerk

## *Town of Thompson*

TOWN HALL  
4052 Route 42  
Monticello, NY 12701-3221

Telephone (845) 794-2500 Ext.302  
Fax (845) 794-8600

May 28, 2013

**VIA FAX TRANSMISSION: (914) 949-7559**

Mr. Erik Nimlos, Geologist  
AKRF, Inc. Environmental and Planning Consultants  
34 South Broadway, Suite 401  
White Plains, New York 10601

Re: Freedom of Information Law (FOIL) Request – 8 Tax Parcels  
EPT Concord Properties: Kiamesha Lake, Town of Thompson, Sullivan County, NY

Dear Mr. Nimlos:

I am in receipt of your (FOIL) requests dated May 17<sup>th</sup> & May 21<sup>st</sup>, 2013, which were received in this office on May 20<sup>th</sup> & May 21<sup>st</sup>, 2013 in regards to the above-mentioned properties. I forwarded your request to the Building Department/Code Enforcement Office to obtain any information that you have requested that might exist.

The Building Department/Code Enforcement Office provided me with (18) copies of documentation from the above-mentioned property files, which pertain to your request. They advised me that most of the information you are looking for their office would not have.

As per our conversation on May 21<sup>st</sup> during your visit to our office, I advised you that most of the information that you are looking for can be found by contacting the New York State Department of Environmental Conservation, Division of Water, Region 3, 21 South Putt Corners Road, New Paltz, NY 12561-1620, Phone: (845) 256-3019, Fax: (845) 255-3414 and Website: [www.dec.ny.gov](http://www.dec.ny.gov).

The cost for the (18) copies are .25 cents per page. The total cost due the Town is \$4.50. I am enclosing/faxing the requested documents along with this letter, upon receipt of the (18) copies kindly forward payment to this office in the amount of \$4.50.

Also as per our conversation I would like to remind you that you always have the opportunity to come into our office to review the files yourself anytime during regular office hours. If you would like to come in to our office, I ask that you let me know beforehand, so that I can make sure the files are available for you. After your review, if at that time you wish to submit an additional (FOIL) request the Town would be glad to fulfill such request.

AKRF, Inc.  
Page 2 of 2  
May 28, 2013

In the event that this request is being denied in part or whole you have the right to appeal such decision within 30-days of the denial. Appeals should be directed to Town Attorney Michael B. Mednick, PO Box 612, Monticello, New York 12701.

Thank you for your attention to this matter and feel free to contact me should you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Marilee J. Calhoun". The signature is fluid and cursive, with a large initial "M" and a stylized "J" and "C".

Marilee J. Calhoun  
Town Clerk

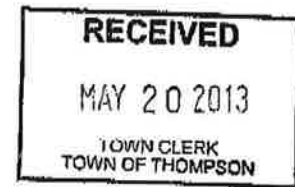
MJC:  
Encl. (21)

PC: Hon. Anthony P. Cellini, Supervisor and Town Board  
Mr. Michael B. Mednick, Town Attorney  
Mrs. Paula E. Kay, Town Attorney  
Ms. Logan E. Ottino, Building Department/Code Enforcement

**Clerk (Town of Thompson)**

---

**From:** Erik Nimlos <enimlos@akrf.com>  
**Sent:** Friday, May 17, 2013 1:00 PM  
**To:** marilee@townofthompson.com  
**Subject:** FOIL request  
**Attachments:** AKRF\_FOIL request\_Town of Thompson.pdf



Ms. Calhoun

Attached is my FOIL request. Please let me know if you have any questions or concerns, as well as to confirm receipt of this email. Thank you for your time.

Regards,

--

Erik Nimlos  
Geologist

\*\*\*\*\*  
**AKRF, INC.**

*Environmental, Planning, and Engineering Consultants*

34 South Broadway, Suite 401 | White Plains, NY 10601

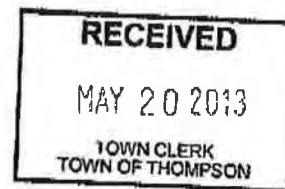
P) 914.922.2385 | C) 917.613.5977 | F) 914.949.7559

[www.akrf.com](http://www.akrf.com)



*Environmental and Planning Consultants*

34 South Broadway, Suite 401  
White Plains, NY 10601  
tel: 914 949-7336  
fax: 914 949-7559  
[www.akrf.com](http://www.akrf.com)



May 17, 2013

Ms. Marilee J. Calhoun  
Town of Thompson  
4052 Route 42  
Monticello, NY 12701  
Ph #: (845) 794-2500  
Fax #: (845) 794-8600

**Re: Freedom of Information Act Request**

Dear Ms. Calhoun,

AKRF, Inc. (AKRF) is conducting an Environmental Site Assessment on several parcels of land in Thompson, New York and is researching the following Tax Section, Block and Lot numbers: Section 23, Block 1, Lots 11.3, 47, 48, 52, 53, 54.1, 54.2, and 54.3.

AKRF requests any information pertaining to aboveground or underground storage tanks, depth to groundwater, septic tank failure or contamination (soil, groundwater or surface water), storage of hazardous waste, on-site spills and any other environmental issues of concern on or in the vicinity of the study site. Any relevant information that can assist in the determination of the environmental condition of the study site would be greatly appreciated. Should you have any questions please do not hesitate to contact our White Plains office via telephone, fax or mail. Thank you for your assistance.

Sincerely yours,

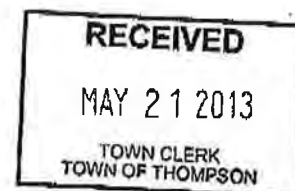
AKRF, Inc.

A handwritten signature in black ink, appearing to read 'Erik Nimlos'.

Erik Nimlos  
Geologist  
(917) 613-5977

CONSIDER THIS DOCUMENT YOUR WRITTEN ACKNOWLEDGEMENT  
RECEIPT FOR YOUR REQUEST FOR RECORDS

**DATE OF REQUEST** 5 / 21 / 2013



**TOWN OF THOMPSON  
FREEDOM OF INFORMATION REQUEST**

**RECORDS/DOCUMENTS REQUESTED**

UNDERGROUND / ABOVE GROUND STORAGE TANKS; SEPTIC SYSTEMS/TANKS;  
HAZARDOUS MATERIAL GENERATION, STORAGE, AND/OR SPILLS;  
BUILDING PERMITS / VIOLATIONS / BLUEPRINTS; INVESTIGATION AND/OR  
REMEDIATION REPORTS

**PETITIONER**

**NAME** ERIK NIMLOS

**ADDRESS** 34 SOUTH BROADWAY, SUITE 401, WHITE PLAINS, NY 10601

**PHONE** 917 613-5977

**SIGNATURE** [Signature]

In accordance with the provisions of the Freedom of Information Law, I hereby request to review or obtain copies of the following records or documents. I understand that there maybe a charge for this information.

**ACKNOWLEDGEMENT**

☐ **ACCESS DENIED (REASON)** \_\_\_\_\_

☐ **RECORDS/DOCUMENTS MADE AVAILABLE OR VIEWED**

☐ **DUE TO LIMITED STAFF AND INCREASED WORKLOAD  
RECORDS/DOCUMENTS WILL BE AVAILABLE**   /  /  

**REQUESTED INFORMATION ELECTRONICALLY STORED AND  
MAY BE VIEWED @** \_\_\_\_\_

**Department Head**

**SIGNATURE** \_\_\_\_\_ **Date**   /  /  

**Freedom of Information**

**Officer SIGNATURE** \_\_\_\_\_ **Date**   /  /

STATE OF NEW YORK  
DEPARTMENT OF HEALTH

COPY

Monticello District Office 50 North Street Suite 2 Monticello, NY 12701-1711 (845)-794-2045 Fax (845)-794-3165

Antonia C. Novello, M.D., M.P.H.  
Commissioner of HealthDennis P. Whalen  
Executive Deputy Commissioner

August 17, 2006

Henry Zabatta  
PO Box B  
Kiamesha Lake NY 12751Re: Breezy Corners Bungalow Colony  
Town of Thompson

Dear Mr. Zabatta:

On August 9 and August 11, 2006, an inspection of your facility was conducted by a representative of this Department. The following deficiencies were observed during that inspection:

1. Sewage effluent was discharging onto the ground surface from a leak in the pump station chamber. Repair is required immediately.
2. The foundation of unit #19/20 was in despair and appears to be structurally unsound. Repairs are required immediate

A re-inspection of your facility will be conducted to ensure compliance with applicable provisions of the State Sanitary Code.

If you have any questions in regard to this matter, please contact me at (845) 794-2045.

Sincerely,

Michael Duffy, R.S.  
Principal Sanitarian

MD:ce

Enc.

cc:

STATE OF NEW YORK  
DEPARTMENT OF HEALTH

Monticello District Office 50 North Street Suite 2 Monticello, NY 12701-1711 (845)-794-2045 Fax (845)-794-3465

COPY

*Antonia C. Novello, M.D., M.P.H., Dr. P.H.*  
*Commissioner of Health**Dennis P. Whalen*  
*Executive Deputy Commissioner*

August 1, 2002

Mr. Henry Zabattta  
Breezy Corners  
PO Box B  
Kiamesha Lake NY 12751**Re: Breezy Corners**  
**Town of Thompson**

Dear Mr. Zabatta:

The enclosed inspection report, completed by a representative of the New York State Department of Environmental Conservation, indicated that the sewage disposal system serving the above noted facility was not being properly operated and/or maintained at the time of inspection.

Failure to properly operate and/or maintain your sewage disposal system is a violation of the State Sanitary Code under which this facility is regulated by this office.

Please ensure that all violations and/or requested corrective actions are completed in accordance with the remarks indicated on this report.

Please contact this office if you have any questions.

Sincerely,

Dennis D. Croswell, R.S.  
District Director

DDC:es

Enclosure

cc: John Sansalone, DEC

Mr. John Drobysh, Town of Thompson CEO

p:\dennis\sds.doc



*Marked*  
*7/18/02*

# Division of Water, Region 3

21 South Putt Corners Road, New Paltz, New York 12561-1696

Phone: (845) 256-3019 • FAX: (845) 255-0714

Website: www.dec.state.ny.us



Erin M. C  
Commissi

DATE 7/15/02

NAME Breezy Corners

ADDRESS Henry Zabatta  
Concord Hotel / PO Box B  
Kiamesha Lake NY 12251

RE: County of Sullivan  
Inspection Date 7/15/02  
Inspector B. Lehmann  
SPDES 105 SPDES  
SPDES Expiration Date \_\_\_\_\_  
Pre-Seasonal: ☐  
Seasonal: ☒

Dear Sir:

This inspection was made in order to examine the physical condition of the plant as it presently exists. determination was made at this time as to the adequacy of your present system, need for future upgrad of the system, nor compliance with your State Pollutant Discharge Elimination System (S.P.D.E.S.) Pen Effluent Limitations.

☐ No discrepancies from proper operating procedures was noted at this time. Thank you your cooperations. If you have any questions, please feel free to contact this office. Telephone number is 845-256-3000.

☒ The following discrepancy(ies) were noted during the inspection:

☒ The sewage treatment system was not being properly operated and/or maintained. The following condition(s) must be corrected to provide proper operation:

☐ The sand filter(s) (was) (were) ponding.

☒ The sand filter(s) must be free of debris, and the sand raked level for even distribution of the sewage.

☐ The brush and weeds must be removed from the top of the covered sand filter.

☐ The perimeter of the sand filter(s) (lagoons) must be free of brush and trees.

☒ The distribution pipes must be repaired so that there is an even distribution of the effluent on the filter bed(s).

☒ The dosing syphons must be cleaned and reset to provide proper operation.

☐ The pump station(s) must be cleaned and reset to provide proper operation.

☐ Repair the broken tile line.

☐ Install a cover of adequate strength on your (septic tank); (dosing tank); (chlorine contact tank) (other \_\_\_\_\_).

☐ An adequate fence must enclose the lagoon.

☐ The septic tank must be cleaned.

☐ The reaeration ladder must be repaired.

*The*  
**CONCORD**  
*Resort & Golf Club*

October 29, 2002

Mr. Dennis Croswell, R.S.  
District Director  
State of New York  
Department of Health  
50 North Street  
Monticello, N.Y. 12701-1711

Dear Mr. Croswell:

We are writing in response to your letter of August 1, 2002 regarding the N.Y.S. DEC. inspection report of the sewage disposal system servicing Breezy Corners.

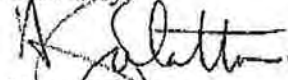
The following conditions have been repaired and the system is now being properly operated and maintained:

1. The dosing syphons have been repaired or replaced for proper operation.
2. The distribution pipes have been replaced and there is even distribution of the effluent on the filter beds.
3. The sand filters are free of debris, new sand has been added and the sand is maintained for even distribution of the sewage.
4. The SPEDES permit mentioned in the report is in effect and a copy is attached for your file.

We are sorry for the delay in response to your letter and assure you that the repairs in question were performed on a timely basis in August of 2002.

If you require any additional information, do not hesitate to contact me at extension 5002.

Sincerely,



Henry Zabatta  
Managing Director

Cc: John Sansalone, DEC  
John Drobysh, Town of Thompson CEO ✓

## Division of Water, Region 3

21 South Putt Corners Road, New Paltz, New York 12561-1696

Phone: (845) 256-3019 • FAX: (845) 255-0714

Website: www.dec.state.ny.us

Erin M. Cr  
CommissioDATE 7/15/02NAME Breezy CornersADDRESS Henry Zabatta  
Concord Hotel PO Box B  
Kiamesha Lake NY 12251RE: County of SullivanInspection Date 7/15/02Inspector B. LehmannSPDES ADSPDES

SPDES Expiration Date \_\_\_\_\_

Pre-Seasonal: ☐Seasonal: ☒

Dear Sir:

This inspection was made in order to examine the physical condition of the plant as it presently exists. A determination was made at this time as to the adequacy of your present system, need for future upgrading of the system, nor compliance with your State Pollutant Discharge Elimination System (S.P.D.E.S.) Permit Effluent Limitations.

- ☐ No discrepancies from proper operating procedures was noted at this time. Thank you for your cooperations. If you have any questions, please feel free to contact this office. Telephone number is 845-256-3000.

- ☒ The following discrepancy(ies) were noted during the inspection:

☒ The sewage treatment system was not being properly operated and/or maintained. The following condition(s) must be corrected to provide proper operation:

- ☐ The sand filter(s) (was) (were) ponding.
- ☒ The sand filter(s) must be free of debris, and the sand raked level for even distribution of the sewage.
- ☐ The brush and weeds must be removed from the top of the covered sand filter.
- ☐ The perimeter of the sand filter(s) (lagoons) must be free of brush and trees.
- ☒ The distribution pipes must be repaired so that there is an even distribution of the effluent on the filter bed(s).
- ☒ The dosing syphons must be cleaned and reset to provide proper operation.
- ☐ The pump station(s) must be cleaned and reset to provide proper operation.
- ☐ Repair the broken tile line.
- ☐ Install a cover of adequate strength on your (septic tank), (dosing tank), (chlorine contact tank) (other \_\_\_\_\_).
- ☐ An adequate fence must enclose the lagoon.
- ☐ The septic tank must be cleaned.
- ☐ The reaeration ladder must be repaired.

91-20-2 (1/89)



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
**State Pollutant Discharge Elimination System (SPDES)**  
**DISCHARGE PERMIT**  
**Special Conditions (Part I)**

Industrial Code: 8999  
 Discharge Class (CL): 02  
 Toxic Class (TX): N  
 Major Drainage Basin: 14 (Delaware)  
 Sub Drainage Basin: 02 (Neversink)  
 Water Index Number: D-1-38-3-1-1  
 Compact Area: DRBC

SPDES Number: NY - 0147982  
 DEC Number: 3-4846-00269/1  
 Effective Date (EDP): 7/01/99  
 Expiration Date (ExDP): 7/01/04  
 Modification Date(s): 6/22/99  
 Attachment(s): General Conditions (Part II) Date: 11/90

This SPDES permit is issued in compliance with Title 8 of Article 17 of the Environmental Conservation Law of New York State and in compliance with the Clean Water Act as amended, (33 U.S.C. Section 1251 et. seq.) (hereafter referred to as "the Act").

**PERMITTEE NAME AND ADDRESS**Attention: J. Hoppurstan/M. ShanerName: Concord AssociatesStreet: Concord RoadCity: Kiamesha LakeState: NY Zip Code: 12751

is authorized to discharge from the facility described below:

**FACILITY NAME AND ADDRESS**Name: Breezy Corners Bungalow ColonyLocation (C,T,V): T/ThompsonCounty: SullivanFacility Address: Joyland Road and Thompsonville RoadCity: Kiamesha LakeState: NY Zip Code: 12751

NYTM - E:

NYTM - N:

4

From Outfall No.: 001

at Latitude:

0

"

&amp; Longitude:

0

"

into receiving waters known as: unnamed trib. to Tannery Brook Class: B

and; (list other Outfalls, Receiving Waters &amp; Water Classifications)

in accordance with the effluent limitations, monitoring requirements and other conditions set forth in Special Conditions (Part I) and General Conditions (Part II) of this permit.

**DISCHARGE MONITORING REPORT (DMR) MAILING ADDRESS**

Mailing Name: \_\_\_\_\_

Street: \_\_\_\_\_

City: \_\_\_\_\_

State: \_\_\_\_\_

Zip Code: \_\_\_\_\_

Responsible Official or Agent: \_\_\_\_\_

Phone: ( ) - \_\_\_\_\_

This permit and the authorization to discharge shall expire on midnight of the expiration date shown and the permittee shall not discharge after the expiration date unless this permit has been renewed, or extended pursuant to law. To be authorized to discharge beyond the expiration date, the permittee shall apply for a permit renewal no less than 180 days prior to the expiration date shown above.

**DISTRIBUTION:**

J. Maccagliese

J. Sansalone

R. Hannaford

EPA, NY

Permit Administrator: <u>ALEXANDER CIESLUK JR.</u>	
Address: <u>REGION 3 OFFICE</u> <u>NEW FALTE, NY</u>	
Signature: <u>Alexander Ciesluk Jr.</u>	Date: <u>6/23/99</u>

91-20-2b (1/89)

SPDES No.: NY 0147982

Part 1, Page 2 of 3

Issued: 6/23/79

## EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning EDP - 7/1/79 and lasting until JULY 1, 2004  
the discharges from the permitted facility shall be limited and monitored by the permittee as specified below:

## LIMITATIONS APPLY:

☒ All Year ☐ Seasonal from \_\_\_\_\_ to \_\_\_\_\_

Outfall Number: 001

## EFFLUENT LIMITATIONS

<input checked="" type="checkbox"/> Flow	30 day arithmetic mean	<u>14,500</u> <input type="checkbox"/> MGD <input checked="" type="checkbox"/> GPD	
<input checked="" type="checkbox"/> C BOD, 5 - Day	30 day arithmetic mean	<u>20</u> mg/l and <u>2.4</u> lbs/day	(1)
<input checked="" type="checkbox"/> C BOD, 5 - Day	7 day arithmetic mean	<u>30</u> mg/l and <u>3.6</u> lbs/day	
<input type="checkbox"/> UOD(2)			
<input checked="" type="checkbox"/> Solids, Suspended (TSS)	30 day arithmetic mean	<u>20</u> mg/l and <u>2.4</u> lbs/day	(1)
<input checked="" type="checkbox"/> Solids, Suspended (TSS)	7 day arithmetic mean	<u>30</u> mg/l and <u>3.6</u> lbs/day	
<input checked="" type="checkbox"/> Effluent disinfection required:	<input type="checkbox"/> All Year <input checked="" type="checkbox"/> Seasonal from <u>May 15</u> to <u>Oct. 15</u>		
<input checked="" type="checkbox"/> Coliform, Fecal	30 day geometric mean shall not exceed 200/100 ml		
<input checked="" type="checkbox"/> Coliform, Fecal	7 day geometric mean shall not exceed 400/100 ml		
<input checked="" type="checkbox"/> Chlorine, Total Residual	Daily Maximum Range (contact Tank)	<u>0.5 - 2.0</u> mg/l	
<input checked="" type="checkbox"/> pH	Range	<u>6.5</u> to <u>8.5</u> SU	
<input checked="" type="checkbox"/> Solids, Settleable	Daily Maximum	<u>0.1</u> ml/l	
<input type="checkbox"/>			
<input type="checkbox"/>			
<input type="checkbox"/>			
<input type="checkbox"/>			
<input type="checkbox"/>			
<input type="checkbox"/>			

## MONITORING REQUIREMENTS

Parameter	Frequency	Sample Type	Sample Location Influent Effluent
<input checked="" type="checkbox"/> Flow <input type="checkbox"/> MGD <input checked="" type="checkbox"/> GPD			<u>x</u> or <u>x</u>
<input checked="" type="checkbox"/> C BOD, 5 - Day, mg/l	<u>Quarterly</u>	<u>Grab</u>	<u>x</u>
<input checked="" type="checkbox"/> Solids, Suspended, mg/l	<u>Quarterly</u>	<u>Grab</u>	<u>x</u>
<input checked="" type="checkbox"/> Coliform, Fecal, No./100 ml (3)	<u>Quarterly</u>	<u>Grab</u>	<u>x</u>
<input type="checkbox"/> Nitrogen, TKN (as N), mg/l			<u>x</u>
<input type="checkbox"/> Ammonia (as NH <sub>3</sub> ), mg/l			
<input checked="" type="checkbox"/> pH, SU (standard units)	<u>Weekly</u>	<u>Grab</u>	<u>x</u>
<input checked="" type="checkbox"/> Solids, Settleable, ml/l	<u>Weekly</u>	<u>Grab</u>	<u>x</u>
<input checked="" type="checkbox"/> Chlorine, Total Residual, mg/l (3)	<u>Daily</u>	<u>Grab</u>	<u>x</u>
<input type="checkbox"/> Phosphorus, Total (as P), mg/l			<u>x</u>
<input checked="" type="checkbox"/> Temperature, Deg <u>F</u>	<u>Daily</u>	<u>Grab</u>	<u>x</u>
<input type="checkbox"/>			
<input type="checkbox"/>			
<input type="checkbox"/>			
<input type="checkbox"/>			

NOTES: (1) and effluent values shall not exceed 15 % of influent values for BOD & TSS respectively.  
(2) Ultimate Oxygen Demand shall be computed as follows:  
$$UOD = 1\frac{1}{2} \times CBOD_5 + 4\frac{1}{2} \times TKN \text{ (Total Kjeldahl Nitrogen)}$$
  
(3) Monitoring of these parameters is only required during the period when disinfection is required.

91-20-2f (1/89)

SPDES No.: NY 0147982

Part 1, Page 3 of 3

ISSUED: 6/23/99

**RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS**

- a) The permittee shall also refer to the General Conditions (Part II) of this permit for additional information concerning monitoring and reporting requirements and conditions.
- b) The monitoring information required by this permit shall be summarized, signed and retained for a period of three years from the date of the sampling for subsequent inspection by the Department or its designated agent. Also;
- [ ] (if box is checked) monitoring information required by this permit shall be summarized and reported by submitting completed and signed Discharge Monitoring Report (DMR) forms for each \_\_\_\_\_ month reporting period to the locations specified below. Blank forms are available at the Department's Albany office listed below. The first reporting period begins on the effective date of this permit and the reports will be due no later than the 28th day of the month following the end of each reporting period.

Send the original (top sheet) of each DMR page to:

Department of Environmental Conservation  
Division of Water  
Bureau of Wastewater Facilities Operations  
50 Wolf Road  
Albany, New York 12233-3506  
Phone: (518) 457-3790

Send the first copy (second sheet) of each DMR page to:

Department of Environmental Conservation  
Regional Water Engineer  
21 So. Putt Corners Road  
New Paltz, NY 12561-1696  
ATTN: J. Sansalone, P.E.

- c) A monthly "Wastewater Facility Operation Report..." (form 92-15-7) shall be submitted (if box is checked) to the [X] Regional Water Engineer and/or [ ] County Health Department or Environmental Control Agency listed above.
- d) Noncompliance with the provisions of this permit shall be reported to the Department as prescribed in the attached General Conditions (Part II).
- e) Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.
- f) If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR Part 136 or as specified in this permit, the results of this monitoring shall be included in the calculations and recording on the Discharge Monitoring Reports.
- g) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.
- h) Unless otherwise specified, all information recorded on the Discharge Monitoring Report shall be based upon measurements and sampling carried out during the most recently completed reporting period.
- i) Any laboratory test or sample analysis required by this permit for which the State Commissioner of Health issues certificates of approval pursuant to section five hundred two of the Public Health Law shall be conducted by a laboratory which has been issued a certificate of approval. Inquiries regarding laboratory certification should be sent to the Environmental Laboratory Accreditation Program, New York Health Department Center for Laboratories and Research, Division of Environmental Sciences, The Nelson A. Rockefeller State Plaza, Albany, New York 12201



STATE OF NEW YORK  
DEPARTMENT OF HEALTH

Monticello District Office 50 North Street Suite 2 Monticello, NY 12701-1711 (845)-794-2045 Fax (845)-794-3165

*Antonia C. Novello, M.D., M.P.H., Dr. P.H.*  
*Commissioner of Health*

*Dennis P. Whalen*  
*Executive Deputy Commissioner*

SBL  
23-1-51.1  
COPY

Nov. 9, 2000

Henry Zabatta  
Concord Hotel  
PO Box B  
Kiamesha Lake NY 12751

Re: Breezy Corners Bungalow  
Town of Thompson

Dear Mr. Zabatta:

The enclosed inspection report, completed by a representative of the New York State Department of Environmental Conservation, indicated that the sewage disposal system serving the above noted facility was not being properly operated and/or maintained at the time of inspection.

Failure to properly operate and/or maintain your sewage disposal system is a violation of Subpart 7-1 of the State Sanitary Code under which this facility is regulated by this office.

A permit to operate this facility will not be issued until all items on this report have been corrected in accordance with the requested remarks.

Please contact this office if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Dennis D. Croswell', is written over a horizontal line.

Dennis D. Croswell, R.S.  
District Director

DDC:vc  
encl.  
cc: John Sansalone, DEC  
local bldg. inspector



New York State Department of Environmental Conservation  
Region 3  
200 White Plains Road 5th FL  
Tarrytown, NY 10591-5805



DATE: 8/9/00

TO: John Sausabone  
Bernard Lehmann

SUBJECT: Breezy Corvies Bursala Col. T. Thompson

On 8/9/00 I inspected Breezy Corvies Bursala  
Colony with Neil Marshall of DOH.

The system is a sand filter clz

The Breezy Corvies Bursala Colony isn't  
on the SPDES print out and the system  
is not maintained.

The following items were noted

Pump station - all floats not working evidence  
of by pass.

Dosing tank - dosing one bed

Sand filter - grass weeds

Distribution - one bed - hole in distribution

Box using 1/4 of one filter

As clz

AUG - 9 2000

cc J. Marshall  
DOH

SIGNATURE: Bernard L

PHONE: 914-332-1835, Ext.

FAX: 914-332-4670





# STATE OF NEW YORK DEPARTMENT OF HEALTH

Monticello District Office 50 North Street Suite 2 Monticello, New York 12701-1171 (914) 794-2045 Fax (914) 794-3165

Barbara A. DeBuono, M.D., M.P.H.  
*Commissioner*

Dennis P. Whalen  
*Executive Deputy Commissioner*

## COPY

August 10, 1998

Harold Friedman, Pres.  
Fre-Par Laboratories, Inc.  
P.O. Box 120  
Kiamesha Lake, NY 12751

Re: Breezy Corners Bungalow Colony  
Town of Thompson

Dear Mr. Friedman:

On July 29, 1998, an inspection of your facility was conducted by Christopher Campanaro, a representative of this department. The following deficiencies were observed during that inspection:

All violations noted on the enclosed inspection report dated July 29, 1998.

A reinspection of your facility will be conducted on or about August 18, 1998, to ensure compliance with applicable provisions of the State Sanitary Code.

If you have any questions in regard to this matter, please contact me at (914) 794-2045.

Very truly yours,

Gail S. Marshall, R.S.  
Senior Sanitarian

GM:jak

Enc.

cc: John Sansalone, NYSDEC

John Drobysch, Thompson Bldg. Inspector

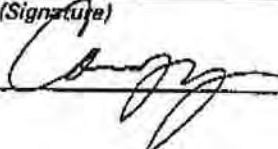
New York State Health Department  
INSPECTION CONTINUATION SHEET

page 2 of 3

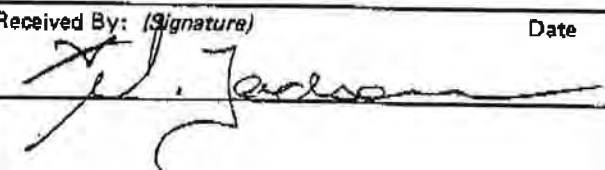
Name of Establishment <u>Breezy Corners</u>	Name of Individual receiving report	
Type of Establishment <u>Temporary Residence</u>	Date of Inspection <u>07/29/98</u>	Time of Inspection

Item No.	Remarks
#26	- Electrical service boxes not locked giving easy accessibility to children.
#49	- uncovered drainage and/or sewage lines (pvc 4 inch) by white trailer
#22	- refuse between units 26-27 (papers, shingles, etc...)
#49	- leak under unit 23 coming from drain pipe.
#27	- structural damage to unit 23-24. walls cracking/leaning.
#27	- structural damage to unit 18 walls cracking/leaning.
#32	- leak under unit 17 from water pipe.
#49	- Sand filters in severe disrepair. Foliage growing, sand uneven, sidewalks curving in.
#69	exit signs in casino not lighted.
#59	Pool has been operating without submission of lifeguard qualifications and information. (recruited papers on lifeguards)
#49	Last year chlorine contact point put in and not used. By sand filter.

Inspected By: (Signature)



Report Received By: (Signature)



Date

**Town of Thompson****Building Department  
4052 Route 42****Monticello, New York 12701-8221**

Phone: (914) 794-2500

Fax: (914) 794-8600

John A. Drobysh  
Building Inspector &  
Code Enforcement OfficerJames Carnell, Jr.  
Deputy Building Inspector &  
Code Enforcement Officer

COPY

August 26, 1997

Fre Par Laboratories Inc.  
P.O. Box 120  
Kiamesha Lake, NY 12751Re: Breezy Corners Bungalows  
Bungalow # 8  
Section 23 Block 1 Lot 54.1

Dear Sir:

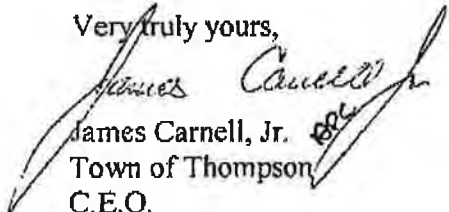
By request of Tenant Hille Felsher, who resides in Bungalow # 8 , the Building Dept. has made an inspection on August 22, 1997.

Our inspection reveled the following:

- 1) Floor rotten in several areas.
- 2) Many windows do not operate properly.
- 3) Air Conditioner leaks.
- 4) Hot water heater located in closet.

These items are in violation of the Building Code and must be corrected.  
Please contact this office when violations have been corrected .  
Thanking you in advance for your cooperation in this matter.

Very truly yours,

  
James Carnell, Jr.  
Town of Thompson  
C.E.O.P.C. Hille Felsher  
477 Klondicke Ave  
Staten Island , NY 10314

JC/bb

23-1-54.1

Permit No. <u>2269</u>
Examined <u>4-23-69</u>
Approved <u>✓</u>
Disapproved
<u>L. LeBlanc</u> Building Inspector

FORM No. 1

**Building Department**  
**TOWN OF THOMPSON**  
 Jefferson Street  
 MONTICELLO, NEW YORK 12701

COPY

Application For  
 Building and Zoning Permits

Zone	Date
Approved	
Disapproved	
Approved by board of Appeals	Date
Zoning Officer	

Date 3/29/69 1969

## INSTRUCTIONS

- This application must be completely filled in by typewriter or in ink and submitted in duplicate to the Building Inspector.
- Plot plan showing location of lot and of building on premises, relationship to adjoining premises or public streets or areas, and giving a detailed description of property must be drawn on the diagram which is part of this application.
- This application must be accompanied by two complete sets of plans showing proposed construction and two complete sets of specifications. Plans and specifications shall describe the nature of the work to be performed, the materials and equipment to be used and installed and details of structural, mechanical, electrical and plumbing installations.
- The work covered by this application may not be commenced before the issuance of Building Permit.
- Upon approval of this application, the Building Inspector will issue a Building Permit to the applicant together with approved, duplicate set of plans and specifications. Such permit and approved plans and specifications shall be kept on the premises available for inspection throughout the progress of the work.
- No building shall be occupied or used in whole or in part for any purpose whatever until a Certificate of Occupancy shall have been granted by the Building Inspector.

APPLICATION IS HEREBY MADE to the Building Inspector for the issuance of a Building Permit pursuant to the New York State Building Construction Code for the construction of buildings, additions or alterations, or for removal or demolition, as herein described. The applicant agrees to comply with all applicable laws, ordinances and regulations.

Robert J. Miller  
 (Signature of applicant)

Joyland Rd Monticello, NY  
 (Address of applicant)

State whether applicant is owner, lessee, agent, architect, engineer or builder:

owner - Builder  
 Name of owner of premises: EDITH MILLER

If applicant is a corporation, signature of duly authorized officer.

(Name and Title of Corporate Officer)

- Location of land on which proposed work will be done. Map No. \_\_\_\_\_ Section \_\_\_\_\_  
 Block \_\_\_\_\_ Lots \_\_\_\_\_ Street and Number Joyland Rd
- State existing use and occupancy of premises and intended use and occupancy of proposed construction:
  - Existing use and occupancy Residential
  - Intended use and occupancy Residential
- Nature of work (check which applicable): New Building \_\_\_\_\_ Addition ✓ Alteration \_\_\_\_\_  
 Repair \_\_\_\_\_ Removal \_\_\_\_\_ Demolition \_\_\_\_\_
- Estimated Cost\* 500.00 Fee 5.00  
 (To be paid on filing this application)
- If dwelling, number of dwelling units 1 Number of dwelling units on each floor \_\_\_\_\_ If garage, number of cars \_\_\_\_\_

6. If business, commercial or mixed occupancy, specify nature and extent of each type of use Being low density
7. Dimensions of existing structures, if any; Front 24 Rear 24 Depth 12 Height 10  
 Number of stories .....  
 Dimensions of same structure with alterations or additions; Front 24 Rear 24 Depth 20  
 Height 10 Number of Stories 1
8. Dimensions of entire new construction: Front 24 Rear 24 Depth 8 Height 10  
 Number of Stories 1
9. Size of lot: Front ..... Rear ..... Depth .....
10. Zone or use district in which premises are situated .....
11. Does proposed construction violate any zoning law, ordinance or regulation? No
12. Name of Compensation Insurance Carrier Comp. Mutual  
 Number of Policy ..... Date of Expiration .....
13. Name of Owner of Premises EDITH MILLER Address Grey Lane Rd Phone No. 794-4914  
 Name of Architect None Address ..... Phone No. ....  
 Name of Contractor None Address ..... Phone No. ....
14. Will electrical work be inspected by, and a Certificate of Approval obtained from the New York Board of Fire Underwriters or other agency or organization? If so, by whom .....

\* Costs for the work described in the Application for Building Permit include the cost of all of the construction and other work done in connection therewith, exclusive of the cost of the land. If final cost shall exceed estimated cost, an additional fee may be required before the issuance of Certificate of Occupancy.

#### PLOT DIAGRAM

Locate clearly and distinctly all buildings, whether existing or proposed and indicate all setback dimensions, i.e., all distances from building to rear, side and front yard lines. Give lot and block numbers or description according to deed, and show street names and indicate whether interior or corner lot. Do not show floor plan or construction details here.

STATE OF NEW YORK,

COUNTY OF Sullivan

ss.:

Edith Miller  
 (Name of individual signing application)

being duly sworn deposes and says that he

is the applicant above named. He is the

(Contractor, agent, corporate officer, etc.)

of said owner of ~~premises~~, and is duly authorized to perform or have performed the said work and to make and file this application; that all statements contained in this application are true to the best of his knowledge and belief, and that the work will be performed in the manner set forth in the application and in the plans and specifications filed therewith.

Sworn to before me

this 12<sup>th</sup> day of

April 19 69

Edith Miller

(Signature of applicant)

Notary Public, Sullivan County

BUILDING PERMIT  
TOWN OF THOMPSON  
4052 ROUTE 42  
MONTICELLO, N.Y. 12701

Permit No: 95-353  
SEC-BLK-LOT: 23-1-53.0  
ZONED: rr

File Date: 3/29/95  
Exp-Date: 09/29/95  
Permit Fee: \$\$\$\$65.00

COPY

A permit is hereby given by the Building Department, TOWN OF THOMPSON,  
COUNTY OF SULLIVAN, N.Y., for the structure described herein:

Owner's Name: CONCORD HOTEL  
Address: KIAMESHA LAKE NY 12751

Phone: (914) 794-3000

Architect's Name:  
Address:

Phone: ( ) -

Builder's Name: LOGGER -- GARY BOWERS LOGGING  
Address: BOX 52F HURLEYVILLE NY

Phone: (914) 436-5776

Electrician Name:  
Address:

Phone: ( ) -

Location of Building: JOYLAND ROAD

Material:	Number of Stories: 0.0	Number of Families: 0
Dimensions of Building:	Dimensions of Lot:	Number of Toilets: 0
Use of Permit:	Number of Bedrooms: 0	
Type of Permit:	Number of Bathrooms: 0.0	Heating Plant:

Remarks: SELECTIVE HARVEST OF FOREST PRODUCTS.

Approximate Cost: \$\$\$\$10,000.00

1. I am familiar with the Zoning and Building Ordinance of the TOWN OF THOMPSON, and do hereby agree to abide by them.
2. The information stated above is correct and accurate.

William Bowers  
Signature of Applicant

IMPORTANT

1. A permit under which no work has commenced within six (6) months after issuance, shall expire by limitation, and a new permit must be secured before work can begin.
2. It is the responsibility of the owner and/or contractor to comply with all applicable town ordinances and to call for the required inspections at least one day in advance.

Tale P. P.  
Signature of Building Inspector

Permit No. 6672  
 Examined 5-21-72  
 Approved ☒  
 Disapproved ☒  
L. LeBlanc  
 Building Inspector

FORM No. 1  
**Building Department**  
**TOWN OF THOMPSON**  
 Jefferson Street  
 MONTICELLO, NEW YORK 12054

**COPY**

**Application For**  
**Building and Zoning Permits**

Zone \_\_\_\_\_ Date \_\_\_\_\_  
 Approved \_\_\_\_\_  
 Disapproved \_\_\_\_\_  
 Approved by board of  
 Appeals \_\_\_\_\_ Date \_\_\_\_\_  
 \_\_\_\_\_  
 Zoning Officer

Date May 8<sup>th</sup> 1972

**INSTRUCTIONS**

- This application must be completely filled in by typewriter or in ink and submitted in duplicate to the Building Inspector.
- Plot plan showing location of lot and of building on premises, relationship to adjoining premises or public streets or areas, and giving a detailed description of property must be drawn on the diagram which is part of this application.
- This application must be accompanied by two complete sets of plans showing proposed construction and two complete sets of specifications. Plans and specifications shall describe the nature of the work to be performed, the materials and equipment to be used and installed and details of structural, mechanical, electrical and plumbing installations.
- The work covered by this application may not be commenced before the issuance of Building Permit.
- Upon approval of this application, the Building Inspector will issue a Building Permit to the applicant together with approved, duplicate set of plans and specifications. Such permit and approved plans and specifications shall be kept on the premises available for inspection throughout the progress of the work.
- No building shall be occupied or used in whole or in part for any purpose whatever until a Certificate of Occupancy shall have been granted by the Building Inspector.

APPLICATION IS HEREBY MADE to the Building Inspector for the issuance of a Building Permit pursuant to the New York State Building Construction Code for the construction of buildings, additions or alterations, or for removal or demolition, as herein described. The applicant agrees to comply with all applicable laws, ordinances and regulations.

Monticello Heights, Inc.  
Harry Permatz, Pres.  
 (Signature of applicant)

Rt. 170, Monticello, N.Y.  
 (Address of applicant)

State whether applicant ~~lessee~~ lessee, agent, architect, engineer or builder:

Name of owner of premises: Edith Miller

If applicant is a corporation, signature of duly authorized officer.

x Edith Miller  
 (Name and Title of Corporate Officer)

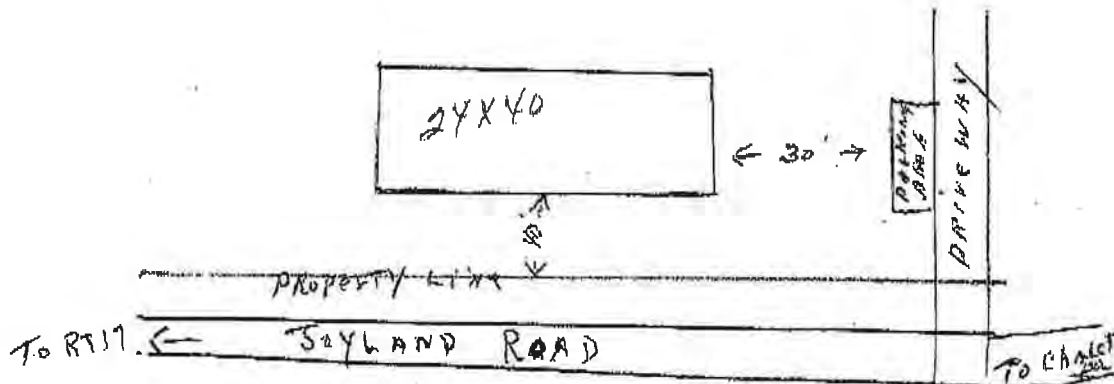
- Location of land on which proposed work will be done. Map No. \_\_\_\_\_ Section 23  
 Block 1 Lots 54 Street and Number SPYLAND ROAD MONTICELLO NY
- State existing use and occupancy of premises and intended use and occupancy of proposed construction:
  - Existing use and occupancy \_\_\_\_\_
  - Intended use and occupancy Used as a Home
- Nature of work (check which applicable): New Building YES Addition \_\_\_\_\_ Alteration \_\_\_\_\_  
 Repair \_\_\_\_\_ Removal \_\_\_\_\_ Demolition \_\_\_\_\_
- Estimated Cost\* 16,000.00 Fee 20.00  
 (To be paid on filing this application)
- If dwelling, number of dwelling units \_\_\_\_\_ Number of dwelling units on each floor 1 If garage,  
 number of cars \_\_\_\_\_

6. If business, commercial or mixed occupancy, specify nature and extent of each type of use .....
7. Dimensions of existing structures, if any; Front ..... Rear ..... Depth ..... Height .....  
 Number of stories .....  
 Dimensions of same structure with alterations or additions: Front ..... Rear ..... Depth .....  
 Height ..... Number of Stories .....
8. Dimensions of entire new construction: Front 40 FT Rear 40 FT Depth 24 FT Height 11 FT.  
 Number of Stories 1.
9. Size of lot: Front ..... Rear ..... Depth .....
10. Zone or use district in which premises are situated ARI
11. Does proposed construction violate any zoning law, ordinance or regulation? NO
12. Name of Compensation Insurance Carrier HOME INSURANCE CO  
 Number of Policy WC 4 30 48 76 Date of Expiration 10/27/72
13. Name of Owner of Premises Edith Miller Address Monticello, N.Y. Phone No. 794-4912  
 Name of Architect Amos Modular Address Monticello, N.Y. Phone No. 794-4925  
 Name of Contractor Monticello Heights Address Monticello, N.Y. Phone No. 794-6160
14. Will electrical work be inspected by, and a Certificate of Approval obtained from the New York Board of Fire Underwriters or other agency or organization? If so, by whom American Modular  
of Binghamton, N.Y. will supply a UL Approved Certificate

\* Costs for the work described in the Application for Building Permit include the cost of all of the construction and other work done in connection therewith, exclusive of the cost of the land. If final cost shall exceed estimated cost, an additional fee may be required before the issuance of Certificate of Occupancy.

#### PLOT DIAGRAM

Locate clearly and distinctly all buildings, whether existing or proposed and indicate all setback dimensions, i.e., all distances from building to rear, side and front yard lines. Give lot and block numbers or description according to deed, and show street names and indicate whether interior or corner lot. Do not show floor plan or construction details here.



STATE OF NEW YORK,

COUNTY OF .....

ss.:

being duly sworn deposes and says that he

(Name of individual signing application)

is the applicant above named. He is the

(Contractor, agent, corporate officer, etc.)

of said owner or owners, and is duly authorized to perform or have performed the said work and to make and file this application; that all statements contained in this application are true to the best of his knowledge and belief, and that the work will be performed in the manner set forth in the application and in the plans and specifications filed therewith.

Sworn to before me

this 11 day of May 1972

(Signature of applicant)

Notary Public, ..... County



**APPENDIX G**  
**SENSITIVE RECEPTOR SURVEY**

# *Toxics Targeting Environmental Report*

---

**1/2 Mile Well &  
Sensitive Receptor Report  
Parcel One and Two  
Thompson, NY 12701**

---

*May 20, 2013*

## **LIMITED WARRANTY AND DISCLAIMER OF LIABILITY**

### **Who is Covered**

This limited warranty is extended by Toxics Targeting, Inc. only to the original purchaser of the accompanying Environmental Report ("Report"). It may not be assigned to any other person.

### **What is Warranted**

Toxics Targeting, Inc. warrants that it uses reasonable care to accurately transcribe the information contained in this Report from the sources from which it is obtained. This limited warranty is in lieu of all other express warranties which might otherwise arise with respect to the Report. No one is authorized to change or add to this limited warranty.

### **What We Will Do**

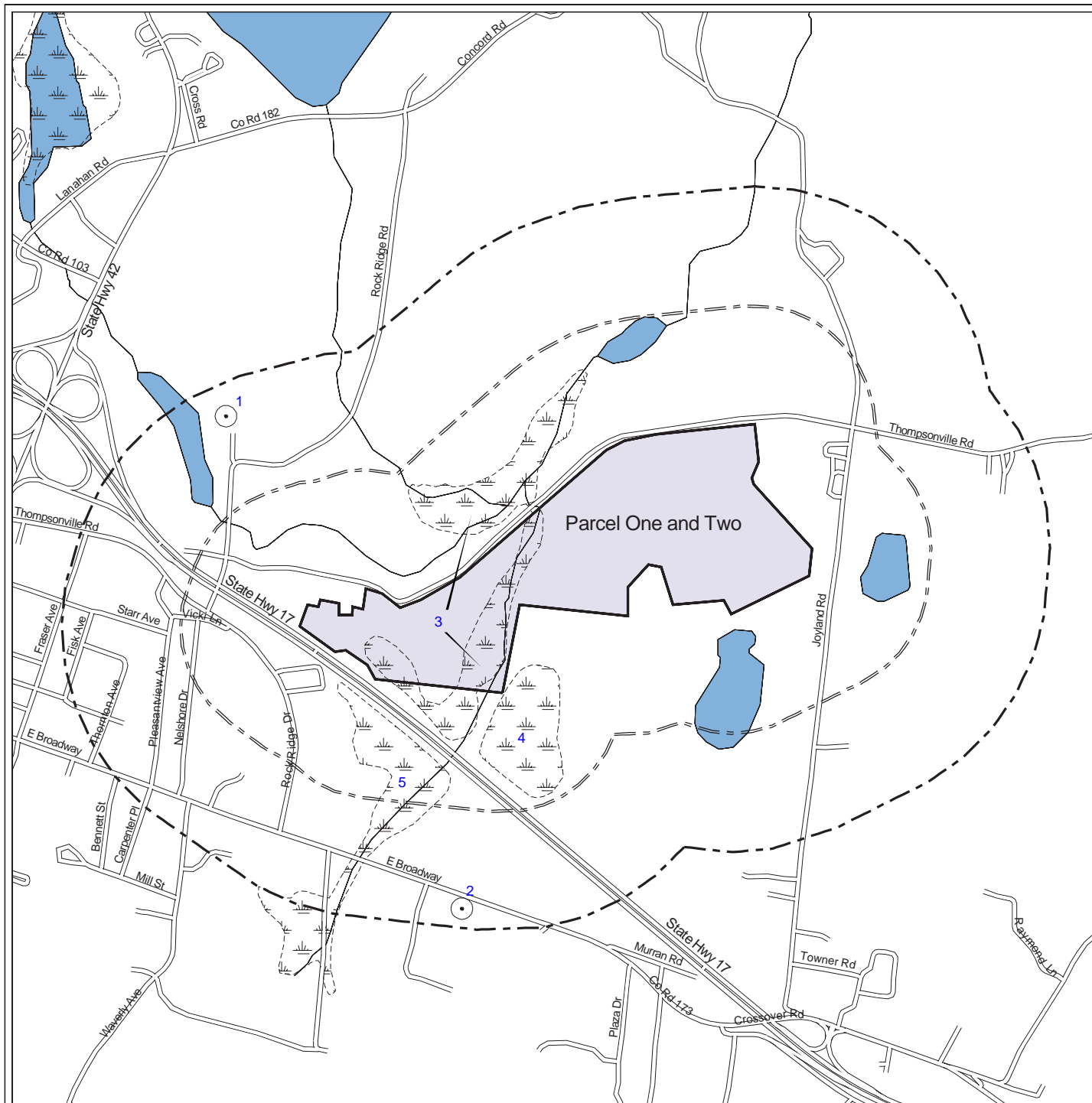
If during the warranty period there is shown to be a material error in the transcription of the information contained in this Report from the sources from which it was obtained, Toxics Targeting, Inc. shall refund to the original purchaser the full purchase price paid for the Report. The remedy stated above is the exclusive remedy extended to the Purchaser by Toxics Targeting, Inc. for any failure of the Report to conform with this Warranty, or otherwise for breach of this Warranty or any other warranty, whether expressed or implied.

### **What We Won't Cover**

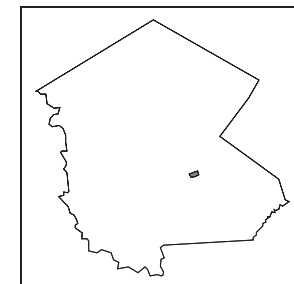
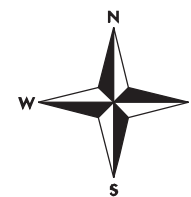
Toxics Targeting, Inc. has not and can not verify the accuracy, correctness or completion of the information contained in this Report. Information is obtained from government agencies, site owners, and other sources, and errors are common in such information. Because Toxics Targeting, Inc. can not control the accuracy of the information contained in this Report, or the uses which may be made of the information, TOXICS TARGETING, INC. DISCLAIMS LIABILITY TO ANYONE FOR ANY EVENTS ARISING OUT OF THE USE OF THE INFORMATION. TOXICS TARGETING, INC. SHALL NOT BE LIABLE FOR ANY DAMAGE CAUSED BY THIS REPORT, WHETHER DIRECT OR INDIRECT, AND WHETHER OR NOT TOXICS TARGETING, INC. HAS BEEN ADVISED OF OR HAS KNOWLEDGE OF THE POSSIBILITY OF SUCH DAMAGES. TOXICS TARGETING, INC. EXPRESSLY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion or limitation may not apply to you.

### **Period of Warranty**

The period of warranty coverage is ninety days from the date of purchase of this Report. There shall be no warranty after the period of coverage. ANY AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR PARTICULAR USE SHALL HAVE NO GREATER DURATION THAN THE PERIOD OF WARRANTY STATED HERE, AND SHALL TERMINATE AUTOMATICALLY UPON THE EXPIRATION OF SUCH PERIOD. Some jurisdictions do not allow limitations on how long an implied warranty lasts, so the above exclusion or limitation may not apply to you.



# Toxics Targeting 1/2 Mile Buffer Well & Sensitive Receptor Parcel One and Two Thompson, NY 12701



Sullivan County

- |  |                 |  |                 |
|--|-----------------|--|-----------------|
|  | Wells           |  | Park            |
|  | School          |  | Beach           |
|  | Hospital        |  | Day Care        |
|  | Church          |  |                 |
|  | Adult Home      |  |                 |
|  | Subject Area    |  | Waterbody       |
|  | Minor Roads     |  | NYSDEC Wetland  |
|  | Major Roads     |  | County Border   |
|  | Expressways     |  | Railroad Tracks |
|  | 1/2 Mile Radius |  |                 |
|  | 1/4 Mile Radius |  |                 |

***NO USGS GROUNDWATER SITE INVENTORY (GWSI) WELLS IDENTIFIED WITHIN 1/2 MILE SEARCH RADIUS***

**NYSDEC WATER WELLS IDENTIFIED WITHIN 1/2 MILE SEARCH RADIUS**

PLEASE NOTE: \* Compass directions can vary substantially for sites located very close to the subject property address.

**Map Identification Number 1**

N/A, Monticello

**Well-id: SV2654****MAP LOCATION INFORMATION**

Site location mapped by: MAP COORDINATE (?)

Approximate distance from property: 2279 feet to the WNW

**ADDRESS CHANGE INFORMATION**

Revised street: N/A

Revised zip code:

Well Purpose: Domestic  
Well Depth: 400 ft  
Cased Depth:  
Completed Date: 08/07/1951  
Responsible Driller: Smith, Matthew H.

Groundwater Depth:  
Cased Diameter:  
Pump Max Capacity:  
Drill Company:

40 ft  
6 inch

Rock Depth:  
Screen:  
Pump Install Level:

NO

Franklyn Smith &amp; Sons Well Drilling

**Map Identification Number 2**

N/A, Monticello

**Well-id: SV3047****MAP LOCATION INFORMATION**

Site location mapped by: MAP COORDINATE (?)

Approximate distance from property: 2426 feet to the SSW

**ADDRESS CHANGE INFORMATION**

Revised street: N/A

Revised zip code:

Well Purpose: Domestic  
Well Depth: 280 ft  
Cased Depth:  
Completed Date: 05/20/2008  
Responsible Driller: Smith, Matthew H.

Groundwater Depth:  
Cased Diameter:  
Pump Max Capacity:  
Drill Company:

80 ft  
6 inch  
10 inch

Rock Depth:  
Screen:  
Pump Install Level:

80 ft  
NO  
260 ft

Franklyn Smith &amp; Sons Well Drilling

***NO DAY CARE FACILITIES IDENTIFIED WITHIN THE 1/2 MILE SEARCH RADIUS***

***NO SCHOOLS IDENTIFIED WITHIN THE 1/2 MILE SEARCH RADIUS***



***NO HOSPITALS IDENTIFIED WITHIN 1/2 MILE SEARCH RADIUS***

***NO ADULT NURSING HOMES IDENTIFIED WITHIN 1/2 MILE SEARCH RADIUS***

***NO CHURCHES IDENTIFIED WITHIN 1/2 MILE SEARCH RADIUS***

***NO PARKS IDENTIFIED WITHIN 1/2 MILE SEARCH RADIUS***

***NO BEACHES IDENTIFIED WITHIN 1/2 MILE SEARCH RADIUS***

### ***WETLANDS IDENTIFIED WITHIN 1/2 MILE SEARCH RADIUS***

PLEASE NOTE: \* Compass directions can vary substantially for sites located very close to the subject property address.

#### **Map Identification Number 3**

##### **MAP LOCATION INFORMATION**

Site location mapped by: POLYGON MAPPING (3)  
Approximate distance from property: 0 feet

Wetland Class: 2  
Wetland Acres: 55.8  
Wetland Regulated Acres: 55.8

#### **Wetland Id: MO-56**

##### **ADDRESS CHANGE INFORMATION**

Revised street: NO CHANGE  
Revised zip code: NO CHANGE

#### **Map Identification Number 4**

##### **MAP LOCATION INFORMATION**

Site location mapped by: POLYGON MAPPING (3)  
Approximate distance from property: 5 feet to the SSE

Wetland Class: 3  
Wetland Acres: 24.2  
Wetland Regulated Acres: 24.2

#### **Wetland Id: MO-57**

##### **ADDRESS CHANGE INFORMATION**

Revised street: NO CHANGE  
Revised zip code: NO CHANGE

#### **Map Identification Number 5**

##### **MAP LOCATION INFORMATION**

Site location mapped by: POLYGON MAPPING (3)  
Approximate distance from property: 254 feet to the SW

Wetland Class: 2  
Wetland Acres: 41.9  
Wetland Regulated Acres: 41.9

#### **Wetland Id: MO-58**

##### **ADDRESS CHANGE INFORMATION**

Revised street: NO CHANGE  
Revised zip code: NO CHANGE

**APPENDIX H**  
**SITE OWNER QUESTIONNAIRES**

5/21/13

Environmental Site Assessment – Site Questionnaire

Please answer all questions to the best of your actual knowledge. Please call with any questions or comments.

AKRF Contact: Erin Ninos  
Office phone: 916-822-2385  
Cell phone: 917-613-5977

Person completing questionnaire: Chris Hummel

Relationship to the site: GOLF COURSE SUPERINTENDANT

Length of time associated with the site: 31 yrs

- 1) When were the current buildings constructed? Do you have surveyed drawings?  
Blueprints? Geotechnical subsurface studies? 1940s-1950s, N/A TO 3738  
OTHER QUESTIONS, FOR ARCHITECTURE SEE JIM TURNER, 845-750-8638
- 2) Have there been any renovation or additions since initial construction?  
BUNGALOW CONSTRUCTION UP TO 1980s.
- 3) Is there any historic fill on-site? (Construction and demolition debris? Ash?  
Dredge spoils?)  
NONE
- 4) Have there been any asbestos or lead assessment or abatement activities at the property? If there is asbestos on-site do you have an operations and maintenance plan?  
NONE, BUT TRANSIT STORAGE AT BUNGALOWS,  
ALSO 9"x9" TILES
- 5) Please describe land use at the property prior to construction of the current buildings.  
UNDEVELOPED
- 6) Please describe activities at the site since construction of the current buildings, including previous tenants. Commercial activities such as dry cleaning and auto repair are of particular interest to this study.  
SEASONAL BUNGALOWS (CLOSED 2008), GOLF COURSE  
CHICKEN COOPS AT NOW-DEMOLISHED BUNGALOWS



- 7) Do municipal water and sewers service the site, or does it rely on private wells and/or a septic system?

PRIVATE WELLS, SEWERS CLOSING OUT 2010

- 8) Are you aware of any wells, public or private, on or near the subject property?

SEE ABOVE

- 9) Please indicate the nature and frequency of trash removal from the subject property.

MUNICIPAL, 1X WEEK

- 10) Are you aware of the current or former use, storage or production of any hazardous materials (petroleum products, solvents, paints, pesticides, etc) in any part of the subject site?

BREZZY CONCRETE TANK USTs → SEE MAP, PHOTOGRAPHS

- 11) Are any environmental permits or licenses held currently, or in the past, relating to the property?

NYSDOC SPDES TO 2010

- 12) Are there any registrations held for underground or above ground storage tanks at the property (NYSDEC, NYCDOB, FDNY)?

NONE

- 13) Have any previous environmental reports, audits or investigations been performed at the site? If available, please provide copies, preferably prior to the site visit.

NONE. ESTIMATES FOR ACH ASSESSMENT FROM 2007.

- 14) Does the site or any part of the site operate under a community right-to-know plan, safety plan, preparedness and prevention plan, spill prevention, countermeasure or control plan?

NO

15) Are you aware of any reports regarding hydrogeologic or geotechnical conditions on the property or surrounding area?

none

16) Please provide copies of any notices or other correspondence from any government agency relating to past or current violations of environmental laws with respect to the property or relating environmental liens encumbering the property.

SEE SDES PERMIT

17) Please provide copies of any hazardous waste generator notices or reports.

N/A

18) Please advise of

- a. any pending, threatened, or past litigation relevant to hazardous substances or petroleum products in, on or from the property, ~ / A
- b. any pending, threatened or past administrative proceedings relevant to hazardous substances or petroleum products in, on or from the property; and ~ / A
- c. any notices from any government entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products. ~ / A

19) Are you aware of any environmental liens on the property?

none

20) Are you aware of value reduction on the property due to environmental issues?

none