SUFFOLK COUNTY FORMER CANINE KENNEL
GABRESKI AIRPORT, WESTHAMPTON BEACH, NY
SITE: #152079

PWGC Project No. DPW0701

REMEDIAL INVESTIGATION REPORT
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Submitted to:

New York State Department of Environmental Conservation

Prepared for:
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1.0 INTRODUCTION

1.1 Purpose and Scope

P.W. Grosser Consulting, Inc. (PWGC) has prepared the following Remedial Investigation Report (RI) on behalf of the Suffolk County Department of Health Services (SCDHS) to document the investigation activities performed at the former Canine Kennel site located at the Francis S. Gabreski Airport in Westhampton Beach, New York (Suffolk County Tax Map Number 900-312-1-1) (**Figure 1**). The property is owned by Suffolk County and managed by the Department of Economic Development and Workforce Housing.

The scope of the investigation is detailed in the approved Remedial Investigation Work Plan (RIWP) prepared by PWGC in July 2007. PWGC performed the remedial investigation in accordance with the RIWP beginning in March 2008, and the results are summarized in this RI.

1.2 Site Location and Description

The area of concern is a section of disturbed ground, approximately 1.0 acre in size and irregular in shape (**Figure 2**). The site is located in a remote portion of the airport, south of a former canine kennel and just east of a boat storage yard near the eastern property line of the airport.

1.3 Site History

In 1943, the federal government built the airport for use as an Air Force base during World War II. After the war, it was given to Suffolk County. In 1951, the airport was reclaimed for the Korean War National Emergency. In 1960, the US Air Force leased the site for an Air Defense Command Base, which was deactivated in 1969, then released back to Suffolk County in 1970.

During deactivation activities (Spring 1970), the Suffolk County Air Force Base used the Canine Kennel Area to bury inert wastes, such as office furniture. The site was also used for the disposal of polychlorinated biphenyl (PCB) containing electrical distribution equipment such as transformers and capacitors.

In March 1984, the New York State Department of Environmental Conservation (NYSDEC) discovered the site in response to a complaint from a local citizen's group. At that time, the NYSDEC observed several half-buried capacitors leaking PCB oil within a ten-foot deep pit. In May 1984, nine soil samples were collected for laboratory analysis. Eight contained the PCB Aroclor-1254 in concentrations up to 1,700 milligrams per kilogram (mg/kg). A sketch of the area as recorded by the NYSDEC at that time is shown in **Figure 3**.

In January 1986, a NYSDEC contractor noted that the pit was only half as deep as previously stated, and that the capacitors were no longer visible. The area showed signs of recent earthwork activities and was devoid of vegetation.

1.4 Previous Investigations

In November 1996, Dvirka and Bartilucci Consulting Engineers (D & B) performed a preliminary site assessment. D & B determined regional groundwater flow direction to be towards the southeast, and installed and sampled one upgradient (GP-1) and five downgradient (GP-2 through GP-6) Geoprobe™ monitoring wells (**Figure 4**). Groundwater was encountered between 9 and 12 feet below grade. Two groundwater samples were obtained from each Geoprobe™ location, one at the water table interface and one at 15 feet below the water table. PCBs were below detection limits in each of the 12 samples analyzed. Traces of the pesticides 4,4'-DDD and 4,4'-DDT were detected in the upgradient well only. Based upon the groundwater results, D & B prepared a Preliminary Site Assessment (PSA) report (1998) that stated that PCBs previously detected in surface soils were not impacting local groundwater quality. The NYSDEC has also concluded that PCBs have not impacted local groundwater.

In July 2000, the NYSDEC performed additional soil sampling, see the attached report in **Appendix A**. Thirteen soil samples were collected at six locations at two depths (surface (0-4") and subsurface (2'-4') below grade) and one soil sample was removed from the end of a capacitor located at the site. The highest soil concentration found was 280,000 mg/kg adjacent to a capacitor. There was a "hot spot" identified near soil samples #1, 2 and 5, where the levels ranged from 1,900 mg/kg to 150,000 mg/kg at the surface and 120 mg/kg to 20,000 mg/kg at 2.5' to 3.5' below grade. Soil #3 and #4 contained PCBs levels of 3.9 mg/kg and 17 mg/kg at the surface, and less than 10 mg/kg at a depth of 2.5'. Concentrations of PCBs at soil sample #6 were less than 1.0 mg/kg. NYSDEC sampling results are summarized on **Table 1,** locations are provided on **Figure 4**. These samples were obtained from the same area previously sampled in May 1984.

The SCDHS Farmingville Office of Pollution Control in Farmingville, New York, performed an inspection of the site on May 15, 2003. This inspection noted the following:

- The area contained partially buried and unburied metal debris, such as rusted drums, car parts, and scrap metal. It was noted that this may interfere with any non-invasive exploratory instruments such as ground penetrating radar (GPR) and magnetometers.

- Pine tree re-growth was greater than expected. The area is thickly wooded in spots with trees about 10 to 12 feet high and an occasional sandy clearing.

2.0 FIELD INVESTIGATION

PWGC began the implementation of the RIWP in March 2008. As required, ten-day notification was provided to the NYSDEC before investigation activities began. Soil and groundwater sampling activities were completed on July 11, 2008.

2.1 Field Investigation and Technical Approach

The Scope of Work, as identified in the approved RIWP, included the following tasks:

1. Geophysical Investigation
2. Test Pit Excavation Activities
3. Surface and Subsurface Soil Sampling
4. Monitoring Well Installation
5. Groundwater Sampling

These tasks are discussed in detail in the following sections.

2.1.1 Geophysical Investigation

On March 6 and 7, 2008, PWGC and their subcontractor Advanced Geological Services (AGS) of Malverne, Pennsylvania mobilized to the site to perform the geophysical survey. The purpose of the geophysical survey was to identify disposal area boundaries and locate anomalies that would require further evaluation via test pits and soil sampling. Descriptions of the geophysical methods are described below. Geophysical Investigation Results are included in **Appendix B**. No anomalies were identified that required additional test pits to be included in the investigation.

2.1.1.1 Global Positioning System (GPS) Survey

Prior to determining the locations of the subsurface anomalies, AGS utilized a backpack mounted Trimble Global Positioning System (GPS) unit to map out the area of concern. The GPS was utilized in order to create a more accurate map depicting the locations and sizes of the identified subsurface anomalies.

2.1.1.2 Electromagnetic Survey

Following the GPS survey, AGS utilized a Geonics EM-31 (EM-31) terrain conductivity electromagnetic (EM) instrument (in lieu of the split box metal detector). The EM-31 uses the principle of electromagnetic induction to measure the variability of electrical conductivity of subsurface materials and the presence of buried metal objects. Significant contrasts in the electrical properties between non-indigenous materials and surrounding soil enable accurate delineation of buried waste materials, fill, and geologic features. The large EM response to metal makes this technique particularly well suited to identifying buried metal objects such as underground storage tanks (USTs), metallic wastes, buried drums, pipelines, reinforced building foundations, and other metal components of buried structures. It is, however, equally sensitive to metal objects on the ground surface.

The Geonics EM-31 terrain conductivity instrument was used to conduct the first phase of the investigation. The EM-31 was used to detect both ferrous and non-ferrous metals buried in the upper 10 feet of the subsurface. This corresponds to the approximate top of the groundwater table at the site and represents the approximate depth of excavation activities identified by the NYSDEC in 1984.

The geophysical survey determined that there was one large area of concern (approximately 6,000 square feet), illustrated in **Figure 5** as the geophysical extent of the excavation. The survey also identified buried capacitors in the vicinity of the capacitors on the surface. These capacitors were located just below the ground surface and were removed during test pit activities (discussed below) along with the surface capacitors. Additional metal debris was identified throughout the site. Most of the identified EM areas were associated with surficial metallic objects (e.g. fencing or rebar), with the exception of seven locations. These seven locations were further investigated using GPR. Six of the seven locations appeared to be small metallic objects located outside of the main disposal area. One anomaly, located north of the site boundary towards the former Canine Kennel and labeled "unidentified EM source" was not identifiable due to its location in a low background area. Based upon the results of the geophysical survey, no additional test pits or soil sample locations were added to the investigation.

2.1.2 Test Pit Excavation

From March 24 through 26, 2008, PWGC and their subcontractor, American Environmental Assessment Corporation (AEAC) of Wyandanch, New York, mobilized to the site to perform exploratory test pits and to remove suspected PCB containing equipment (capacitors), identified during a prior site visit and the geophysical survey.

Prior to performing the exploratory test pits, PWGC identified the locations of the suspect PCB-containing equipment to AEAC. During the excavation activities, AEAC, under the supervision of PWGC, removed any suspect PCB-containing equipment and placed the equipment into two 55-gallon drums. Drums were staged onsite until analytical results were received to determine proper handling and disposal.

A total of 11 test pits were excavated in areas of mounded soil, elongated raised areas, and depressions. With the exception of the northern portion of the site, the general topography is relatively flat. As illustrated in **Figure 6**, four test pits (TP-5, 9, 10 and 11) were located in the mounded areas on the north and east boundaries of the property. Test pits TP-6, 7 and 8 were located in the level portion of the site, and TP-1, 2, 3 and 4 were located within the excavated and filled area identified by the geophysical survey. Test pits were excavated to a minimum depth of 11 feet below ground surface (bgs), or until the groundwater table or native soil was encountered, whichever was shallower. Test Pits TP-10 and 11 were dug with a mini-excavator while the remaining test pits (TP-1 through 9) were dug with a backhoe/excavator. In order to prevent cross-contamination, excavated soils were staged on plastic sheeting at each excavation. Additionally, excavation equipment was properly decontaminated between test pits. Care was taken to limit the amount of trees that were damaged in excavating the test pits.

During excavation, PWGC documented soil types, changes in lithology, and wastes (if any) encountered in the test pits. PWGC utilized a Photoionization Detector (PID) to screen the soils from the excavations for volatile organic compounds (VOCs), which are commonly associated with petroleum products and industrial solvents. There were no elevated PID readings from the test pit locations. Soil samples were collected from test pits located in the area of excavation (i.e., filled area) identified during the geophysical survey (TP-1, 2 and 3). No sample was

collected from TP-4 since the test pit collapsed before a sample could be collected. Test pit logs were prepared for each test pit and are included as **Appendix C**. Below is a description of the activities performed at each of the test pits.

Test Pit 1 (TP-1):

TP-1 was installed in the southwest corner of the site within the filled area identified by the geophysical survey. Large pieces of metal debris were observed between 2.5 and 11 feet bgs. The debris consisted of old lockers and office furniture. Tan/brown native soil was identified at 11 feet bgs. A soil sample was collected from the base of the excavation utilizing the excavator bucket.

Test Pit 2 (TP-2):

TP-2 was installed in the southwest area of the site within the filled area identified by the geophysical survey. Large pieces of metal debris were observed between 2 feet and 6.5 feet bgs. The debris consisted of miscellaneous debris as well as office furniture and hot water heaters. Brown native soil was identified at 6.5 feet bgs and the excavation terminated at 7 feet bgs. A soil sample was collected from the base of the excavation utilizing the excavator bucket.

Test Pit 3 (TP-3):

TP-3 was installed in the western portion of the site within the filled area identified by the geophysical survey and within a depressed area approximately 3 feet deeper than the surrounding land. Large metal debris was consistently observed from 2 feet to 8.5 feet bgs. The debris consisted of office furniture, lockers, and possible hot water heaters. Also identified in this excavation were suspect wooden utility poles.

Tan/brown native soil was identified below the debris at 8.5 feet and the excavation terminated at 9 feet bgs. A soil sample was collected from the base of the excavation utilizing the excavator bucket.

The samples collected from the base of TP-1, TP-2 and TP-3 were placed in pre-cleaned, laboratory-supplied glassware provided by Chemtech of Mountainside, New Jersey. Samples were packed in coolers with ice and shipped to Chemtech under chain-of-custody seal to be analyzed for pesticides by United Stated Environmental Protection Agency (USEPA) Method 8081 and PCBs by USEPA Method 8082. After soil sample collection, each test pit was backfilled in the order in which the material was removed.

Test Pit 4 (TP-4):

TP-4 was installed in the western region of the site within the filled area identified by the geophysical survey, and in a depressed area similar to TP-3. Scattered metal debris was observed from 2 feet through 6.5 feet bgs. Two capacitors were found at 6.5 feet, removed, and properly contained in a 55-gallon drum. Once the capacitors were removed, the sidewalls of the excavation collapsed. PWGC and AEAC attempted to retrieve a soil sample from the base of the test pit, however, sample collection was not possible because the sidewalls continued to

collapse after repeated attempts. Once it was determined that a sample could not be collected, the remainder of the excavation was backfilled in the order in which the material was removed.

Test Pit 5 (TP-5):

TP-5 was installed in the northwest area of the site in a mounded area approximately 7 feet above natural grade. At 6feet bgs, brown native soil was identified. Excavation activities were terminated at 7.5 feet bgs. No metal debris was identified throughout the test pit. Due to the absence of metal debris, no soil sample was collected from this test pit. The test pit was backfilled in the order in which the material was removed.

Test Pit 6 (TP-6):

TP-6 was installed in the southern area of the site near the eastern edge of the former disposal area. Fine, well graded, beige and red/brown sand with gravel was observed throughout the test pit. No metal debris was identified. The pit extended to 11 feet bgs. Due to the absence of metal debris, no soil sample was collected from this test pit. The test pit was backfilled in the order in which the material was removed.

Test Pit 7 (TP-7):

TP-7 was installed in the central region of the site in a relatively level area. Well graded, red/brown and tan/brown sand with gravel was observed throughout the test pit. No metal debris was identified. The test pit extended to 11 feet bgs. Due to the absence of metal debris, no soil sample was collected from this test pit. The test pit was backfilled in the order in which the material was removed.

Test Pit 8 (TP-8):

TP-8 was installed in the central, level region of the site. Well-graded, brown and tan/brown sand with gravel was observed throughout the test pit. At approximately 7 feet bgs the sand became moist and at approximately 8 feet bgs, groundwater was observed seeping through the sidewalls of the excavation. Since groundwater was reached, the test pit was terminated at 8.5 feet bgs. No metal debris was identified in the test pit. Due to the absence of metal debris, no soil sample was collected from this test pit. The test pit was backfilled in the order in which the material was removed.

Test Pit 9 (TP-9):

TP-9 was installed at the north end of the site in a mounded area approximately 7 feet above natural grade. At approximately 1.5 feet below the top of the mound, a metal pipe was uncovered within the west side of the test pit. No other metal debris was observed throughout the test pit. Wood and asphalt debris were also observed between 1 foot and 2 feet below the top of the mound. At 5 feet below the top of the mound, tan native soil was reached and the test pit terminated at 5.5 feet bgs. Due to the absence of significant metal debris, no soil sample was collected from this test pit. The test pit was backfilled in the order in which the material was removed.

Test Pit 10 (TP-10):

TP-10 was installed along the eastern site boundary in a mounded area approximately 7 feet above natural grade. At approximately 5.5 feet bgs, small pockets of gray/black sand were observed. A PWGC hydrogeologist screened the soil with a PID. There was no response on the PID and the gray/black soil had no odor. Based on these observations it was concluded that the soil was native and not suspect, therefore, a soil sample was not collected. At approximately 6.5 feet below the top of the mound, fine, gray/white, native soil was identified and the test pit terminated at 7 feet bgs. No metal debris was identified throughout the test pit. Due to the absence of metal debris and lack of PID readings from the small pockets of gray/black soil, no soil samples were collected from this test pit. The test pit was backfilled in the order in which the material was removed.

Test Pit 11 (TP-11):

TP-11 was installed in the northeast area of the site in a mounded area approximately 7 feet above natural grade. At 6.5 feet below the top of the mound, fine, light gray/white native soil was identified and the test pit terminated at 7 feet bgs. No metal debris was observed throughout the test pit. Due to the absence of metal debris, no soil sample was collected from this test pit. The test pit was backfilled in the order in which the material was removed.

2.1.3 Soil Sampling

PWGC collected soil samples between March 24 and July 11, 2008. Sampling was performed in phases: as analytical results were received and evaluated, additional sample locations were identified until the horizontal and vertical extent of PCB and pesticide contamination was determined. Based upon previous sampling performed by the NYSDEC in 2000, initial sampling locations were biased towards locations suspected of being contaminated.

2.1.3.1 Initial Investigation

As illustrated in **Figure 6,** sampling grids were established at five locations (s-1 through S-5) previously sampled by the NYSDEC (i.e. Soil #1 through Soil #5). Delineation borings were spaced at 20-foot intervals extending north, east, south and west from the primary sample location. Where conditions allowed, PWGC installed two delineation borings in each compass direction from the primary boring; north (N1 & N2), south (S1 & S2), east (E1 & E2) and west (W1 & W2). Samples were collected at select intervals of 0-2 inches (A), 2.0-2.5 feet (B), and 4.0-4.5 feet (C), excluding locations where refusal occurred. In addition, soil samples were collected from five locations in areas not previously sampled (S-6 through S-10). In total, PWGC collected 115 samples from 45 locations.

PWGC encountered refusal at a total of eight sampling locations in the center of the S-1, S-2, and S-3 grids. Refusal was encountered at depths ranging from 1 to 3.5 feet bgs which correlates with the presence of buried metal debris identified in tests pits performed in this area (TP-3 & TP-4).

In addition, six surface soil samples were collected from beneath the capacitors/transformers upon their removal from the site. There were three areas where capacitors/transformers were removed. At the largest area, three samples were collected (CA1-1 to CA1-3), two at the next largest (CA2-1 and CA2-2), and one beneath a single transformer (CA3-1). Sampling locations are illustrated in **Figure 6**.

Soil samples were collected from each location using stainless steel sampling equipment. Prior to sampling, equipment was decontaminated using a laboratory-grade glassware detergent and tap water scrub to remove visual contamination; generous tap water rinse; followed by a distilled water rinse. Sampling equipment was decontaminated between each interval. Soil samples were classified using the Unified Soil Classification System (USCS) and screened in the field for the presence of VOCs using a PID. Samples were then placed in pre-cleaned, laboratory-supplied glassware provided by Chemtech of Mountainside, New Jersey. Samples were packed in coolers with ice and shipped to Chemtech under chain-of-custody seal.

All of the delineation soil samples were submitted to the laboratory, however not all of the samples were analyzed initially. Initially, the surface soil samples and the 2.0-2.5 feet samples (A and B locations) collected from the five central grid locations (S-1 through S-5) and the first 20-foot grid spacing boreholes were analyzed. Samples from the additional five single locations not previously sampled (S-6 through S-10) were also analyzed. These samples were analyzed for PCBs according to USEPA Method 8082 and chlorinated pesticides according to USEPA Method 8081. If a soil sample showed concentrations of total PCBs above 1.0 mg/kg, the next sample in the grid was analyzed. Additional samples were collected, as described in Section 2.1.3.2, until both the horizontal and vertical extent of contamination was determined.

2.1.3.2 Secondary Investigation

Based on results from the initial sampling round performed in March 2008, additional surface soil sampling locations were necessary. PWGC mobilized to the site on June 20, 2008 to collect surface soil samples S-11 through S-26 and on July 11, 2008 to collect surface soil samples S-27 through S-29. The additional sampling locations were located to the north, east, or west of previous locations to further delineate the horizontal extent of PCB-contaminated soil.

2.1.4 Groundwater Investigation

On April 17, 2008, PWGC and Miller Environmental Group (MEG) of Calverton, New York, mobilized to the site to install six groundwater monitoring wells **(Figure 6)**; one northwest of the site (regional upgradient direction) and five along the southeastern boundary (regional downgradient direction). Monitoring wells were installed to obtain groundwater quality data for the RI and for future groundwater monitoring, as necessary.

2.1.4.1 Monitoring Well Installation

A track mounted Geoprobe™ unit was utilized to install the monitoring wells due to the site's terrain limitations and to minimize damage to existing vegetation (given the site's location in the core pine barrens). The Geoprobe™ unit was equipped with 3.25-inch outside diameter (OD) probe rods and used standard Geoprobe™ direct-push methods for well installation.

Wells were constructed of 1-inch diameter, schedule 40 polyvinyl chloride (PVC) casing and screen. The screen sections were pre-packed by the manufacturer with 20/40 mesh sand (2.5-inch outside diameter). Wells were constructed with a 10-foot-section of 0.010-inch slot screen and solid PVC riser to grade. Screens were set 7 feet

into and 3 feet above the water table at the time of installation. A 2-foot-thick fine sand layer was installed above the pre-packed screen followed by a 2-foot-thick bentonite seal. Bentonite pellets were hydrated for 30 to 60 minutes. Above the bentonite layer, the annulus around the well was filled with a cement/bentonite grout. Wells were finished with a locking stick-up protective cover and a surrounding concrete surface pad (2 feet by 2 feet by 6-inches thick). The wells were permanently labeled with their individual well designations. Construction details are provided on the monitoring well construction logs included in **Appendix D**.

2.1.4.2 Monitoring Well Development

Monitoring wells were developed on April 18, 2008. Development water was monitored for organic vapors with a PID. In addition, the development water was observed for the presence of non-aqueous phase liquids (NAPLs) or sheens. Monitoring wells were developed by over-pumping to restore the hydraulic properties of the aquifer. Well development continued until the turbidity of the groundwater was less than or equal to 50 Nephelometric Turbidity Units (NTUs), or when pH, temperature, and conductivity measurements stabilized. Stabilization was considered achieved when three consecutive readings of these field parameters were within five percent of each other. Monitoring well development information is provided on the well development logs in **Appendix E**.

2.1.4.3 Groundwater Sampling

On April 25, 2008, PWGC mobilized to the site to perform groundwater sampling. Samples were collected from the six monitoring well locations (MW-1 through MW-6) shown in **Figure 6.** MW-1 is located up-gradient and MW-2, through MW-6 are located downgradient of the site.

In accordance with the Remedial Investigation Work Plan, samples were collected utilizing low-flow purging and sampling procedures outlined in the USEPA Standard Operating Procedures (SOP) No. 2007. Prior to sampling, groundwater levels were measured and groundwater elevations calculated to verify the direction of local groundwater flow, and one to two gallons of water were purged using a peristaltic pump to reduce sample turbidity **(Appendix F).** During purging, the groundwater parameters pH, temperature, turbidity, conductivity, and oxygen reduction potential (ORP) were monitored. Upon collection, groundwater samples were placed in pre-cleaned laboratory-supplied glassware and packed in a cooler on ice. Samples were submitted to Chemtech, a New York State Department of Health (NYSDOH) certified laboratory, for the analysis of pesticides and PCBs by USEPA Methods 8081and 8082, respectively.

2.2 Land Survey

On July 11, 2008, PWGC, and L.K. McLean Associates, P.C. (LKMA) mobilized to the site to perform a topographic survey of the site and locate key soil sampling, test pit and monitoring well locations. In addition, top of casing elevations were established for each of the monitoring wells. Survey data are included in **Table 2**.

2.3 Quality Assurance/Quality Control

As stated in the RIWP, the overall quality assurance/quality control (QA/QC) objective for the field investigation was to develop and implement procedures that provide data of known and documented quality. QA/QC characteristics for data include precision, accuracy, representativeness, completeness, and comparability. The

purpose of the QA/QC activities developed for this site was to verify the integrity of the work performed at the site to assure that the data collected are of the appropriate type and quality needed for the intended use.

The QA/QC program included the preparation and analysis of field QA/QC samples such as field blanks, field duplicates, and matrix spike duplicates. Third party data validation was performed on ten percent of the laboratory results of soil samples submitted for analysis (pesticides and PCBs).

2.3.1 QA/QC Samples

To assess the adequacy of sample collection and decontamination procedures performed in the field, QA/QC samples were collected and analyzed throughout the field sampling program. In general, QA/QC samples confirmed that the procedures performed in the field were consistent and acceptable. Reported detections in the equipment blanks did not impact the interpretation of sample data. As specified in the RIWP, QA/QC samples collected for laboratory analysis included equipment blanks (EB), blind/field duplicates (FD), matrix spike (MS), and matrix spike duplicates (MSD). The EB samples were collected daily for each sampling method that used non-disposable equipment such as the hand auger and well pump. FD and MS/MSD samples were submitted at a minimum of one each per twenty samples.

Type	Frequency
Equipment Blank	One per day per sample matrix
Blind/Field Duplicate	One per 20 samples per matrix
Matrix Spike/Matrix Spike Duplicate	One per 20 samples per matrix

During the project, a total of six equipment blanks were collected. Equipment blanks were collected by pouring laboratory-supplied deionized water over sampling equipment and collecting the water in the appropriate sample container(s). In order to evaluate the precision of the field sampling and laboratory analyses, PWGC collected six soil field duplicates and one groundwater field duplicate.

2.3.2 Data Validation

PWGC retained the services of Stone Environmental, Inc. (Stone), of Montpellier, Vermont to perform validation of pesticide and PCB data obtained during the RI. PWGC sent one data package (Sample Delivery Group (SDG) number Z-2180), representing 10% of the total soil samples analyzed, to Stone for validation. A copy of the Data Validation Report (DVR) is included as **Appendix G**.

Based upon the DVR, corrections were made to reported concentrations for Aroclor-1254 in samples 5A, FD-05, 5N1A, 5W1A, 5E1A, 5B, 1A, 1E1A, 1W1A, 1S1A, 5B, TP-2, TP-3 and Decon Water. The reported concentrations of Aroclor-1254 that exceeded the calibration range in the first run analysis of these samples were rejected and replaced with the more accurate results obtained from the subsequent more diluted analyses of those samples. Additionally, all non-detectable results obtained during the RI have been qualified as estimated (UJ) due to the lack of accurate calibration sensitivities.

2.3.3 Data Usability

Based upon the results of the validation of SDG Z-2180, PWGC has reported the diluted sample results for Aroclor-1254 for each soil sample for which a second dilution was reported. Rejected data did not impact the use or interpretation of the sample data for its intended purpose given that samples were diluted and reanalyzed when appropriate. The data obtained from the remedial investigation were sufficient to meet the data quality objectives (DQOs) established for the project as follows:

- Characterize the nature and extent of contamination at the site;
- Characterize the migration of contaminants and determine the impacts to off-site locations;
- Obtain sufficient data (i.e., greater than or equal to 90 percent complete) to determine the current and potential future human health and ecological risks at the site; and
- Obtain sufficient data (i.e., greater than or equal to 90 percent complete) to determine, through screening and evaluation, the most appropriate remedial alternatives to minimize continued risks to human health and/or the environment.

2.4 Standards, Criteria and Guidance Values

Based upon the site history and previous investigations the identified contaminants of concern (COCs) at the site are pesticides and PCBs.

Soil analytical results were compared to the restricted use soil cleanup objectives (RUSCOs) specified in Table 375-6.8(b) of the NYSDEC 6 NYCRR Part 375 Subparts 375-1 to 375-4 and 375-6 (Part 375, RUSCOs for the protection of public health). In the absence of an applicable clean-up objective under the Part 375 restricted use soil cleanup objectives, the recommended soil cleanup objectives (RSCOs) from NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4046 were substituted.

Groundwater analytical results were compared to the NYSDEC Ambient Water Quality Standards and Guidance Values (AWQS) for Class GA groundwater, as specified in Technical and Operational Guidance Series (TOGS) 1.1.1, Ambient Water Quality Standards and Guidance Values on Groundwater Effluent Limitations, June 1998.

2.5 Analytical Results

Analytical results for soil samples are summarized in **Tables 3** through **11** and groundwater results are summarized in **Table 12**. Laboratory analytical reports are included as **Appendix H**.

Soil
No pesticides were reported above laboratory detection limits.

One PCB compound, Aroclor-1254, was detected in 59 soil samples at concentrations exceeding the RUSCO (1.0 mg/kg). The two highest detections of Aroclor-1254 were reported in samples from the capacitor areas (86,000 mg/kg in CA1-1, and 45,000 mg/kg in CA2-1). Elevated levels (greater than 10 mg/kg) of Aroclor-1254 were also detected in the third capacitor area (CA3-1) and in the vicinity of soil sampling locations S-1, 2, 5, 6, 8, 17, 19 through 24, 28 and 29. This contamination may be attributable to the capacitor areas which are in close

proximity to these sampling locations. Arcolor-1254 exceeded 1 mg/kg in soil sampling areas S-3, 4, 9, 10, 18, 25 through 27 and TP-2 (6.5 feet bgs) and TP-3 (8.5 feet bgs).

Of the 59 samples, 44 (including the surface capacitor locations) were collected from 0-2 inches (**Figure 7A**), 7 were from 2-2.5 feet bgs (**Figure 7B**), 6 were from 4-4.5 feet bgs (**Figure 7C**) and 2 were from test pits 6.5 and 8.5 feet bgs (**Figure 7C**).

Additionally, Aroclor-1260 was detected at concentrations below the RUSCO of 1.0 mg/kg in two soil samples; S-11 (0.072 mg/kg) and S-12 (0.044 mg/kg).

Groundwater

No pesticides or PCBs were detected at concentrations exceeding the method detection limit (MDL) in groundwater samples collected from the site.

2.6 Waste Management

Under the direction of PWGC, AEAC removed and properly disposed of the PCB-contaminated solids, liquids and debris discussed below.

2.6.1 Capacitor Remediation

Approximately 613 pounds (two 55-gallon drums) of PCB-contaminated solids, consisting primarily of capacitors with some soil, were removed from the site.

2.6.2 Investigative Derived Waste (IDW)

One 55-gallon drum of PCB-contaminated fluids (decontamination, development, and purge water), and one 55-gallon drum of PCB-contaminated plastic/personal protective equipment (PPE) were generated during the investigation.

2.6.3 Waste Transportation and Disposal

The 55-gallon drums of PCB-contaminated solids and IDW were transported by AEAC (USEPA ID # NYR00000044412) to Chemical Pollution Control (CPC), USEPA ID # NYD082785429, Bay Shore, New York. CPC bulked the waste and transported it to Veolia ES Technical in Deer Park, Texas where it was incinerated. Waste manifests are included in **Appendix I**.

3.0 HYDROGEOLOGIC ASSESSMENT AND PHYSICAL SETTING

The following section describes site topography, surrounding property use and regional and site geology/hydrogeology.

3.1 Site Topography

On February 22, 2007, PWGC performed a preliminary site inspection. The site is located approximately 20 to 30 feet above mean sea level. The site's topography has been disturbed, as detailed in **Figure 3**. Several areas of mounded/stockpiled soils are present on the north and east side of the site. Several depressions and mounds were observed within the central portion of the site. The entire western portion of the area is covered with metal debris, with several areas of concentrated metal. The approximate area of subsurface debris is shown in **Figure 5.** Several capacitors were identified during this preliminary site inspection. No recent disturbances were observed; small trees and shrubs have almost re-vegetated the entire area. Photographs of the site inspection are included in **Appendix J**.

Topography slopes gently away from the site, from the northwest to the southeast. No erosion of surface areas was noted and no drainage ditches or swales are present on the site. Precipitation recharges directly into the subsurface with no evidence of overland flow away from the site towards surface-water bodies.

The nearest surface-water bodies are North Pond and Old Ice Pond located approximately 1,200 feet to the east and 1,500 feet southeast, respectively on the Quogue Wildlife Refuge (**Figure 1**). Based upon site topography, overland flow to surface-water bodies is unlikely.

3.2 Surrounding Land Use

The site is located on the eastern edge of the Francis S. Gabreski Airport. The site adjacent to and west of the site is occupied by a boat storage facility. Further west are runways and support buildings for the airport, as well as the 106th Rescue Wing of the New York Air National Guard (NYANG). Immediately north and south of the site are undeveloped areas of the airport. The Quogue Wildlife Refuge is located approximately 1,200 feet to the east of the site.

The nearest residential properties are located approximately 0.5 miles to the east and south of the site **(Figure 8)**. These residential areas have municipal water service provided by the Suffolk County Water Authority (SCWA). Several SCWA municipal supply wells are located in the vicinity of the airport. Municipal supply wells are shown in **Figure 9**.

The airport is located within the Long Island Pine Barrens Region. The Pine Barrens are characterized as open, sunlit woodlands dominated by pitch pine and interspersed with white and scarlet oak trees. The nearby Quogue

Wildlife Refuge is characterized by dwarf pitch pines ranging from 3 to 6 feet tall. The airport itself is characterized by surrounding wooded areas consisting of 25-foot-tall pitch pines and scattered scrub oak.

3.3 Regional Geology / Hydrogeology

The geologic setting of Long Island is well documented and consists of crystalline bedrock composed of schist and gneiss overlain by layers of unconsolidated deposits. Immediately overlying the bedrock is the Raritan Formation, consisting of the Lloyd sand confined by the Raritan clay Member. The Lloyd sand is an aquifer and consists of discontinuous layers of gravel, sand, sandy and silty clay, and solid clay. The Raritan clay is a solid and silty clay with that is gray, red or white in color with few lenses of sand and gravel and abundant lignite and pyrite.

Above the Raritan Clay lies the Magothy Formation. The Magothy aquifer consists of layers of fine to coarse sand of moderate to high permeability, with inter-bedded lenses of silt and clay of low permeability resulting in areas of preferential horizontal flow. Therefore, this aquifer generally becomes more confined with depth. The Magothy Formation is overlain by the Upper Glacial deposits which contains the Upper Glacial aquifer. The Upper Glacial aquifer is the water-table aquifer at this location and is comprised of medium to coarse sand and gravel with occasional thin lenses of fine sand and brown clay. This aquifer extends from the water table to the top of the Magothy and, therefore, is hydraulically connected to the Magothy aquifer.

3.4 Site Geology / Hydrogeology

The aquifer of concern at the former Canine Kennel site is the Upper Glacial aquifer which is an unconsolidated mixture of sand and gravel. The Upper Glacial aquifer is approximately 100 feet at the site, and has an estimated average horizontal hydraulic conductivity (permeability) of 270 feet/day and a vertical hydraulic conductivity of 27 feet/day (Franke & Cohen, 1972).

Clay layers, such as the Gardiners clay and the "20-Foot-clay," where present, may act as local confining units, separating the Upper Glacial aquifer from the underlying Magothy aquifer which is the principal source of drinking water in Suffolk County.

Based on data collected during monitoring well installation, depth to groundwater ranged from approximately 9.5 to 14.5 feet bgs. No confining unit (clay) was present at the monitoring well locations. Regional groundwater flow at the site is to the southeast. Based upon the groundwater measurements obtained from the site monitoring wells on April 25, 2008, local groundwater flow direction was determined to be to the east-southeast (**Figure10**).

4.0 NATURE AND EXTENT OF CONTAMINATION

The following section describes the investigation techniques used to determine the nature and extent of contamination identified at the subject property.

4.1 Identification of Source Areas

Sampling conducted at the site indicates that the source of PCB contamination is the disturbed area (disposal area) located along the western portion of the site. PCB-containing equipment, historically reported to be disposed in this area, was identified and removed during the RI investigation. Both historical and RI soil sampling events at the site have detected PCB concentrations above NYSDEC RUSCO standards.

In one test pit (TP-4), located in the historical disposal area, suspect PCB-containing capacitors were identified at approximately 6.5 feet bgs. The amount of metal debris within this main disposal area (metal lockers, hot water heaters, scrap metal, etc.) prevented identification of individual metallic objects during the geophysical survey. Discovery of capacitors at the site both at and below grade indicates the potential for more PCB-containing equipment to be present.

4.2 Extent of PCB and Pesticide Contamination in Soil

Soil samples were collected at three depths during the RI Investigation; 0-2 inches, 2.0-2.5 feet bgs, and 4.0-4.5 feet bgs (excluding test pit samples). Soil samples were analyzed for both PCBs and pesticides. Pesticides were not detected in any of the soil samples.

Fifty-nine of the 143 samples collected contained concentrations of PCBs above the RUSCO of 1.0 mg/kg. **Figures 11A**, **11B**, and **11C** show the areal extent of PCBs greater than 1.0 mg/kg in the three sample horizons. The surface soil samples (**Figure 11A**) show the largest area of impact, with PCBs present across the western and central areas of the site. PCBs were also detected at concentrations greater than the RUSCO within the unpaved eastern portion of the adjacent boatyard. Impacts in the 2.0-2.5 feet depth horizon were limited to the western central area of the site and coincide with the main area of existing debris (**Figure 11B**). Three isolated areas of impact at depths of 4.0 feet bgs or greater were also identified. Two of these areas coincided with the main area of existing debris and the other (comprising of S-8 and S-10) was identified northeast of a capacitor area (**Figure 11C**).

Spread of PCBs within surface soils at the site is likely a result of physical processes including wind dispersion and localized surface runoff of PCB-contaminated soils. In addition, spread of PCBs to surface and subsurface soils may have occurred during disposal activities and movement of heavy equipment and soils during the early 1970s.

4.3 Groundwater Results

As presented in **Table 12**, pesticides and PCBs were not detected in the groundwater samples collected from the six on-site monitoring wells. Based upon the local groundwater flow direction, MW-1 is located hydraulically up-

gradient and MW-2 through MW-6 are located downgradient of the PCB-contaminated soil area. These results indicate that PCBs detected in site soils (Aroclor-1254 and Aroclor-1260) have not impacted the groundwater.

4.4 Qualitative Exposure Assessment

The following sections discuss the qualitative exposure assessments. The qualitative exposure assessments include an evaluation of contaminant sources, potential receptors and contaminant release and transport.

4.4.1 Human Health Exposure Assessment

Contaminant Source

Soil analytical results indicate that the soil at the site is contaminated with the PCB compound Aroclor-1254, which is present at levels ranging from below the RUSCO of 1.0 mg/kg to 86,000 mg/kg. Aroclor-1254 is a viscous, light yellow liquid. It contains approximately 21% $C_{12}H_6Cl_4$, 48% $C_{12}H_5Cl_5$, 23%$C_{12}H_4Cl_6$, and 6% $C_{12}H_3Cl_7$ with an average chlorine content. PCBs, including Aroclor-1254, are inert, thermally and physically stable, and have dielectric properties. In the environment, the behavior of PCB mixtures is directly correlated to the amount of chlorination. In general, as chlorination increases, sorption increases and transport and transformation decrease. Aroclor-1254 strongly sorbs to soil and remains immobile when leached with water (USAF, 1989).

Aroclor-1254 can have an adverse affect on human health and can be absorbed after oral, inhalation, or dermal exposure. Acute exposure symptoms may include headache, dizziness, nausea, diarrhea and skin and eye irritation. Chronic exposure may cause harm to the reproductive system, decreased motor activity and severe liver damage.

Potential Receptor Populations

The site is within the boundary of the Francis S. Gabreski Airport. The airport has no commercial flights and only supports private planes, as well as, the 106th Rescue Wing of the NYANG. The airport is a restricted area and, accordingly, there is no public use outside of the commercial/industrial planned development district located along the western portion of the airport adjacent to Old Riverhead Road (approximately 1 mile west of the site) and commercial activities associated with the adjacent boat storage facility west of the site.

The 305-acre Quogue Wildlife Refuge is located approximately 1,200 feet to the east of the Airport boundary. The Quogue Wildlife Refuge features a large network of walking and hiking trails and is extensively utilized for environmental education programs for the general public and school groups. The refuge conducts kayaking programs on Old Ice Pond. Only passive recreational and educational activities occur at the Refuge, and hunting, fishing, and the collection of biological specimens is prohibited. Since hunting and fishing are prohibited at both the Quogue Wildlife Refuge and Gabreski Airport, there are no direct pathways for site contaminants to become consumed by human populations. The nearest hunting and fishing opportunities are provided at the David Sarnoff Preserve, which is New York State land located approximately 2.75 miles northwest of the site, and the estuarine waters present at the head of Quantuck Creek, approximately 0.65 miles to the southeast of the site.

The nearest residential properties are located 0.5 miles east and southeast of the site. These residential properties are located on the opposite side of the Quantuck Creek watershed (**Figure 8**). These properties are served by municipal water through the SCWA. The SCWA's water supply wells are located more than 0.5 miles from the site; approximately 0.7 miles south and approximately 1.5 miles northeast (**Figure 9**).

Contaminant Release and Transport

PCBs are present in surface and subsurface soils at the site. PCBs were detected in surface soils immediately adjacent to the site's west property boundary (Boatyard) and in a small area to the east of the site. Spread of PCBs within the surface soils at the site is likely a result of physical processes including wind dispersion and localized surface runoff of PCB-contaminated soils. In addition, spread of PCB-contaminated soils may have occurred during disposal activities and movement of heavy equipment and soils during the early 1970s. Based upon site topography widespread dispersion of PCBs by overland flow is unlikely.

Groundwater samples collected from the downgradient monitoring wells did not contain detectable concentrations of PCBs. Therefore impacts to surface-water bodies located southeast of the site or to drinking water supplies south of the site are unlikely.

Points of Exposure

There are no plausible off-site (outside of the Airport Property) pathways for oral, inhalation, or dermal exposure to PCBs from the contamination identified at the site. The only possible on-site exposure pathway's are by ingestion or dermal exposure by a trespasser, an airport employee, or worker in the boatyard. Ingestion and dermal exposure would not likely be extensive given the intermittent nature of exposure (i.e. occupation of the boatyard by employees, removing boats in spring and storing in fall). PCBs would most likely be transferred from surfaces containing residual soil (an article of clothing or object such as equipment) that have come into contact with contaminated soil and not through direct ingestion of or contact with the contaminated soil.

4.4.2 Fish and Wildlife Resources Impact Analysis

On May 7, 2008, PWGC and a representative from Land Use Ecological Services Inc. of Riverhead, New York (Land Use), mobilized to the site to perform a Fish and Wildlife Resource Impact Assessment (FWRIA). An investigation of the ecological community within a 0.5-mile radius of the site was completed.

Soil analytical results indicate that concentrations of Aroclor-1254 exceed its NYSDEC guidance value of 1.0 mg/kg for the protection of ecological resources (PER). Aroclor-1254 is known to bioaccumulate in both terrestrial and aquatic ecosystems. However, Land Use concluded that the PCBs present on site should not have significant adverse impacts to terrestrial or aquatic ecological resources due to the following factors.

- The spatial extent of contamination is approximately 1 acre, which is small relative to the home range of songbirds, raptors, and white-tailed deer expected to utilize the site.
- The organisms expected to be at the most risk of potential adverse impacts are small mammals (such as white-footed mice) that feed on soil invertebrates. Any potential adverse impacts are not expected to

be significant to the populations of these commonplace species, as impacts would only be expected to affect a small number of individuals.

- Adverse impacts to herbivores, such as white-tailed deer, are not expected due to the tendency of PCBs to sorb strongly to soils and not to be taken up by plants and translocated to foliage.
- Adverse impacts to the herbivorous larvae of protected lepidopterans are not expected due to the tendency of PCBs to sorb to soils and not to be taken up by plants and translocated to foliage.
- Adverse impacts to the aquatic ecological resources present in the Quogue Wildlife Refuge are not expected due to the absence of groundwater contamination at the site and the absence of surface-water flow due to the well-drained soils.
- No potential pathways terminating in human consumption of contaminants exist as there is no hunting or fishing authorized on the Gabreski Airport or Quogue Wildlife Refuge properties.

Based on the information gathered Land Use concluded that the contaminants at the site are not expected to have a significant adverse impact to ecological resources and that an ecological impact assessment is not warranted. The FWRIA is included in **Appendix K**.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The following sections discuss the conclusions and recommendations based upon the results obtained during the Remedial Investigation.

5.1 Conclusions

PWGC performed a subsurface investigation at the former Canine Kennel site, Francis S. Gabreski Airport, Westhampton Beach, New York. The investigation consisted of a geophysical survey, soil and groundwater sampling, test pit excavations and the removal of identified capacitors suspected to contain PCBs. Based upon the site history and previous investigations, the identified Contaminants of Concern (COCs) were pesticides and PCB's.

The geophysical and test pit investigations confirmed that the area of disposal is limited to the western/central portion of the site adjacent to the fence line and boatyard.

Pesticides were not detected in the site soil samples. The PCB Aroclor-1254 was detected in soil samples ranging in depth from 0-2 inches bgs to approximately 8.5 feet bgs. Fifty-nine soil samples had concentrations of Aroclor-1254 above the RUSCO of 1.0 mg/kg ranging from 1.1 to 86,000 mg/kg (directly underneath one of the removed capacitors). The aerial extent of PCBs in soil is provided in **Figures 11A** through **11C**. The surface soil samples show the largest area of impact (across the western and central areas of the site). PCBs were also detected at concentrations greater than the RUSCO in surface soils within the unpaved eastern portion of the adjacent boatyard. Spread of PCBs within surface soils at the site is likely a result of physical processes, including localized surface runoff of PCB-contaminated soils from the on-site disposal area westward following the surface topography.

PCBs in the 2.0-2.5 feet depth samples were limited to the western central area of the site and coincide with the main area of existing debris and the former capacitor locations. Three isolated areas of impact at depths of 4.0 feet bgs or greater were also identified, two of which coincided with the main area of debris and the former capacitor locations. A third area was identified northeast of the capacitor locations. No pesticides were detected in soil samples collected at the site.

Pesticides and PCBs were not detected in the groundwater samples collected from upgradient and downgradient monitoring wells. These results indicate that PCBs identified in the sites soil samples (Aroclor-1254 and Aroclor-1260) have not impacted groundwater.

Approximately 613 pounds (two 55-gallon drums) of PCB-contaminated solids, consisting primarily of capacitors with some incidental soil were removed from the site and transported to a treatment facility for incineration.

A qualitative exposure assessment was completed for the site. Based upon the information collected during the RI, it was determined that there is no plausible off-site exposure scenario for the on-site soil contamination. The only possible on-site exposure pathway is by ingestion or dermal exposure by a trespasser, airport employee, or a worker in the boatyard. Ingestion and dermal exposure would not likely be extensive given the intermittent nature of exposure at the boatyard (i.e., occupation of the boatyard by employees, removing boats in spring and storing in fall). PCBs would most likely be transferred from surfaces containing residual soil (an article of clothing or object such as equipment) that have come into contact with contaminated soil and not through direct ingestion of or contact with the contaminated soil.

A FWRIA was completed at the site. Based on the information gathered, it was concluded that PCBs at the site are not expected to have a significant adverse impact to ecological resources and that an ecological impact assessment is not warranted.

5.2 Recommendations

Based upon the findings of this investigation, PWGC recommends that a Remedial Work Plan (RWP) with alternatives analysis, as described in the Brownfields Cleanup Program (BCP), be prepared. The RWP should include evaluation of alternatives that would meet different tracks as described in 6 NYCRR Part 375; Track 1- unrestricted use, Track 2 – restricted use with generic cleanup goals, Track 3 – restricted use with modified soil cleanup objectives, and/or Track 4 – restricted use with site-specific soil cleanup objectives. A no action alternative should also be evaluated.

PWGC recommends implementation of an Interim Remedial Measure (IRM) to address off-site and on-site PCB soil contamination. The IRM would include removal of approximately 6 inches of PCB-contaminated soils from the unpaved portion of the boatyard and extending the asphalt paving to the fence line. The IRM would include additional soil sampling prior to implementation to ensure all unpaved areas with PCBs greater than 1.0 mg/kg are identified. In addition, PWGC recommends that the IRM include on-site soil removal (up to one foot) from those areas with concentrations of PCBs in excess of 1,000 mg/kg (former capacitor locations). PWGC recommends preparation of an IRM Work Plan and submittal of the Work Plan to the NYSDEC for approval.

6.0 REFERENCES

- *Dvirka and Bartilucci Consulting Engineers (D & B) Investigation Report; November 1996.*
- *Franke, O.L. and Cohen, Philip, Regional Rates of Ground-Water Movement on Long Island, New York, United States Geological Survey Professional Paper 800C; 1972.*
- *New York State Department of Environmental Conservation (NYSDEC), 6 NYCRR Part 375 Subparts 375-1 to 375- 4 & 375-6; Restricted Use Soil Cleanup Objectives (RUSCOs) for the Protection of Public Health—Residential, December 2006.*
- *NYSDEC, Suffolk County Airport – Canine Kennel, Site #152079 Soil Sampling; July 13, 2000.*
- *NYSDEC, Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1, Ambient Water Quality Standards and Guidance Values; June 1998.*
- *NYSDEC, Technical and Administrative Guidance Memorandum (TAGM) #4046, Recommended Soil Cleanup Objectives (RSCOs); January 1994.*
- *NYSDEC, Draft Brownfield Cleanup Program Guide; May 2004.*
- *P.W. Grosser Consulting, Inc. (PWGC), Remedial Investigation Work Plan and Health and Safety Plan; July 2007.*
- *Suffolk County Department of Health Services (SCDHS), Office of Pollution Control Site inspection; May 2005.*
- *U.S. Air Force, The Installation Restoration Program Toxicology Guide, Volume 3. Aerospace Medical Division, Air Force Systems Command, Wright-Patterson Air Force Base, Ohio. 1989.*

TABLES

TABLE 1
NYSDEC SOIL SAMPLING DATA
SITE #152079
Soil Sampling July 13, 2000

PCB/Pesticide Summary - results in µg/Kg

Sample Location	Sample Depth	Sample ID	Dieldrin	4,4'-DDE	Aroclor-1254	Arclor-1260
Soil #1	0-4"	1118-01	1,900	2,000	150,000[1]	ND[2]
Soil #1	3'	1118-02	250	270	20,000	ND
Soil #2	0-3"	1118-07	N/A[3]	N/A	38,000	910
Soil #2	1'	1118-08	N/A	N/A	930	24
Soil #3	0-3"	1118-05	N/A	N/A	3.9	0.47
Soil #3	2.5'	1118-06	N/A	N/A	0.19	ND
Soil #4	0-3"	1118-09	N/A	N/A	17	0.57
Soil #4	2.5'	1118-10	N/A	N/A	0.25	ND
Soil #5	0-4"	1118-03	N/A	N/A	1,900	ND
Soil #5	3.5'	1118-04	N/A	N/A	120	ND
Soil #6	0-4"	1118-11	N/A	N/A	0.092	ND
Soil #6	3'	1118-12	N/A	N/A	0.23	ND
Soil inside end of capacitor at Soil #1	Waste sample	1118-13	N/A	N/A	280,000	3,800

Notes:

[1] Shaded block indicates sample above the regulatory limit of 50 ppm (50,000 µg/Kg)

[2] Compound not detected at method detection limit.

[3] Not analyzed

ppm - parts per million

mg/kg - milligrams per kilogram

TABLE 2
GROUNDWATER / MONITORING WELL
SURVEY DATA

Former Canine Kennel - Westhampton Beach, New York

Monitoring Well	Depth to Water	Depth to Bottom	Monitoring Well Casing Elevation	Groundwater Elevation	Ground Elevation
MW-1	14.49	17.00	24.91	10.42	22.39
MW-2	16.50	19.00	26.75	10.25	23.15
MW-3	14.16	18.00	23.97	9.81	21.81
MW-4	14.39	18.00	24.16	9.77	21.18
MW-5	12.69	17.00	22.50	9.81	19.36
MW-6	12.18	17.00	22.03	9.85	19.96

TABLE 3
SOIL ANALYTICAL RESULTS FOR S-1
PESTICIDES / PCBS
EPA METHOD 8081/8082

Former Canine Kennel - Westhampton Beach, New York

Compound	NYSDEC Recommended Soil Cleanup Objective (1)	Unrestricted Use (2)	Residential (3)	Restricted Residential (3)	Commercial (3)	Industrial (3)	Protection of Ecological Resources (3)	Protection of Groundwater (3)	1A (0-2")	1B (2-2.5')	1C (4-4.5')	1N1A (0-2")	1N1B (2-2.5')	1N1C (4-4.5')	1N2A (0-2")	1N2B (2-2.5')	1E1A (0-2")	1E1B (2-2.5')	1S1A (0-2")	1S1B (2-2.5')	1S2A (0-2")	1S2B (2-2.5')	1W1A (0-2")	1W1B (2-2.5')	1W1C (4-4.5')	1W2A (0-2")	1W2B (2-2.5')
Pesticides 8081 - mg/kg																											
alpha-BHC	0.11	0.02	0.097	0.48	3.4	6.8	0.04 (g)	0.02	0.00015 UJ	0.00015 UJ	0.00015 UJ	0.00017 UJ	0.00017 UJ	NR	0.00015 UJ	NR	0.00017 UJ	0.00016 UJ	0.00016 UJ	0.00015 UJ	0.00015 UJ	NR	0.00015 UJ	0.00014 UJ	NR	0.00015 UJ	NR
beta-BHC	0.2	0.036	0.072	0.36	3	14	0.6	0.09	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00022 UJ	0.00021 UJ	NR	0.00019 UJ	NR	0.00022 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.00019 UJ	NR	0.00019 UJ	0.00018 UJ	NR	0.00019 UJ	NR
delta-BHC	0.3	0.04	100 (a)	100 (a)	500 (h)	1,000 (i)	0.04 (g)	0.25	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00022 UJ	0.00021 UJ	NR	0.00019 UJ	NR	0.00022 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.00019 UJ	NR	0.00019 UJ	0.00018 UJ	NR	0.00019 UJ	NR
gamma-BHC	0.06	0.1	0.28	1.3	9.2	23	6	0.1	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00019 UJ	0.00019 UJ	NR	0.00017 UJ	NR	0.00019 UJ	0.00018 UJ	0.00018 UJ	0.00017 UJ	0.00017 UJ	NR	0.00017 UJ	0.00016 UJ	NR	0.00017 UJ	NR
Heptachlor	0.1	0.042	0.42	2.1	15	29	0.14	0.38	0.00016 UJ	0.00016 UJ	0.00016 UJ	0.00018 UJ	0.00018 UJ	NR	0.00016 UJ	NR	0.00018 UJ	0.00017 UJ	0.00017 UJ	0.00016 UJ	0.00016 UJ	NR	0.00016 UJ	0.00015 UJ	NR	0.00016 UJ	NR
Aldrin	0.041	0.005 (c)	0.019	0.097	0.68	1.4	0.14	0.19	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00019 UJ	0.00019 UJ	NR	0.00017 UJ	NR	0.00019 UJ	0.00018 UJ	0.00018 UJ	0.00017 UJ	0.00017 UJ	NR	0.00017 UJ	0.00016 UJ	NR	0.00017 UJ	NR
Heptachlor epoxide	0.02	NS	NS	NS	NS	NS	NS	NS	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.00023 UJ	0.00023 UJ	NR	0.0002 UJ	NR	0.00023 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.0002 UJ	NR	0.0002 UJ	0.0002 UJ	NR	0.0002 UJ	NR
Endosulfan I	0.9	2.4	4.8 (d)	24 (d)	200 (d)	920 (d)	NS	102	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.00023 UJ	0.00023 UJ	NR	0.0002 UJ	NR	0.00023 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.0002 UJ	NR	0.0002 UJ	0.0002 UJ	NR	0.0002 UJ	NR
Dieldrin	0.044	0.005 (c)	0.039	0.2	1.4	2.8	0.006	0.1	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.00023 UJ	0.00023 UJ	NR	0.0002 UJ	NR	0.00023 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.0002 UJ	NR	0.0002 UJ	0.0002 UJ	NR	0.0002 UJ	NR
4,4-DDE	2	0.0033 (b)	1.8	8.9	62	120	0.0033 (e)	17	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.00023 UJ	0.00023 UJ	NR	0.0002 UJ	NR	0.00023 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.0002 UJ	NR	0.0002 UJ	0.0002 UJ	NR	0.0002 UJ	NR
Endrin	0.1	0.014	2.2	11	89	410	0.014	0.06	0.0006 UJ	0.0006 UJ	0.00059 UJ	0.00069 UJ	0.00068 UJ	NR	0.0006 UJ	NR	0.00069 UJ	0.00064 UJ	0.00064 UJ	0.00062 UJ	0.00061 UJ	NR	0.00059 UJ	0.00059 UJ	NR	0.0006 UJ	NR
Endosulfan II	0.9	2.4	4.8 (d)	24 (d)	200 (d)	920 (d)	NS	102	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.00024 UJ	0.00024 UJ	NR	0.00021 UJ	NR	0.00024 UJ	0.00022 UJ	0.00022 UJ	0.00022 UJ	0.00021 UJ	NR	0.00021 UJ	0.00021 UJ	NR	0.00021 UJ	NR
4,4-DDD	3	0.0033 (b)	2.6	13	92	180	0.0033 (e)	14	0.00028 UJ	0.00028 UJ	0.00028 UJ	0.00033 UJ	0.00032 UJ	NR	0.00028 UJ	NR	0.00033 UJ	0.0003 UJ	0.0003 UJ	0.00029 UJ	0.00029 UJ	NR	0.00028 UJ	0.00028 UJ	NR	0.00028 UJ	NR
Endosulfan Sulfate	1	2.4	4.8 (d)	24 (d)	200 (d)	920 (d)	NS	1,000 (i)	0.00024 UJ	0.00024 UJ	0.00024 UJ	0.00028 UJ	0.00027 UJ	NR	0.00024 UJ	NR	0.00028 UJ	0.00026 UJ	0.00026 UJ	0.00025 UJ	0.00025 UJ	NR	0.00024 UJ	0.00024 UJ	NR	0.00024 UJ	NR
4,4-DDT	2	0.0033 (b)	1.7	7.9	47	94	0.0033 (e)	136	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00019 UJ	0.00019 UJ	NR	0.00017 UJ	NR	0.00019 UJ	0.00018 UJ	0.00018 UJ	0.00017 UJ	0.00017 UJ	NR	0.00017 UJ	0.00016 UJ	NR	0.00017 UJ	NR
Methoxychlor	10	NS	NS	NS	NS	NS	NS	NS	0.00022 UJ	0.00022 UJ	0.00022 UJ	0.00026 UJ	0.00025 UJ	NR	0.00022 UJ	NR	0.00026 UJ	0.00024 UJ	0.00024 UJ	0.00023 UJ	0.00023 UJ	NR	0.00022 UJ	0.00022 UJ	NR	0.00022 UJ	NR
Endrin ketone	NS	NS	NS	NS	NS	NS	NS	NS	0.00049 UJ	0.00049 UJ	0.00049 UJ	0.00057 UJ	0.00056 UJ	NR	0.00049 UJ	NR	0.00057 UJ	0.00053 UJ	0.00053 UJ	0.00051 UJ	0.00051 UJ	NR	0.00049 UJ	0.00048 UJ	NR	0.00049 UJ	NR
Endrin aldehyde	NS	NS	NS	NS	NS	NS	NS	NS	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.00024 UJ	0.00024 UJ	NR	0.00021 UJ	NR	0.00024 UJ	0.00022 UJ	0.00022 UJ	0.00022 UJ	0.00021 UJ	NR	0.00021 UJ	0.00021 UJ	NR	0.00021 UJ	NR
alpha-Chlordane	0.54	0.094	0.91	4.2	24	47	1.3	2.9	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.00023 UJ	0.00023 UJ	NR	0.0002 UJ	NR	0.00023 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.0002 UJ	NR	0.0002 UJ	0.0002 UJ	NR	0.0002 UJ	NR
gamma-Chlordane	NS	NS	NS	NS	NS	NS	NS	NS	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00022 UJ	0.00021 UJ	NR	0.00019 UJ	NR	0.00022 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.00019 UJ	NR	0.00019 UJ	0.00018 UJ	NR	0.00019 UJ	NR
Toxaphene	NS	NS	NS	NS	NS	NS	NS	NS	0.0038 UJ	0.0038 UJ	0.0037 UJ	0.0044 UJ	0.0043 UJ	NR	0.0038 UJ	NR	0.0044 UJ	0.004 UJ	0.004 UJ	0.0039 UJ	0.0038 UJ	NR	0.0037 UJ	0.0037 UJ	NR	0.0038 UJ	NR
PCBs 8082 - mg/kg																											
Aroclor-1016	1*	0.1**	1	1	1	25	1	3.2	0.0040 UJ	2 UJ	0.19 UJ	2.3 UJ	22 UJ	0.019 UJ	0.039 UJ	0.019 UJ	0.0046 UJ	0.0042 UJ	0.0042 UJ	0.02 UJ	0.04 UJ	0.0085 UJ	0.0039 UJ	0.0038 UJ	0.023 UJ	0.2 UJ	0.0038 UJ
Aroclor-1221	1*	0.1**	1	1	1	25	1	3.2	0.0049 UJ	2 UJ	0.21 UJ	2.8 UJ	27 UJ	0.024 UJ	0.048 UJ	0.023 UJ	0.0056 UJ	0.0051 UJ	0.0051 UJ	0.025 UJ	0.049 UJ	0.01 UJ	0.0048 UJ	0.0047 UJ	0.028 UJ	0.24 UJ	0.0047 UJ
Aroclor-1232	1*	0.1**	1	1	1	25	1	3.2	0.0051 UJ	3 UJ	0.25 UJ	2.9 UJ	28 UJ	0.025 UJ	0.050 UJ	0.024 UJ	0.0058 UJ	0.0054 UJ	0.0054 UJ	0.026 UJ	0.051 UJ	0.011 UJ	0.005 UJ	0.0049 UJ	0.029 UJ	0.25 UJ	0.0049 UJ
Aroclor-1242	1*	0.1**	1	1	1	25	1	3.2	0.0022 UJ	1 UJ	0.11 UJ	1.3 UJ	12 UJ	0.011 UJ	0.022 UJ	0.010 UJ	0.0026 UJ	0.0024 UJ	0.0024 UJ	0.011 UJ	0.023 UJ	0.0048 UJ	0.0022 UJ	0.0022 UJ	0.013 UJ	0.11 UJ	0.0022 UJ
Aroclor-1248	1*	0.1**	1	1	1	25	1	3.2	0.0049 UJ	2 UJ	0.24 UJ	2.8 UJ	27 UJ	0.024 UJ	0.048 UJ	0.023 UJ	0.0056 UJ	0.0052 UJ	0.0052 UJ	0.025 UJ	0.05 UJ	0.01 UJ	0.0048 UJ	0.0047 UJ	0.028 UJ	0.24 UJ	0.0047 UJ
Aroclor-1254	1*	0.1**	1	1	1	25	1	3.2	**1.1 D**	**130**	**14 D**	**42**	**1,800 DP**	0.11 D	**3.4 DP**	0.76 D	**2.5 D**	0.17 P	**7.6 D**	**1.7 D**	**2.7 DP**	0.55 DP	**2.3 D**	0.1	**1.1 D**	**9.9 DP**	0.094
Aroclor-1260	1*	0.1**	1	1	1	25	1	3.2	0.0040 UJ	2 UJ	0.19 UJ	2.3 UJ	22 UJ	0.019 UJ	0.039 UJ	0.019 UJ	0.0045 UJ	0.0042 UJ	0.0042 UJ	0.02 UJ	0.04 UJ	0.0085 UJ	0.0039 UJ	0.0038 UJ	0.023 UJ	0.2 UJ	0.0038 UJ

Notes:
All concentrations are in mg/kg
(1) NYSDEC Recommended Soil Cleanup Objectives (RSCO), Technical and Administrative Guidance Memorandum (TAGM) #4046, 12/00
(2) NYSDEC 6 NYCRR Environmental Remediation Programs Part 375 Unrestricted Use Soil Cleanup Objectives Table 375-6.8a 12/06
(3) NYSDEC 6 NYCRR Environmental Remediation Programs Part Restriced Use of Soil Cleanup Objective Table 375-6.8b 12/06
SCO - Soil cleanup objective
CRQL - Contract required quantitation limit
TSD - Technical Support Document
(a) The SCOs for residential, restricted-residential and ecological resources use were capped at a maximum value of 100 ppm. See TSD section 9.3.
(b) For constituents where the calculated SCO was lower than the CRQL the CRQL is used as the Track 1 SCO value.
(c) For constituents where the calculated SCO was lower than the rual soil background concentration, as determined by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 CO value fo this use of the site.
(d) SCO is the sum of endosilfan I, endosulfan II and endosulfan sulfate.
(e) For constituents where the calculated SCO was lower than the CRQL, the CRQL is used as the SCO value
(f) Protection of ecological resources SCOs were not developed for contaminants identified in Table 375-6.8b with "NS". Where such contaminants appear in Table 375-6.8a, the applicant may be required by the Department to calculate a protection of ecological resources SCO according to the TSD.
(g) This SCOs is derived from data on mixed isomer of BHC
(h) The SCOs for the commercial use were capped at a maximum value of 500 ppm. See TSD section 9.3.
(i) The SCOs for the industrial use and the protection of groundwater were capped at a maximum value of 1000 ppm. See TSD section 9.3.
*-NYSDEC recommended soil cleanup objectives for PCBs are 1.0 mg/kg for surface soils and 10 mg/kg for subsurface soils.
** - NYSDEC 6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives for total PCBs is 0.1 mg/kg
NR - Not Run
U - The compound was not detected at the indicated concentration.
P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.
D - The reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.
Bold/highlighted - indicated exceedance of the NYSDEC Cleanup Objective for residential use

TABLE 4
SOIL ANALYTICAL RESULTS FOR S-2
PESTICIDES / PCBS
EPA METHOD 8081/8082

Former Canine Kennel - Westhampton Beach, New York

Compound	NYSDEC Recommended Soil Cleanup Objective (1)	Unrestricted Use (2)	Residential (3)	Restricted Residential (3)	Commercial (3)	Industrial (3)	Protection of Ecological Resources (3)	Protection of Groundwater (3)	2A (0-2")	2B (2-2.5')	2C (4-4.5')	2N1A (0-2")	2E1A (0-2")	2E1B (2-2.5')	2E2A (0-2")	2E2B (2-2.5')	2E2C (4-4.5')	2S1A (0-2")	2S1B (2-2.5')	2S2A (0-2")	2W1A (0-2")	2W2A (0-2")	2W2B (2-2.5')	2W2C (4-4.5')	FD-04 (2W2C)
Pesticides 8081 - mg/kg																									
alpha-BHC	0.11	0.02	0.097	0.48	3.4	6.8	0.04 (g)	0.02	0.00015 UJ	0.00015 UJ	0.00015 UJ	0.00015 UJ	0.00015 UJ	0.00015 UJ	0.00015 UJ	0.00015 UJ	0.00015 UJ	0.00015 UJ	0.00015 UJ	0.00015 UJ	0.00019 UJ	0.00016 UJ	0.00014 UJ	0.00014 UJ	0.00015 UJ
beta-BHC	0.2	0.036	0.072	0.36	3	14	0.6	0.09	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.0002 UJ	0.00019 UJ	0.0002 UJ	0.00019 UJ	0.00019 UJ	0.0002 UJ	0.00019 UJ	0.00019 UJ	0.00025 UJ	0.0002 UJ	0.00018 UJ	0.00019 UJ	0.00019 UJ
delta-BHC	0.3	0.04	100 (a)	100 (a)	500 (h)	1,000 (i)	0.04 (g)	0.25	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.0002 UJ	0.00019 UJ	0.0002 UJ	0.00019 UJ	0.00019 UJ	0.0002 UJ	0.00019 UJ	0.00019 UJ	0.00025 UJ	0.0002 UJ	0.00018 UJ	0.00019 UJ	0.00019 UJ
gamma-BHC	0.06	0.1	0.28	1.3	9.2	23	6	0.1	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00018 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00022 UJ	0.00018 UJ	0.00016 UJ	0.00016 UJ	0.00017 UJ
Heptachlor	0.1	0.042	0.42	2.1	15	29	0.14	0.38	0.00016 UJ	0.00016 UJ	0.00016 UJ	0.00016 UJ	0.00016 UJ	0.00016 UJ	0.00016 UJ	0.00016 UJ	0.00016 UJ	0.00016 UJ	0.00016 UJ	0.00016 UJ	0.0002 UJ	0.00017 UJ	0.00015 UJ	0.00015 UJ	0.00016 UJ
Aldrin	0.041	0.005 (c)	0.019	0.097	0.68	1.4	0.14	0.19	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00018 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00022 UJ	0.00018 UJ	0.00016 UJ	0.00016 UJ	0.00017 UJ
Heptachlor epoxide	0.02	NS	NS	NS	NS	NS	NS	NS	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.00021 UJ	0.0002 UJ	0.00021 UJ	0.0002 UJ	0.0002 UJ	0.00021 UJ	0.0002 UJ	0.0002 UJ	0.00026 UJ	0.00021 UJ	0.00019 UJ	0.0002 UJ	0.0002 UJ
Endosulfan I	0.9	2.4	4.8 (d)	24 (d)	200 (d)	920 (d)	NS	102	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.00021 UJ	0.0002 UJ	0.00021 UJ	0.0002 UJ	0.0002 UJ	0.00021 UJ	0.0002 UJ	0.0002 UJ	0.00026 UJ	0.00021 UJ	0.00019 UJ	0.0002 UJ	0.0002 UJ
Dieldrin	0.044	0.005 (c)	0.039	0.2	1.4	2.8	0.006	0.1	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.00021 UJ	0.0002 UJ	0.00021 UJ	0.0002 UJ	0.0002 UJ	0.00021 UJ	0.0002 UJ	0.0002 UJ	0.00026 UJ	0.00021 UJ	0.00019 UJ	0.0002 UJ	0.0002 UJ
4,4-DDE	2	0.0033 (b)	1.8	8.9	62	120	0.0033 (e)	17	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.00021 UJ	0.0002 UJ	0.00021 UJ	0.0002 UJ	0.0002 UJ	0.00021 UJ	0.0002 UJ	0.0002 UJ	0.00026 UJ	0.00021 UJ	0.00019 UJ	0.0002 UJ	0.0002 UJ
Endrin	0.1	0.014	2.2	11	89	410	0.014	0.06	0.0006 UJ	0.0006 UJ	0.0006 UJ	0.00061 UJ	0.00062 UJ	0.00059 UJ	0.00062 UJ	0.00059 UJ	0.00059 UJ	0.00062 UJ	0.0006 UJ	0.0006 UJ	0.00078 UJ	0.00064 UJ	0.00058 UJ	0.00059 UJ	0.00059 UJ
Endosulfan II	0.9	2.4	4.8 (d)	24 (d)	200 (d)	920 (d)	NS	102	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.00022 UJ	0.00021 UJ	0.00022 UJ	0.00021 UJ	0.00021 UJ	0.00022 UJ	0.00021 UJ	0.00021 UJ	0.00027 UJ	0.00022 UJ	0.0002 UJ	0.00021 UJ	0.00021 UJ
4,4-DDD	3	0.0033 (b)	2.6	13	92	180	0.0033 (e)	14	0.00029 UJ	0.00028 UJ	0.00029 UJ	0.00029 UJ	0.00029 UJ	0.00028 UJ	0.0003 UJ	0.00028 UJ	0.00028 UJ	0.00029 UJ	0.00028 UJ	0.00028 UJ	0.00037 UJ	0.0003 UJ	0.00027 UJ	0.00028 UJ	0.00028 UJ
Endosulfan Sulfate	1	2.4	4.8 (d)	24 (d)	200 (d)	920 (d)	NS	1,000 (i)	0.00024 UJ	0.00024 UJ	0.00024 UJ	0.00025 UJ	0.00025 UJ	0.00024 UJ	0.00025 UJ	0.00024 UJ	0.00024 UJ	0.00025 UJ	0.00024 UJ	0.00024 UJ	0.00031 UJ	0.00026 UJ	0.00023 UJ	0.00024 UJ	0.00024 UJ
4,4-DDT	2	0.0033 (b)	1.7	7.9	47	94	0.0033 (e)	136	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00018 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00022 UJ	0.00018 UJ	0.00016 UJ	0.00016 UJ	0.00017 UJ
Methoxychlor	10	NS	NS	NS	NS	NS	NS	NS	0.00022 UJ	0.00022 UJ	0.00022 UJ	0.00023 UJ	0.00023 UJ	0.00022 UJ	0.00023 UJ	0.00022 UJ	0.00022 UJ	0.00023 UJ	0.00022 UJ	0.00022 UJ	0.00029 UJ	0.00024 UJ	0.00021 UJ	0.00022 UJ	0.00022 UJ
Endrin ketone	NS	NS	NS	NS	NS	NS	NS	NS	0.0005 UJ	0.00049 UJ	0.0005 UJ	0.0005 UJ	0.00051 UJ	0.00049 UJ	0.00052 UJ	0.00049 UJ	0.00049 UJ	0.00051 UJ	0.00049 UJ	0.00049 UJ	0.00064 UJ	0.00053 UJ	0.00048 UJ	0.00048 UJ	0.00049 UJ
Endrin aldehyde	NS	NS	NS	NS	NS	NS	NS	NS	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.00022 UJ	0.00021 UJ	0.00022 UJ	0.00021 UJ	0.00021 UJ	0.00022 UJ	0.00021 UJ	0.00021 UJ	0.00027 UJ	0.00022 UJ	0.0002 UJ	0.00021 UJ	0.00021 UJ
alpha-Chlordane	0.54	0.094	0.91	4.2	24	47	1.3	2.9	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.00021 UJ	0.0002 UJ	0.00021 UJ	0.0002 UJ	0.0002 UJ	0.00021 UJ	0.0002 UJ	0.0002 UJ	0.00026 UJ	0.00021 UJ	0.00019 UJ	0.0002 UJ	0.0002 UJ
gamma-Chlordane	NS	NS	NS	NS	NS	NS	NS	NS	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.0002 UJ	0.00019 UJ	0.0002 UJ	0.00019 UJ	0.00019 UJ	0.0002 UJ	0.00019 UJ	0.00019 UJ	0.00025 UJ	0.0002 UJ	0.00018 UJ	0.00019 UJ	0.00019 UJ
Toxaphene	NS	NS	NS	NS	NS	NS	NS	NS	0.0038 UJ	0.0038 UJ	0.0038 UJ	0.0038 UJ	0.039 UJ	0.037 UJ	0.039 UJ	0.037 UJ	0.037 UJ	0.039 UJ	0.038 UJ	0.038 UJ	0.049 UJ	0.004 UJ	0.0036 UJ	0.037 UJ	0.037 UJ
PCBs 8082 - mg/kg																									
Aroclor-1016	1*	0.1**	1	1	1	25	1	3.2	0.02 UJ	0.0039 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.0039 UJ	0.0082 UJ	0.0039 UJ	0.0039 UJ	0.02 UJ	0.0039 UJ	0.02 UJ	0.51 UJ	2.1 UJ	0.019 UJ	0.019 UJ	0.039 UJ
Aroclor-1221	1*	0.1**	1	1	1	25	1	3.2	0.024 UJ	0.0048 UJ	0.024 UJ	0.025 UJ	0.025 UJ	0.0048 UJ	0.01 UJ	0.0048 UJ	0.0047 UJ	0.025 UJ	0.0048 UJ	0.024 UJ	0.62 UJ	2.6 UJ	0.023 UJ	0.024 UJ	0.048 UJ
Aroclor-1232	1*	0.1**	1	1	1	25	1	3.2	0.025 UJ	0.005 UJ	0.025 UJ	0.026 UJ	0.026 UJ	0.005 UJ	0.011 UJ	0.005 UJ	0.005 UJ	0.026 UJ	0.005 UJ	0.025 UJ	0.65 UJ	2.7 UJ	0.024 UJ	0.025 UJ	0.05 UJ
Aroclor-1242	1*	0.1**	1	1	1	25	1	3.2	0.011 UJ	0.0022 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0022 UJ	0.0046 UJ	0.0022 UJ	0.0022 UJ	0.011 UJ	0.0022 UJ	0.011 UJ	0.29 UJ	1.2 UJ	0.011 UJ	0.011 UJ	0.022 UJ
Aroclor-1248	1*	0.1**	1	1	1	25	1	3.2	0.024 UJ	0.0048 UJ	0.024 UJ	0.025 UJ	0.025 UJ	0.0048 UJ	0.01 UJ	0.0048 UJ	0.0048 UJ	0.025 UJ	0.0048 UJ	0.024 UJ	0.63 UJ	2.6 UJ	0.023 UJ	0.024 UJ	0.048 UJ
Aroclor-1254	1*	0.1**	1	1	1	25	1	3.2	0.76 D	0.06	0.77 D	0.69	**1.3 DP**	0.58 D	0.45 D	0.0049 UJ	0.0049 UJ	0.6	0.089	0.66 D	**19 DP**	**150**	0.66 D	0.99 D	**1.3 P**
Aroclor-1260	1*	0.1**	1	1	1	25	1	3.2	0.02 UJ	0.0039 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.0039 UJ	0.0082 UJ	0.0039 UJ	0.0039 UJ	0.02 UJ	0.0039 UJ	0.02 UJ	0.51 UJ	2.1 UJ	0.019 UJ	0.019 UJ	0.039 UJ

Notes:
All concentrations are in mg/kg
(1) NYSDEC Recommended Soil Cleanup Objectives (RSCO), Technical and Administrative Guidance Memorandum (TAGM) #4046, 12/00
(2) NYSDEC 6 NYCRR Environmental Remediation Programs Part 375 Unrestricted Use Soil Cleanup Objectives Table 375-6.8a 12/06
(3) NYSDEC 6 NYCRR Environmental Remediation Programs Part Restriced Use of Soil Cleanup Objective Table 375-6.8b 12/06
SCO - Soil cleanup objective
CRQL - Contract required quantitation limit
TSD - Technical Support Document
(a) The SCOs for residential, restricted-residential and ecological resources use were capped at a maximum value of 100 ppm. See TSD section 9.3.
(b) For constituents where the calculated SCO was lower than the CRQL the CRQL is used as the Track 1 SCO value.
(c) For constituents where the calculated SCO was lower than the rual soil background concentration, as determined by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 CO value fo this use of the site.
(d) SCO is the sum of endosilfan I, endosulfan II and endosulfan sulfate.
(e) For constituents where the calculated SCO was lower than the CRQL, the CRQL is used as the SCO value
(f) Protection of ecological resources SCOs were not developed for contaminants identified in Table 375-6.8b with "NS". Where such contaminants appear in Table 375-6.8a, the applicant may be required by the Department to calculate a protection of ecological resources SCO according to the TSD.
(g) This SCOs is derived from data on mixed isomer of BHC
(h) The SCOs for the commercial use were capped at a maximum value of 500 ppm. See TSD section 9.3.
(i) The SCOs for the industrial use and the protection of groundwater were capped at a maximum value of 1000 ppm. See TSD section 9.3.
*-NYSDEC recommended soil cleanup objectives for PCBs are 1.0 mg/kg for surface soils and 10 mg/kg for subsurface soils.
** - NYSDEC 6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives for total PCBs is 0.1 mg/kg
U - The compound was not detected at the indicated concentration.
P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.
D - The reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.
Bold/highlighted - indicated exceedance of the NYSDEC Cleanup Objective for residential use

TABLE 5
SOIL ANALYTICAL RESULTS FOR S-3
PESTICIDES / PCBS
EPA METHOD 8081/8082

Former Canine Kennel - Westhampton Beach, New York

Compound	NYSDEC Recommended Soil Cleanup Objective (1)	Unrestricted Use (2)	Residential (3)	Restricted Residential (3)	Commercial (3)	Industrial (3)	Protection of Ecological Resources (3)	Protection of Groundwater (3)	3A (0-2")	3B (2-2.5')	3C (4-4.5')	3N1A (0-2")	3N1B (2-2.5')	3N1C (4-4.5')	3N2A (0-2")	3N2B (2-2.5')	3E1A (0-2")	3E1B (2-2.5')	3E1C (4-4.5')	3E2A (0-2")	3E2B (2-2.5')	3E2C (4-4.5')	3S1A (0-2")	3S1B (2-2.5')	3S1C (4-4.5')	3S2A (0-2")	3S2B (2-2.5')	3S2C (4-4.5')	3W1A (0-2")	3W1B (2-2.5')	3W1C (4-4.5')	FD-01 (3W1C)
Pesticides 8081 - mg/kg																																
alpha-BHC	0.11	0.02	0.097	0.48	3.4	6.8	0.04 (g)	0.02	0.00019 UJ	0.00014 UJ	0.00014 UJ	0.00015 UJ	0.00014 UJ	0.00014 UJ	0.00015 UJ	0.00015 UJ	0.00021 UJ	0.00015 UJ	0.00014 UJ	0.00016 UJ	0.00014 UJ	0.00015 UJ	0.0002 UJ	0.00015 UJ	0.00015 UJ	0.00019 UJ	0.00015 UJ	0.00015 UJ	0.00015 UJ	0.00014 UJ	0.00014 UJ	0.00014 UJ
beta-BHC	0.2	0.036	0.072	0.36	3	14	0.6	0.09	0.00025 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00018 UJ	0.00018 UJ	0.00019 UJ	0.00019 UJ	0.00028 UJ	0.00019 UJ	0.00019 UJ	0.0002 UJ	0.00018 UJ	0.00019 UJ	0.00025 UJ	0.00019 UJ	0.00019 UJ	0.00024 UJ	0.00019 UJ	0.00019 UJ	0.0002 UJ	0.00018 UJ	0.00019 UJ	0.00019 UJ
delta-BHC	0.3	0.04	100 (a)	100 (a)	500 (h)	1,000 (i)	0.04 (g)	0.25	0.00025 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00018 UJ	0.00018 UJ	0.00019 UJ	0.00019 UJ	0.00028 UJ	0.00019 UJ	0.00019 UJ	0.0002 UJ	0.00018 UJ	0.00019 UJ	0.00025 UJ	0.00019 UJ	0.00019 UJ	0.00024 UJ	0.00019 UJ	0.00019 UJ	0.0002 UJ	0.00018 UJ	0.00019 UJ	0.00019 UJ
gamma-BHC	0.06	0.1	0.28	1.3	9.2	23	6	0.1	0.00022 UJ	0.00016 UJ	0.00016 UJ	0.00017 UJ	0.00016 UJ	0.00016 UJ	0.00017 UJ	0.00017 UJ	0.00025 UJ	0.00017 UJ	0.00016 UJ	0.00018 UJ	0.00016 UJ	0.00017 UJ	0.00022 UJ	0.00017 UJ	0.00017 UJ	0.00021 UJ	0.00017 UJ	0.00017 UJ	0.00018 UJ	0.00016 UJ	0.00016 UJ	0.00016 UJ
Heptachlor	0.1	0.042	0.42	2.1	15	29	0.14	0.38	0.00021 UJ	0.00015 UJ	0.00015 UJ	0.00016 UJ	0.00015 UJ	0.00015 UJ	0.00016 UJ	0.00016 UJ	0.00023 UJ	0.00016 UJ	0.00015 UJ	0.00017 UJ	0.00015 UJ	0.00016 UJ	0.00021 UJ	0.00016 UJ	0.00016 UJ	0.0002 UJ	0.00016 UJ	0.00016 UJ	0.00016 UJ	0.00015 UJ	0.00015 UJ	0.00015 UJ
Aldrin	0.041	0.005 (c)	0.019	0.097	0.68	1.4	0.14	0.19	0.00022 UJ	0.00016 UJ	0.00016 UJ	0.00017 UJ	0.00016 UJ	0.00016 UJ	0.00017 UJ	0.00017 UJ	0.00025 UJ	0.00017 UJ	0.00016 UJ	0.00018 UJ	0.00016 UJ	0.00017 UJ	0.00022 UJ	0.00017 UJ	0.00017 UJ	0.00021 UJ	0.00017 UJ	0.00017 UJ	0.00018 UJ	0.00016 UJ	0.00016 UJ	0.00016 UJ
Heptachlor epoxide	0.02	NS	NS	NS	NS	NS	NS	NS	0.00026 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.00019 UJ	0.00019 UJ	0.0002 UJ	0.0002 UJ	0.00029 UJ	0.0002 UJ	0.0002 UJ	0.00022 UJ	0.0002 UJ	0.0002 UJ	0.00027 UJ	0.0002 UJ	0.0002 UJ	0.00025 UJ	0.0002 UJ	0.0002 UJ	0.00021 UJ	0.00019 UJ	0.0002 UJ	0.0002 UJ
Endosulfan I	0.9	2.4	4.8 (d)	24 (d)	200 (d)	920 (d)	NS	102	0.00026 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.00019 UJ	0.00019 UJ	0.0002 UJ	0.0002 UJ	0.00029 UJ	0.0002 UJ	0.0002 UJ	0.00022 UJ	0.0002 UJ	0.0002 UJ	0.00027 UJ	0.0002 UJ	0.0002 UJ	0.00025 UJ	0.0002 UJ	0.0002 UJ	0.00021 UJ	0.00019 UJ	0.0002 UJ	0.0002 UJ
Dieldrin	0.044	0.005 (c)	0.039	0.2	1.4	2.8	0.006	0.1	0.00026 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.00019 UJ	0.00019 UJ	0.0002 UJ	0.0002 UJ	0.00029 UJ	0.0002 UJ	0.0002 UJ	0.00022 UJ	0.0002 UJ	0.0002 UJ	0.00027 UJ	0.0002 UJ	0.0002 UJ	0.00025 UJ	0.0002 UJ	0.0002 UJ	0.00021 UJ	0.00019 UJ	0.0002 UJ	0.0002 UJ
4,4-DDE	2	0.0033 (b)	1.8	8.9	62	120	0.0033 (e)	17	0.00026 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.00019 UJ	0.00019 UJ	0.0002 UJ	0.0002 UJ	0.00029 UJ	0.0002 UJ	0.0002 UJ	0.00022 UJ	0.0002 UJ	0.0002 UJ	0.00027 UJ	0.0002 UJ	0.0002 UJ	0.00025 UJ	0.0002 UJ	0.0002 UJ	0.00021 UJ	0.00019 UJ	0.0002 UJ	0.0002 UJ
Endrin	0.1	0.014	2.2	11	89	410	0.014	0.06	0.00078 UJ	0.00059 UJ	0.00059 UJ	0.0006 UJ	0.00058 UJ	0.00058 UJ	0.0006 UJ	0.0006 UJ	0.00087 UJ	0.00059 UJ	0.00059 UJ	0.00065 UJ	0.00059 UJ	0.00059 UJ	0.0008 UJ	0.00059 UJ	0.00059 UJ	0.00076 UJ	0.0006 UJ	0.00059 UJ	0.00063 UJ	0.00058 UJ	0.00059 UJ	0.00059 UJ
Endosulfan II	0.9	2.4	4.8 (d)	24 (d)	200 (d)	920 (d)	NS	102	0.00027 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.0002 UJ	0.0002 UJ	0.00021 UJ	0.00021 UJ	0.00031 UJ	0.00021 UJ	0.00021 UJ	0.00023 UJ	0.00021 UJ	0.00021 UJ	0.00028 UJ	0.00021 UJ	0.00021 UJ	0.00027 UJ	0.00021 UJ	0.00021 UJ	0.00022 UJ	0.0002 UJ	0.00021 UJ	0.00021 UJ
4,4-DDD	3	0.0033 (b)	2.6	13	92	180	0.0033 (e)	14	0.00037 UJ	0.00028 UJ	0.00028 UJ	0.00028 UJ	0.00027 UJ	0.00027 UJ	0.00028 UJ	0.00029 UJ	0.00041 UJ	0.00028 UJ	0.00028 UJ	0.00031 UJ	0.00028 UJ	0.00028 UJ	0.00038 UJ	0.00028 UJ	0.00028 UJ	0.00036 UJ	0.00028 UJ	0.00028 UJ	0.0003 UJ	0.00027 UJ	0.00028 UJ	0.00028 UJ
Endosulfan Sulfate	1	2.4	4.8 (d)	24 (d)	200 (d)	920 (d)	NS	1,000 (i)	0.00031 UJ	0.00024 UJ	0.00024 UJ	0.00024 UJ	0.00023 UJ	0.00023 UJ	0.00024 UJ	0.00024 UJ	0.00035 UJ	0.00024 UJ	0.00024 UJ	0.00026 UJ	0.00024 UJ	0.00024 UJ	0.00032 UJ	0.00024 UJ	0.00024 UJ	0.00024 UJ	0.00024 UJ	0.00024 UJ	0.00025 UJ	0.00023 UJ	0.00024 UJ	0.00024 UJ
4,4-DDT	2	0.0033 (b)	1.7	7.9	47	94	0.0033 (e)	136	0.00022 UJ	0.00016 UJ	0.00016 UJ	0.00017 UJ	0.00016 UJ	0.00016 UJ	0.00017 UJ	0.00017 UJ	0.00025 UJ	0.00017 UJ	0.00016 UJ	0.00018 UJ	0.00016 UJ	0.00017 UJ	0.00022 UJ	0.00017 UJ	0.00017 UJ	0.00021 UJ	0.00017 UJ	0.00017 UJ	0.00018 UJ	0.00016 UJ	0.00016 UJ	0.00016 UJ
Methoxychlor	10	NS	NS	NS	NS	NS	NS	NS	0.00029 UJ	0.00022 UJ	0.00022 UJ	0.00022 UJ	0.00021 UJ	0.00021 UJ	0.00022 UJ	0.00022 UJ	0.00032 UJ	0.00022 UJ	0.00022 UJ	0.00024 UJ	0.00022 UJ	0.00022 UJ	0.00029 UJ	0.00022 UJ	0.00022 UJ	0.00028 UJ	0.00022 UJ	0.00022 UJ	0.00023 UJ	0.00021 UJ	0.00022 UJ	0.00022 UJ
Endrin ketone	NS	NS	NS	NS	NS	NS	NS	NS	0.00064 UJ	0.00048 UJ	0.00048 UJ	0.00049 UJ	0.00048 UJ	0.00048 UJ	0.00049 UJ	0.0005 UJ	0.00072 UJ	0.00049 UJ	0.00048 UJ	0.00053 UJ	0.00048 UJ	0.00049 UJ	0.00066 UJ	0.00049 UJ	0.00049 UJ	0.00062 UJ	0.00049 UJ	0.00049 UJ	0.00052 UJ	0.00048 UJ	0.00048 UJ	0.00048 UJ
Endrin aldehyde	NS	NS	NS	NS	NS	NS	NS	NS	0.00027 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.0002 UJ	0.0002 UJ	0.00021 UJ	0.00021 UJ	0.00031 UJ	0.00021 UJ	0.00021 UJ	0.00023 UJ	0.00021 UJ	0.00021 UJ	0.00028 UJ	0.00021 UJ	0.00021 UJ	0.00027 UJ	0.00021 UJ	0.00021 UJ	0.0002 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ
alpha-Chlordane	0.54	0.094	0.91	4.2	24	47	1.3	2.9	0.00026 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.00019 UJ	0.00019 UJ	0.0002 UJ	0.0002 UJ	0.00029 UJ	0.0002 UJ	0.0002 UJ	0.00022 UJ	0.0002 UJ	0.0002 UJ	0.00027 UJ	0.0002 UJ	0.0002 UJ	0.00025 UJ	0.0002 UJ	0.0002 UJ	0.00021 UJ	0.00019 UJ	0.0002 UJ	0.0002 UJ
gamma-Chlordane	NS	NS	NS	NS	NS	NS	NS	NS	0.00025 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00018 UJ	0.00018 UJ	0.00019 UJ	0.00019 UJ	0.00028 UJ	0.00019 UJ	0.00019 UJ	0.0002 UJ	0.00019 UJ	0.00019 UJ	0.00025 UJ	0.00019 UJ	0.00019 UJ	0.00024 UJ	0.00019 UJ	0.00019 UJ	0.0002 UJ	0.00018 UJ	0.00019 UJ	0.00019 UJ
Toxaphene	NS	NS	NS	NS	NS	NS	NS	NS	0.0049 UJ	0.0037 UJ	0.0037 UJ	0.0038 UJ	0.0036 UJ	0.0036 UJ	0.0038 UJ	0.0038 UJ	0.0055 UJ	0.0037 UJ	0.0037 UJ	0.0041 UJ	0.0037 UJ	0.0037 UJ	0.005 UJ	0.0037 UJ	0.0037 UJ	0.0048 UJ	0.0038 UJ	0.0037 UJ	0.0039 UJ	0.0036 UJ	0.0037 UJ	0.0037 UJ
PCBs 8082 - mg/kg																																
Aroclor-1016	1*	0.1**	1	1	1	25	1	3.2	0.026 UJ	0.0039 UJ	0.0038 UJ	0.0039 UJ	0.0038 UJ	0.0038 UJ	0.02 UJ	0.004 UJ	0.0057 UJ	0.0039 UJ	0.0038 UJ	0.0042 UJ	0.0038 UJ	0.0039 UJ	0.0053 UJ	0.0039 UJ	0.0039 UJ	0.005 UJ	0.0039 UJ	0.0039 UJ	0.0041 UJ	0.0038 UJ	0.0038 UJ	0.0038 UJ
Aroclor-1221	1*	0.1**	1	1	1	25	1	3.2	0.031 UJ	0.0047 UJ	0.0047 UJ	0.0048 UJ	0.0046 UJ	0.0047 UJ	0.024 UJ	0.0048 UJ	0.007 UJ	0.0048 UJ	0.0047 UJ	0.0052 UJ	0.0047 UJ	0.0048 UJ	0.0064 UJ	0.0047 UJ	0.0048 UJ	0.0061 UJ	0.0048 UJ	0.0048 UJ	0.005 UJ	0.0046 UJ	0.0047 UJ	0.0047 UJ
Aroclor-1232	1*	0.1**	1	1	1	25	1	3.2	0.033 UJ	0.0049 UJ	0.0049 UJ	0.005 UJ	0.0049 UJ	0.0049 UJ	0.025 UJ	0.0051 UJ	0.0074 UJ	0.005 UJ	0.0049 UJ	0.0054 UJ	0.0049 UJ	0.005 UJ	0.0067 UJ	0.005 UJ	0.005 UJ	0.0064 UJ	0.005 UJ	0.005 UJ	0.0053 UJ	0.0049 UJ	0.0049 UJ	0.0049 UJ
Aroclor-1242	1*	0.1**	1	1	1	25	1	3.2	0..014 UJ	0.0022 UJ	0.0022 UJ	0.0022 UJ	0.0021 UJ	0.0021 UJ	0.011 UJ	0.0022 UJ	0.0032 UJ	0.0022 UJ	0.0022 UJ	0.0024 UJ	0.0022 UJ	0.0022 UJ	0.0029 UJ	0.0022 UJ	0.0022 UJ	0.0028 UJ	0.0022 UJ	0.0022 UJ	0.0023 UJ	0.0021 UJ	0.0022 UJ	0.0022 UJ
Aroclor-1248	1*	0.1**	1	1	1	25	1	3.2	0.031 UJ	0.0047 UJ	0.0047 UJ	0.0048 UJ	0.0047 UJ	0.0047 UJ	0.024 UJ	0.0049 UJ	0.0071 UJ	0.0048 UJ	0.0047 UJ	0.0052 UJ	0.0047 UJ	0.0048 UJ	0.0065 UJ	0.0048 UJ	0.0048 UJ	0.0061 UJ	0.0048 UJ	0.0048 UJ	0.0051 UJ	0.0047 UJ	0.0047 UJ	0.0047 UJ
Aroclor-1254	1*	0.1**	1	1	1	25	1	3.2	**1.4 D**	0.02 J	0.038	0.34	0.046	0.0033	0.65 D	0.83 D	**1.120 EP**	0.068	0.037 P	0.22	0.0048 UJ	0.005 UJ	0.57 EP	0.035	0.1 P	0.4 P	0.0049 UJ	0.0049 UJ	**3.2 EP**	0.043	0.039	0.0048 UJ
Aroclor-1260	1*	0.1**	1	1	1	25	1	3.2	0.025 UJ	0.0038 UJ	0.0038 UJ	0.0039 UJ	0.0038 UJ	0.0038 UJ	0.02 UJ	0.004 UJ	0.0057 UJ	0.0039 UJ	0.0038 UJ	0.0042 UJ	0.0038 UJ	0.0039 UJ	0.0052 UJ	0.0039 UJ	0.0039 UJ	0.005 UJ	0.0039 UJ	0.0039 UJ	0.0041 UJ	0.0038 UJ	0.0038 UJ	0.0038 UJ

Notes:
All concentrations are in mg/kg
(1) NYSDEC Recommended Soil Cleanup Objectives (RSCO), Technical and Administrative Guidance Memorandum (TAGM) #4046, 12/00
(2) NYSDEC 6 NYCRR Environmental Remediation Programs Part 375 Unrestricted Use Soil Cleanup Objectives Table 375-6.8a 12/06
(3) NYSDEC 6 NYCRR Environmental Remediation Programs Part Restriced Use of Soil Cleanup Objective Table 375-6.8b 12/06
SCO - Soil cleanup objective
CRQL - Contract required quantitation limit
TSD - Technical Support Document
(a) The SCOs for residential, restricted-residential and ecological resources use were capped at a maximum value of 100 ppm. See TSD section 9.3.
(b) For constituents where the calculated SCO was lower than the CRQL the CRQL is used as the Track 1 SCO value.
(c) For constituents where the calculated SCO was lower than the rual soil background concentration, as determined by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 CO value fo this use of the site.
(d) SCO is the sum of endosilfan I, endosulfan II and endosulfan sulfate.
(e) For constituents where the calculated SCO was lower than the CRQL, the CRQL is used as the SCO value
(f) Protection of ecological resources SCOs were not developed for contaminants identified in Table 375-6.8b with "NS". Where such contaminants appear in Table 375-6.8a, the applicant may be required by the Department to calculate a protection of ecological resources SCO according to the TSD.
(g) This SCOs is derived from data on mixed isomer of BHC
(h) The SCOs for the commercial use were capped at a maximum value of 500 ppm. See TSD section 9.3.
(i) The SCOs for the industrial use and the protection of groundwater were capped at a maximum value of 1000 ppm. See TSD section 9.3.
*-NYSDEC recommended soil cleanup objectives for PCBs are 1.0 mg/kg for surface soils and 10 mg/kg for subsurface soils.
** - NYSDEC 6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives for total PCBs is 0.1 mg/kg
U - The compound was not detected at the indicated concentration.
J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater. The concentration given is an approximate value.
P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.
E (Organics) - Indicates the analyte 's concentration exceeds the calibrated range of the instrument for that specific analysis.
E (Inorganics) - The reported value is estimated because of the presence of interference.
D - The reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.
Bold/highlighted - indicated exceedance of the NYSDEC Cleanup Objective for residential use

TABLE 6
SOIL ANALYTICAL RESULTS FOR S-4
PESTICIDES / PCBS
EPA METHOD 8081/8082

Former Canine Kennel - Westhampton Beach, New York

Compound	NYSDEC Recommended Soil Cleanup Objective (1)	Unrestricted Use (2)	Residential (3)	Restricted Residential (3)	Commercial (3)	Industrial (3)	Protection of Ecological Resources (3)	Protection of Groundwater (3)	4A (0-2")	4B (2-2.5')	4C (4-4.5')	4N1A (0-2")	FD-03 (4N1A)	4N1B (2-2.5')	4N1C (4-4.5')	4N2A (0-2")	4N2B (2-2.5')	4N2C (4-4.5')	4E1A (0-2")	4E1B (2-2.5')	4E1C (4-4.5')	4E2A (0-2")	4E2B (2-2.5')	4E2C (4-4.5')	4S1A (0-2")	4S1B (2-2.5')	4S1C (4-4.5')	4S2A (0-2")	4S2B (2-2.5')	4S2C (4-4.5')	4W1A (0-2")	4W1B (2-2.5')	4W1C (4-4.5')	4W2A (0-2")	4W2B (2-2.5')	4W2C (4-4.5')
Pesticides 8081 - mg/kg																																				
alpha-BHC	0.11	0.02	0.097	0.48	3.4	6.8	0.04 (g)	0.02	0.00014 UJ	0.00015 UJ	0.00015 UJ	0.00034 UJ	0.00014 UJ	0.00014 UJ	0.00015 UJ	0.00029 UJ	0.00015 UJ	0.00014 UJ	0.00016 UJ	0.00015 UJ	0.00015 UJ	0.00023 UJ	0.00015 UJ	0.00015 UJ	0.00015 UJ	0.00015 UJ	0.00015 UJ	0.00016 UJ	0.00015 UJ	0.00015 UJ	0.00015 UJ	0.00014 UJ	0.00015 UJ	0.00015 UJ	0.00014 UJ	0.00015 UJ	0.00015 UJ
beta-BHC	0.2	0.036	0.072	0.36	3	14	0.6	0.09	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00044 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00038 UJ	0.00019 UJ	0.00019 UJ	0.0002 UJ	0.00019 UJ	0.00019 UJ	0.0003 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.0002 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00018 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ
delta-BHC	0.3	0.04	100 (a)	100 (a)	500 (h)	1,000 (i)	0.04 (g)	0.25	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00044 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00038 UJ	0.00019 UJ	0.00019 UJ	0.0002 UJ	0.00019 UJ	0.00019 UJ	0.0003 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.0002 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00018 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ
gamma-BHC	0.06	0.1	0.28	1.3	9.2	23	6	0.1	0.00016 UJ	0.00017 UJ	0.00017 UJ	0.00039 UJ	0.00016 UJ	0.00016 UJ	0.00017 UJ	0.00034 UJ	0.00017 UJ	0.00016 UJ	0.00018 UJ	0.00017 UJ	0.00017 UJ	0.00027 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00018 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00016 UJ	0.00017 UJ	0.00017 UJ	0.00016 UJ	0.00017 UJ	0.00017 UJ
Heptachlor	0.1	0.042	0.42	2.1	15	29	0.14	0.38	0.00015 UJ	0.00016 UJ	0.00016 UJ	0.00037 UJ	0.00015 UJ	0.00015 UJ	0.00016 UJ	0.00032 UJ	0.00016 UJ	0.00015 UJ	0.00017 UJ	0.00016 UJ	0.00016 UJ	0.00025 UJ	0.00016 UJ	0.00016 UJ	0.00016 UJ	0.00016 UJ	0.00016 UJ	0.00017 UJ	0.00016 UJ	0.00016 UJ	0.00016 UJ	0.00015 UJ	0.00016 UJ	0.00016 UJ	0.00015 UJ	0.00016 UJ	0.00016 UJ
Aldrin	0.041	0.005 (c)	0.019	0.097	0.68	1.4	0.14	0.19	0.00016 UJ	0.00017 UJ	0.00017 UJ	0.00039 UJ	0.00016 UJ	0.00016 UJ	0.00017 UJ	0.00034 UJ	0.00017 UJ	0.00016 UJ	0.00018 UJ	0.00017 UJ	0.00017 UJ	0.00027 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00018 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00016 UJ	0.00017 UJ	0.00017 UJ	0.00016 UJ	0.00017 UJ	0.00017 UJ
Heptachlor epoxide	0.02	NS	NS	NS	NS	NS	NS	NS	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.00046 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0004 UJ	0.0002 UJ	0.0002 UJ	0.00022 UJ	0.0002 UJ	0.0002 UJ	0.00032 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.00022 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.00019 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ
Endosulfan I	0.9	2.4	4.8 (d)	24 (d)	200 (d)	920 (d)	NS	102	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.00046 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0004 UJ	0.0002 UJ	0.0002 UJ	0.00022 UJ	0.0002 UJ	0.0002 UJ	0.00032 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.00022 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.00019 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ
Dieldrin	0.044	0.005 (c)	0.039	0.2	1.4	2.8	0.006	0.1	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.00046 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0004 UJ	0.0002 UJ	0.0002 UJ	0.00022 UJ	0.0002 UJ	0.0002 UJ	0.00032 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.00022 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.00019 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ
4,4-DDE	2	0.0033 (b)	1.8	8.9	62	120	0.0033 (e)	17	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.00046 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0004 UJ	0.0002 UJ	0.0002 UJ	0.00022 UJ	0.0002 UJ	0.0002 UJ	0.00032 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.00022 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.00019 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ
Endrin	0.1	0.014	2.2	11	89	410	0.014	0.06	0.00059 UJ	0.00059 UJ	0.00059 UJ	0.0014 UJ	0.00059 UJ	0.00059 UJ	0.00061 UJ	0.0012 UJ	0.0006 UJ	0.00059 UJ	0.00065 UJ	0.00061 UJ	0.00059 UJ	0.0009 UJ	0.00061 UJ	0.00059 UJ	0.00061 UJ	0.0006 UJ	0.00061 UJ	0.00065 UJ	0.0006 UJ	0.00059 UJ	0.0006 UJ	0.00057 UJ	0.0006 UJ	0.0006 UJ	0.00059 UJ	0.0006 UJ	0.0006 UJ
Endosulfan II	0.9	2.4	4.8 (d)	24 (d)	200 (d)	920 (d)	NS	102	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.00049 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.00042 UJ	0.00021 UJ	0.00021 UJ	0.00023 UJ	0.00021 UJ	0.00021 UJ	0.00033 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.00023 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.0002 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ
4,4-DDD	3	0.0033 (b)	2.6	13	92	180	0.0033 (e)	14	0.00028 UJ	0.00028 UJ	0.00028 UJ	0.00066 UJ	0.00028 UJ	0.00028 UJ	0.00029 JU	0.00057 UJ	0.00028 UJ	0.00028 UJ	0.00031 UJ	0.00029 UJ	0.00028 UJ	0.00045 UJ	0.00029 UJ	0.00028 UJ	0.00029 UJ	0.00028 UJ	0.00029 UJ	0.00031 UJ	0.00028 UJ	0.00028 UJ	0.00029 UJ	0.00027 UJ	0.00028 UJ	0.00028 UJ	0.00028 UJ	0.00028 UJ	0.00028 UJ
Endosulfan Sulfate	1	2.4	4.8 (d)	24 (d)	200 (d)	920 (d)	NS	1,000 (i)	0.00024 UJ	0.00024 UJ	0.00024 UJ	0.00056 UJ	0.00024 UJ	0.00024 UJ	0.00024 UJ	0.00048 UJ	0.00024 UJ	0.00024 UJ	0.00026 UJ	0.00025 UJ	0.00024 UJ	0.00038 UJ	0.00025 UJ	0.00024 UJ	0.00024 UJ	0.00024 UJ	0.00025 UJ	0.00026 UJ	0.00024 UJ	0.00024 UJ	0.00024 UJ	0.00023 UJ	0.00024 UJ	0.00024 UJ	0.00024 UJ	0.00024 UJ	0.00024 UJ
4,4-DDT	2	0.0033 (b)	1.7	7.9	47	94	0.0033 (e)	136	0.00016 UJ	0.00017 UJ	0.00017 UJ	0.00039 UJ	0.00016 UJ	0.00016 UJ	0.00017 UJ	0.00034 UJ	0.00017 UJ	0.00016 UJ	0.00018 UJ	0.00017 UJ	0.00017 UJ	0.00027 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00018 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00016 UJ	0.00017 UJ	0.00017 UJ	0.00016 UJ	0.00017 UJ	0.00017 UJ
Methoxychlor	10	NS	NS	NS	NS	NS	NS	NS	0.00022 UJ	0.00022 UJ	0.00022 UJ	0.00051 UJ	0.00022 UJ	0.00022 UJ	0.00022 UJ	0.00044 UJ	0.00022 UJ	0.00022 UJ	0.00024 UJ	0.00023 UJ	0.00022 UJ	0.00035 UJ	0.00023 UJ	0.00022 UJ	0.00022 UJ	0.00022 UJ	0.00023 UJ	0.00024 UJ	0.00022 UJ	0.00022 UJ	0.00022 UJ	0.00021 UJ	0.00022 UJ	0.00022 UJ	0.00022 UJ	0.00022 UJ	0.00022 UJ
Endrin ketone	NS	NS	NS	NS	NS	NS	NS	NS	0.00048 UJ	0.00049 UJ	0.00049 UJ	0.0011 JU	0.00048 UJ	0.00048 UJ	0.0005 UJ	0.00099 UJ	0.00049 UJ	0.00048 UJ	0.00053 UJ	0.0005 UJ	0.00049 UJ	0.00078 UJ	0.0005 UJ	0.00049 UJ	0.0005 UJ	0.00049 UJ	0.0005 UJ	0.00053 UJ	0.00049 UJ	0.00049 UJ	0.0005 UJ	0.00047 UJ	0.00049 UJ	0.00049 UJ	0.00048 UJ	0.00049 UJ	0.00049 UJ
Endrin aldehyde	NS	NS	NS	NS	NS	NS	NS	NS	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.00049 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.00042 UJ	0.00021 UJ	0.00021 UJ	0.00023 UJ	0.00021 UJ	0.00021 UJ	0.00033 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.00023 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.0002 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ
alpha-Chlordane	0.54	0.094	0.91	4.2	24	47	1.3	2.9	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.00046 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0004 UJ	0.0002 UJ	0.0002 UJ	0.00022 UJ	0.0002 UJ	0.0002 UJ	0.00032 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.00022 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.00019 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ
gamma-Chlordane	NS	NS	NS	NS	NS	NS	NS	NS	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00044 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00038 UJ	0.00019 UJ	0.00019 UJ	0.0002 UJ	0.00019 UJ	0.00019 UJ	0.0003 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.0002 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00018 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ
Toxaphene	NS	NS	NS	NS	NS	NS	NS	NS	0.0037 UJ	0.0037 UJ	0.0037 UJ	0.0087 UJ	0.0037 UJ	0.0037 UJ	0.0038 UJ	0.0075 UJ	0.0038 UJ	0.0037 UJ	0.0041 UJ	0.0038 UJ	0.0037 UJ	0.006 UJ	0.0038 UJ	0.0037 UJ	0.0038 UJ	0.0038 UJ	0.0038 UJ	0.0041 UJ	0.0038 UJ	0.0037 UJ	0.0038 UJ	0.0036 UJ	0.0038 UJ	0.0038 UJ	0.0037 UJ	0.0038 UJ	0.0038 UJ
PCBs 8082 - mg/kg																																				
Aroclor-1016	1*	0.1**	1	1	1	25	1	3.2	0.0039 UJ	0.0039 UJ	0.0039 UJ	0.23 UJ	0.0038 UJ	0.0038 UJ	0.004 UJ	0.2 UJ	0.0039 UJ	0.0038 UJ	0.0042 UJ	0.004 UJ	0.0039 UJ	0.031 UJ	0.004 UJ	0.0039 UJ	0.004 UJ	0.0039 UJ	0.004 UJ	0.0042 UJ	0.0039 UJ	0.0039 UJ	0.004 UJ	0.0037 UJ	0.0039 UJ	0.0039 UJ	0.0038 UJ	0.0039 UJ
Aroclor-1221	1*	0.1**	1	1	1	25	1	3.2	0.0047 UJ	0.0047 UJ	0.0047 UJ	0.28 UJ	0.0047 UJ	0.0047 UJ	0.0049 UJ	0.24 UJ	0.0048 UJ	0.0047 UJ	0.0052 UJ	0.0049 UJ	0.0047 UJ	0.038 UJ	0.0049 UJ	0.0047 UJ	0.0049 UJ	0.0048 UJ	0.0049 UJ	0.0052 UJ	0.0048 UJ	0.0048 UJ	0.0048 UJ	0.0046 UJ	0.0048 UJ	0.0048 UJ	0.0047 UJ	0.0048 UJ	0.0048 UJ
Aroclor-1232	1*	0.1**	1	1	1	25	1	3.2	0.0049 UJ	0.005 UJ	0.005 UJ	0.29 UJ	0.0049 UJ	0.0049 UJ	0.0051 UJ	0.25 UJ	0.005 UJ	0.0049 UJ	0.0054 UJ	0.0051 UJ	0.005 UJ	0.04 UJ	0.0051 UJ	0.005 UJ	0.0051 UJ	0.005 UJ	0.0051 UJ	0.0054 UJ	0.005 UJ	0.005 UJ	0.0051 UJ	0.0048 UJ	0.005 UJ	0.005 UJ	0.0049 UJ	0.005 UJ	0.005 UJ
Aroclor-1242	1*	0.1**	1	1	1	25	1	3.2	0.0022 UJ	0.0022 UJ	0.0022 UJ	0.13 UJ	0.0022 UJ	0.0022 UJ	0.0022 UJ	0.11 UJ	0.0022 UJ	0.0022 UJ	0.0024 UJ	0.0023 UJ	0.0022 UJ	0.017 UJ	0.0023 UJ	0.0022 UJ	0.0022 UJ	0.0022 UJ	0.0023 UJ	0.0024 UJ	0.0022 UJ	0.0022 UJ	0.0022 UJ	0.0021 UJ	0.0022 UJ	0.0022 UJ	0.0022 UJ	0.0022 UJ	0.0022 UJ
Aroclor-1248	1*	0.1**	1	1	1	25	1	3.2	0.0047 UJ	0.0048 UJ	0.0048 UJ	0.28 UJ	0.0047 UJ	0.0047 UJ	0.0049 UJ	0.24 UJ	0.0048 UJ	0.0047 UJ	0.0052 UJ	0.0049 UJ	0.0048 UJ	0.038 UJ	0.0049 UJ	0.0048 UJ	0.0049 UJ	0.0048 UJ	0.005 UJ	0.0052 UJ	0.0048 UJ	0.0048 JU	0.0049 UJ	0.0046 UJ	0.0048 UJ	0.0048 UJ	0.0047 UJ	0.0048 UJ	0.0048 UJ
Aroclor-1254	1*	0.1**	1	1	1	25	1	3.2	0.069	0.0049 UJ	0.0049 UJ	**9.8 D**	0.0048 UJ	0.085	0.036	**9.1 D**	0.0049 UJ	0.0048 UJ	0.26 P	0.005 UJ	0.005 UJ	**1.16 D**	0.08	0.028	0.14 P	0.0049 UJ	0.005 UJ	0.19	0.018 J	0.0049 UJ	0.037 P	0.0047 UJ	0.0049 UJ	0.062	0.021 J	0.0049 UJ
Aroclor-1260	1*	0.1**	1	1	1	25	1	3.2	0.0038 UJ	0.0039 UJ	0.0039 UJ	0.23 UJ	0.0038 UJ	0.0038 UJ	0.004 UJ	0.2 UJ	0.0039 UJ	0.0038 UJ	0.0042 UJ	0.004 UJ	0.0039 UJ	0.031 UJ	0.004 UJ	0.0039 UJ	0.004 UJ	0.0039 UJ	0.004 UJ	0.0042 UJ	0.0039 UJ	0.0039 UJ	0.004 UJ	0.0037 UJ	0.0039 UJ	0.0039 UJ	0.0038 UJ	0.0039 UJ	

Notes:
All concentrations are in mg/kg
(1) NYSDEC Recommended Soil Cleanup Objectives (RSCO), Technical and Administrative Guidance Memorandum (TAGM) #4046, 12/00
(2) NYSDEC 6 NYCRR Environmental Remediation Programs Part 375 Unrestricted Use Soil Cleanup Objectives Table 375-6.8a 12/06
(3) NYSDEC 6 NYCRR Environmental Remediation Programs Part Restriced Use of Soil Cleanup Objective Table 375-6.8b 12/06
SCO - Soil cleanup objective
CRQL - Contract required quantitation limit
TSD - Technical Support Document
(a) The SCOs for residential, restricted-residential and ecological resources use were capped at a maximum value of 100 ppm. See TSD section 9.3.
(b) For constituents where the calculated SCO was lower than the CRQL the CRQL is used as the Track 1 SCO value.
(c) For constituents where the calculated SCO was lower than the rual soil background concentration, as determined by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 CO value to this use of the site.
(d) SCO is the sum of endosilfan I, endosulfan II and endosulfan sulfate.
(e) For constituents where the calculated SCO was lower than the CRQL, the CRQL is used as the SCO value
(f) Protection of ecological resources SCOs were not developed for contaminants identified in Table 375-6.8b with "NS". Where such contaminants appear in Table 375-6.8a, the applicant may be required by the Department to calculate a protection of ecological resources SCO according to the TSD.
(g) This SCOs is derived from data on mixed isomer of BHC
(h) The SCOs for the commercial use were capped at a maximum value of 500 ppm. See TSD section 9.3.
(i) The SCOs for the industrial use and the protection of groundwater were capped at a maximum value of 1000 ppm. See TSD section 9.3.
*-NYSDEC recommended soil cleanup objectives for PCBs are 1.0 mg/kg for surface soils and 10 mg/kg for subsurface soils.
** - NYSDEC 6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives for total PCBs is 0.1 mg/kg
U - The compound was not detected at the indicated concentration.
J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater. The concentration given is an approximate value.
P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.
D - The reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.
Bold/highlighted - indicated exceedance of the NYSDEC Cleanup Objective for residential use

TABLE 7
SOIL ANALYTICAL RESULTS FOR S-5
PESTICIDES / PCBS
EPA METHOD 8081/8082

Former Canine Kennel - Westhampton Beach, New York

Compound	NYSDEC Recommended Soil Cleanup Objective (1)	Unrestricted Use (2)	Residential (3)	Restricted Residential (3)	Commercial (3)	Industrial (3)	Protection of Ecological Resources (3)	Protection of Groundwater (3)	5A (0-2")	FD-05 (5A)	5B (2-2.5')	5N1A (0-2")	5N1B (2-2.5')	5E1A (0-2")	5E1B (2-2.5')	5E2A (0-2")	5S1A (0-2")	5S1B (2-2.5')	5S1C (4-4.5')	5S2A (0-2")	5S2B (2-2.5')	5W1A (0-2")	5W1B (2-2.5')	5W1C (4-4.5')
Pesticides 8081 - mg/kg																								
alpha-BHC	0.11	0.02	0.097	0.48	3.4	6.8	0.04 (g)	0.02	0.00015 UJ	0.00015 UJ	0.00015 UJ	0.00015 UJ	0.00015 UJ	0.00016 UJ	0.00015 UJ	0.00029 UJ	0.00016 UJ	0.00016 UJ	NR	0.00016 UJ	NR	0.00015 UJ	0.00015 UJ	NR
beta-BHC	0.2	0.036	0.072	0.36	3	14	0.6	0.09	0.00019 UJ	0.0002 UJ	0.0002 UJ	0.00019 UJ	0.00019 UJ	0.0002 UJ	0.00019 UJ	0.00037 UJ	0.0002 UJ	0.00021 UJ	NR	0.0002 UJ	NR	0.00019 UJ	0.00019 UJ	NR
delta-BHC	0.3	0.04	100 (a)	100 (a)	500 (h)	1,000 (i)	0.04 (g)	0.25	0.00019 UJ	0.0002 UJ	0.0002 UJ	0.00019 UJ	0.00019 UJ	0.0002 UJ	0.00019 UJ	0.00037 UJ	0.0002 UJ	0.00021 UJ	NR	0.0002 UJ	NR	0.00019 UJ	0.00019 UJ	NR
gamma-BHC	0.06	0.1	0.28	1.3	9.2	23	6	0.1	0.00017 UJ	0.00018 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00018 UJ	0.00017 UJ	0.00033 UJ	0.00018 UJ	0.00019 UJ	NR	0.00018 UJ	NR	0.00017 UJ	0.00017 UJ	NR
Heptachlor	0.1	0.042	0.42	2.1	15	29	0.14	0.38	0.00016 UJ	0.00016 UJ	0.00016 UJ	0.00016 UJ	0.00016 UJ	0.00017 UJ	0.00016 UJ	0.00031 UJ	0.00017 UJ	0.00018 UJ	NR	0.00017 UJ	NR	0.00016 UJ	0.00016 UJ	NR
Aldrin	0.041	0.005 (c)	0.019	0.097	0.68	1.4	0.14	0.19	0.00017 UJ	0.00018 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00018 UJ	0.00017 UJ	0.00033 UJ	0.00018 UJ	0.00019 UJ	NR	0.00018 UJ	NR	0.00017 UJ	0.00017 UJ	NR
Heptachlor epoxide	0.02	NS	NS	NS	NS	NS	NS	NS	0.0002 UJ	0.00021 UJ	0.00021 UJ	0.0002 UJ	0.0002 UJ	0.00021 UJ	0.0002 UJ	0.0004 UJ	0.00021 UJ	0.00022 UJ	NR	0.00022 UJ	NR	0.0002 UJ	0.0002 UJ	NR
Endosulfan I	0.9	2.4	4.8 (d)	24 (d)	200 (d)	920 (d)	NS	102	0.0002 UJ	0.00021 UJ	0.00021 UJ	0.0002 UJ	0.0002 UJ	0.00021 UJ	0.0002 UJ	0.0004 UJ	0.00021 UJ	0.00022 UJ	NR	0.00022 UJ	NR	0.0002 UJ	0.0002 UJ	NR
Dieldrin	0.044	0.005 (c)	0.039	0.2	1.4	2.8	0.006	0.1	0.0002 UJ	0.00021 UJ	0.00021 UJ	0.0002 UJ	0.0002 UJ	0.00021 UJ	0.0002 UJ	0.0004 UJ	0.00021 UJ	0.00022 UJ	NR	0.00022 UJ	NR	0.0002 UJ	0.0002 UJ	NR
4,4-DDE	2	0.0033 (b)	1.8	8.9	62	120	0.0033 (e)	17	0.0002 UJ	0.00021 UJ	0.00021 UJ	0.0002 UJ	0.0002 UJ	0.00021 UJ	0.0002 UJ	0.0004 UJ	0.00021 UJ	0.00022 UJ	NR	0.00022 UJ	NR	0.0002 UJ	0.0002 UJ	NR
Endrin	0.1	0.014	2.2	11	89	410	0.014	0.06	0.00061 UJ	0.00063 UJ	0.00062 UJ	0.0006 UJ	0.00059 UJ	0.00064 UJ	0.00059 UJ	0.0012 UJ	0.00064 UJ	0.00067 UJ	NR	0.00065 UJ	NR	0.0006 UJ	0.00059 UJ	NR
Endosulfan II	0.9	2.4	4.8 (d)	24 (d)	200 (d)	920 (d)	NS	102	0.00021 UJ	0.00022 UJ	0.00022 UJ	0.00021 UJ	0.00021 UJ	0.00022 UJ	0.00021 UJ	0.00042 UJ	0.00022 UJ	0.00023 UJ	NR	0.00023 UJ	NR	0.00021 UJ	0.00021 UJ	NR
4,4-DDD	3	0.0033 (b)	2.6	13	92	180	0.0033 (e)	14	0.00029 UJ	0.0003 UJ	0.00029 UJ	0.00029 UJ	0.00028 UJ	0.0003 UJ	0.00028 UJ	0.00056 UJ	0.0003 UJ	0.00032 UJ	NR	0.00031 UJ	NR	0.00028 UJ	0.00028 UJ	NR
Endosulfan Sulfate	1	2.4	4.8 (d)	24 (d)	200 (d)	920 (d)	NS	1,000 (i)	0.00025 UJ	0.00025 UJ	0.00025 UJ	0.00024 UJ	0.00024 UJ	0.00026 UJ	0.00024 UJ	0.00048 UJ	0.00026 UJ	0.00027 UJ	NR	0.00026 UJ	NR	0.00024 UJ	0.00024 UJ	NR
4,4-DDT	2	0.0033 (b)	1.7	7.9	47	94	0.0033 (e)	136	0.00017 UJ	0.00018 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00018 UJ	0.00017 UJ	0.00033 UJ	0.00018 UJ	0.00019 UJ	NR	0.00018 UJ	NR	0.00017 UJ	0.00017 UJ	NR
Methoxychlor	10	NS	NS	NS	NS	NS	NS	NS	0.00023 UJ	0.00023 UJ	0.00023 UJ	0.00022 UJ	0.00022 UJ	0.00024 UJ	0.00022 UJ	0.00044 UJ	0.00024 UJ	0.00025 UJ	NR	0.00024 UJ	NR	0.00022 UJ	0.00022 UJ	NR
Endrin ketone	NS	NS	NS	NS	NS	NS	NS	NS	0.0005 UJ	0.00052 UJ	0.00051 UJ	0.0005 UJ	0.00049 UJ	0.00053 UJ	0.00049 UJ	0.00098 UJ	0.00053 UJ	0.00055 UJ	NR	0.00053 UJ	NR	0.00049 UJ	0.00049 UJ	NR
Endrin aldehyde	NS	NS	NS	NS	NS	NS	NS	NS	0.00021 UJ	0.00022 UJ	0.00022 UJ	0.00021 UJ	0.00021 UJ	0.00022 UJ	0.00021 UJ	0.00042 UJ	0.00022 UJ	0.00023 UJ	NR	0.00023 UJ	NR	0.00021 UJ	0.00021 UJ	NR
alpha-Chlordane	0.54	0.094	0.91	4.2	24	47	1.3	2.9	0.0002 UJ	0.00021 UJ	0.00021 UJ	0.0002 UJ	0.0002 UJ	0.00021 UJ	0.0002 UJ	0.0004 UJ	0.00021 UJ	0.00022 UJ	NR	0.00022 UJ	NR	0.0002 UJ	0.0002 UJ	NR
gamma-Chlordane	NS	NS	NS	NS	NS	NS	NS	NS	0.00019 UJ	0.0002 UJ	0.0002 UJ	0.00019 UJ	0.00019 UJ	0.0002 UJ	0.00019 UJ	0.00037 UJ	0.0002 UJ	0.00021 UJ	NR	0.0002 UJ	NR	0.00019 UJ	0.00019 UJ	NR
Toxaphene	NS	NS	NS	NS	NS	NS	NS	NS	0.0038 UJ	0.0039 UJ	0.0039 UJ	0.0038 UJ	0.0037 UJ	0.004 UJ	0.0037 UJ	0.0074 UJ	0.004 UJ	0.0042 UJ	NR	0.0041 UJ	NR	0.0038 UJ	0.00037 UJ	NR
PCBs 8082 - mg/kg																								
Aroclor-1016	1*	0.1**	1	1	1	25	1	3.2	0.004 UJ	0.0041 UJ	2 UJ	0.004 UJ	75 UJ	0.0042 UJ	0.019 UJ	0.0039 UJ	0.84 UJ	0.088 UJ	0.09 UJ	0.021 UJ	0.0039 UJ	0.0039 UJ	0.019 UJ	40 UJ
Aroclor-1221	1*	0.1**	1	1	1	25	1	3.2	0.0049 UJ	0.0050 UJ	2.5 UJ	0.0048 UJ	91 UJ	0.0051 UJ	0.024 UJ	0.0048 UJ	1 UJ	0.11 UJ	0.11 UJ	0.026 UJ	0.0048 UJ	0.0048 UJ	0.024 UJ	49 UJ
Aroclor-1232	1*	0.1**	1	1	1	25	1	3.2	0.0051 UJ	0.0053 UJ	2.6 UJ	0.0051 UJ	96 UJ	0.0054 UJ	0.025 UJ	0.005 UJ	1.1 UJ	0.11 UJ	0.12 UJ	0.027 UJ	0.005 UJ	0.005 UJ	0.025 UJ	51 UJ
Aroclor-1242	1*	0.1**	1	1	1	25	1	3.2	0.0023 UJ	0.0023 UJ	1.1 UJ	0.0022 UJ	42 UJ	0.0024 UJ	0.011 UJ	0.0022 UJ	0.47 UJ	0.049 UJ	0.05 UJ	0.012 UJ	0.0022 UJ	0.0022 UJ	0.011 UJ	23 UJ
Aroclor-1248	1*	0.1**	1	1	1	25	1	3.2	0.0049 UJ	0.0051 UJ	2.5 UJ	0.0049 UJ	92 UJ	0.0052 UJ	0.024 UJ	0.0048 UJ	1 UJ	0.11 UJ	0.11 UJ	0.026 UJ	0.0048 UJ	0.0048 UJ	0.024 UJ	49 UJ
Aroclor-1254	1*	0.1**	1	1	1	25	1	3.2	**5**	**3.5**	**350 D**	**39**	**4,200**	**1.9**	0.93 D	0.19	**53**	**4.2 DP**	**4.1 D**	**1.2 DP**	0.21	**1.2**	**1.1 D**	**2,100 D**
Aroclor-1260	1*	0.1**	1	1	1	25	1	3.2	0.004 UJ	0.0041 UJ	2 UJ	0.004 UJ	75 UJ	0.0042 UJ	0.19 UJ	0.0039 UJ	0.84 UJ	0.088 UJ	0.09 UJ	0.021 UJ	0.0039 UJ	0.0039 UJ	0.019 UJ	40 UJ

Notes:
All concentrations are in mg/kg
(1) NYSDEC Recommended Soil Cleanup Objectives (RSCO), Technical and Administrative Guidance Memorandum (TAGM) #4046, 12/00
(2) NYSDEC 6 NYCRR Environmental Remediation Programs Part 375 Unrestricted Use Soil Cleanup Objectives Table 375-6.8a 12/06
(3) NYSDEC 6 NYCRR Environmental Remediation Programs Part Restriced Use of Soil Cleanup Objective Table 375-6.8b 12/06
SCO - Soil cleanup objective
CRQL - Contract required quantitation limit
TSD - Technical Support Document
(a) The SCOs for residential, restricted-residential and ecological resources use were capped at a maximum value of 100 ppm. See TSD section 9.3.
(b) For constituents where the calculated SCO was lower than the CRQL the CRQL is used as the Track 1 SCO value.
(c) For constituents where the calculated SCO was lower than the rual soil background concentration, as determined by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 CO value fo this use of the site.
(d) SCO is the sum of endosilfan I, endosulfan II and endosulfan sulfate.
(e) For constituents where the calculated SCO was lower than the CRQL, the CRQL is used as the SCO value
(f) Protection of ecological resources SCOs were not developed for contaminants identified in Table 375-6.8b with "NS". Where such contaminants appear in Table 375-6.8a, the applicant may be required by the Department to calculate a protection of ecological resources SCO according to the TSD.
(g) This SCOs is derived from data on mixed isomer of BHC
(h) The SCOs for the commercial use were capped at a maximum value of 500 ppm. See TSD section 9.3.
(i) The SCOs for the industrial use and the protection of groundwater were capped at a maximum value of 1000 ppm. See TSD section 9.3.
*-NYSDEC recommended soil cleanup objectives for PCBs are 1.0 mg/kg for surface soils and 10 mg/kg for subsurface soils.
** - NYSDEC 6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives for total PCBs is 0.1 mg/kg
NR - Not Run
U - The compound was not detected at the indicated concentration.
D - The reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.
Bold/highlighted - indicated exceedance of the NYSDEC Cleanup Objective for residential use

TABLE 8
SOIL ANALYTICAL RESULTS FOR S-6 through S-10
PESTICIDES / PCBS
EPA METHOD 8081/8082

Former Canine Kennel - Westhampton Beach, New York

Compound	NYSDEC Recommended Soil Cleanup Objective (1)	Unrestricted Use (2)	Residential (3)	Restricted Residential (3)	Commercial (3)	Industrial (3)	Protection of Ecological Resources (3)	Protection of Groundwater (3)	6A (0-2")	6B (2-2.5')	6C (4-4.5')	7A (0-2")	7B (2-2.5')	7C (4-4.5')	FD-02 (7C)	8A (0-2")	8B (2-2.5')	8C (4-4.5')	9A (0-2")	9B (2-2.5')	9C (4-4.5')	10A (0-2")	10B (2-2.5')	10C (4-4.5')
Pesticides 8081 - mg/kg																								
alpha-BHC	0.11	0.02	0.097	0.48	3.4	6.8	0.04 (g)	0.02	0.00017 UJ	0.00015 UJ	0.00015 UJ	0.00016 UJ	0.00015 UJ	0.00015 UJ	0.00015 UJ	0.00015 UJ	0.00015 UJ	0.00015 UJ	0.00015 UJ	0.00014 UJ	0.00014 UJ	0.00015 UJ	0.00015 UJ	0.00015 UJ
beta-BHC	0.2	0.036	0.072	0.36	3	14	0.6	0.09	0.00022 UJ	0.00019 UJ	0.00019 UJ	0.0002 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.0002 UJ	0.00019 UJ	0.00018 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ
delta-BHC	0.3	0.04	100 (a)	100 (a)	500 (h)	1,000 (i)	0.04 (g)	0.25	0.00022 UJ	0.00019 UJ	0.00019 UJ	0.0002 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.0002 UJ	0.00019 UJ	0.00018 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ
gamma-BHC	0.06	0.1	0.28	1.3	9.2	23	6	0.1	0.0002 UJ	0.00017 UJ	0.00017 UJ	0.00018 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00018 UJ	0.00016 UJ	0.00016 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ
Heptachlor	0.1	0.042	0.42	2.1	15	29	0.14	0.38	0.00018 UJ	0.00016 UJ	0.00016 UJ	0.00017 UJ	0.00016 UJ	0.00016 UJ	0.00016 UJ	0.00016 UJ	0.00016 UJ	0.00016 UJ	0.00016 UJ	0.00015 UJ	0.00015 UJ	0.00016 UJ	0.00016 UJ	0.00016 UJ
Aldrin	0.041	0.005 (c)	0.019	0.097	0.68	1.4	0.14	0.19	0.0002 UJ	0.00017 UJ	0.00017 UJ	0.00018 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00018 UJ	0.00016 UJ	0.00016 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ
Heptachlor epoxide	0.02	NS	NS	NS	NS	NS	NS	NS	0.00023 UJ	0.0002 UJ	0.0002 UJ	0.00022 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.00021 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ
Endosulfan I	0.9	2.4	4.8 (d)	24 (d)	200 (d)	920 (d)	NS	102	0.00023 UJ	0.0002 UJ	0.0002 UJ	0.00022 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.00021 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ
Dieldrin	0.044	0.005 (c)	0.039	0.2	1.4	2.8	0.006	0.1	0.00023 UJ	0.0002 UJ	0.0002 UJ	0.00022 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.00021 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ
4,4-DDE	2	0.0033 (b)	1.8	8.9	62	120	0.0033 (e)	17	0.00023 UJ	0.0002 UJ	0.0002 UJ	0.00022 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.00021 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ
Endrin	0.1	0.014	2.2	11	89	410	0.014	0.06	0.0007 UJ	0.00059 UJ	0.00059 UJ	0.00065 UJ	0.00059 UJ	0.00059 UJ	0.00059 UJ	0.0006 UJ	0.0006 UJ	0.0006 UJ	0.00063 UJ	0.00059 UJ	0.00059 UJ	0.00059 UJ	0.0006 UJ	0.00059 UJ
Endosulfan II	0.9	2.4	4.8 (d)	24 (d)	200 (d)	920 (d)	NS	102	0.00025 UJ	0.00021 UJ	0.00021 UJ	0.00023 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.00022 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ
4,4-DDD	3	0.0033 (b)	2.6	13	92	180	0.0033 (e)	14	0.00033 UJ	0.00028 UJ	0.00028 UJ	0.00031 UJ	0.00028 UJ	0.00028 UJ	0.00028 UJ	0.00028 UJ	0.00028 UJ	0.00028 UJ	0.0003 UJ	0.00028 UJ	0.00028 UJ	0.00028 UJ	0.00029 UJ	0.00028 UJ
Endosulfan Sulfate	1	2.4	4.8 (d)	24 (d)	200 (d)	920 (d)	NS	1,000 (i)	0.00028 UJ	0.00024 UJ	0.00024 UJ	0.00026 UJ	0.00024 UJ	0.00024 UJ	0.00024 UJ	0.00024 UJ	0.00024 UJ	0.00024 UJ	0.00025 UJ	0.00024 UJ	0.00024 UJ	0.00024 UJ	0.00024 UJ	0.00024 UJ
4,4-DDT	2	0.0033 (b)	1.7	7.9	47	94	0.0033 (e)	136	0.0002 UJ	0.00017 UJ	0.00017 UJ	0.00018 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ	0.00018 UJ	0.00016 UJ	0.00016 UJ	0.00017 UJ	0.00017 UJ	0.00017 UJ
Methoxychlor	10	NS	NS	NS	NS	NS	NS	NS	0.00026 UJ	0.00022 UJ	0.00022 UJ	0.00024 UJ	0.00022 UJ	0.00022 UJ	0.00022 UJ	0.00022 UJ	0.00022 UJ	0.00022 UJ	0.00023 UJ	0.00022 UJ	0.00022 UJ	0.00022 UJ	0.00022 UJ	0.00022 UJ
Endrin ketone	NS	NS	NS	NS	NS	NS	NS	NS	0.00058 UJ	0.00049 UJ	0.00049 UJ	0.00053 UJ	0.00049 UJ	0.00049 UJ	0.00049 UJ	0.00049 UJ	0.00049 UJ	0.0005 UJ	0.00052 UJ	0.00048 UJ	0.00048 UJ	0.00049 UJ	0.0005 UJ	0.00049 UJ
Endrin aldehyde	NS	NS	NS	NS	NS	NS	NS	NS	0.00025 UJ	0.00021 UJ	0.00021 UJ	0.00023 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.00022 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ	0.00021 UJ
alpha-Chlordane	0.54	0.094	0.91	4.2	24	47	1.3	2.9	0.00023 UJ	0.0002 UJ	0.0002 UJ	0.00022 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.00021 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ	0.0002 UJ
gamma-Chlordane	NS	NS	NS	NS	NS	NS	NS	NS	0.00022 UJ	0.00019 UJ	0.00019 UJ	0.0002 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ	0.0002 UJ	0.00019 UJ	0.00018 UJ	0.00019 UJ	0.00019 UJ	0.00019 UJ
Toxaphene	NS	NS	NS	NS	NS	NS	NS	NS	0.0044 UJ	0.0037 UJ	0.0037 UJ	0.0041 UJ	0.0037 UJ	0.0037 UJ	0.0037 UJ	0.0038 UJ	0.0038 UJ	0.0038 UJ	0.0039 UJ	0.0037 UJ	0.0037 UJ	0.0037 UJ	0.0038 UJ	0.0037 UJ
PCBs 8082 - mg/kg																								
Aroclor-1016	1*	0.1**	1	1	1	25	1	3.2	0.0046 UJ	0.0039 UJ	0.0039 UJ	0.0042 UJ	0.0039 UJ	0.0039 UJ	0.0039 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.0041 UJ	0.0038 UJ	0.0038 UJ	0.019 UJ	0.004 UJ	0.078 UJ
Aroclor-1221	1*	0.1**	1	1	1	25	1	3.2	0.0056 UJ	0.0048 UJ	0.0048 UJ	0.0052 UJ	0.0047 UJ	0.0048 UJ	0.0047 UJ	0.024 UJ	0.024 UJ	0.24 UJ	0.005 UJ	0.0047 UJ	0.0047 UJ	0.024 UJ	0.0048 UJ	0.095 UJ
Aroclor-1232	1*	0.1**	1	1	1	25	1	3.2	0.0059 UJ	0.005 UJ	0.005 UJ	0.0054 UJ	0.005 UJ	0.005 UJ	0.005 UJ	0.025 UJ	0.025 UJ	0.025 UJ	0.0053 UJ	0.0049 UJ	0.0049 UJ	0.025 UJ	0.0051 UJ	0.1 UJ
Aroclor-1242	1*	0.1**	1	1	1	25	1	3.2	0.0026 UJ	0.0022 UJ	0.0022 UJ	0.0024 UJ	0.002 UJ	0.0022 UJ	0.0022 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.0023 UJ	0.0022 UJ	0.0022 UJ	0.011 UJ	0.0022 UJ	0.044 UJ
Aroclor-1248	1*	0.1**	1	1	1	25	1	3.2	0.0057 UJ	0.0048 UJ	0.0048 UJ	0.0052 UJ	0.0048 UJ	0.0048 UJ	0.0048 UJ	0.024 UJ	0.024 UJ	0.024 UJ	0.0051 UJ	0.0047 UJ	0.0047 UJ	0.024 UJ	0.0049 UJ	0.096 UJ
Aroclor-1254	1*	0.1**	1	1	1	25	1	3.2	0.21	0.0049 UJ	0.0049 UJ	0.35 P	0.0049 UJ	0.12	0.0049 UJ	0.6	0.82	**15 D**	**1.2 EP**	0.0048 UJ	0.0048 UJ	**1.6 DP**	0.315	**4.9 D**
Aroclor-1260	1*	0.1**	1	1	1	25	1	3.2	0.0046 UJ	0.0039 UJ	0.0039 UJ	0.0042 UJ	0.0039 UJ	0.0039 UJ	0.0039 UJ	0.02 UJ	0.02 UJ	0.2 UJ	0.0041 UJ	0.0038 UJ	0.0038 UJ	0.019 UJ	0.004 UJ	0.078 UJ

Notes:
All concentrations are in mg/kg
(1) NYSDEC Recommended Soil Cleanup Objectives (RSCO), Technical and Administrative Guidance Memorandum (TAGM) #4046, 12/00
(2) NYSDEC 6 NYCRR Environmental Remediation Programs Part 375 Unrestricted Use Soil Cleanup Objectives Table 375-6.8a 12/06
(3) NYSDEC 6 NYCRR Environmental Remediation Programs Part Restriced Use of Soil Cleanup Objective Table 375-6.8b 12/06
SCO - Soil cleanup objective
CRQL - Contract required quantitation limit
TSD - Technical Support Document
(a) The SCOs for residential, restricted-residential and ecological resources use were capped at a maximum value of 100 ppm. See TSD section 9.3.
(b) For constituents where the calculated SCO was lower than the CRQL the CRQL is used as the Track 1 SCO value.
(c) For constituents where the calculated SCO was lower than the rual soil background concentration, as determined by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 CO value fo this use of the site.
(d) SCO is the sum of endosilfan I, endosulfan II and endosulfan sulfate.
(e) For constituents where the calculated SCO was lower than the CRQL, the CRQL is used as the SCO value
(f) Protection of ecological resources SCOs were not developed for contaminants identified in Table 375-6.8b with "NS". Where such contaminants appear in Table 375-6.8a, the applicant may be required by the Department to calculate a protection of ecological resources SCO according to the TSD.
(g) This SCOs is derived from data on mixed isomer of BHC
(h) The SCOs for the commercial use were capped at a maximum value of 500 ppm. See TSD section 9.3.
(i) The SCOs for the industrial use and the protection of groundwater were capped at a maximum value of 1000 ppm. See TSD section 9.3.
*-NYSDEC recommended soil cleanup objectives for PCBs are 1.0 mg/kg for surface soils and 10 mg/kg for subsurface soils.
** - NYSDEC 6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives for total PCBs is 0.1 mg/kg
NA - Not Sampled
NR - Not Run
NS - No standard
U - The compound was not detected at the indicated concentration.
P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.
E (Organics) - Indicates the analyte 's concentration exceeds the calibrated range of the instrument for that specific analysis.
E (Inorganics) - The reported value is estimated because of the presence of interference.
D - The reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.
Bold/highlighted - indicated exceedance of the NYSDEC Cleanup Objective for residential use

TABLE 9
SOIL ANALYTICAL RESULTS FOR TEST PIT LOCATIONS
PESTICIDES / PCBS
EPA METHOD 8081/8082

Former Canine Kennel - Westhampton Beach, New York

Compound	NYSDEC Recommended Soil Cleanup Objective (1)	Unrestricted Use (2)	Residential (3)	Restricted Residential (3)	Commercial (3)	Industrial (3)	Protection of Ecological Resources (3)	Protection of Groundwater (3)	TP-1 11.0'	TP-2 6.5'	TP-3 8.5'
Pesticides 8081 - mg/kg											
alpha-BHC	0.11	0.02	0.097	0.48	3.4	6.8	0.04 (g)	0.02	0.00014 UJ	0.00015 UJ	0.00015 UJ
beta-BHC	0.2	0.036	0.072	0.36	3	14	0.6	0.09	0.00019 UJ	0.00019 UJ	0.00019 UJ
delta-BHC	0.3	0.04	100 (a)	100 (a)	500 (h)	1,000 (i)	0.04 (g)	0.25	0.00019 UJ	0.00019 UJ	0.00019 UJ
gamma-BHC	0.06	0.1	0.28	1.3	9.2	23	6	0.1	0.00016 UJ	0.00017 UJ	0.00017 UJ
Heptachlor	0.1	0.042	0.42	2.1	15	29	0.14	0.38	0.00015 UJ	0.00016 UJ	0.00016 UJ
Aldrin	0.041	0.005 (c)	0.019	0.097	0.68	1.4	0.14	0.19	0.00016 UJ	0.00017 UJ	0.00017 UJ
Heptachlor epoxide	0.02	NS	NS	NS	NS	NS	NS	NS	0.0002 UJ	0.0002 UJ	0.0002 UJ
Endosulfan I	0.9	2.4	4.8 (d)	24 (d)	200 (d)	920 (d)	NS	102	0.0002 UJ	0.0002 UJ	0.0002 UJ
Dieldrin	0.044	0.005 (c)	0.039	0.2	1.4	2.8	0.006	0.1	0.0002 UJ	0.0002 UJ	0.0002 UJ
4,4-DDE	2	0.0033 (b)	1.8	8.9	62	120	0.0033 (e)	17	0.0002 UJ	0.0002 UJ	0.0002 UJ
Endrin	0.1	0.014	2.2	11	89	410	0.014	0.06	0.00059 UJ	0.00059 UJ	0.0006 UJ
Endosulfan II	0.9	2.4	4.8 (d)	24 (d)	200 (d)	920 (d)	NS	102	0.00021 UJ	0.00021 UJ	0.00021 UJ
4,4-DDD	3	0.0033 (b)	2.6	13	92	180	0.0033 (e)	14	0.00028 UJ	0.00028 UJ	0.00028 UJ
Endosulfan Sulfate	1	2.4	4.8 (d)	24 (d)	200 (d)	920 (d)	NS	1,000 (i)	0.00024 UJ	0.00024 UJ	0.00024 UJ
4,4-DDT	2	0.0033 (b)	1.7	7.9	47	94	0.0033 (e)	136	0.00016 UJ	0.00017 UJ	0.00017 UJ
Methoxychlor	10	NS	NS	NS	NS	NS	NS	NS	0.00022 UJ	0.00022 UJ	0.00022 UJ
Endrin ketone	NS	NS	NS	NS	NS	NS	NS	NS	0.00048 UJ	0.00049 UJ	0.00049 UJ
Endrin aldehyde	NS	NS	NS	NS	NS	NS	NS	NS	0.00021 UJ	0.00021 UJ	0.00021 UJ
alpha-Chlordane	0.54	0.094	0.91	4.2	24	47	1.3	2.9	0.0002 UJ	0.0002 UJ	0.0002 UJ
gamma-Chlordane	NS	NS	NS	NS	NS	NS	NS	NS	0.00019 UJ	0.00019 UJ	0.00019 UJ
Toxaphene	NS	NS	NS	NS	NS	NS	NS	NS	0.0037 UJ	0.0037 UJ	0.0038 UJ
PCBs 8082 - mg/kg											
Aroclor-1016	1*	0.1**	1	1	1	25	1	3.2	0.019 UJ	0.0039 UJ	0.0039 UJ
Aroclor-1221	1*	0.1**	1	1	1	25	1	3.2	0.023 UJ	0.0048 UJ	0.0048 UJ
Aroclor-1232	1*	0.1**	1	1	1	25	1	3.2	0.025 UJ	0.005 UJ	0.005 UJ
Aroclor-1242	1*	0.1**	1	1	1	25	1	3.2	0.011 UJ	0.0022 UJ	0.0022 UJ
Aroclor-1248	1*	0.1**	1	1	1	25	1	3.2	0.024 UJ	0.0048 UJ	0.0048 UJ
Aroclor-1254	1*	0.1**	1	1	1	25	1	3.2	0.58 D	**1.6 D**	**5.4 D**
Aroclor-1260	1*	0.1**	1	1	1	25	1	3.2	0.019 UJ	0.0039 UJ	0.0039 UJ

Notes:
All concentrations are in mg/kg
(1) NYSDEC Recommended Soil Cleanup Objectives (RSCO), Technical and Administrative Guidance Memorandum (TAGM) #4046, 12/00
(2) NYSDEC 6 NYCRR Environmental Remediation Programs Part 375 Unrestricted Use Soil Cleanup Objectives Table 375-6.8a 12/06
(3) NYSDEC 6 NYCRR Environmental Remediation Programs Part Restriced Use of Soil Cleanup Objective Table 375-6.8b 12/06
SCO - Soil cleanup objective
CRQL - Contract required quantitation limit
TSD - Technical Support Document
(a) The SCOs for residential, restricted-residential and ecological resources use were capped at a maximum value of 100 ppm. See TSD section 9.3.
(b) For constituents where the calculated SCO was lower than the CRQL the CRQL is used as the Track 1 SCO value.
(c) For constituents where the calculated SCO was lower than the rual soil background concentration, as determined by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 CO value fo this use of the site.
(d) SCO is the sum of endosilfan I, endosulfan II and endosulfan sulfate.
(e) For constituents where the calculated SCO was lower than the CRQL, the CRQL is used as the SCO value
(f) Protection of ecological resources SCOs were not developed for contaminants identified in Table 375-6.8b with "NS". Where such contaminants appear in Table 375-6.8a, the applicant may be required by the Department to calculate a protection of ecological resources SCO according to the TSD.
(g) This SCOs is derived from data on mixed isomer of BHC
(h) The SCOs for the commercial use were capped at a maximum value of 500 ppm. See TSD section 9.3.
(i) The SCOs for the industrial use and the protection of groundwater were capped at a maximum value of 1000 ppm. See TSD section 9.3.
*-NYSDEC recommended soil cleanup objectives for PCBs are 1.0 mg/kg for surface soils and 10 mg/kg for subsurface soils.
** - NYSDEC 6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives for total PCBs is 0.1 mg/kg
U - The compound was not detected at the indicated concentration.

TABLE 10
SOIL ANALYTICAL RESULTS FOR CAPACITOR LOCATIONS
PESTICIDES / PCBS
EPA METHOD 8081/8082

Former Canine Kennel - Westhampton Beach, New York

Compound	NYSDEC Recommended Soil Cleanup Objective (1)	Unrestricted Use (2)	Residential (3)	Restricted Residential (3)	Commercial (3)	Industrial (3)	Protection of Ecological Resources (3)	Protection of Groundwater (3)	CA1-1	CA1-2	CA1-3	CA2-1	CA2-2	CA3-1
Pesticides 8081 - mg/kg														
alpha-BHC	0.11	0.02	0.097	0.48	3.4	6.8	0.04 (g)	0.02	0.00015 UJ	0.00015 UJ	0.00016 UJ	0.00015 UJ	0.00014 UJ	0.00015 UJ
beta-BHC	0.2	0.036	0.072	0.36	3	14	0.6	0.09	0.00019 UJ	0.00019 UJ	0.00021 UJ	0.0002 UJ	0.00019 UJ	0.00019 UJ
delta-BHC	0.3	0.04	100 (a)	100 (a)	500 (h)	1,000 (i)	0.04 (g)	0.25	0.00019 UJ	0.00019 UJ	0.00021 UJ	0.0002 UJ	0.00019 UJ	0.00019 UJ
gamma-BHC	0.06	0.1	0.28	1.3	9.2	23	6	0.1	0.00017 UJ	0.00017 UJ	0.00019 UJ	0.00018 UJ	0.00016 UJ	0.00017 UJ
Heptachlor	0.1	0.042	0.42	2.1	15	29	0.14	0.38	0.00016 UJ	0.00016 UJ	0.00017 UJ	0.00016 UJ	0.00015 UJ	0.00016 UJ
Aldrin	0.041	0.005 (c)	0.019	0.097	0.68	1.4	0.14	0.19	0.00017 UJ	0.00017 UJ	0.00019 UJ	0.00018 UJ	0.00016 UJ	0.00017 UJ
Heptachlor epoxide	0.02	NS	NS	NS	NS	NS	NS	NS	0.0002 UJ	0.0002 UJ	0.00022 UJ	0.00021 UJ	0.0002 UJ	0.0002 UJ
Endosulfan I	0.9	2.4	4.8 (d)	24 (d)	200 (d)	920 (d)	NS	102	0.0002 UJ	0.0002 UJ	0.00022 UJ	0.00021 UJ	0.0002 UJ	0.0002 UJ
Dieldrin	0.044	0.005 (c)	0.039	0.2	1.4	2.8	0.006	0.1	0.0002 UJ	0.0002 UJ	0.00022 UJ	0.00021 UJ	0.0002 UJ	0.0002 UJ
4,4-DDE	2	0.0033 (b)	1.8	8.9	62	120	0.0033 (e)	17	0.0002 UJ	0.0002 UJ	0.00022 UJ	0.00021 UJ	0.0002 UJ	0.0002 UJ
Endrin	0.1	0.014	2.2	11	89	410	0.014	0.06	0.00061 UJ	0.00061 UJ	0.00066 UJ	0.00063 UJ	0.00059 UJ	0.00061 UJ
Endosulfan II	0.9	2.4	4.8 (d)	24 (d)	200 (d)	920 (d)	NS	102	0.00021 UJ	0.00021 UJ	0.00023 UJ	0.00022 UJ	0.00021 UJ	0.00021 UJ
4,4-DDD	3	0.0033 (b)	2.6	13	92	180	0.0033 (e)	14	0.00029 UJ	0.00029 UJ	0.00031 UJ	0.0003 UJ	0.00028 UJ	0.00029 UJ
Endosulfan Sulfate	1	2.4	4.8 (d)	24 (d)	200 (d)	920 (d)	NS	1,000 (i)	0.00025 UJ	0.00025 UJ	0.00027 UJ	0.00025 UJ	0.00024 UJ	0.00025 UJ
4,4-DDT	2	0.0033 (b)	1.7	7.9	47	94	0.0033 (e)	136	0.00017 UJ	0.00017 UJ	0.00019 UJ	0.00018 UJ	0.00016 UJ	0.00017 UJ
Methoxychlor	10	NS	NS	NS	NS	NS	NS	NS	0.00023 UJ	0.00022 UJ	0.00024 UJ	0.00023 UJ	0.00022 UJ	0.00023 UJ
Endrin ketone	NS	NS	NS	NS	NS	NS	NS	NS	0.0005 UJ	0.0005 UJ	0.00055 UJ	0.00052 UJ	0.00048 UJ	0.0005 UJ
Endrin aldehyde	NS	NS	NS	NS	NS	NS	NS	NS	0.00021 UJ	0.00021 UJ	0.00023 UJ	0.00022 UJ	0.00021 UJ	0.00021 UJ
alpha-Chlordane	0.54	0.094	0.91	4.2	24	47	1.3	2.9	0.0002 UJ	0.0002 UJ	0.00022 UJ	0.00021 UJ	0.0002 UJ	0.0002 UJ
gamma-Chlordane	NS	NS	NS	NS	NS	NS	NS	NS	0.00019 UJ	0.00019 UJ	0.00021 UJ	0.0002 UJ	0.00019 UJ	0.00019 UJ
Toxaphene	NS	NS	NS	NS	NS	NS	NS	NS	0.0038 UJ	0.0038 UJ	0.0042 UJ	0.0039 UJ	0.0037 UJ	0.0038 UJ
PCBs 8082 - mg/kg														
Aroclor-1016	1*	0.1**	1	1	1	25	1	3.2	1,600 UJ	0.2 UJ	4.3 UJ	820 UJ	0.77 UJ	20 UJ
Aroclor-1221	1*	0.1**	1	1	1	25	1	3.2	2,000 UJ	0.24 UJ	5.3 UJ	1,000 UJ	0.94 UJ	25 UJ
Aroclor-1232	1*	0.1**	1	1	1	25	1	3.2	2,100 UJ	0.26 UJ	5.6 UJ	1,100 UJ	0.99 UJ	26 UJ
Aroclor-1242	1*	0.1**	1	1	1	25	1	3.2	9,000 UJ	0.11 UJ	2.4 UJ	460 UJ	0.43 UJ	11 UJ
Aroclor-1248	1*	0.1**	1	1	1	25	1	3.2	2,000 UJ	0.25 UJ	5.3 UJ	1,000 UJ	0.95 UJ	25 UJ
Aroclor-1254	1*	0.1**	1	1	1	25	1	3.2	**86,000 D**	**220 E**	**110**	**45,000 D**	**36 DP**	**1,300 D**
Aroclor-1260	1*	0.1**	1	1	1	25	1	3.2	1,600 UJ	0.2 UJ	4.3 UJ	820 UJ	0.77 UJ	20 UJ

Notes:
All concentrations are in mg/kg
(1) NYSDEC Recommended Soil Cleanup Objectives (RSCO), Technical and Administrative Guidance Memorandum (TAGM) #4046, 12/00
(2) NYSDEC 6 NYCRR Environmental Remediation Programs Part 375 Unrestricted Use Soil Cleanup Objectives Table 375-6.8a 12/06
(3) NYSDEC 6 NYCRR Environmental Remediation Programs Part Restriced Use of Soil Cleanup Objective Table 375-6.8b 12/06
SCO - Soil cleanup objective
CRQL - Contract required quantitation limit
TSD - Technical Support Document
(a) The SCOs for residential, restricted-residential and ecological resources use were capped at a maximum value of 100 ppm. See TSD section 9.3.
(b) For constituents where the calculated SCO was lower than the CRQL the CRQL is used as the Track 1 SCO value.
(c) For constituents where the calculated SCO was lower than the rual soil background concentration, as determined by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 CO value fo this use of the site.
(d) SCO is the sum of endosilfan I, endosulfan II and endosulfan sulfate.
(e) For constituents where the calculated SCO was lower than the CRQL, the CRQL is used as the SCO value
(f) Protection of ecological resources SCOs were not developed for contaminants identified in Table 375-6.8b with "NS". Where such contaminants appear in Table 375-6.8a, the applicant may be required by the Department to calculate a protection of ecological resources SCO according to the TSD.
(g) This SCOs is derived from data on mixed isomer of BHC
(h) The SCOs for the commercial use were capped at a maximum value of 500 ppm. See TSD section 9.3.
(i) The SCOs for the industrial use and the protection of groundwater were capped at a maximum value of 1000 ppm. See TSD section 9.3.
*-NYSDEC recommended soil cleanup objectives for PCBs are 1.0 mg/kg for surface soils and 10 mg/kg for subsurface soils.
** - NYSDEC 6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives for total PCBs is 0.1 mg/kg
U - The compound was not detected at the indicated concentration.
P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.
E (Organics) - Indicates the analyte ‘s concentration exceeds the calibrated range of the instrument for that specific analysis.
E (Inorganics) - The reported value is estimated because of the presence of interference.
D - The reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.
Bold/highlighted - indicated exceedance of the NYSDEC Cleanup Objective for residential use

TABLE 11
SOIL ANALYTICAL RESULTS FOR S-11 through S-29
PCBS
EPA METHOD 8082

Former Canine Kennel - Westhampton Beach, New York

Compound	NYSDEC Recommended Soil Cleanup Objective (1)	Unrestricted Use (2)	Residential (3)	Restricted Residential (3)	Commercial (3)	Industrial (3)	Protection of Ecological Resources (3)	Protection of Groundwater (3)	11A 0-2"	12A 0-2"	FD-06 0-2"	13A 0-2"	14A 0-2"	15A 0-2"	16A 0-2"	17A 0-2"	18A 0-2"	19A 0-2"	20A 0-2"	21A 0-2"	22A 0-2"	23A 0-2"	24A 0-2"	25A 0-2"	26A 0-2"	27A 0-2"	28A 0-2"	29A 0-2"
PCBs 8082 - mg/kg																												
Aroclor-1016	1*	0.1**	1	1	1	25	1	3.2	0.0043 UJ	0.0039 UJ	0.0039 UJ	0.0083 UJ	0.0038 UJ	0.0038 UJ	0.0076 UJ	9.7 UJ	0.04 UJ	0.16 UJ	4.1 UJ	2 UJ	0.41 UJ	98 UJ	0.86 UJ	0.02 UJ	0.022 UJ	0.038 UJ	0.77 UJ	0.19 UJ
Aroclor-1221	1*	0.1**	1	1	1	25	1	3.2	0.0052 UJ	0.0048 UJ	0.0048 UJ	0.001 UJ	0.0047 UJ	0.0047 UJ	0.0093 UJ	12 UJ	0.049 UJ	0.2 UJ	5 UJ	2.4 UJ	0.5 UJ	120 UJ	1.1 UJ	0.024 UJ	0.027 UJ	0.046 UJ	0.94 UJ	0.23 UJ
Aroclor-1232	1*	0.1**	1	1	1	25	1	3.2	0.0055 UJ	0.005 UJ	0.005 UJ	0.0011 UJ	0.0049 UJ	0.0049 UJ	0.0097 UJ	12 UJ	0.051 UJ	0.21 UJ	5.3 UJ	2.5 UJ	0.52 UJ	130 UJ	1.1 UJ	0.025 UJ	0.029 UJ	0.049 UJ	0.99 UJ	0.25 UJ
Aroclor-1242	1*	0.1**	1	1	1	25	1	3.2	0.0024 UJ	0.0022 UJ	0.0022 UJ	0.0047 UJ	0.0022 UJ	0.0022 UJ	0.0043 UJ	5.4 UJ	0.022 UJ	0.09 UJ	2.3 UJ	1.1 UJ	0.23 UJ	55 UJ	0.48 UJ	0.011 UJ	0.013 UJ	0.021 UJ	0.43 UJ	0.11 UJ
Aroclor-1248	1*	0.1**	1	1	1	25	1	3.2	0.0053 UJ	0.0048 UJ	0.0048 UJ	0.001 UJ	0.0047 UJ	0.0047 UJ	0.0094 UJ	12 UJ	0.049 UJ	0.2 UJ	5.1 UJ	2.4 UJ	0.5 UJ	120 UJ	1.1 UJ	0.024 UJ	0.028 UJ	0.047 UJ	0.95 UJ	0.24 UJ
Aroclor-1254	1*	0.1**	1	1	1	25	1	3.2	0.0054 UJ	0.0049 UJ	0.215	0.78 D	0.0048 UJ	0.0048 UJ	0.575 D	**510 DP**	**2.2 D**	**10 DP**	**22 D**	**97 DP**	**21 D**	**4,400 D**	**61 DP**	**1.2 DP**	**1.7 DP**	**1.1 D**	**44 D**	**12 D**
Aroclor-1260	1*	0.1**	1	1	1	25	1	3.2	0.072 P	0.044 P	0.0039 UJ	0.0083 UJ	0.0038 UJ	0.0038 UJ	0.0076 UJ	9.7 UJ	0.04 UJ	0.16 UJ	4.1 UJ	2 UJ	0.41 UJ	98 UJ	0.86 UJ	0.02 UJ	0.022 UJ	0.038 UJ	0.77 UJ	0.19 UJ

Notes:
All concentrations are in mg/kg
(1) NYSDEC Recommended Soil Cleanup Objectives (RSCO), Technical and Administrative Guidance Memorandum (TAGM) #4046, 12/00
(2) NYSDEC 6 NYCRR Environmental Remediation Programs Part 375 Unrestricted Use Soil Cleanup Objectives Table 375-6.8a 12/06
(3) NYSDEC 6 NYCRR Environmental Remediation Programs Part Restriced Use of Soil Cleanup Objective Table 375-6.8b 12/06
*-NYSDEC recommended soil cleanup objectives for PCBs are 1.0 mg/kg for surface soils and 10 mg/kg for subsurface soils.
** - NYSDEC 6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives for total PCBs is 0.1 mg/kg
U - The compound was not detected at the indicated concentration.
P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.
D - The reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.
Bold/highlighted - indicated exceedance of the NYSDEC Cleanup Objective for residential use

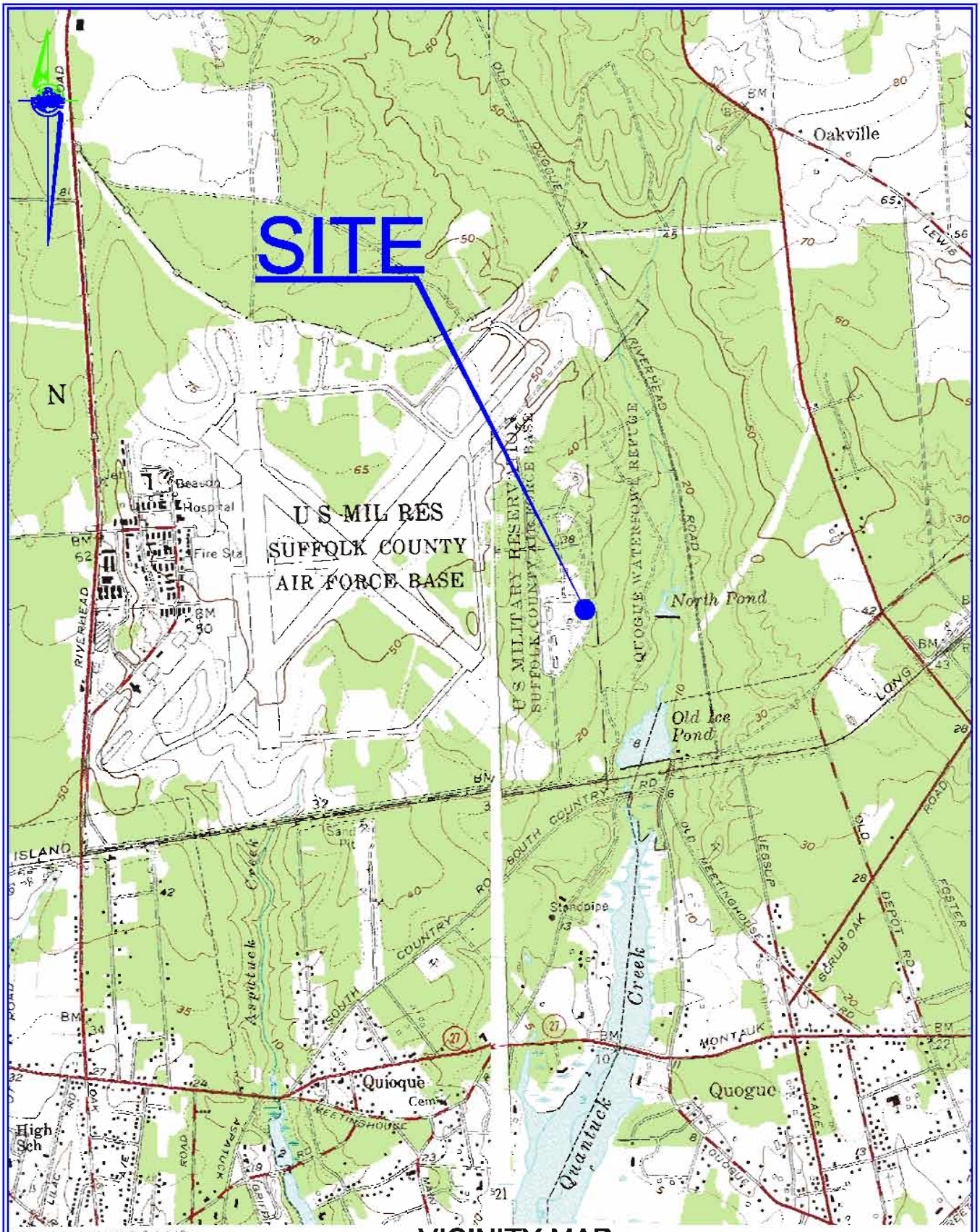
TABLE 12
GROUNDWATER ANALYTICAL RESULTS
PESTICIDES / PCBS
EPA METHOD 8081/8082

Former Canine Kennel - Westhampton Beach, New York

Compound	NYSDEC Groundwater Standards**	MW-1	Dup-01	MW-2	MW-3	MW-4	MW-5	MW-6
Pesticides and PCB's by 8081/8082 - ug/L								
alpha-BHC	0.01	0.0066 UJ	0.0063 UJ	0.0065 UJ	0.0066 UJ	0.0063 UJ	0.0097 UJ	0.0063 UJ
beta-BHC	0.04	0.0074 UJ	0.007 UJ	0.0072 UJ	0.0073 UJ	0.007 UJ	0.0108 UJ	0.007 UJ
delta-BHC	0.04	0.0526 UJ	0.05 UJ	0.0516 UJ	0.0521 UJ	0.05 UJ	0.0769 UJ	0.05 UJ
gamma-BHC	0.05	0.0075 UJ	0.0071 UJ	0.0073 UJ	0.0074 UJ	0.0071 UJ	0.0109 UJ	0.0071 UJ
Heptachlor	0.04	0.0239 UJ	0.0227 UJ	0.0234 UJ	0.0236 UJ	0.0227 UJ	0.0349 UJ	0.0227 UJ
Aldrin	ND	0.0315 UJ	0.0299 UJ	0.0308 UJ	0.0312 UJ	0.0299 UJ	0.046 UJ	0.0299 UJ
Heptachlor epoxide	0.03	0.0127 UJ	0.0121 UJ	0.0125 UJ	0.0126 UJ	0.0121 UJ	0.0186 UJ	0.0121 UJ
Endosulfan I	NS	0.008 UJ	0.0076 UJ	0.0078 UJ	0.0079 UJ	0.0076 UJ	0.0117 UJ	0.0076 UJ
Dieldrin	0.004	0.0077 UJ	0.0073 UJ	0.0076 UJ	0.0076 UJ	0.0073 UJ	0.0113 UJ	0.0073 UJ
4,4-DDE	0.2	0.0075 UJ	0.0072 UJ	0.0074 UJ	0.0075 UJ	0.0072 UJ	0.011 UJ	0.0072 UJ
Endrin	ND	0.0073 UJ	0.0069 UJ	0.0071 UJ	0.0072 UJ	0.0069 UJ	0.0106 UJ	0.0069 UJ
Endosulfan II	NS	0.0076 UJ	0.0073 UJ	0.0075 UJ	0.0076 UJ	0.0073 UJ	0.0112 UJ	0.0073 UJ
4,4-DDD	0.3	0.0074 UJ	0.007 UJ	0.0072 UJ	0.0073 UJ	0.007 UJ	0.0108 UJ	0.007 UJ
Endosulfan Sulfate	NS	0.0091 UJ	0.0086 UJ	0.0089 UJ	0.009 UJ	0.0086 UJ	0.0133 UJ	0.0086 UJ
4,4-DDT	0.2	0.0067 UJ	0.0064 UJ	0.0066 UJ	0.0067 UJ	0.0064 UJ	0.0099 UJ	0.0064 UJ
Methoxychlor	35	0.0075 UJ	0.0072 UJ	0.0074 UJ	0.0074 UJ	0.0072 UJ	0.011 UJ	0.0072 UJ
Endrin ketone	5	0.0082 UJ	0.0078 UJ	0.008 UJ	0.0081 UJ	0.0078 UJ	0.012 UJ	0.0078 UJ
Endrin aldehyde	5	0.0093 UJ	0.0088 UJ	0.0091 UJ	0.0092 UJ	0.0088 UJ	0.0136 UJ	0.0088 UJ
alpha-Chlordane	0.05	0.008 UJ	0.0076 UJ	0.0078 UJ	0.0079 UJ	0.0076 UJ	0.0117 UJ	0.0076 UJ
gamma-Chlordane	0.05	0.0082 UJ	0.0078 UJ	0.008 UJ	0.0081 UJ	0.0078 UJ	0.012 UJ	0.0078 UJ
Toxaphene	0.06	0.0947 UJ	0.09 UJ	0.0928 UJ	0.0938 UJ	0.09 UJ	0.1385 UJ	0.09 UJ
PCBs 8082 ug/L								
Aroclor-1016	0.09*	0.149 UJ	0.142 UJ	0.146 UJ	0.148 UJ	0.142 UJ	0.218 UJ	0.142 UJ
Aroclor-1221	0.09*	0.119 UJ	0.113 UJ	0.116 UJ	0.118 UJ	0.113 UJ	0.174 UJ	0.113 UJ
Aroclor-1232	0.09*	0.121 UJ	0.115 UJ	0.119 UJ	0.12 UJ	0.115 UJ	0.177 UJ	0.115 UJ
Aroclor-1242	0.09*	0.077 UJ	0.073 UJ	0.075 UJ	0.076 UJ	0.073 UJ	0.112 UJ	0.073 UJ
Aroclor-1248	0.09*	0.106 UJ	0.101 UJ	0.104 UJ	0.105 UJ	0.101 UJ	0.155 UJ	0.101 UJ
Aroclor-1254	0.09*	0.146 UJ	0.139 UJ	0.143 UJ	0.145 UJ	0.139 UJ	0.214 UJ	0.139 UJ
Aroclor-1260	0.09*	0.094 UJ	0.089 UJ	0.092 UJ	0.093 UJ	0.089 UJ	0.14 UJ	0.089 UJ

Notes:
** - NYSDEC Ambient Water Quality Standards and Guidance Values 6/1998 for Class GA Groundwater.
ND - Non-detectable
* - Guidance Value
NS - No Standard
U - Analyte not detected
Bold/highlighted- Indicated exceedance of the NYSDEC Groundwater Standard

FIGURES



Mapped, edited, and published by the Geological Survey
Revised in cooperation with New York
Department of Transportation

Control by USGS, USC&GS, and New Jersey Geodetic Survey

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VICINITY MAP

SCALE: 1:24,000

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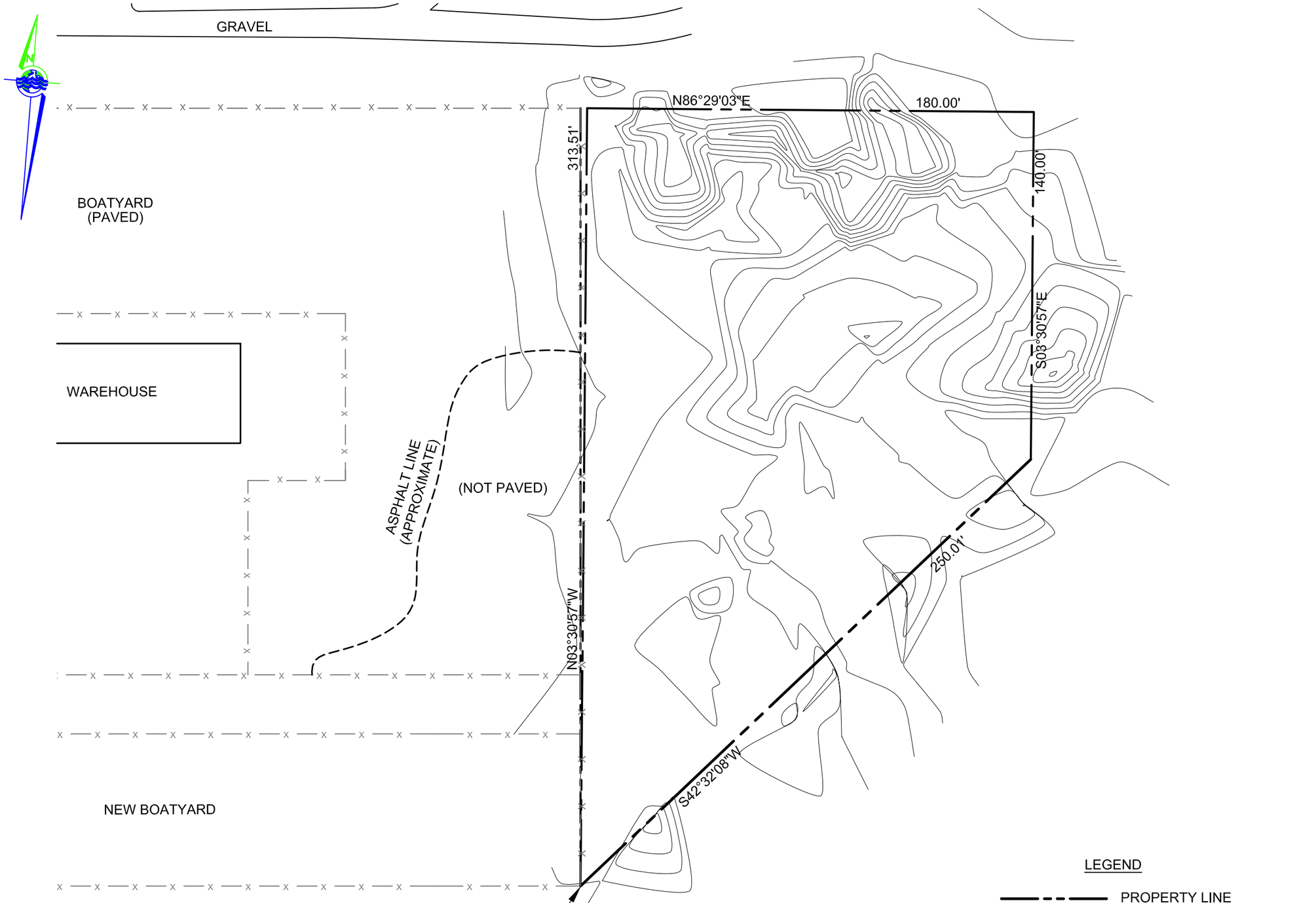
FORMER CANINE KENNEL SITE
GABRESKI AIRPORT
WESTHAMPTON, NY

Project No. DPW0701	Figure No. 1
Designed By AL	
Drawn By PWG	
Checked By LLG	Date 2/12/07



BASE MAP PROVIDED BY:
L.K. McLEAN ASSOCIATES, P.C.
437 SOUTH COUNTRY ROAD
BROOKHAVEN, NY 11719
DATED: JULY 18, 2008

LEGEND

PROPERTY LINE

TOPOGRAPHIC CONTOURS

0 40 80

SCALE: 1" = 40'

J:\Projects A-D\DPW-pc project\0701-CANINE KENNEL\CANINE KENNEL\CAD\RI Report CAD\Site Plan.dwg

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REVISION	DATE	INITIAL	COMMENTS

DRAWING INFORMATION

PROJECT:	DPW0701	APPROVED BY:	PWG
DESIGNED BY:	AL	DATE:	9/26/08
DRAWN BY:	LLG	SCALE:	AS SHOWN

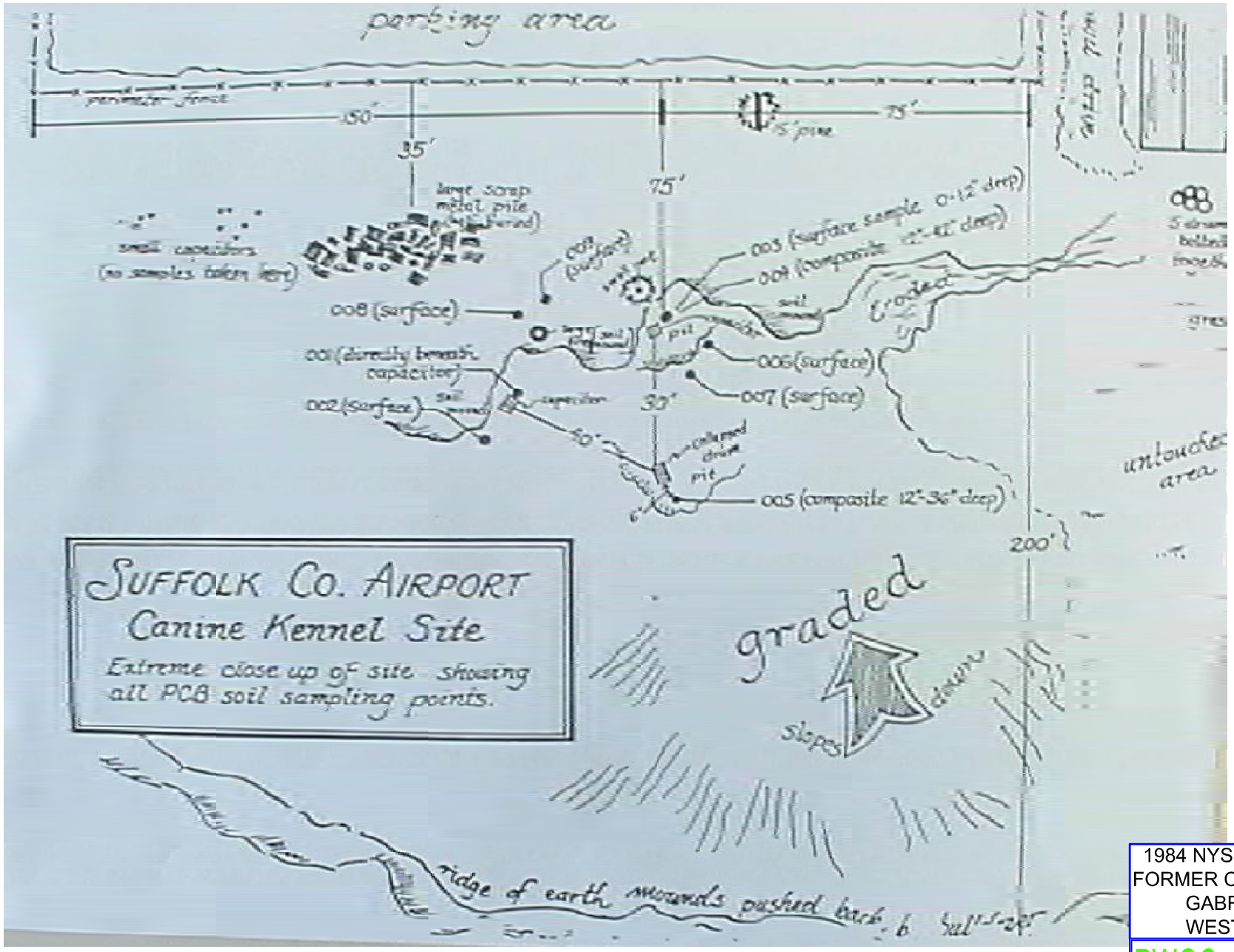
SHEET TITLE

SITE PLAN
FORMER CANINE KENNEL SITE

GABRESKI AIRPORT
WESTHAMPTON, NY

FIGURE NO
2

SHEET OF



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NYSDEC FIELD SKETCH
DATED: 1984

NOT TO SCALE

J:\Projects A-D\DPW-pc project\0701-CANINE KENNEL\CADD\IR Report CAD\DEC Map.dwg

1984 NYSDEC FIELD SKETCH
FORMER CANINE KENNEL SITE
GABRESKI AIRPORT
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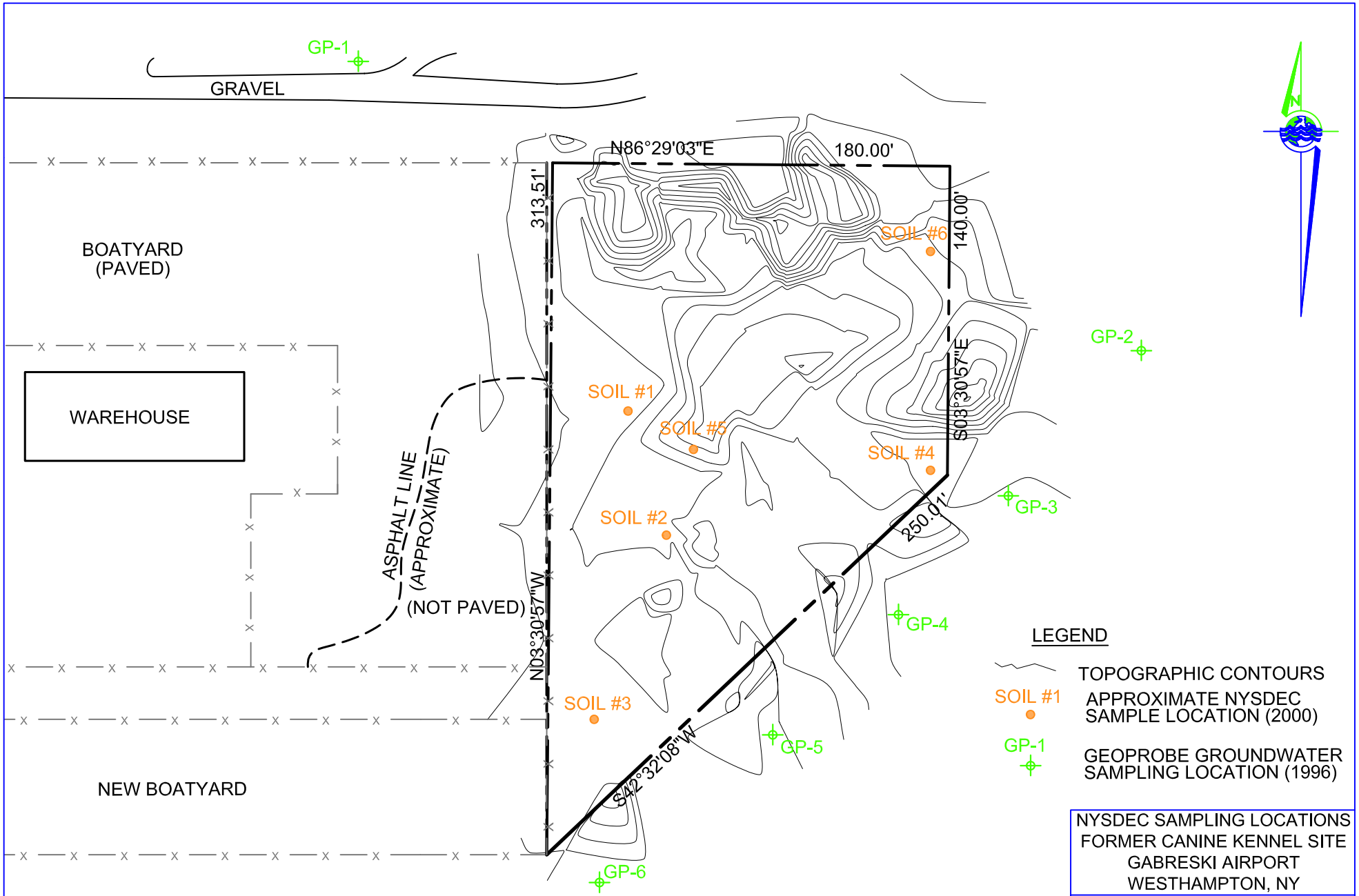
Project:	Designed By:	Figure No:
DPW0701	RWW	3
CADD Operator: LLG	Approved By: PWG	Date: 8/26/08



BASE MAP PROVIDED BY:
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DATED: JULY 18, 2008

J:\Projects A-D\Dpw-PC PROJECT\0701-Canine Kennel\CADD\RI Report CAD\Fig 4.dwg

NYSDEC SAMPLING LOCATIONS
FORMER CANINE KENNEL SITE
GABRESKI AIRPORT
WESTHAMPTON, NY

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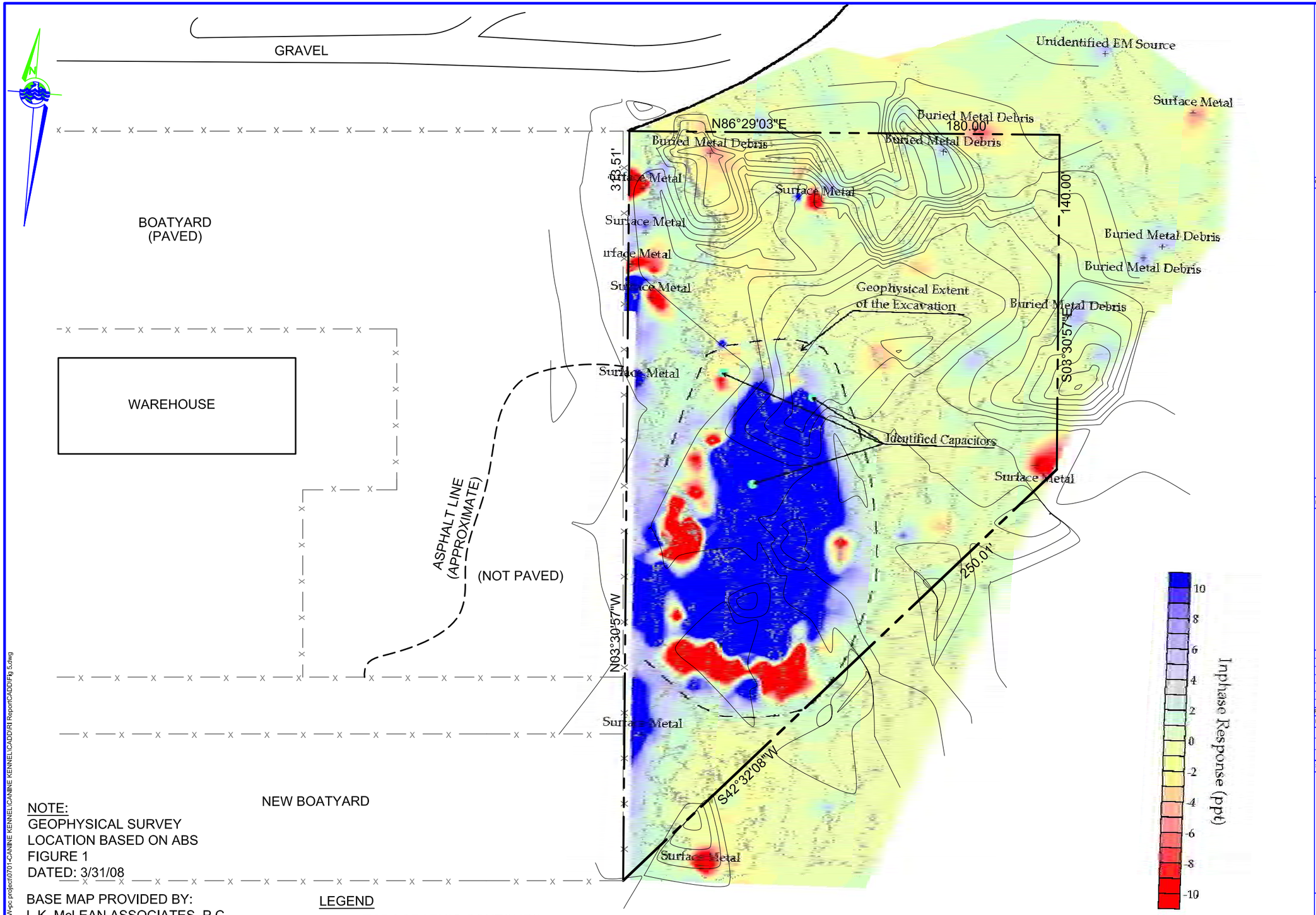
Project:	Designed By:	Figure No:
DPW0701	AL	4
CADD Operator:	Approved By:	Date:
LLG	PWG	9/23/08



NOTE:
GEOPHYSICAL SURVEY
LOCATION BASED ON ABS
FIGURE 1
DATED: 3/31/08

BASE MAP PROVIDED BY:
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BROOKHAVEN, NY 11719
DATED: JULY 18, 2008

LEGEND

TOPOGRAPHIC CONTOURS
PPT PARTS PER TRILLION
EM ELECTROMAGNETIC

J:\Projects A-D\DPW-pc project\0701-CANINE KENNEL\CANINE KENNEL\CADD\RI Report\CADD\Fig 5.dwg

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PROJECT:	DPW0701	APPROVED BY:	PWG
DESIGNED BY:	AL	DATE:	9/16/08
DRAWN BY:	LLG	SCALE:	AS SHOWN

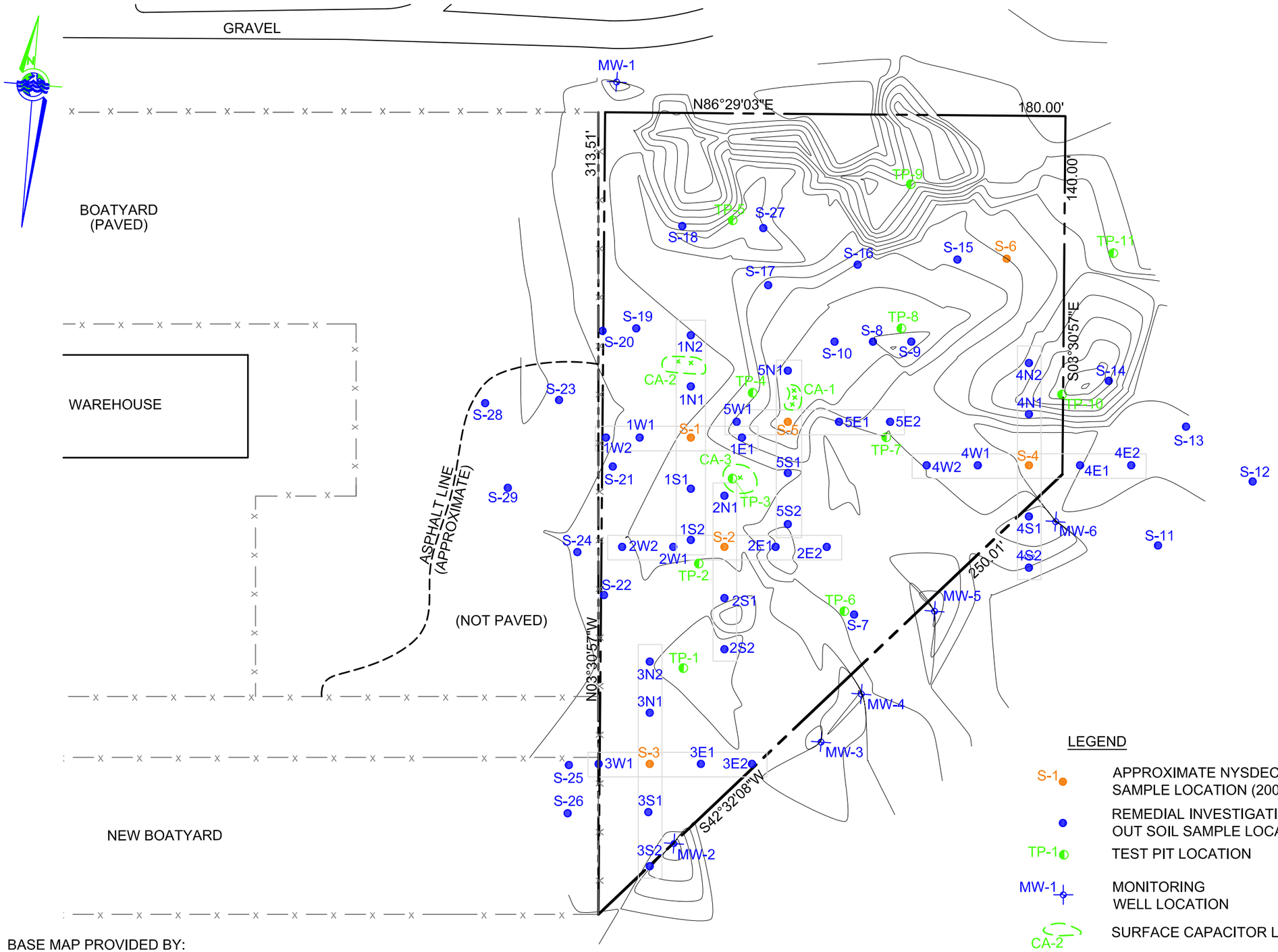
SHEET TITLE

GEOPHYSICAL SURVEY FORMER CANINE KENNEL SITE

GABRESKI AIRPORT
WESTHAMPTON, NY

FIGURE NO
5

SHEET - OF -



LEGEND

- S-1 — APPROXIMATE NYSDEC SOIL SAMPLE LOCATION (2000)
- REMEDIAL INVESTIGATION STEP OUT SOIL SAMPLE LOCATIONS
- TP-1 — TEST PIT LOCATION
- MW-1 — MONITORING WELL LOCATION
- CA-2 — SURFACE CAPACITOR LOCATION
- TOPOGRAPHIC CONTOURS

0 40 80

SCALE: 1" = 40'

BASE MAP PROVIDED BY:
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BROOKHAVEN, NY 11719
DATED: JULY 18, 2008

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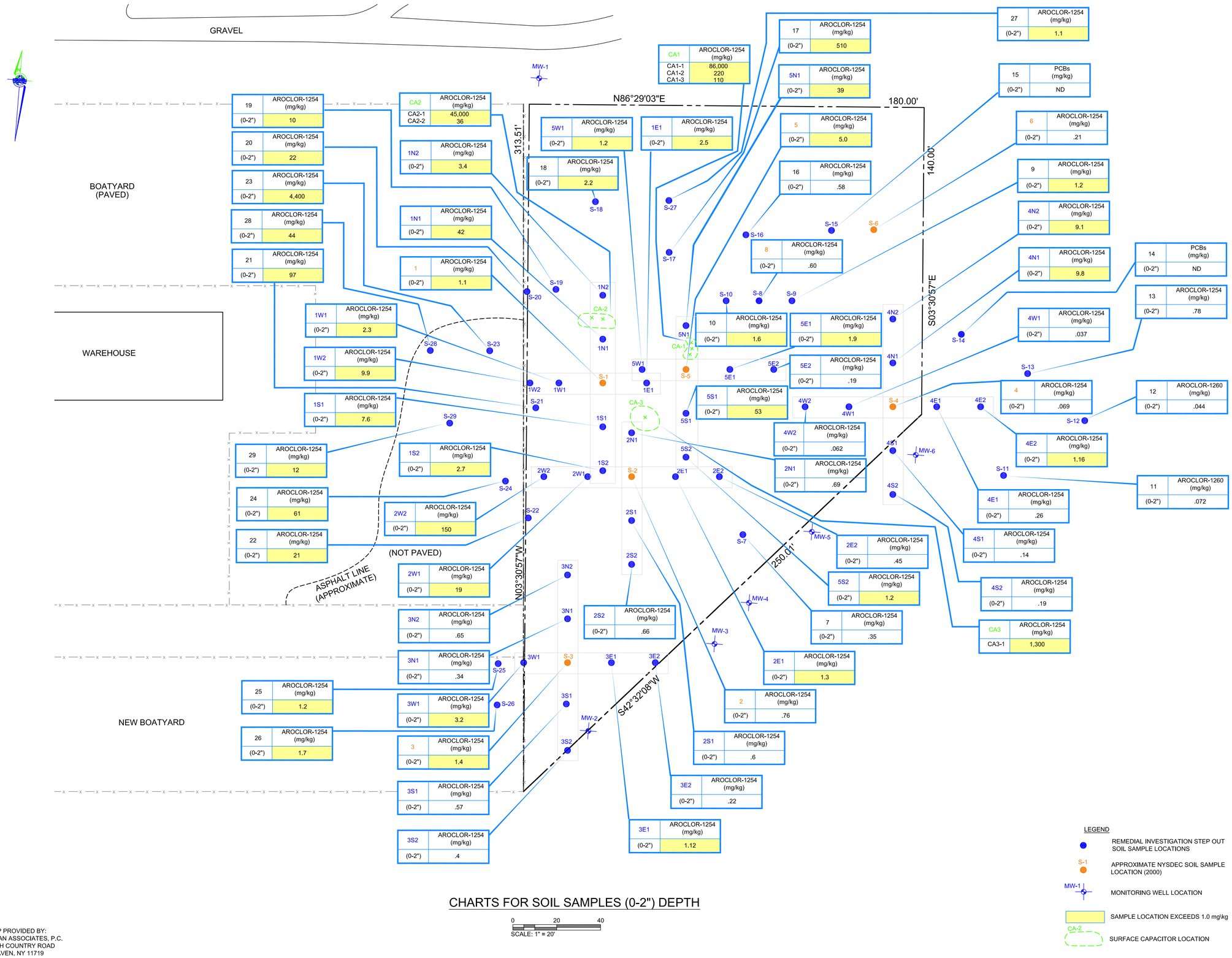
DESIGNED BY:	AL	DATE:	9/26/08
DRAWN BY:	LLG	SCALE:	AS SHOWN

SHEET TITLE

REMEDIAL INVESTIGATION SAMPLING LOCATIONS FORMER CANINE KENNEL SITE GABRESKI AIRPORT WESTHAMPTON, NY

FIGURE NO 6

SHEET OF



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DATED: JULY 18, 2008

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DESIGNED BY: AL	DATE: 8/5/08
DRAWN BY: LLG	SCALE: AS SHOWN

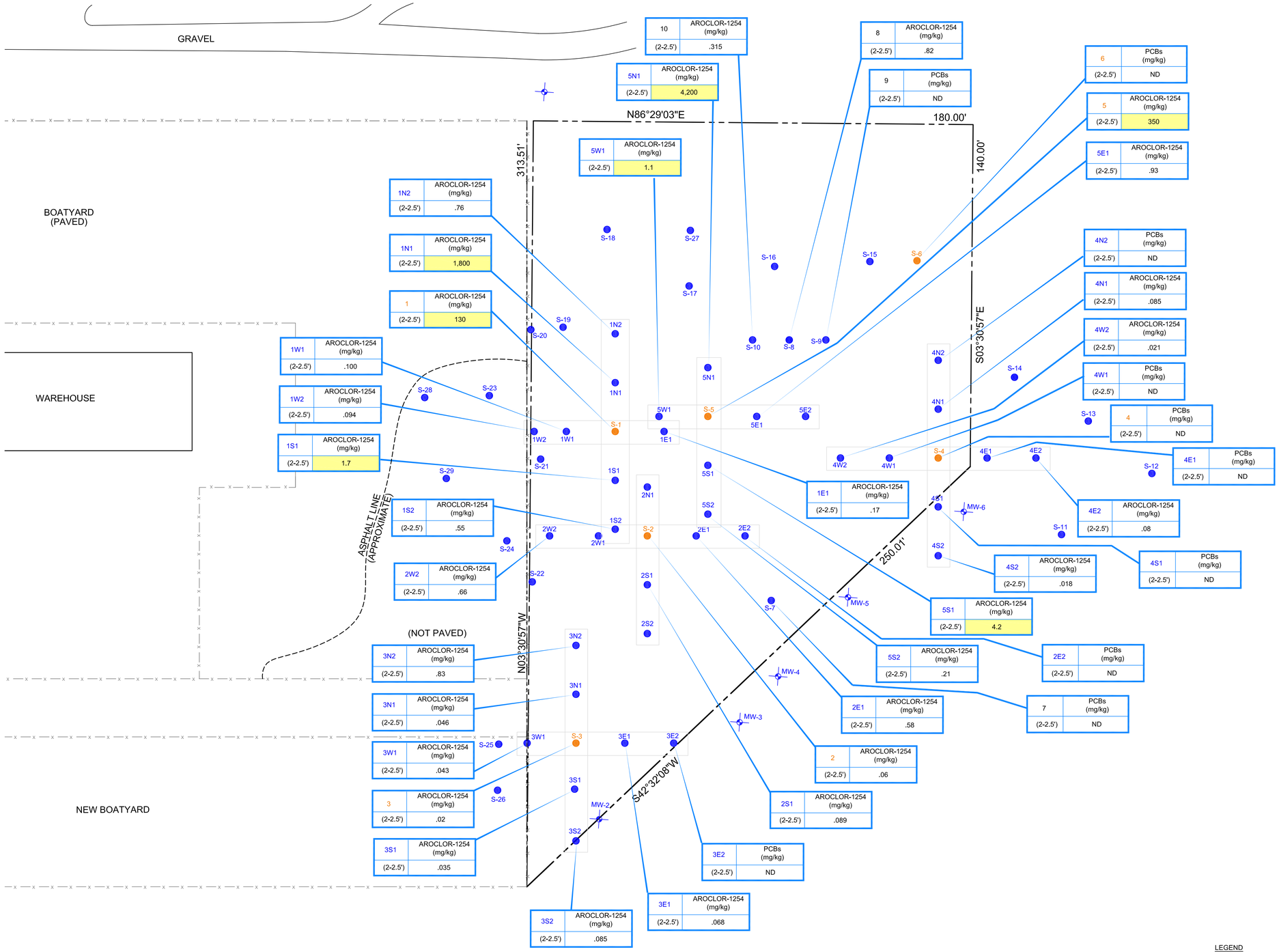
SHEET TITLE

SOIL SAMPLING RESULTS 0-2" DEPTH FORMER CANINE KENNEL SITE

GABRESKI AIRPORT
WESTHAMPTON, NY

FIGURE NO
7a

SHEET
OF



CHARTS FOR SOIL SAMPLES (2-2.5') DEPTH

0 20 40
SCALE: 1" = 20'

LEGEND

- REMEDIAL INVESTIGATION STEP OUT SOIL SAMPLE LOCATIONS
- S-1 APPROXIMATE NYSDEC SOIL SAMPLE LOCATION (2000)
- MW-1 MONITORING WELL LOCATION
- SAMPLE LOCATION EXCEEDS 1.0 mg\kg
- CA-2 SURFACE CAPACITOR LOCATION

BASE MAP PROVIDED BY:
L.K. McLEAN ASSOCIATES, P.C.
437 SOUTH COUNTRY ROAD
BROOKHAVEN, NY 11719
DATED: JULY 18, 2008

J:\Projects A-D\DPW-pc project\0701-CANINE KENNEL\CANINE KENNEL\CADD\RI Report CAD\sampling Results 2-2.5 Depth.dwg

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PROJECT: DPW0701	APPROVED BY: PWG
DESIGNED BY: AL	DATE: 8/7/08
DRAWN BY: LLG	SCALE: AS SHOWN

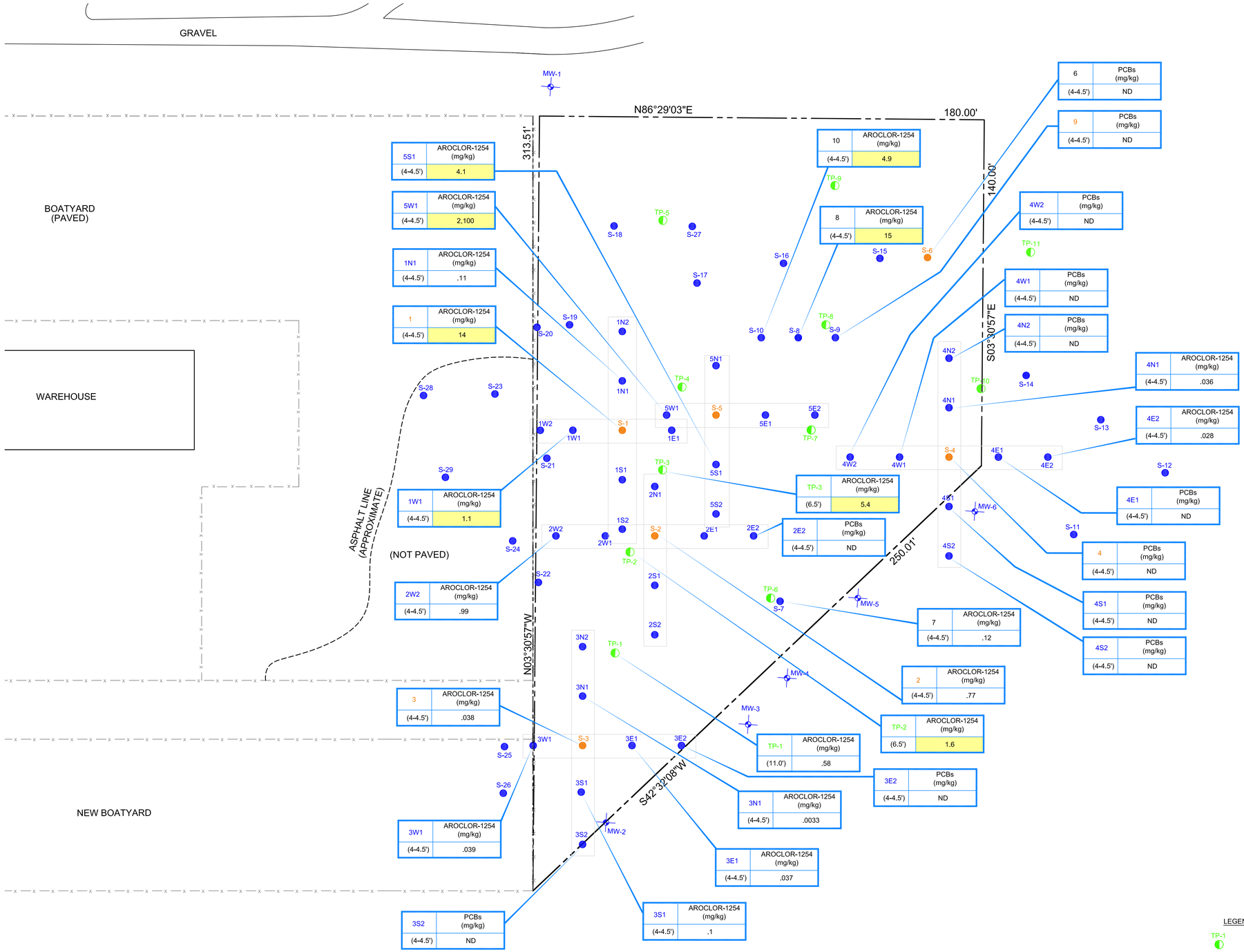
SHEET TITLE

SOIL SAMPLING RESULTS 2-2.5' DEPTH FORMER CANINE KENNEL SITE

GABRESKI AIRPORT
WESTHAMPTON, NY

FIGURE NO
7b

SHEET OF



CHARTS FOR SOIL SAMPLES (4 OR GREATER) DEPTH

0 20 40
SCALE: 1" = 20'

BASE MAP PROVIDED BY:
L.K. McLEAN ASSOCIATES, P.C.
437 SOUTH COUNTRY ROAD
BROOKHAVEN, NY 11719
DATED: JULY 18, 2008

LEGEND

- TP-1 — TEST PIT LOCATION
- REMEDIAL INVESTIGATION STEP OUT SOIL SAMPLE LOCATIONS
- S-1 — APPROXIMATE NYSDEC SOIL SAMPLE LOCATION (2000)
- MW-1 — MONITORING WELL LOCATION
- SAMPLE LOCATION EXCEEDS 1.0 mg\kg
- CA-2 — SURFACE CAPACITOR LOCATION

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DESIGNED BY: AL	DATE: 8/7/08
DRAWN BY: LLG	SCALE: AS SHOWN

SHEET TITLE

SOIL SAMPLING RESULTS
4 OR GREATER DEPTH
FORMER CANINE KENNEL SITE

GABRESKI AIRPORT
WEST HAMPTON, NY

FIGURE NO
7c

SHEET OF

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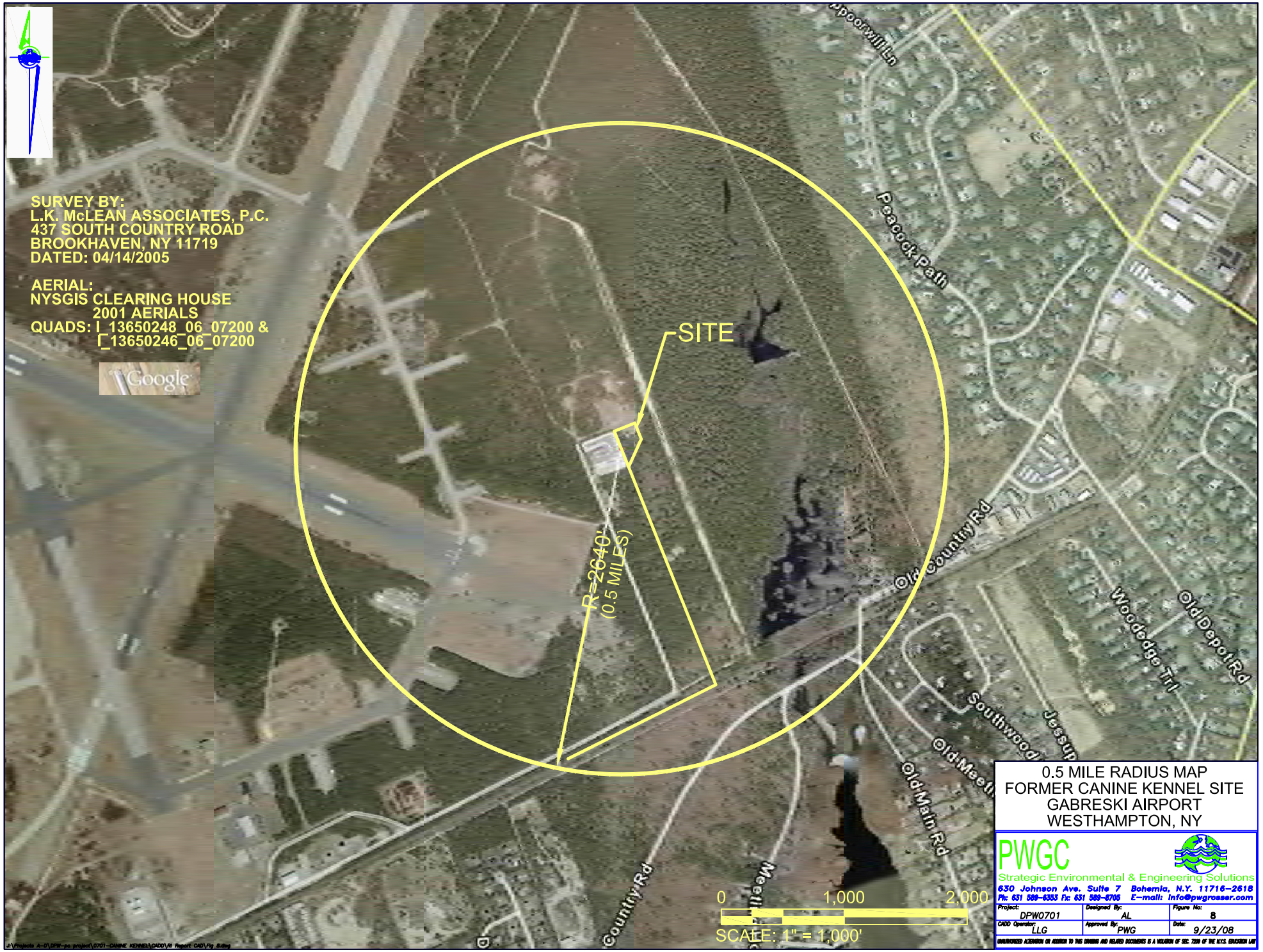

0.5 MILE RADIUS MAP
FORMER CANINE KENNEL SITE
GABRESKI AIRPORT
WESTHAMPTON, NY

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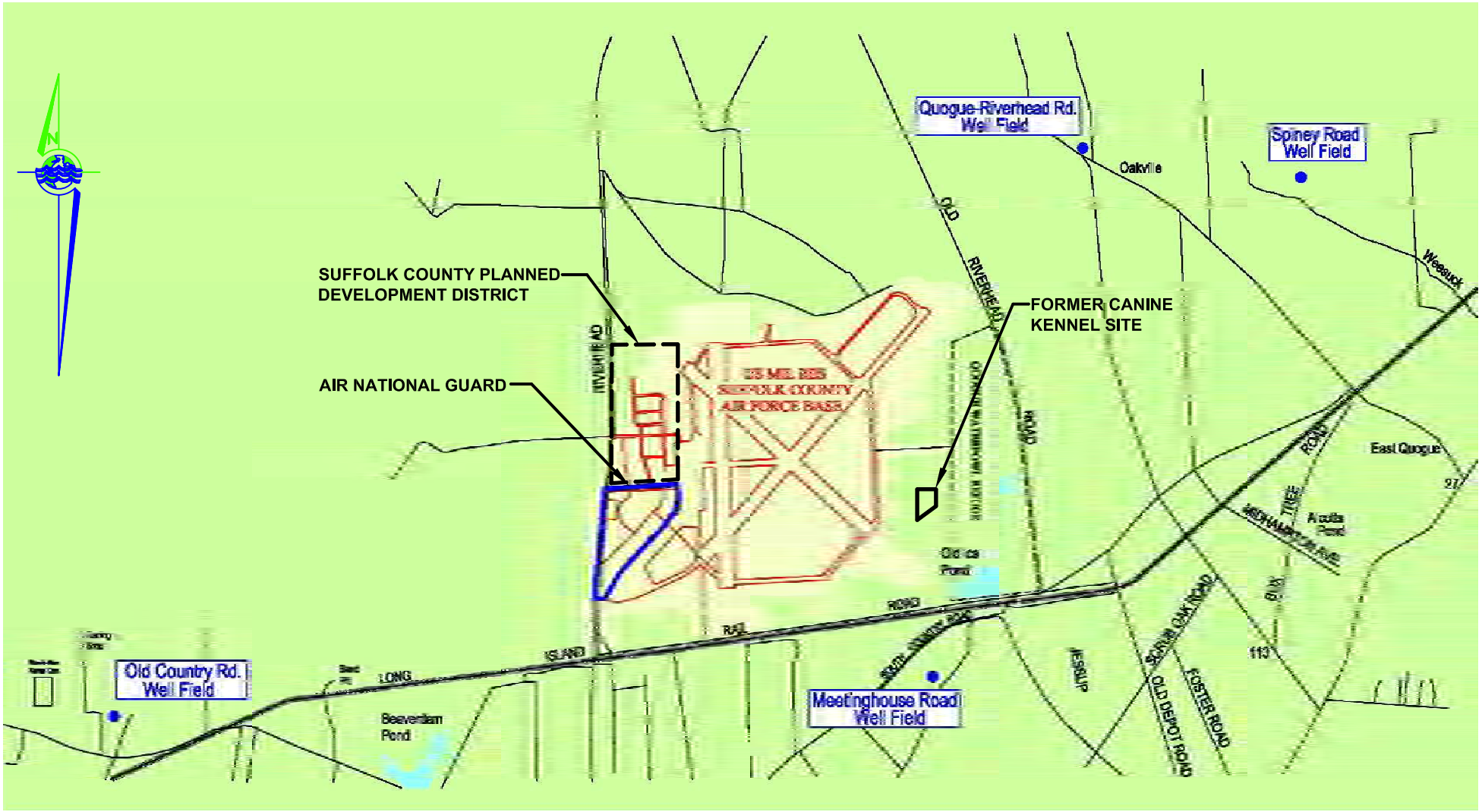
Project:	Designed By:	Figure No:
DPW0701	AL	8
CADD Operator: LLG	Approved By: PWG	Date: 9/23/08



BASE MAP PROVIDED BY:
PEER CONSULTANTS, P.C.
78 MITCHELL ROAD
OAK RIDGE, TENNESSEE
DATED: DECEMBER 2004

0 3,000 6,000

SCALE: 1" = 3,000'

PUBLIC DRINKING WATER SUPPLY
WELL LOCATIONS
FORMER CANINE KENNEL SITE
GABRESKI AIRPORT
WESTHAMPTON, NY

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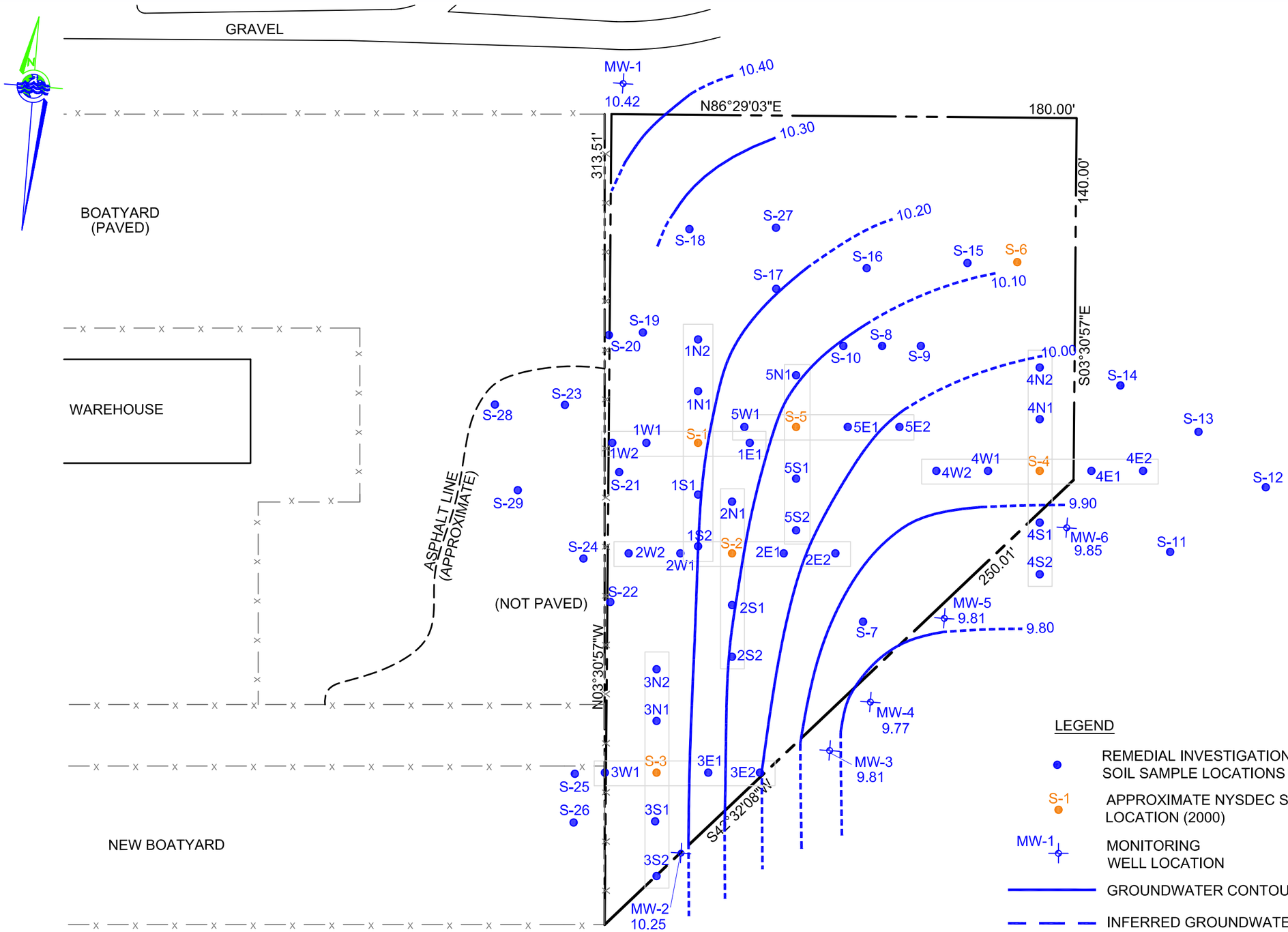
Project: DPW0701	Designed By: AL	Figure No: 9
CADD Operator: LLG	Approved By: PWG	Date: 9/23/08

J:\Projects A-D\DPW-pc project\0701-CANINE KENNEL\CADD\IR Report CAD\Fig 9.dwg



LEGEND

- REMEDIAL INVESTIGATION STEP OUT SOIL SAMPLE LOCATIONS
- S-1 APPROXIMATE NYSDEC SOIL SAMPLE LOCATION (2000)
- MW-1 MONITORING WELL LOCATION
- GROUNDWATER CONTOUR
- INFERRED GROUNDWATER CONTOUR
- 9.77 GROUNDWATER ELEVATION ABOVE MEAN SEA LEVEL

0 40 80

SCALE: 1" = 40'

BASE MAP PROVIDED BY:
L.K. McLEAN ASSOCIATES, P.C.
437 SOUTH COUNTRY ROAD
BROOKHAVEN, NY 11719
DATED: JULY 18, 2008

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PROJECT:	DPW0701	APPROVED BY:	PWG
DESIGNED BY:	AL	DATE:	9/29/08
DRAWN BY:	LLG	SCALE:	AS SHOWN

SHEET TITLE

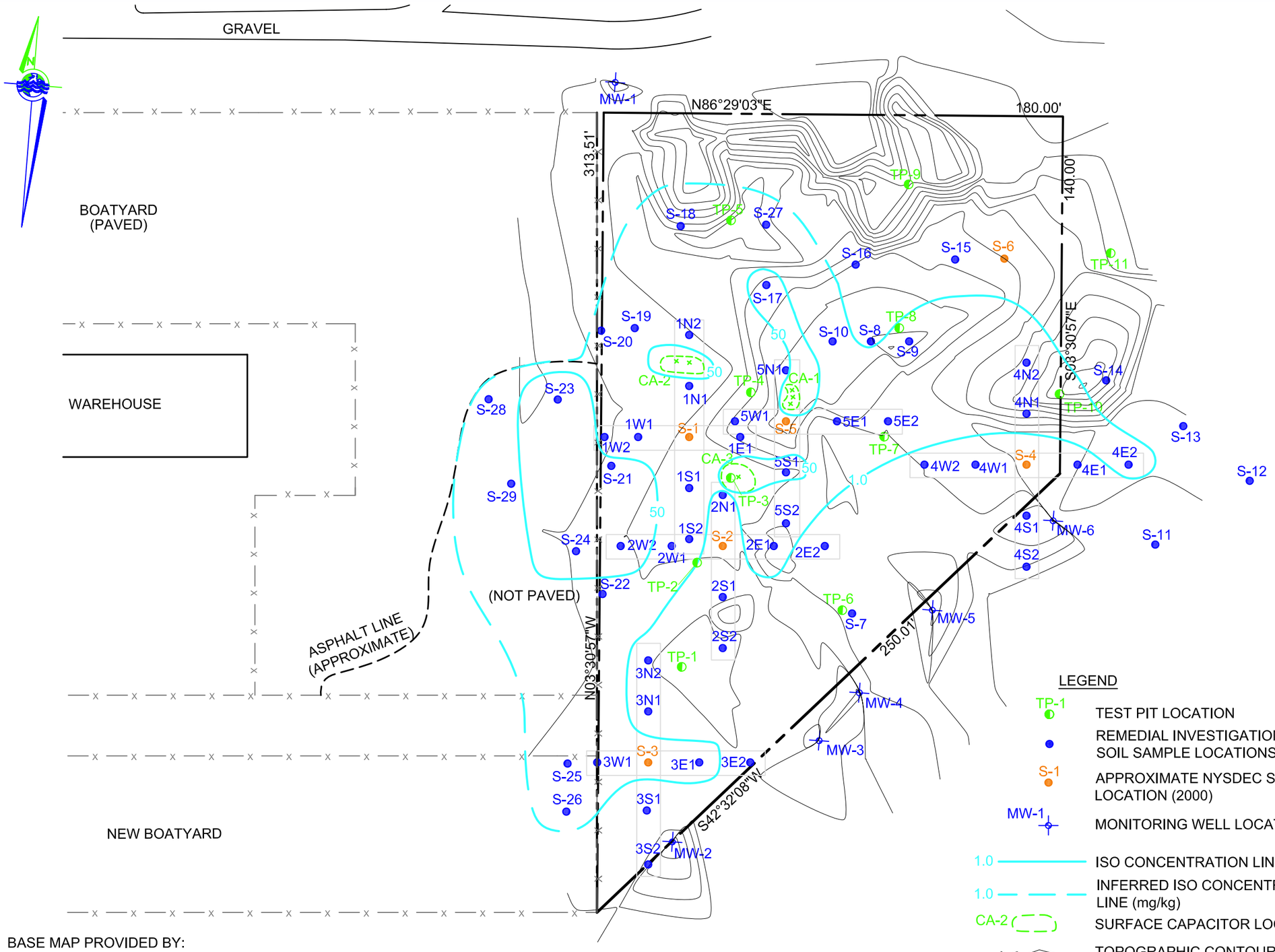
GROUNDWATER CONTOUR MAP

APRIL 25, 2008

FORMER CANINE KENNEL SITE
GABRESKI AIRPORT
WESTHAMPTON, NY

FIGURE NO 10

SHEET OF



LEGEND

- TP-1 — TEST PIT LOCATION
- REMEDIAL INVESTIGATION STEP OUT SOIL SAMPLE LOCATIONS
- S-1 — APPROXIMATE NYSDEC SOIL SAMPLE LOCATION (2000)
- MW-1 — MONITORING WELL LOCATION
- 1.0 — ISO CONCENTRATION LINE (mg/kg)
- 1.0 — INFERRED ISO CONCENTRATION LINE (mg/kg)
- CA-2 — SURFACE CAPACITOR LOCATION
- TOPOGRAPHIC CONTOURS

0 40 80

SCALE: 1" = 40'

BASE MAP PROVIDED BY:
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BROOKHAVEN, NY 11719
DATED: JULY 18, 2008

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REVISION	DATE	INITIAL	COMMENTS

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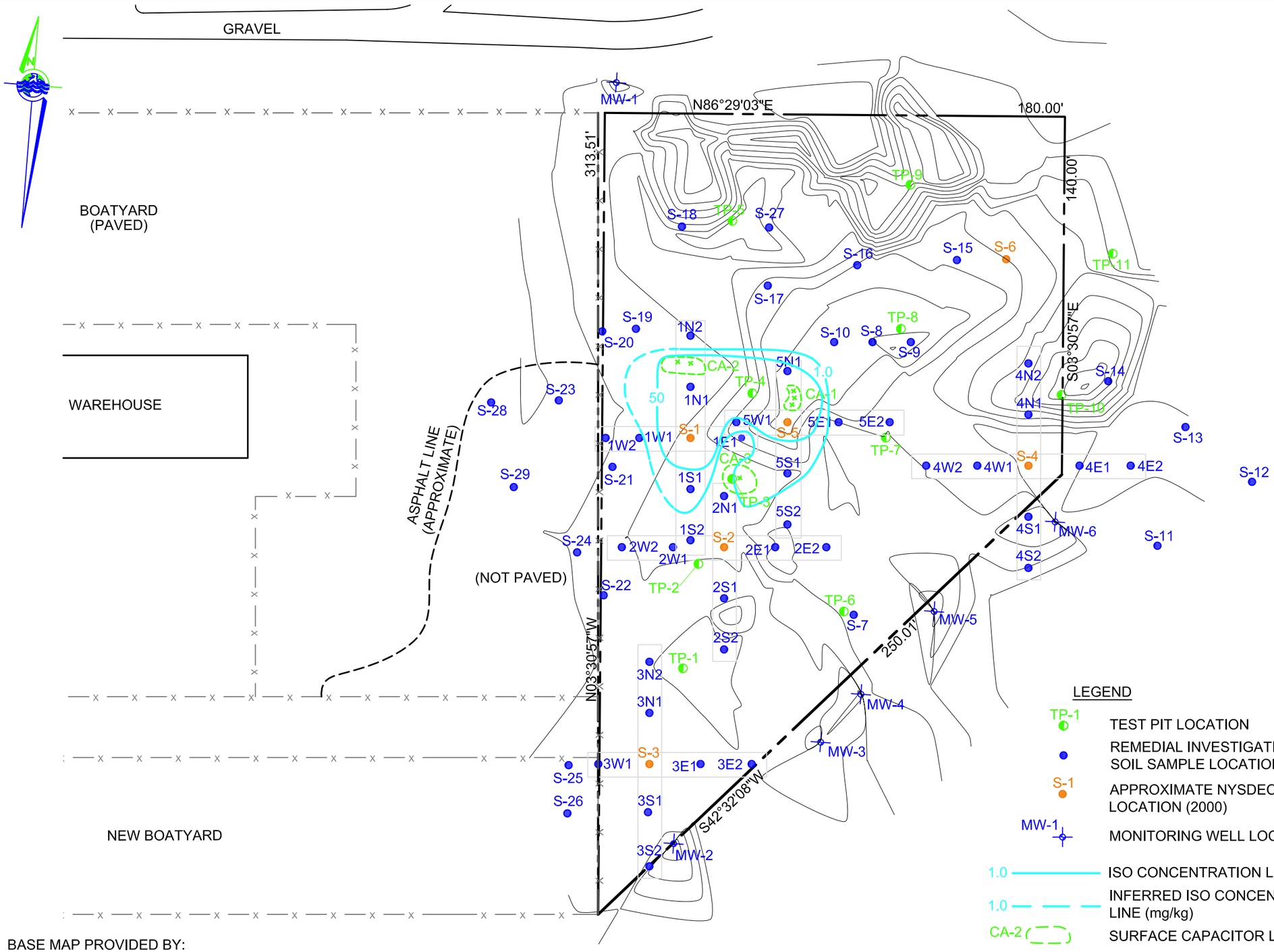
PROJECT:	DPW0701	APPROVED BY:	PWG
DESIGNED BY:	AL	DATE:	9/26/08
DRAWN BY:	LLG	SCALE:	AS SHOWN

SHEET TITLE

TOTAL PCBs ISO CONCENTRATION LINE 0-2" DEPTH FORMER CANINE KENNEL SITE GABRESKI AIRPORT WESTHAMPTON, NY

FIGURE NO 11a

SHEET OF



BASE MAP PROVIDED BY:
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BROOKHAVEN, NY 11719
DATED: JULY 18, 2008

LEGEND

- TP-1 — TEST PIT LOCATION
- REMEDIAL INVESTIGATION STEP OUT SOIL SAMPLE LOCATIONS
- S-1 — APPROXIMATE NYSDEC SOIL SAMPLE LOCATION (2000)
- MW-1 — MONITORING WELL LOCATION
- 1.0 — ISO CONCENTRATION LINE (mg/kg)
- 1.0 — INFERRED ISO CONCENTRATION LINE (mg/kg)
- CA-2 — SURFACE CAPACITOR LOCATION
- TOPOGRAPHIC CONTOURS

0 40 80
SCALE: 1" = 40'

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DESIGNED BY:	AL	DATE:	9/26/08
DRAWN BY:	LLG	SCALE:	AS SHOWN

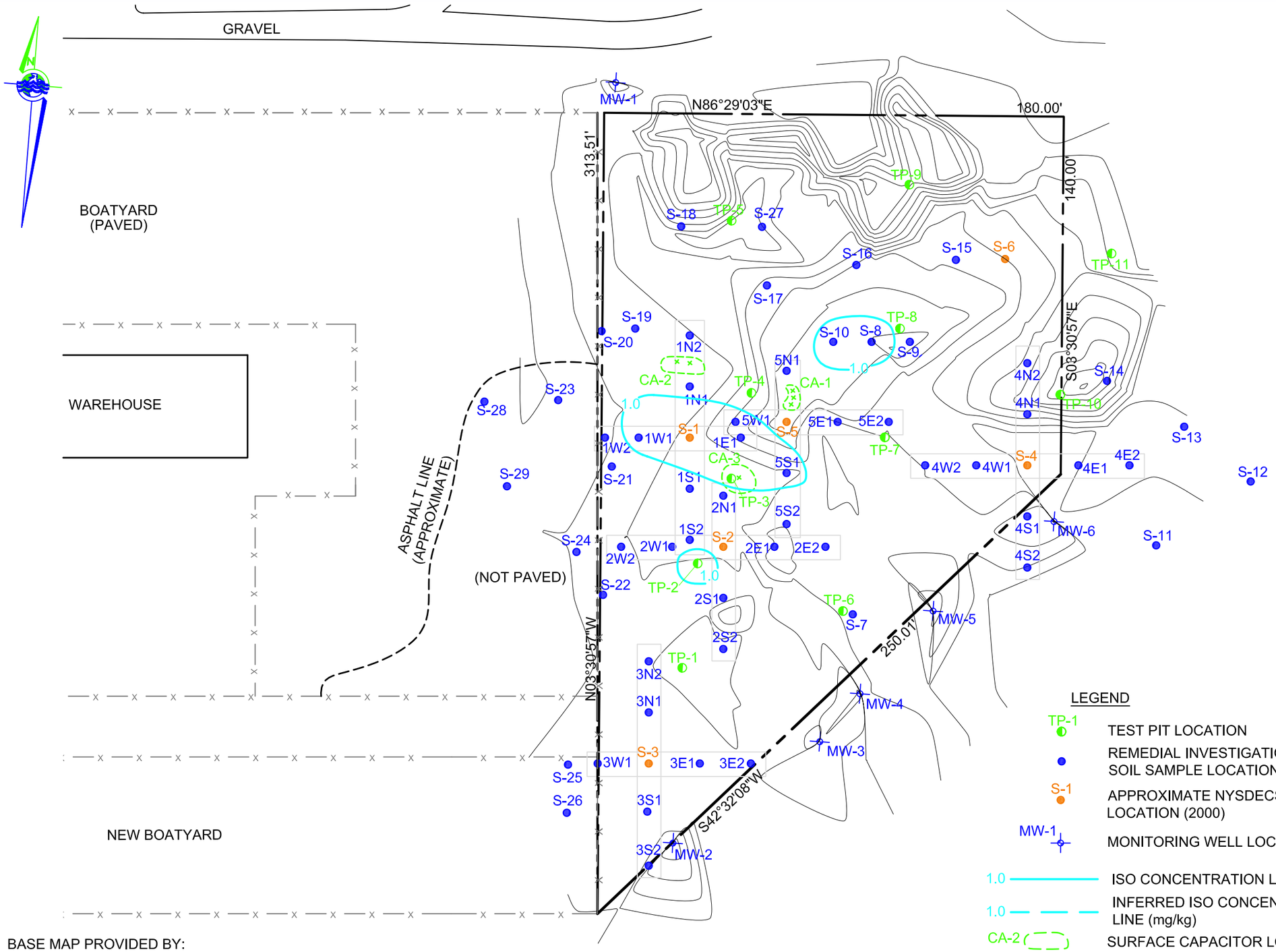
SHEET TITLE

TOTAL PCBs ISO CONCENTRATION LINE 2-2.5' DEPTH FORMER CANINE KENNEL SITE GABRESKI AIRPORT WESTHAMPTON, NY

FIGURE NO 11b

SHEET OF

J:\Projects A-D\DPW-pc project\0701-CANINE KENNEL\CANINE KENNEL\CADD\RI Report CAD\ISO CONTOURS 2-2.5 Depth.dwg



BASE MAP PROVIDED BY:
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437 SOUTH COUNTRY ROAD
BROOKHAVEN, NY 11719
DATED: JULY 18, 2008

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DESIGNED BY:	AL	DATE:	9/26/08
DRAWN BY:	LLG	SCALE:	AS SHOWN

SHEET TITLE

TOTAL PCBs ISO CONCENTRATION LINE 4-4.5' DEPTH FORMER CANINE KENNEL SITE GABRESKI AIRPORT WESTHAMPTON, NY

FIGURE NO
11c

SHEET OF

APPENDIX A

NYSDEC REPORT

Suffolk County Airport - Canine Kennel
Site # 152079
Soil Sampling July 13, 2000

INTRODUCTION

A Preliminary Site Assessment report was completed in April 1998. This investigation was designed to determine if the PCB's previously detected in the surface soils were impacting local groundwater quality. This investigation showed that PCB's are not detectable in the groundwater downgradient of the contaminated soil.

SAMPLING PLAN

Twelve (12) soil samples were planned; 2 each from 6 locations. The first soil sample was planned to be surficial (0-4" in depth) while the second was planned to be deeper (2-4' in depth). As an addition, while in the field, it was decided to obtain a waste sample from the end of one capacitor. This sample was from the capacitor located at Soil #1. All 13 samples were analyzed PCB's by EPA method 8082. In addition at Soil #1, samples 1118-01 and 1118-02 were analyzed for pesticides by EPA method 8081A, for purgeable organics (VOC's) by EPA method 8260B, for priority pollutant base-neutral-acid extractable analytes (SVOC's) by NYSDEC ASP 10/95 method 8270B and for TAL metals analysis.

SAMPLING RESULTS

The soil samples are clearly impacted by PCB's. The results of the PCB analyses are summarized on Table 1 (attached). Based on the soil sampling at Soil #1 it appears VOC's are generally not present, additionally VOC's were not detected in the local groundwater. The SVOC's were generally present as TIC's (tentatively identified compounds). Sample 1118-01 and sample 1118-02 each had 21 TIC's most of which were identified as unknown chlorinated biphenyl isomers. The metals that were detected were below the ranges as compared to the Eastern USA background levels reported in NYSDEC TAGM-4046. In addition, cyanide was undetected.

CONCLUSIONS

Based on the historical soil sampling data and this sampling event, it appears that the on-site soils are significantly impacted by PCB's, while the groundwater remains unimpacted.

APPENDIX B

GEOPHYSICAL INVESTIGATION RESULTS

ADVANCED GEOLOGICAL SERVICES

3 Mystic Lane
Malvern, PA19355
(610) 722-5500 (ph.)
(610) 722-0250 (fax)

April 2, 2008
Ref. No.: 08-162-1

Mr. Andy Lockwood
PW Grosser Consultants, Inc.
630 Johnson Avenue, Suite 7
Bohemia, New York 11716

Subject: Geophysical Investigation Results
Canine Kennel Site
West Hampton, New York

Dear Mr. Andy Lockwood:
Advanced Geological Services (AGS) presents this letter report to PW Grosser Consultants Inc., of Bohemia, New York detailing the methods and results of a geophysical investigation conducted at the Former Canine Kennel Site, at the Francis S. Gabreski Airport Airport, located in West Hampton Beach, New York. The primary objective of the investigation was to determine the presence and location of potential buried capacitors located in a partially wooded area near the old canine kennels at the airport. At the site there were several capacitors that were visible on the ground surface, along with several piles of surficial scrap metal and other metallic objects. The field activities for this investigation were completed by AGS between March 6 & 7, 2008.

Methods

To meet the objective of the investigation, AGS used the terrain conductivity electromagnetic (EM) and ground penetrating radar (GPR) methods. To accurately locate each EM data point a Global Positioning System (GPS) measurement was recorded and stored with each EM data point. Data points were continuously recorded, in two second intervals, with a snake like grid pattern using a line spacing of approximately 5 feet. Data could not be collected in a perfect grid pattern due to the presence of numerous trees that inhibited data collection. There was some scattering of the GPS signal in some of the areas with denser vegetation, but overall there was good satellite coverage and signal scattering was minimal. However, great care was taken to collect data as much data as possible as vegetation and site conditions allowed. Furthermore the EM data was downloaded and contoured in the field and all areas with

a high EM response, compared to background, were surveyed with GPR.

Terrain Conductivity Electromagnetic (EM) Method

The terrain conductivity electromagnetic (EM) method uses the principle of electromagnetic induction to measure the variability of terrain conductivity of subsurface materials. When significant contrasts in the electrical properties between non-indigenous materials and surrounding soil are present, it is commonly possible to accurately delineate fill and buried metals. Historically frequency domain EM instruments were designed for mineral exploration and delineation of geologic features, more recent instruments, such as that used in this study, were designed for shallow exploration of man-made targets. The large EM response to metal makes this technique particularly well suited to identifying buried metal objects such as USTs, buried utilities or buried drums. However, it is equally sensitive to metal objects on the ground surface, as well as some naturally occurring geologic features.

A Geonics EM31 terrain conductivity EM instrument and a Trimble GPS system were used to collect frequency domain EM data. At each EM data collection point a GPS position was recorded and digitally stored with the EM data point. The EM31 operates in accordance with the theory of operation at low induction numbers. An alternating current is passed through the transmitter coil to produce a time alternating magnetic field that induces eddy currents into buried electrical conductors, like geologic units or metallic objects. These eddy currents generate a secondary magnetic field within the buried electrical conductor. A component of the induced magnetic field is then detected by a receiver coil and measured by the instrument. The signal received by the EM31 is often not completely in phase with the primary transmitted field, so the resulting magnetic field is recorded in both the real (quadrature) and imaginary (inphase) components by the EM31. The quadrature response is displayed as the terrain conductivity response in units of milliSeimens per meter (mS/m). Laboratory tests indicate that the in-phase response is more susceptible to metallic objects. Generally the in-phase response to a metallic object is greater than the quadrature response to the same object at the same depth. The quadrature is sensitive to changes in the soil's conductivity, regardless if it caused by metallic objects. The in-phase is measured in parts per thousand (ppt). Both the quadrature and in-phase measurements are recorded on the internal data logger along with the grid location information. The EM31

instrument has a maximum depth of investigation of approximately 18 feet below the

Ground Penetrating Radar (GPR) Method

The ground-penetrating radar (GPR) method was used to provide subsurface imaging information throughout the areas of investigation. The GPR method is based upon the transmission of repetitive, radio-frequency EM pulses into the subsurface. When the transmitted energy of down-going wave contacts an interface of dissimilar electrical character, part of the energy is returned to the surface in the form of a reflected signal. This reflected signal is detected by a receiving transducer and is displayed on the screen of the GPR unit as well as being recorded on the internal hard-drive. The received GPR response remains constant as long as the electrical contrast between media is present and constant. Lateral or vertical changes in the electrical properties of the subsurface result in equivalent changes in the GPR responses. The system records a continuous image of the subsurface by plotting two-way travel time of the reflected EM pulse versus distance traveled along the ground surface. Two-way travel time values are then converted to depth using known soil velocity functions.

The GPR field procedures involved (1) instrument calibration, (2) test run completion, (3) production profile collection and recording, and (4) data storage for subsequent processing and analysis in the office. Each radar profile was examined for characteristic GPR signatures that may indicate the presence of buried targets. A Geophysical Survey System SIR System 2 and a 400 megahertz (MHz) antenna were used with a recording window of 60 nanoseconds (ns) to provide the required depth penetration and subsurface detail.

Results

AGS has included the contoured quadrature and in-phase EM31 data with site features (Figure 1). The small gray dots are the locations where an EM data point was collected. Based on the observations in the EM and GPR data sets, AGS identified only one large area of concern. This area has a high EM response on both the in-phase and quadrature data sets and is marked on Figure 1 as the geophysical extent of the excavation. This area appears to be the most disturbed section, both in terms of soil conductivity (quadrature plot) and in metallic metals content (in-phase plot), of the survey area with

the rest of the survey area significantly less disturbed. Within the marked area, there were surficial capacitors and metallic metal scrap piles. Several GPR profiles were collected within this section and several additional buried capacitors were identified. All capacitors identified on the GPR profiles were near the surficial capacitors and are marked on Figure1.

AGS identified several other areas outside the main excavation that had a higher than background response on the in-phase contour diagram. Of these areas only 7 were not associated with surficial metallic objects, like fencing or rebar (identified on Figure 1 with "Surficial Metal"). These seven locations were further investigated using GPR. Six of these locations appeared to be caused by miscellaneous buried metallic objects that were relatively small in nature (identified on Figure 1 with "Buried Metal Debris"). There was one location were the cause of the metallic anomaly could not be identified and is located in the north eastern section of the survey area and was marked on Figure 1 as "Unidentified EM Source". The background EM response was very low for this site, as observed on the small range indicated on the in-phase contour diagram (Figure 1). With this scale an object of significant metallic content, like pieces of rebar or capacitors, that were directly surveyed with an EM data point, should be observed on the in-phase diagram.

While on site a representative from DPW arrived and suggested that a specific area be surveyed due because there were rumors that several smaller capacitors were buried within the survey area. The mentioned area is to the south of the identified capacitors and was surveyed using both the EM and GPR methods. This area had an EM response comparable to the background levels and no capacitors were identified on the GPR profiles collected over this area.

Closing

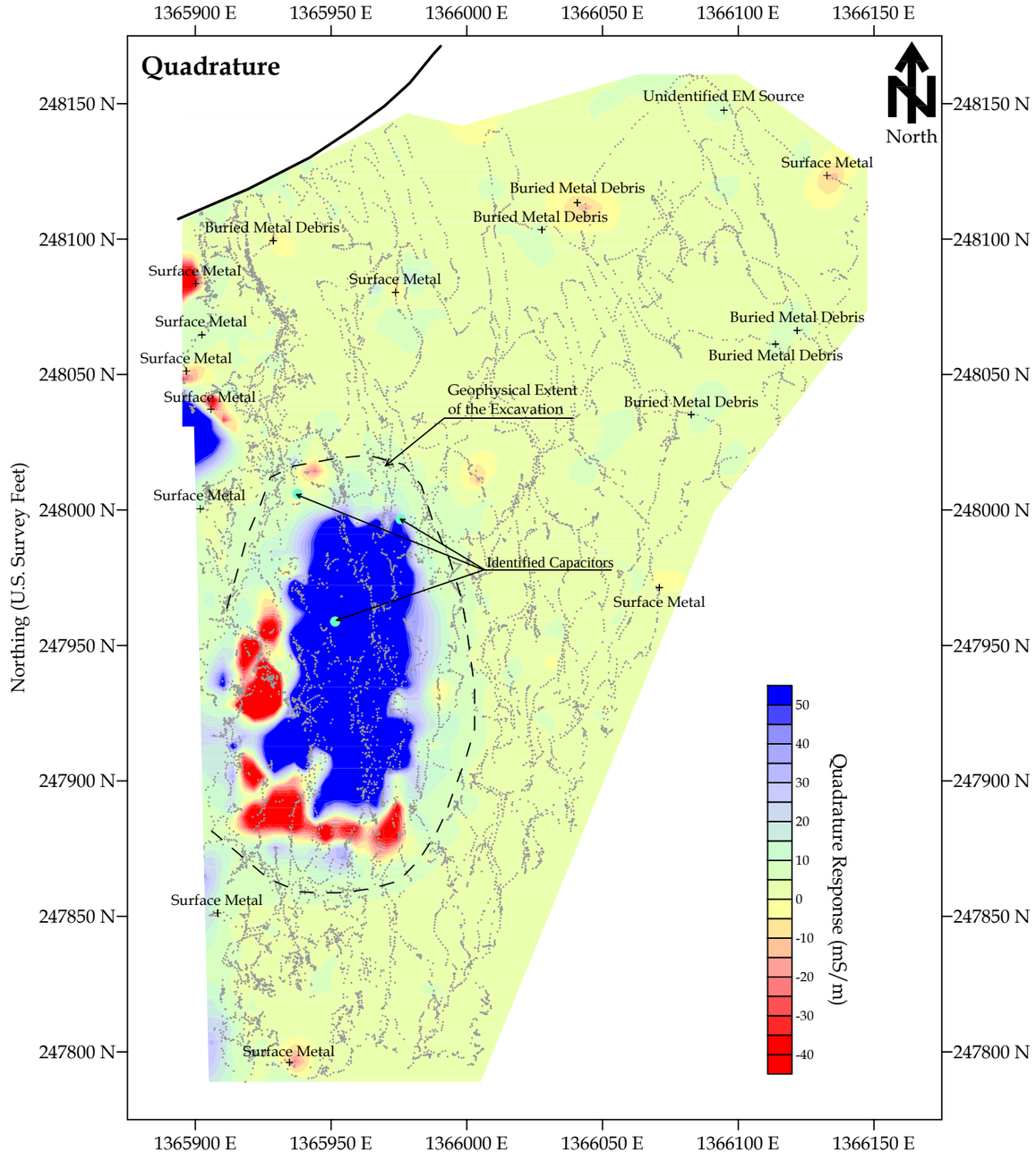
AGS identified one area of concern, which has capacitors that were geophysically identified. All identified capacitors were within the near vicinity of the surfically identifable capacitors. In addition, no other capacitors were geophysically identified outside of this one area.
Upon completion of field activities, the field results of the investigation were discussed

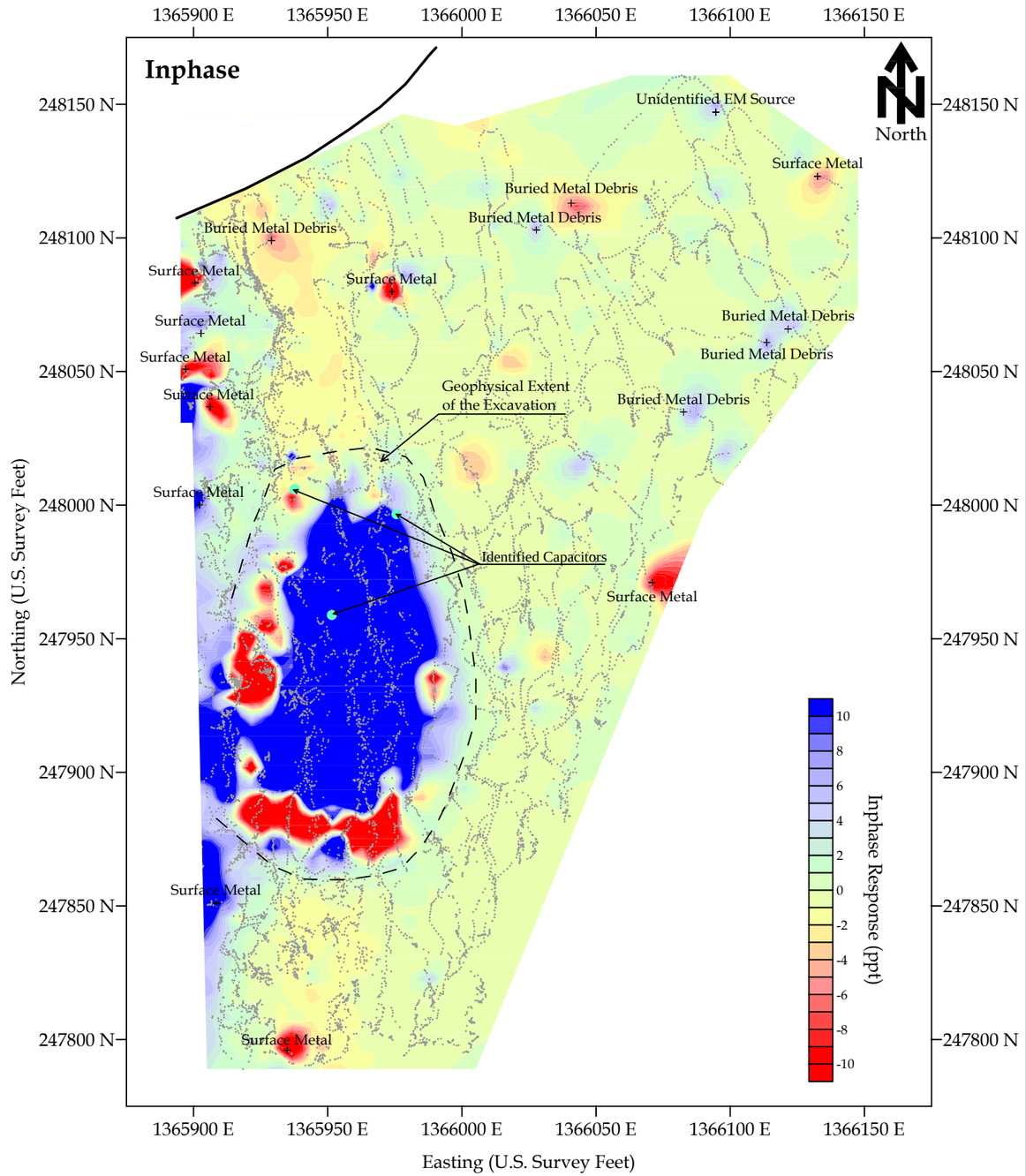
and reviewed with the onsite PW Grosser Consultants, Inc. representative.
All geophysical data and field notes collected as a part of this investigation will be archived at the AGS office. The data collection and interpretation methods used in this investigation are consistent with standard practices applied to similar geophysical investigations. The correlation of geophysical responses with probable subsurface features is based on the past results of similar surveys although it is possible that some variation could exist at this site. Due to the nature of geophysical data, no guarantees can be made or implied regarding the presence or absence of additional objects or targets beyond those identified.

If you have any questions regarding the results of this field investigation, please contact me at 610-722-5500. It was a pleasure working with you on this project and we look forward to being able to provide you with sub-surface imaging services in the future.

Sincerely,
Christopher Call
Project Geophysicist, AGS
Encl.: Figure 1 – EM31 Quadrature and In-Phase
Contour Map with Site Features

Christopher Call M.S.
Project Geophysicist, AGS





Notes

(1) An EM31 by Geonics and a SIR System GPR unit by GSSI were used for this survey. Data from these instruments was combined and correlated to locate potential buried capacitors within the survey area.
(2) AGS utilized GPS to map site features in the New York State Plane Coordinate System, Long Island (NAD 1983) and all units are in U.S. Survey Feet.
(3) The Quadrature map shown measures the soil conductivity and the In-phase map is more sensitive to metallic objects.The surficial observed capacitors were geophysically identified on both the In-phase and quadrature maps.
(4) The field positions were not surveyed by a licensed surveyor and should be considered approximate.

Figure 1
EM31 Quadrature, In-phase Contour Maps & Site Features

PW Grosser Consultants
Canine Kennel Site
Suffolk County Airport, NY

Date: March 31, 2008
AGS Reference: 08-162-1 cc

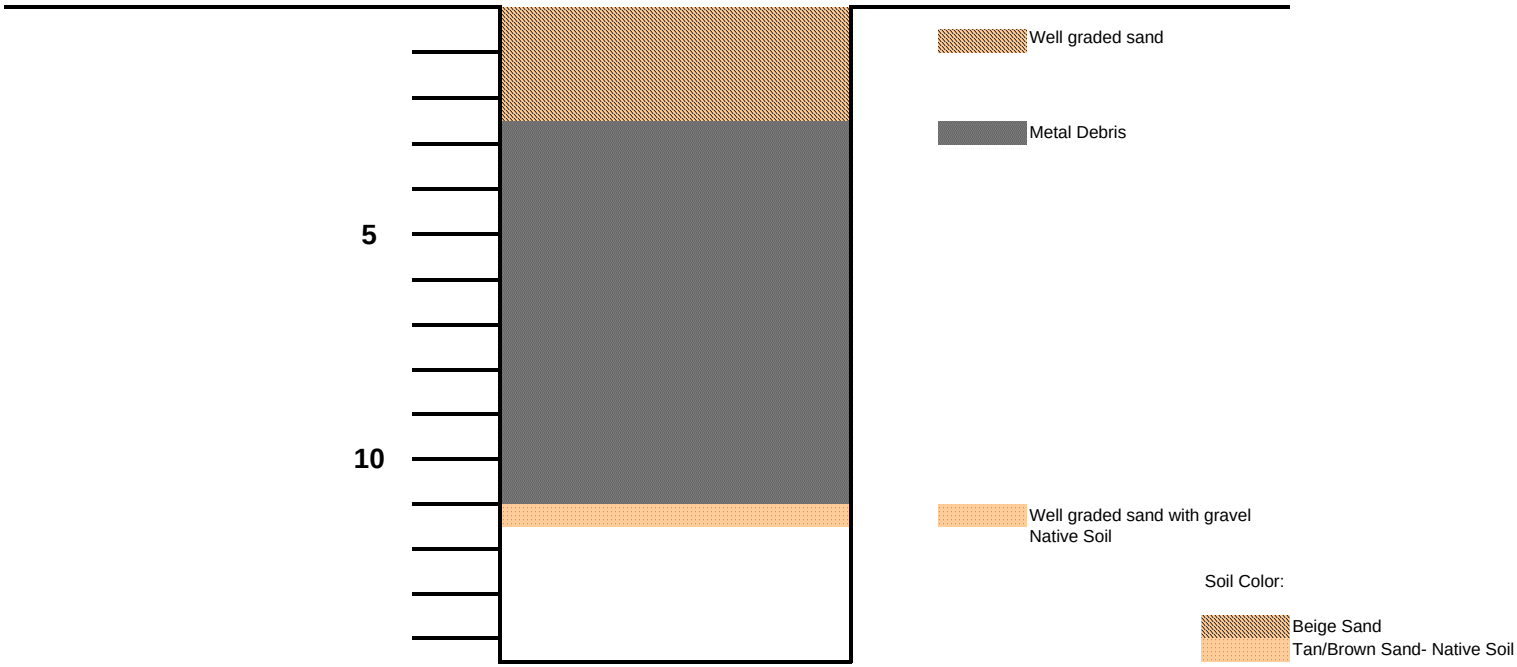
ADVANCED GEOLOGICAL SERVICES

APPENDIX C

TEST PIT LOGS

Former Canine Kennel Site
Gabreski Airport
Westhampton Beach, New York

Test Pit Log



PROJECT: DPW 0701

LOCATION: TP-01 (filled area)

DATE: 03/25/08

LOGGED BY: Kristen Rubino

NOTES:

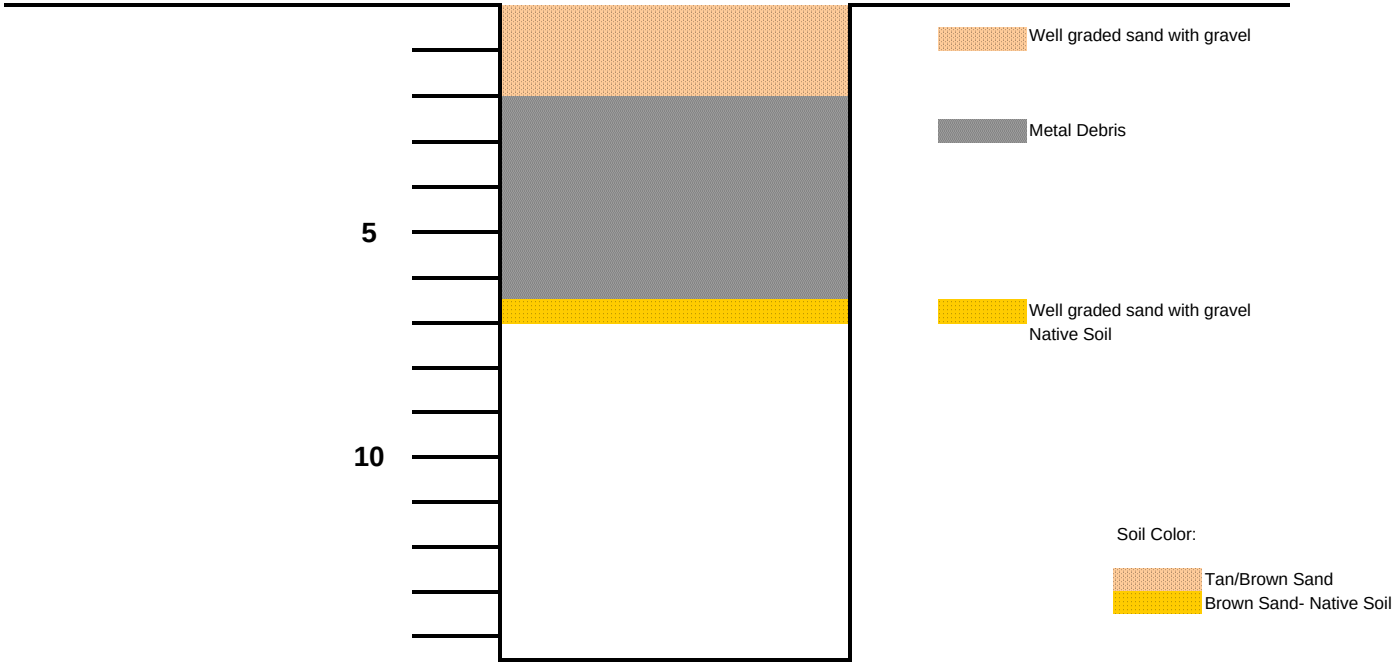
Large pieces of metal debris observed from 2.5' to 11'. Appeared to be lockers and office furniture, such as file cabinets and shelves.

Stopped when native soil was identified at 11'. Soil type beyond 11' is assumed native soil.

Sample collected from base of excavation (11.0') - appeared to be native material.

Former Canine Kennel Site
Gabreski Airport
Westhampton Beach, New York

Test Pit Log



PROJECT: DPW 0701

LOCATION: TP-02 (filled area)

DATE: 03/26/08

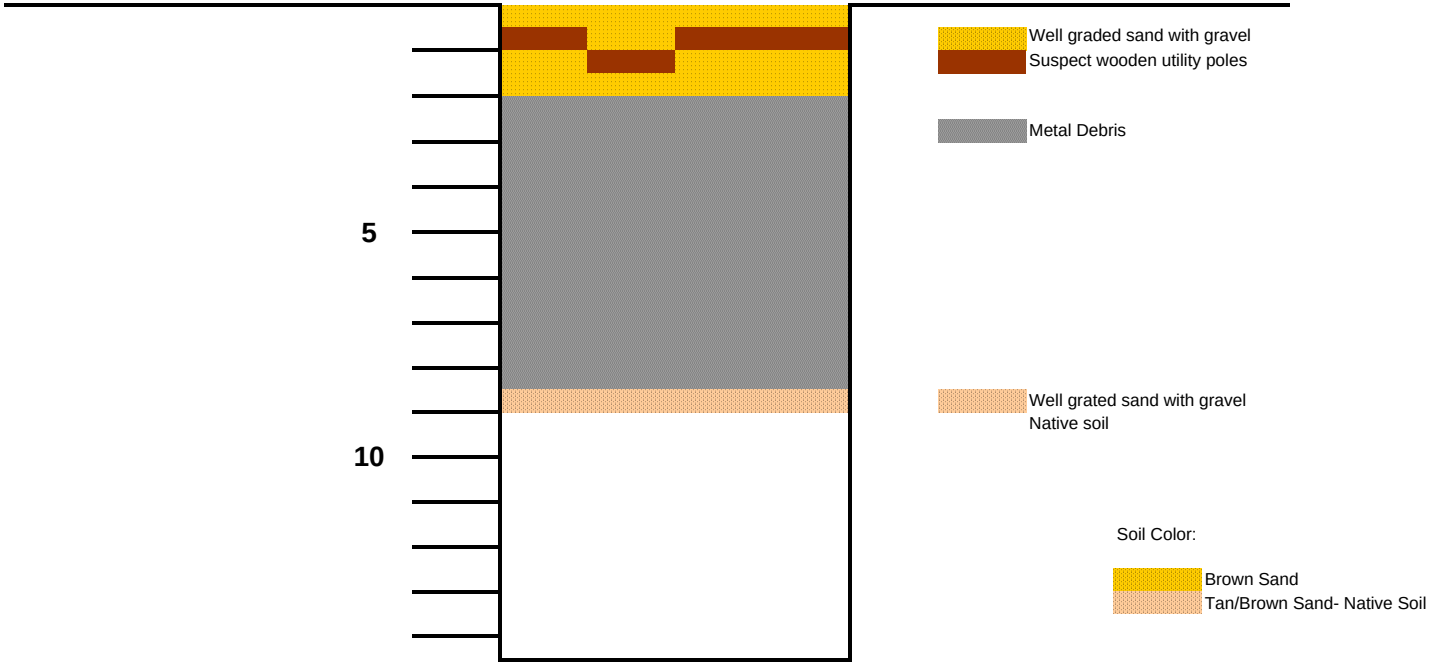
LOGGED BY: Kristen Rubino

NOTES:

Large pieces of metal debris observed from 2' to 6.5'. Metal debris consisted of office furniture and possible hot water heaters. Stopped when native soil was identified at 6.5'. Soil type beyond 6.5' is assumed native soil. Sample collected from base of excavation (6.5') - appeared to be native material.

Former Canine Kennel Site
Gabreski Airport
Westhampton Beach, New York

Test Pit Log



PROJECT: DPW 0701

LOCATION: TP-03 (depressed area)

DATE: 03/26/08

LOGGED BY: Kristen Rubino

NOTES:

Large pieces of metal debris observed from 2' to 8.5'. Metal debris consisted of office furniture and possible hot water heaters.

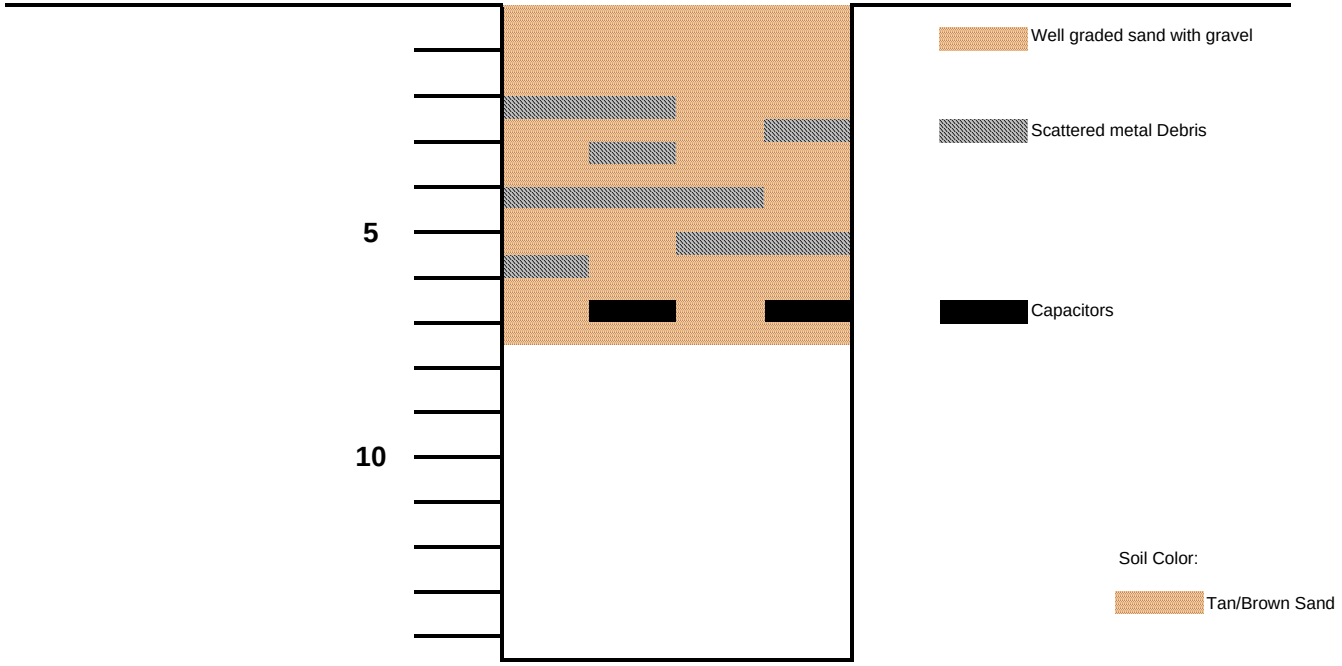
Stopped once native soil was identified below the debris at 8.5'.

Soil type beyond 8.5' is assumed native soil.

Sample collected from base of excavation (8.5') - appeared to be native material.

Former Canine Kennel Site
Gabreski Airport
Westhampton Beach, New York

Test Pit Log



PROJECT: DPW 0701

LOCATION: TP-04 (depressed area)

DATE: 03/26/08

LOGGED BY: Kristen Rubino

NOTES:

Scattered metal debris was found from 2' to 6.5'.

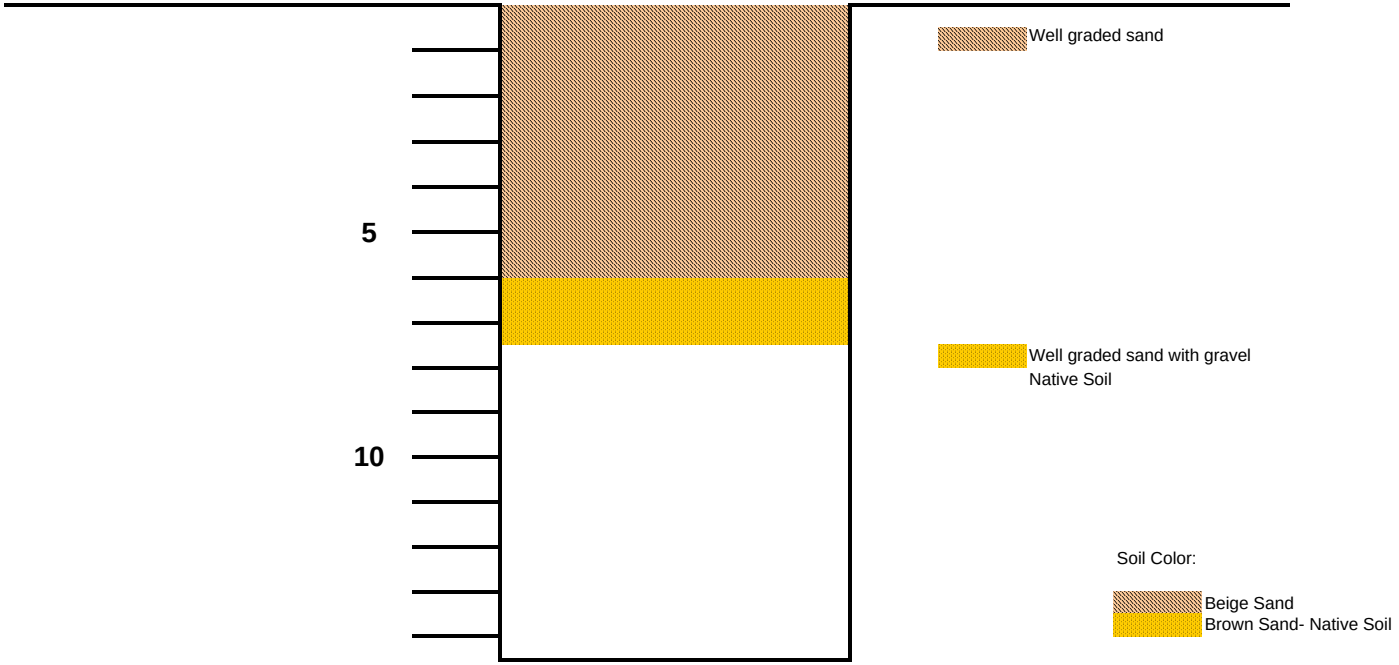
Two capacitors were found at 6.5', removed, and properly contained.

At 6.5' the pit collapsed completely, so that was the farthest depth reached. Soil type beyond 6.5' is assumed native soil.

Unsuccessful attempt to collect sample. Excavation collapsed after identified capacitors were removed.

Former Canine Kennel Site
Gabreski Airport
Westhampton Beach, New York

Test Pit Log



PROJECT: DPW 0701

LOCATION: TP-05 (mounded area)

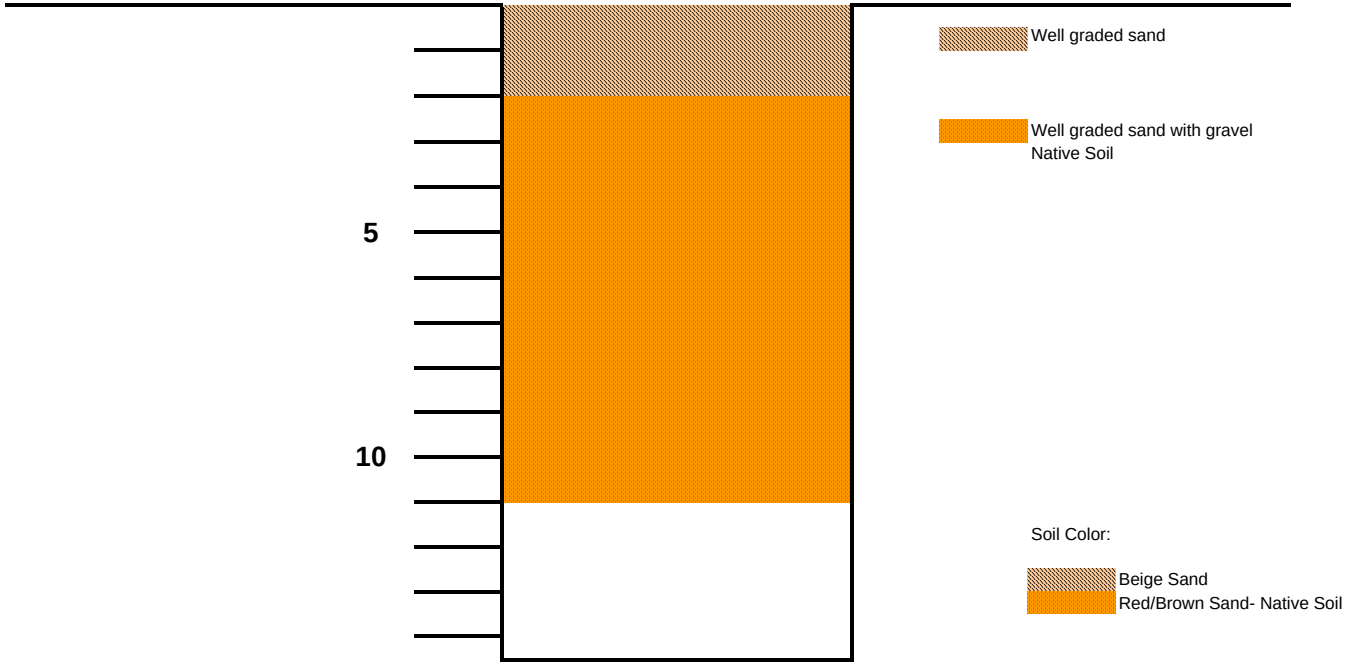
DATE: 03/24/08

LOGGED BY: Derek Ersbak

NOTES: No debris observed throughout test pit. Stopped when native soil was identified at 7.5'.

Former Canine Kennel Site
Gabreski Airport
Westhampton Beach, New York

Test Pit Log



PROJECT: DPW 0701

LOCATION: TP-06 (level area)

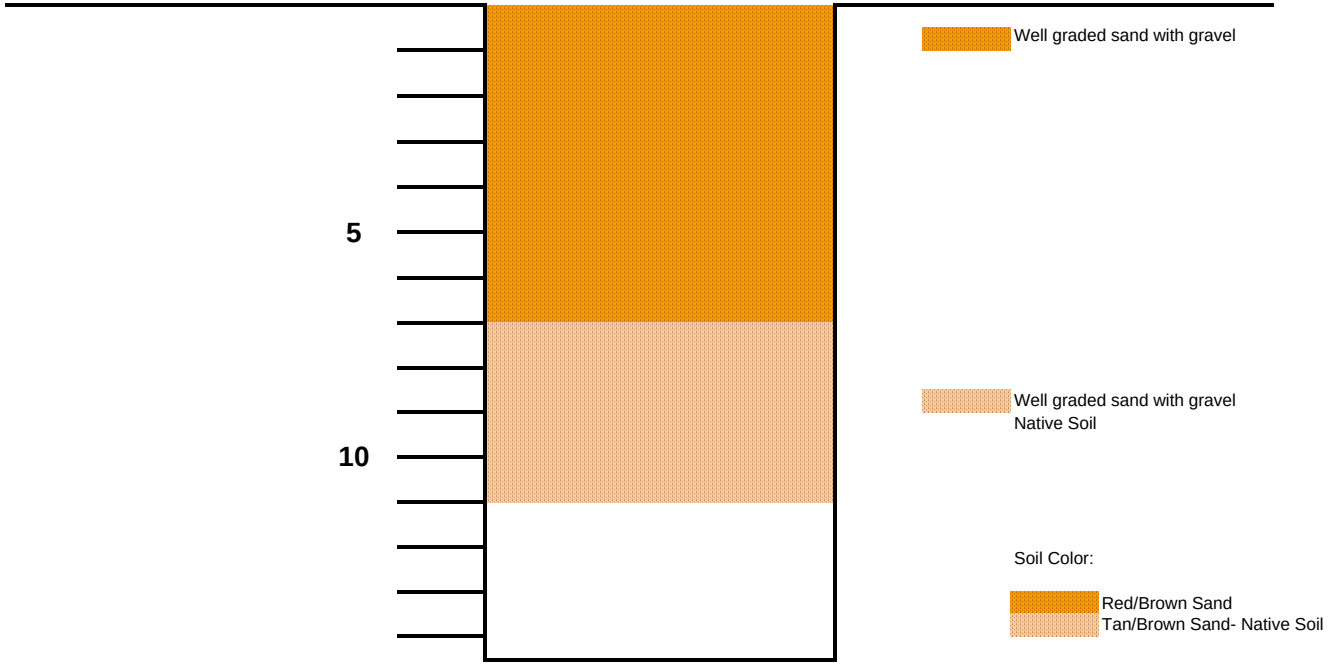
DATE: 03/25/08

LOGGED BY: Kristen Rubino

NOTES: No debris observed throughout test pit. Stopped at 11' when native soil was identified.

Former Canine Kennel Site
Gabreski Airport
Westhampton Beach, New York

Test Pit Log



PROJECT: DPW 0701

LOCATION: TP-07 (level area)

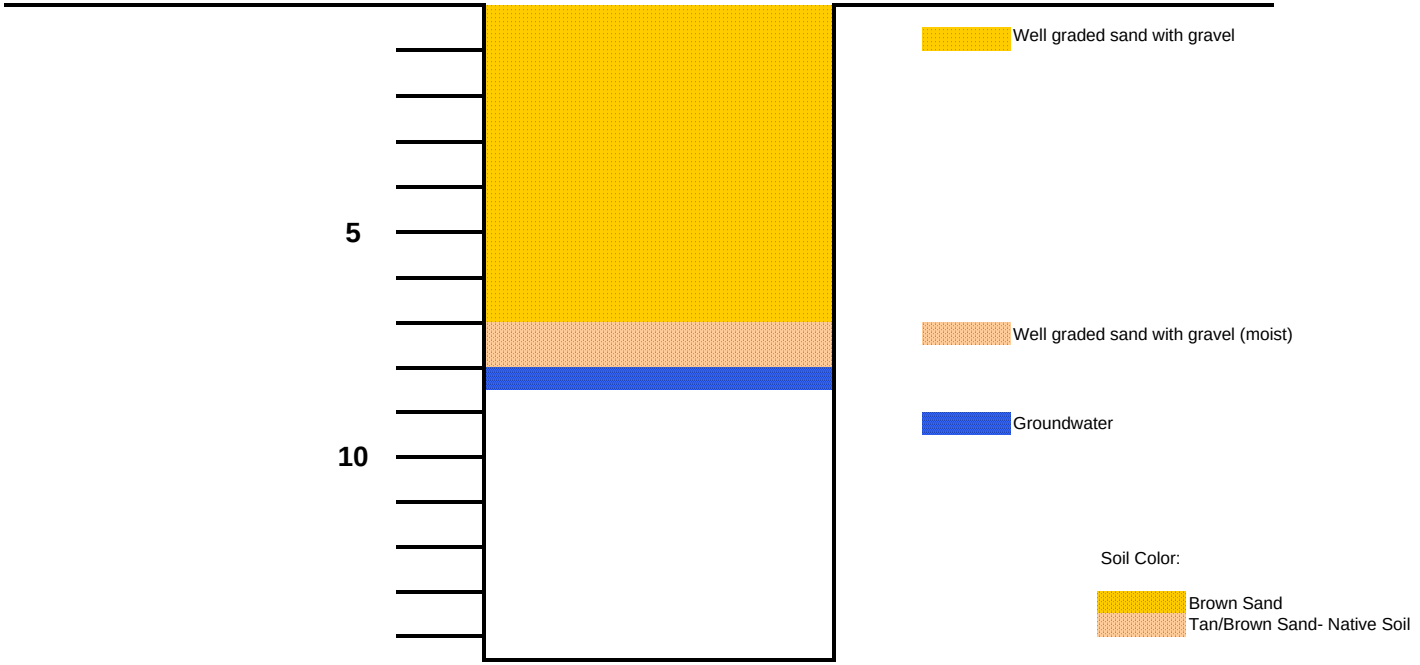
DATE: 03/25/08

LOGGED BY: Kristen Rubino

NOTES: No debris observed throughout test pit. Stopped at 11' when native soil as identified.

Former Canine Kennel Site
Gabreski Airport
Westhampton Beach, New York

Test Pit Log



PROJECT: DPW 0701

LOCATION: TP-08 (level area)

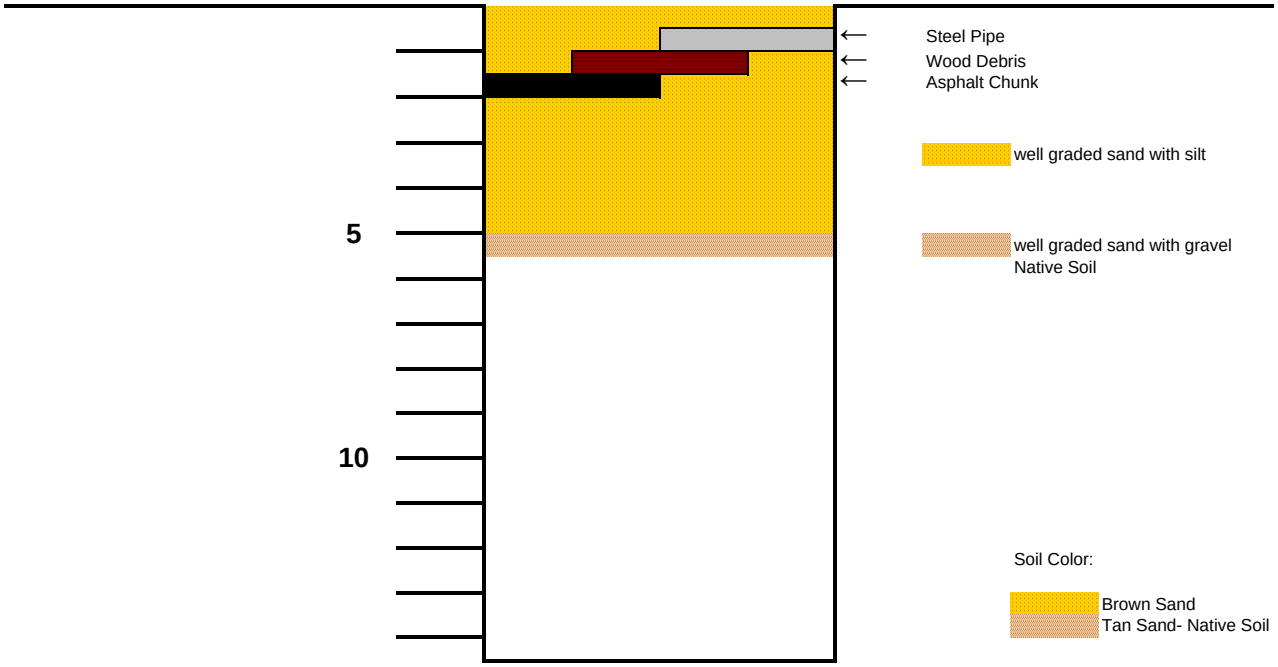
DATE: 03/26/08

LOGGED BY: Kristen Rubino

NOTES: No debris observed throughout test pit. Stopped at 8.5' because groundwater was reached.

Former Canine Kennel Site
Gabreski Airport
Westhampton Beach, New York

Test Pit Log



PROJECT: DPW 0701

LOCATION: TP-09 (mounded area)

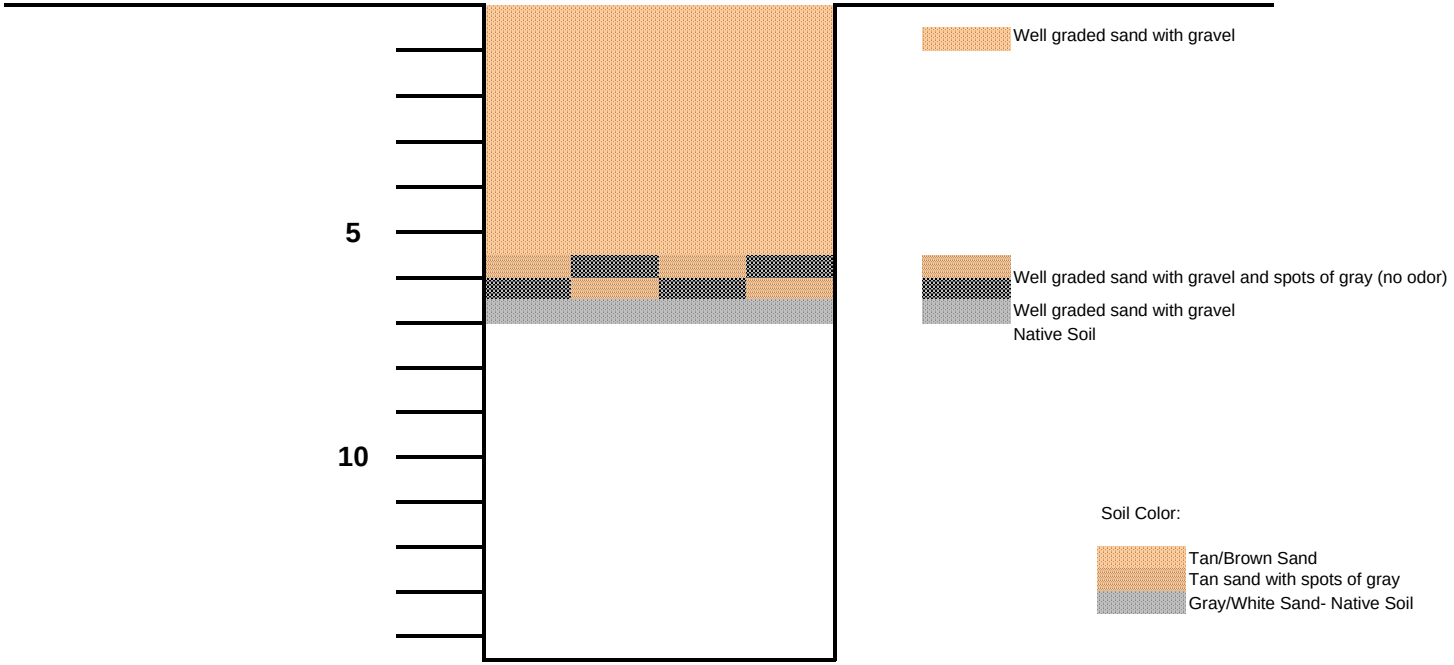
DATE: 03/24/08

LOGGED BY: Derek Ersbak

NOTES: Steel pipe identified one foot below grade. Pipe was cut off and looked like fill rather than a utility. Stopped when native soil was identified at 5.5'.

Former Canine Kennel Site
Gabreski Airport
Westhampton Beach, New York

Test Pit Log



PROJECT: DPW 0701

LOCATION: TP-10 (mounded area)

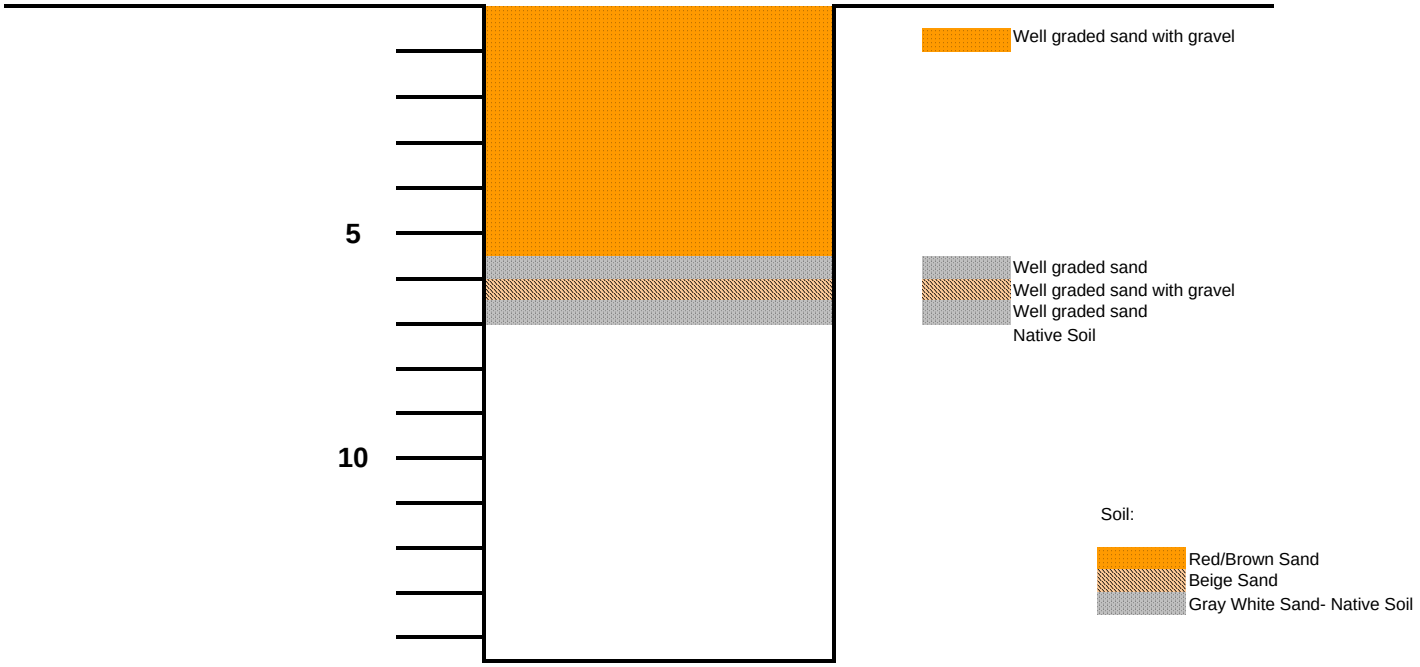
DATE: 03/24/08

LOGGED BY: Kristen Rubino

NOTES: No debris observed throughout test pit. Stopped when native soil was identified at 7'.

Former Canine Kennel Site
Gabreski Airport
Westhampton Beach, New York

Test Pit Log



PROJECT: DPW 0701

LOCATION: TP-11 (mounded area)

DATE: 03/24/08

LOGGED BY: Derek Ersbak

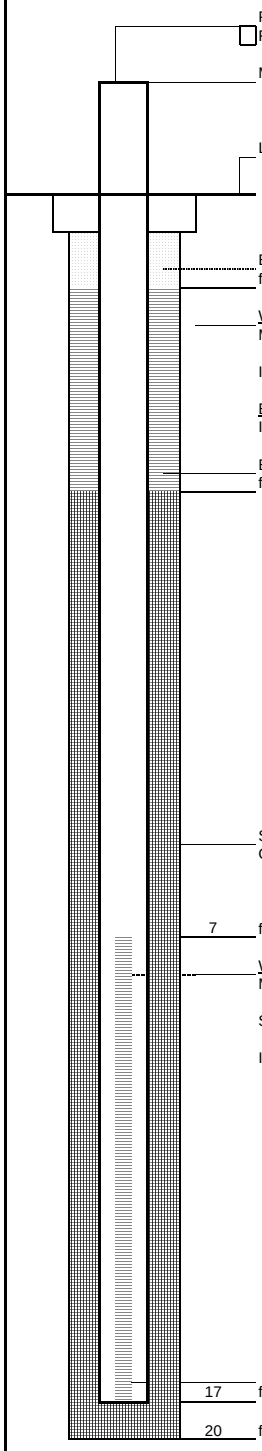
NOTES: No debris observed throughout test pit. Stopped when native soil was identified at 6.5'.

APPENDIX D

MONITORING WELL CONSTRUCTION LOGS

Monitoring Well

Construction Log

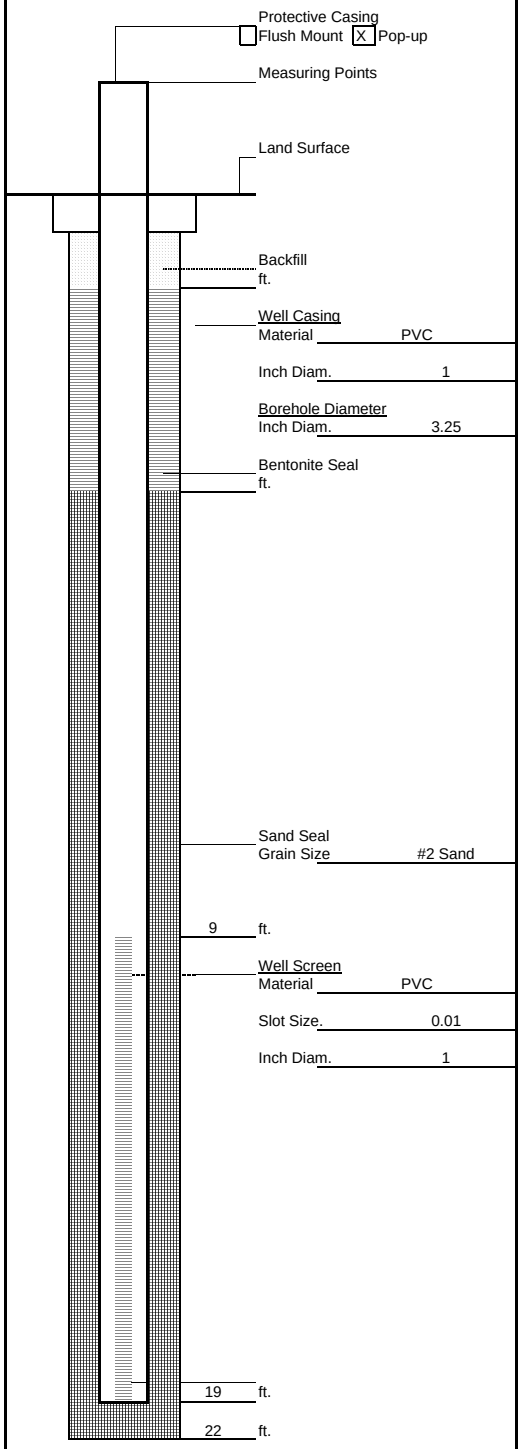


Note: Drawing is not to scale.
Depths are given in feet below land surface.

Well No.	MW-1
Project	DPW-0701
Surveyor	
Measuring Point Elevation	
Installation Date	4/17/2008
Drilling Contractor	Miller Environmental Group
Drilling Method	Geoprobe 3 1/4" casing
Drilling Fluid	None
Development Technique (s) and Date (s)	
Fluid Loss During Drilling	Gallons
Water Removed During Development	Gallons
Static Depth to Water/Product	11.5 ft
Pumping Depth to Water	
Pumping Duration	
Well Purpose	Monitoring
Hydrogeologist	RWW
Company Name	P.W. Grosser Consulting Inc.
Notes	

Monitoring Well

Construction Log

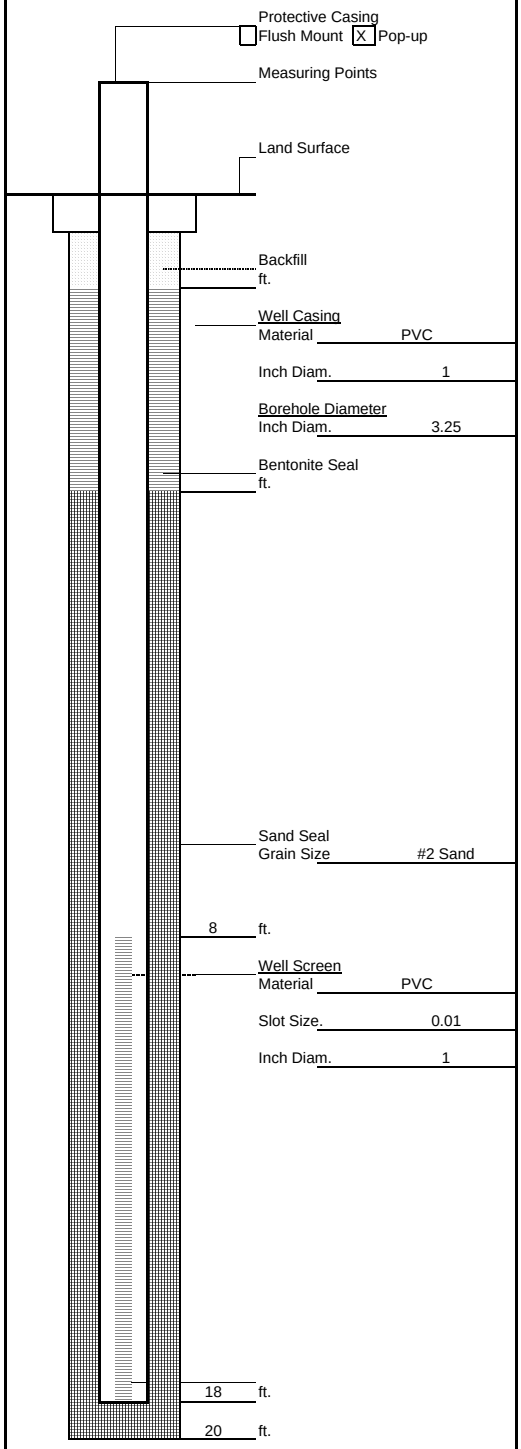


Note: Drawing is not to scale.
Depths are given in feet below land surface.

Well No.	MW-2
Project	DPW-0701
Surveyor	
Measuring Point Elevation	
Installation Date	4/17/2008
Drilling Contractor	Miller Environmental Group
Drilling Method	Geoprobe 3 1/4" casing
Drilling Fluid	None
Development Technique (s) and Date (s)	
Fluid Loss During Drilling	Gallons
Water Removed During Development	Gallons
Static Depth to Water/Product	14.73 ft
Pumping Depth to Water	
Pumping Duration	
Well Purpose	Monitoring
Hydrogeologist	RWW
Company Name	P.W. Grosser Consulting Inc.
Notes	

Monitoring Well

Construction Log

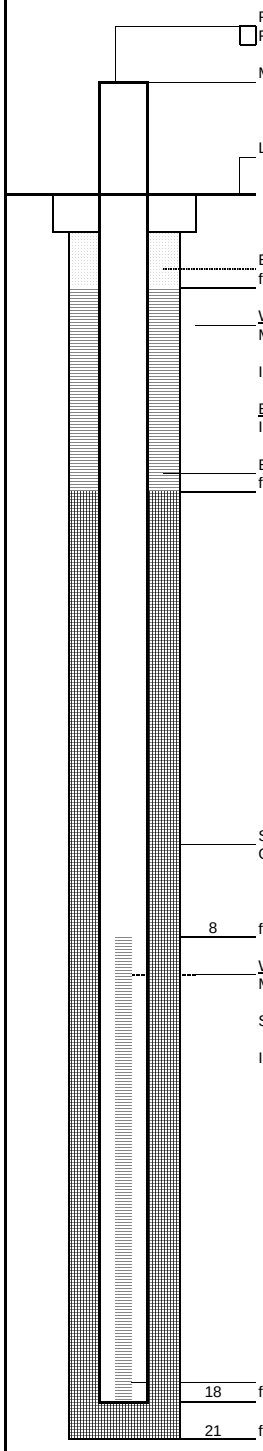


Note: Drawing is not to scale.
Depths are given in feet below land surface.

Well No.	MW-3
Project	DPW-0701
Surveyor	
Measuring Point Elevation	
Installation Date	4/17/2008
Drilling Contractor	Miller Environmental Group
Drilling Method	Geoprobe 3 1/4" casing
Drilling Fluid	None
Development Technique (s) and Date (s)	
Fluid Loss During Drilling	Gallons
Water Removed During Development	Gallons
Static Depth to Water/Product	13.98 ft
Pumping Depth to Water	
Pumping Duration	
Well Purpose	Monitoring
Hydrogeologist	RWW
Company Name	P.W. Grosser Consulting Inc.
Notes	

Monitoring Well

Construction Log

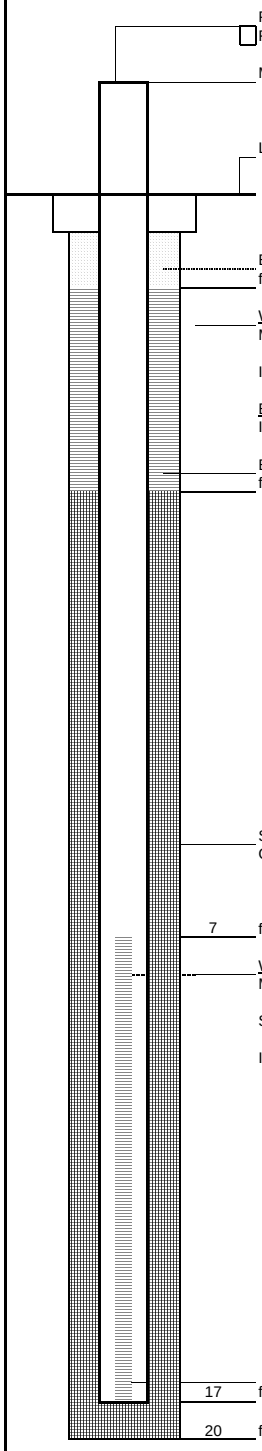


Note: Drawing is not to scale.
Depths are given in feet below land surface.

Well No.	MW-4
Project	DPW-0701
Surveyor	
Measuring Point Elevation	
Installation Date	4/17/2008
Drilling Contractor	Miller Environmental Group
Drilling Method	Geoprobe 3 1/4" casing
Drilling Fluid	None
Development Technique (s) and Date (s)	
Fluid Loss During Drilling	Gallons
Water Removed During Development	Gallons
Static Depth to Water/Product	13.27 ft
Pumping Depth to Water	
Pumping Duration	
Well Purpose	Monitoring
Hydrogeologist	RWW
Company Name	P.W. Grosser Consulting Inc.
Notes	

Monitoring Well

Construction Log

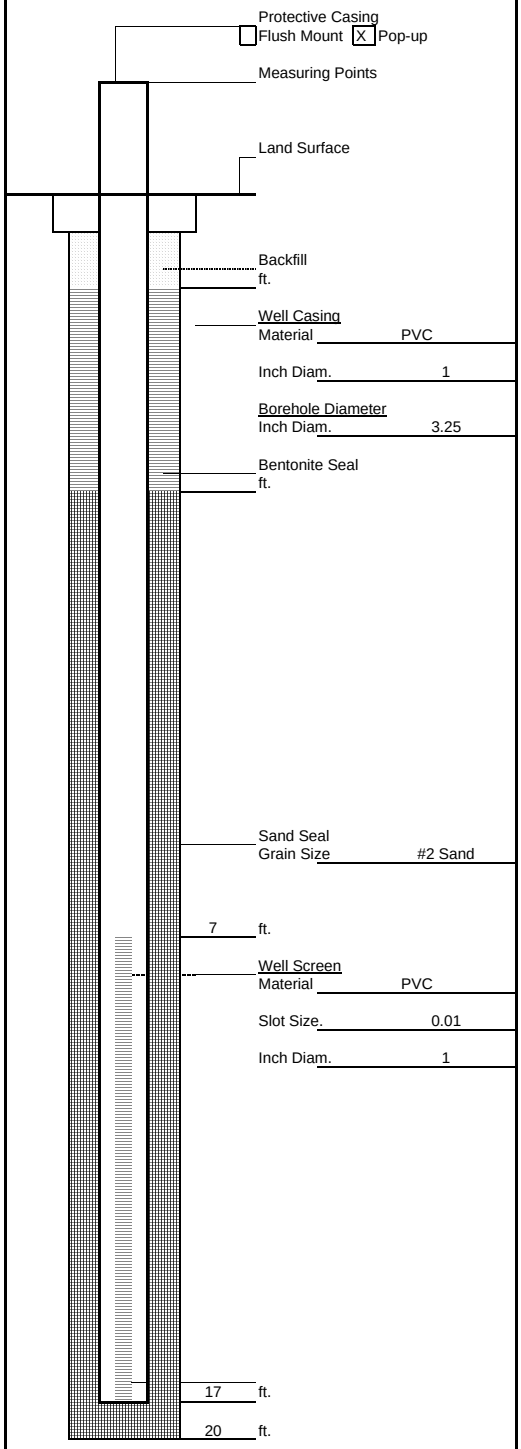


Note: Drawing is not to scale.
Depths are given in feet below land surface.

Well No.	MW-5
Project	DPW-0701
Surveyor	
Measuring Point Elevation	
Installation Date	4/17/2008
Drilling Contractor	Miller Environmental Group
Drilling Method	Geoprobe 3 1/4" casing
Drilling Fluid	
Development Technique (s) and Date (s)	
Fluid Loss During Drilling	Gallons
Water Removed During Development	Gallons
Static Depth to Water/Product	9.50 ft
Pumping Depth to Water	
Pumping Duration	
Well Purpose	Monitoring
Hydrogeologist	RWW
Company Name	P.W. Grosser Consulting Inc.
Notes	

Monitoring Well

Construction Log



Note: Drawing is not to scale.
Depths are given in feet below land surface.

Well No.	MW-6
Project	DPW-0701
Surveyor	
Measuring Point Elevation	
Installation Date	4/17/2008
Drilling Contractor	Miller Environmental Group
Drilling Method	Geoprobe 3 1/4" casing
Drilling Fluid	
Development Technique (s) and Date (s)	
Fluid Loss During Drilling	Gallons
Water Removed During Development	Gallons
Static Depth to Water/Product	10 ft
Pumping Depth to Water	
Pumping Duration	
Well Purpose	Monitoring
Hydrogeologist	RWW
Company Name	P.W. Grosser Consulting Inc.
Notes	

APPENDIX E

MONITORING WELL DEVELOPMENT LOGS

P.W. GROSSER CONSULTING, INC.

Monitoring Well Development Log

SITE INFORMATION

SITE ID/PROJECT NUMBER: Former Canine Kennel, Gabreski Airport, Westhampton Beach (DPW0701)

DEVELOPMENT POINT	MW-1	DEVELOPED BY	RWW
DATE DEVELOPED	4/18/2008	WELL DIAMETER (inches)	1
STATIC WATER ELEVATION (feet)	14.41	TOTAL WELL DEPTH (feet)	17

DEVELOPMENT INFORMATION

PURGE METHOD	Low-flow	PURGE TIME (Min)	see below
PURGE RATE (GPM)	see below	GALLONS	NA

DEVELOPMENT PARAMETERS

Time	Flow Rate (mL/min)	pH	Cond. (µS/cm)	Turbidity (NTU)	Temp. (ºC)	PID (ppm)
13:55	350	6.08	0.037	933	15.3	0.1
14:00	350	6.14	0.059	318	12.4	0.1
14:05	350	6.09	0.055	92	11.8	0.1
14:10	350	6.03	0.054	61	11.8	0.1
14:15	350	5.94	0.053	52	11.9	0.1
14:20	350	5.89	0.052	48	11.5	0.1
14:25	350	5.88	0.050	45	11.5	0.1

P.W. GROSSER CONSULTING, INC.

Monitoring Well Development Log

SITE INFORMATION

SITE ID/PROJECT NUMBER: Former Canine Kennel, Gabreski Airport, Westhampton Beach (DPW0701)

DEVELOPMENT POINT: MW-2

DEVELOPED BY: RWW

DATE DEVELOPED: 4/18/2008

WELL DIAMETER (inches): 1

STATIC WATER ELEVATION (feet): 14.8

TOTAL WELL DEPTH (feet): 19

DEVELOPMENT INFORMATION

PURGE METHOD: Low-flow

PURGE TIME (Min): see below

PURGE RATE (GPM): see below

GALLONS: NA

DEVELOPMENT PARAMETERS

Time	Flow Rate (mL/min)	pH	Cond. (µS/cm)	Turbidity (NTU)	Temp. (ºC)	PID (ppm)
9:23	350	7.77	0.256	999	12.6	3.1
9:28	350	7.41	0.126	160	10.2	3.1
9:33	350	7.17	0.111	28	9.8	3.1
9:38	350	6.87	0.098	50	10.2	3.1
9:43	350	6.82	0.092	78	10.3	3.1
9:48	350	6.80	0.920	73	10.4	3.1

P.W. GROSSER CONSULTING, INC.

Monitoring Well Development Log

SITE INFORMATION

SITE ID/PROJECT NUMBER: Former Canine Kennel, Gabreski Airport, Westhampton Beach (DPW0701)

DEVELOPMENT POINT	MW-3	DEVELOPED BY	RWW
DATE DEVELOPED	4/18/2008	WELL DIAMETER (inches)	1
STATIC WATER ELEVATION (feet)	14.07	TOTAL WELL DEPTH (feet)	18

DEVELOPMENT INFORMATION

PURGE METHOD	Low-flow	PURGE TIME (Min)	see below
PURGE RATE (GPM)	see below	GALLONS	NA

DEVELOPMENT PARAMETERS

Time	Flow Rate (mL/min)	pH	Cond. (µS/cm)	Turbidity (NTU)	Temp. (ºC)	PID (ppm)
10:20	350	6.78	0.174	999	12.5	1.0
10:25	350	6.93	0.081	770	11.1	1.0
10:30	350	6.47	0.070	53	11.1	1.0
10:35	350	6.48	0.089	50	11.1	1.0
10:40	350	6.47	0.081	53	11.4	1.0
10:45	350	6.45	0.790	52	11.4	1.0

P.W. GROSSER CONSULTING, INC.

Monitoring Well Development Log

SITE INFORMATION

SITE ID/PROJECT NUMBER: Former Canine Kennel, Gabreski Airport, Westhampton Beach (DPW0701)

DEVELOPMENT POINT: MW-4 | DEVELOPED BY: RWW

DATE DEVELOPED: 4/18/2008 | WELL DIAMETER (inches): 1

STATIC WATER ELEVATION (feet): 13.36 | TOTAL WELL DEPTH (feet): 18

DEVELOPMENT INFORMATION

PURGE METHOD: Low-flow | PURGE TIME (Min): see below

PURGE RATE (GPM): see below | GALLONS: NA

DEVELOPMENT PARAMETERS

Time	Flow Rate (mL/min)	pH	Cond. (µS/cm)	Turbidity (NTU)	Temp. (ºC)	PID (ppm)
11:00	350	5.98	0.170	458	12.8	0.7
11:05	350	6.53	0.094	398	11.3	0.7
11:10	350	6.5	0.088	175	11.1	0.7
11:15	350	6.39	0.810	48	11.6	0.7
11:20	350	6.37	0.075	52	11.1	0.7
11:25	350	6.35	0.740	50	11.2	0.7

P.W. GROSSER CONSULTING, INC.

Monitoring Well Development Log

SITE INFORMATION

SITE ID/PROJECT NUMBER: Former Canine Kennel, Gabreski Airport, Westhampton Beach (DPW0701)

DEVELOPMENT POINT: MW-5 | DEVELOPED BY: RWW

DATE DEVELOPED: 4/18/2008 | WELL DIAMETER (inches): 1

STATIC WATER ELEVATION (feet): 12.6 | TOTAL WELL DEPTH (feet): 17

DEVELOPMENT INFORMATION

PURGE METHOD: Low-flow | PURGE TIME (Min): see below

PURGE RATE (GPM): see below | GALLONS: NA

DEVELOPMENT PARAMETERS

Time	Flow Rate (mL/min)	pH	Cond. (µS/cm)	Turbidity (NTU)	Temp. (ºC)	PID (ppm)
12:35	350	6.40	0.128	999	12.5	0.7
12:40	350	6.70	0.081	247	11.1	0.7
12:45	350	6.54	0.072	153	10.9	0.7
12:50	350	6.36	0.071	86	11.0	0.7
12:55	350	6.34	0.070	50	11.1	0.7
13:00	350	6.32	0.069	48	10.9	0.7
13:05	350	6.31	0.069	49	10.8	0.7

P.W. GROSSER CONSULTING, INC.

Monitoring Well Development Log

SITE INFORMATION

SITE ID/PROJECT NUMBER: Former Canine Kennel, Gabreski Airport, Westhampton Beach (DPW0701)

DEVELOPMENT POINT: MW-6 | DEVELOPED BY: RWW

DATE DEVELOPED: 4/18/2008 | WELL DIAMETER (inches): 1

STATIC WATER ELEVATION (feet): 12.1 | TOTAL WELL DEPTH (feet): 17

DEVELOPMENT INFORMATION

PURGE METHOD: Low-flow | PURGE TIME (Min): see below

PURGE RATE (GPM): see below | GALLONS: NA

DEVELOPMENT PARAMETERS

	Time	Flow Rate (mL/min)	pH	Cond. (µS/cm)	Turbidity (NTU)	Temp. (ºC)	PID (ppm)
	13:15	350	6.29	0.093	999	11.0	3.0
	13:20	350	6.28	0.068	619	10.5	3.0
	13:25	350	5.98	0.620	125	10.3	3.0
	13:30	350	5.98	0.600	48	10.3	3.0
	13:35	350	5.97	0.600	49	10.3	3.0
	13:40	350	5.97	0.590	48	10.3	3.0

APPENDIX F

MONITORING WELL SAMPLING LOGS

P.W. GROSSER CONSULTING, INC.

Monitoring Well Sampling Log

SITE INFORMATION

SITE ID/PROJECT NUMBER:	Former Canine Kennel, Gabreski Airport, Westhampton Beach (DPW0701)		
SAMPLING POINT	MW-1 / Dup-01	SAMPLED BY	DNE
DATE SAMPLED	4/25/2008	TIME SAMPLED	13:59
STATIC WATER ELEVATION (feet)	14.49	TOTAL WELL DEPTH (feet)	17
WELL DIAMETER (inches)	1		

SAMPLING INFORMATION

PURGE METHOD	Low-flow	SAMPLE METHOD	Peristaltic Pump
PURGE RATE (GPM)	see below	PURGE TIME (Min)	see below
CASING VOLUMES REMOVED	N/A	GALLONS	N/A
SAMPLE APPEARANCE	Clear	ODORS OBSERVED	None
PID (ppm)	0.0	%LEL	N/A
ANALYSIS	Pesticides / PCBs	LABORATORY	Chemtech
DATE SHIPPED	4/25/2008	SHIPPING METHOD	Hand delivered

SAMPLING PARAMETERS

Time	Flow Rate (mL/min)	pH	Cond. (µS/cm)	Turbidity (NTU)	ORP (mV)	Temp. (ºC)
13:38	350	6.49	51.6	85.90	202	14.4
13:41	350	6.35	51	14.50	160	14.2
13:44	350	6.25	52	4.72	182	14
13:47	350	6.21	52	2.03	182	14
13:50	350	6.17	52.2	1.92	182	13.9
13:53	350	6.14	52.3	1.44	185	13.8
13:56	350	6.09	52.3	0.85	186	13.8

P.W. GROSSER CONSULTING, INC.

Monitoring Well Sampling Log

SITE INFORMATION

SITE ID/PROJECT NUMBER:	Former Canine Kennel, Gabreski Airport, Westhampton Beach (DPW0701)		
SAMPLING POINT	MW-2/MS/MSD	SAMPLED BY	DNE
DATE SAMPLED	4/25/2008	TIME SAMPLED	9:56
STATIC WATER ELEVATION (feet)	16.5	TOTAL WELL DEPTH (feet)	19
WELL DIAMETER (inches)	1		

SAMPLING INFORMATION

PURGE METHOD	Low-flow	SAMPLE METHOD	Peristaltic Pump
PURGE RATE (GPM)	see below	PURGE TIME (Min)	see below
CASING VOLUMES REMOVED	N/A	GALLONS	N/A
SAMPLE APPEARANCE	Clear	ODORS OBSERVED	None
PID (ppm)	0.0	%LEL	N/A
ANALYSIS	Pesticides / PCBs	LABORATORY	Chemtech
DATE SHIPPED	4/25/2008	SHIPPING METHOD	Hand delivered

SAMPLING PARAMETERS

Time	Flow Rate (mL/min)	pH	Cond. (µS/cm)	Turbidity (NTU)	ORP (mV)	Temp. (ºC)
9:31	350	7.79	79.1	236	32	12.4
9:34	350	7.30	76.5	8.17	64	11.6
9:37	350	7.10	76.7	3.31	63	11.2
9:40	350	6.93	77	2.12	64	10.9
9:43	350	6.88	77.2	1.14	64	10.9
9:47	350	6.77	77.9	0.88	65	10.9
9:50	350	6.71	78.3	0.62	63	10.9
9:53	350	6.66	78.2	0.52	64	10.9

P.W. GROSSER CONSULTING, INC.

Monitoring Well Sampling Log

SITE INFORMATION

SITE ID/PROJECT NUMBER:	Former Canine Kennel, Gabreski Airport, Westhampton Beach (DPW0701)		
SAMPLING POINT	MW-3	SAMPLED BY	DNE
DATE SAMPLED	4/25/2008	TIME SAMPLED	10:50
STATIC WATER ELEVATION (feet)	14.16	TOTAL WELL DEPTH (feet)	18
WELL DIAMETER (inches)	1		

SAMPLING INFORMATION

PURGE METHOD	Low-flow	SAMPLE METHOD	Peristaltic Pump
PURGE RATE (GPM)	see below	PURGE TIME (Min)	see below
CASING VOLUMES REMOVED	N/A	GALLONS	N/A
SAMPLE APPEARANCE	Clear	ODORS OBSERVED	None
PID (ppm)	0.0	%LEL	N/A
ANALYSIS	Pesticides / PCBs	LABORATORY	Chemtech
DATE SHIPPED	4/25/2008	SHIPPING METHOD	Hand delivered

SAMPLING PARAMETERS

Time	Flow Rate (mL/min)	pH	Cond. (µS/cm)	Turbidity (NTU)	ORP (mV)	Temp. (ºC)
10:33	350	6.73	80.6	578	145	11.5
10:36	350	6.66	78.4	95.2	149	11.4
10:39	350	6.6	76.9	18.2	152	11.3
10:42	350	6.57	76.7	6.48	155	11.4
10:45	350	6.52	75.1	2.97	156	11.4
10:48	350	6.5	73.7	3.11	154	11.4

P.W. GROSSER CONSULTING, INC.

Monitoring Well Sampling Log

SITE INFORMATION

SITE ID/PROJECT NUMBER:	Former Canine Kennel, Gabreski Airport, Westhampton Beach (DPW0701)		
SAMPLING POINT	MW-4	SAMPLED BY	DNE
DATE SAMPLED	4/25/2008	TIME SAMPLED	11:33
STATIC WATER ELEVATION (feet)	14.39	TOTAL WELL DEPTH (feet)	18
WELL DIAMETER (inches)	1		

SAMPLING INFORMATION

PURGE METHOD	Low-flow	SAMPLE METHOD	Peristaltic Pump
PURGE RATE (GPM)	see below	PURGE TIME (Min)	see below
CASING VOLUMES REMOVED	N/A	GALLONS	N/A
SAMPLE APPEARANCE	Clear	ODORS OBSERVED	None
PID (ppm)	0.0	%LEL	N/A
ANALYSIS	Pesticides / PCBs	LABORATORY	Chemtech
DATE SHIPPED	4/25/2008	SHIPPING METHOD	Hand delivered

SAMPLING PARAMETERS

Time	Flow Rate (mL/min)	pH	Cond. (µS/cm)	Turbidity (NTU)	ORP (mV)	Temp. (ºC)
11:15	350	6.6	63.3	576	106	12.1
11:18	350	6.46	66.4	89.3	20	11.9
11:21	350	6.4	67.4	19.8	25	11.8
11:24	350	6.42	67.5	6.8	27	11.8
11:27	350	6.43	67.9	3.7	25	11.7
11:30	350	6.43	67.7	2.25	23	11.8

P.W. GROSSER CONSULTING, INC.

Monitoring Well Sampling Log

SITE INFORMATION

SITE ID/PROJECT NUMBER:	Former Canine Kennel, Gabreski Airport, Westhampton Beach (DPW0701)		
SAMPLING POINT	MW-5	SAMPLED BY	DNE
DATE SAMPLED	4/25/2008	TIME SAMPLED	12:18
STATIC WATER ELEVATION (feet)	12.69	TOTAL WELL DEPTH (feet)	17
WELL DIAMETER (inches)	1		

SAMPLING INFORMATION

PURGE METHOD	Low-flow	SAMPLE METHOD	Peristaltic Pump
PURGE RATE (GPM)	see below	PURGE TIME (Min)	see below
CASING VOLUMES REMOVED	N/A	GALLONS	N/A
SAMPLE APPEARANCE	Clear	ODORS OBSERVED	None
PID (ppm)	0.0	%LEL	N/A
ANALYSIS	Pesticides / PCBs	LABORATORY	Chemtech
DATE SHIPPED	4/25/2008	SHIPPING METHOD	Hand delivered

SAMPLING PARAMETERS

Time	Flow Rate (mL/min)	pH	Cond. (µS/cm)	Turbidity (NTU)	ORP (mV)	Temp. (ºC)
11:54	350	6.54	54	>1,000	42	12.6
11:57	350	6.58	67.3	47.9	31	12.1
12:00	350	6.54	70	14.6	33	12.2
12:03	350	6.57	69.6	6.59	38	12.2
12:06	350	6.53	69.2	5.16	40	12.2
12:09	350	6.54	68.7	5.09	41	12.3
12:12	350	6.52	68.3	4.11	41	12.3
12:15	350	6.51	67.9	3.29	42	12.4

P.W. GROSSER CONSULTING, INC.

Monitoring Well Sampling Log

SITE INFORMATION

SITE ID/PROJECT NUMBER:	Former Canine Kennel, Gabreski Airport, Westhampton Beach (DPW0701)		
SAMPLING POINT	MW-6	SAMPLED BY	DNE
DATE SAMPLED	4/25/2008	TIME SAMPLED	13:01
STATIC WATER ELEVATION (feet)	12.18	TOTAL WELL DEPTH (feet)	17
WELL DIAMETER (inches)	1		

SAMPLING INFORMATION

PURGE METHOD	Low-flow	SAMPLE METHOD	Peristaltic Pump
PURGE RATE (GPM)	see below	PURGE TIME (Min)	see below
CASING VOLUMES REMOVED	N/A	GALLONS	N/A
SAMPLE APPEARANCE	Clear	ODORS OBSERVED	None
PID (ppm)	1.2	%LEL	N/A
ANALYSIS	Pesticides / PCBs	LABORATORY	Chemtech
DATE SHIPPED	4/25/2008	SHIPPING METHOD	Hand delivered

SAMPLING PARAMETERS

Time	Flow Rate (mL/min)	pH	Cond. (µS/cm)	Turbidity (NTU)	ORP (mV)	Temp. (ºC)
12:40	350	6.63	62.1	742	166	12.6
12:43	350	6.59	62.9	97.3	153	11.8
12:46	350	6.55	62.4	31.8	155	11.5
12:49	350	6.51	62.1	11	158	11.4
12:52	350	6.48	61.7	4.50	153	11.4
12:55	350	6.45	61.7	2.92	155	11.4
12:58	350	6.44	61.4	2.50	155	11.4

APPENDIX G

DATA VALIDATION REPORT

DATA VALIDATION

FOR

CANINE KENNEL
WEST HAMPTON, NEW YORK
March 2008 Sampling Round

ANALYSIS DATA
Polychlorinated biphenyls (PCBs) as Aroclors and Pesticide Compounds

Sample Delivery Group (SDG) No. Z2180

Chemical Analyses Performed By:

CHEMTECH Laboratory
284 Sheffield Street
Mountainside, NJ 07092

For:

Andy Lockwood
P.W. Grosser Consulting
630 Johnson Avenue, Suite 7
Bohemia, NY 11716

Data Validation Report By:

Kim B. Watson
Stone Environmental, Inc.
535 Stone Cutters Way
Montpelier, VT 05602

September 3, 2008

Reference #082074-F
Pest/PCB Validation Report_Z2180//kbw

EXECUTIVE SUMMARY

Stone Environmental, Inc. (Stone) has completed the validation of the polychlorinated biphenyls (PCBs) as Aroclors and pesticide analysis data prepared by CHEMTECH Laboratory, Mountainside, NJ, for 15 soil samples, 2 field blanks (FB) and one Decon Water from the Canine Kennel site in West Hampton, New York. The laboratory reported the data under Sample Delivery Group (SDG) No. Z2180 that was submitted as a single data package for PCBs and a single data package for pesticides received by Stone (electronically) on August 18, 2008, with amendments received on September 3, 2008. Z2180 includes the following samples:

Sample ID	Laboratory ID
5A	Z2180-01
FD-05	Z2180-02
FB	Z2180-03
5N1A	Z2180-04
5W1A	Z2180-05
5E1A	Z2180-06
5S1A	Z2180-07
1A	Z2180-08
1B	Z2180-11
1E1A	Z2180-12
1W1A	Z2180-13
1N1A	Z2180-14
1S1A	Z2180-15
DECON WATER	Z2180-16
FIELD BLANK	Z2180-17
5B	Z2180-18
TP-2	Z2180-19
TP-3	Z2180-20

The samples in this data set represent the sample collections from March 26 and 27, 2008 from the Canine Kennel Site in West Hampton, New York. As instructed on the chain of custody (COC) records, several samples listed on the chain of custody records were extracted and held by the laboratory. The laboratory added the prefix Canine Kennel to all of the sample identifications in

this data set, for ease in reporting and to match the COC identifications. The prefix was dropped by the validator on the Data Summary Forms (DSF).

Findings of the validation effort resulted in the following qualifications of sample results:

- Results for Aroclor 1254 in 5A, FD-05, 5N1A, 5W1A, 5E1A, 1A, 1E1A, 1W1A, 1S1A, 5B, TP-2, TP-3 and Decon Water were rejected (R). Results for this compound were replaced with the acceptable concentrations from the more diluted analysis of these samples (5ADL, FD-05DL, 5N1ADL, 5W1ADL, 5E1ADL, 1ADL, 1E1ADL, 1W1ADL, 1S1ADL, 5BDL, TP-2DL, TP-3DL, and Decon WaterDL).

- Results for other Aroclor compounds except those as noted above in the diluted analyses of 5ADL, FD-05DL, 5N1ADL, 5W1ADL, 5E1ADL, 1ADL, 1E1ADL, 1W1ADL, 1S1ADL, 5BDL, TP-2DL, TP-3DL, Decon WaterDL were rejected (R) because acceptable results for these compounds were taken from the original (less diluted) analysis of these samples.

- Results for all non-detects in all samples have been qualified as estimated (UJ). The low standard of the calibration curve performed for these methods supports the RL concentration on Form I and not the MDL concentration; therefore, sensitivity at the MDL could not be assessed based on the data package alone.

"E" qualifiers were appropriately applied by the laboratory to sample Form I results when concentrations of target analytes were greater than the instrument calibration range. "D" qualifiers were appropriately applied by the laboratory to positive results from diluted sample analyses. The validator removed all laboratory-applied "E" and "D" qualifiers.

The Overall Evaluation of Data (Section XII) presents the rationale for the decisions that have been implemented and are summarized above. The validation findings and conclusions for each analytical parameter are detailed in the remaining sections of this report.

Documentation problems observed in the data package and on the chain of custody records are described in Section XIII.

This validation report shall be considered part of the data package for all future distributions of the pesticide and PCB analysis data.

INTRODUCTION

Analyses of water and soil samples were performed according to US EPA SW846 Methodologies: 3510(water separatory funnel extraction)/3541(automated soxhlet soil-extraction) /8081(analysis) for the pesticide analyses and 3510/3541/8082 for the PCB analyses. The target compound lists included all standard target analytes for these methods.

To the extent possible, Stone's validation was performed in conformance with Tier III guidelines as defined by EPA Region I, "Region I EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses", March 1996. The data were evaluated in accordance with EPA Region II's Standard Operating Procedures (SOPs) from the EPA Hazardous Waste Support Branch: SOP#HW-44 "Validating Pesticide Compounds Organochlorine Pesticides by Gas Chromatography SW-846 Method 8081B" and SOP#HW-45 "Validating PCB Compounds PCBs By Gas Chromatography SW-846 8082A". "EPA's National Functional Guidelines for Organic Data Review" (EPA 540/R-99/008, 10/99) was also considered during the evaluation, and professional judgment was applied as necessary and appropriate.

The data validation process evaluates data on a technical basis for chemical analyses conducted under the contract laboratory program (CLP) or other well-defined methods. Contract compliance is evaluated only in specific situations. Issues pertaining to contractual compliance are noted where applicable. It is assumed that the data package is presented in accordance with the CLP requirements. It is also assumed that the data package represents the best efforts of the laboratory and has already been subjected to adequate and sufficient quality review prior to submission for validation.

Results of sample analyses are reported by the laboratory as either qualified or unqualified; various qualifier codes are used by the laboratory to denote specific information regarding the analytical results. During the validation process, laboratory data are verified against all available supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data validator as necessary and appropriate. Raw data is examined in detail to check calculations, compound identification, and/or transcription errors. Validated results are either qualified or unqualified; if results are unqualified, this means that the reported values may be used without reservation. Final validated results are annotated with the following codes, as defined in EPA Region II Standard Operating Procedures:

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated numerical value is the sample quantitation limit. The sample quantitation limit accounts for sample specific dilution factors and percent solids corrections or sample sizes that deviate from those required by the method.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified. The R replaces the numerical value or sample quantitation limit. In some instances (e.g., a dilution) a result may be indicated as "rejected" to avoid confusion when a more quantitatively accurate result is available.

N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

JN - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

These codes are recorded on the Data Summary Forms contained in Attachment A and the Organic Analysis Data Sheets (Form I) in Attachment B of this validation report to indicate qualifications placed on the data as a result of the validation effort. The EPA Region II Standard Operating Procedure HW-44 and HW45 checklist completed by the validator can be found in Attachment C.

All data users should note two facts. First, **the "R" qualifier means that the laboratory-reported value is completely unusable.** The analysis is invalid due to significant quality control problems and provides no information as to whether the compound is present or not. Rejected values should not appear on data tables because they have no useful purpose under any circumstances. Second, **no analyte concentration is guaranteed to be accurate even if all associated quality control is acceptable.** While strict quality control conformance provides well-defined confidence in the reported results, any analytical result will always contain some uncertainty as demonstrated in the laboratory-derived control limits.

The user is also cautioned that the validation effort is based on the materials provided by the laboratory. Software manipulation, resulting in misleading raw data printouts, cannot be routinely detected during validation; unless otherwise stated in the report, these kinds of issues are outside the scope of this review.

Detailed Findings of Measurement Error Associated with the Analytical Analysis

I. Preservation and Technical Holding Times (Sample Integrity)

The samples for pesticide and PCB analysis in SDG No. Z2180 were collected on March 26 and 27, 2008. The samples were received at the laboratory on March 28, 2008. All extractions were performed within the acceptable holding times for water and soil samples (7 and 14 days, respectively, from collection). The sample extracts were also analyzed within 40 days of extraction.

The temperatures of the sample coolers on receipt at the laboratory, as recorded on the individual COC records, varied from 2-3°C. These temperatures were within the acceptable range of 4°C ±2.

II. Calibration and Instrument Performance

The samples were analyzed on four different GC/ECD systems identified as GCECD1 and GCECD7 for the pesticide analysis, and GCECD4 and GCECD5 for the PCB analysis. The instruments were equipped with dual electron capture detectors (ECD). Data from both columns were presented in the data packages; the columns for each instrument were as follows:

GCECD1: 1. ZB-MR1 30m, 0.32mm ID, 0.25 umdf. 2. ZB-MR2 30m, 0.32mmID, 0.5um df
GCECD7: 1. ZB-MR1, 30m, 0.32mm ID, 0.25 umdf. 2. ZB-MR2, 30m, 0.32mmID, 0.5um df
GCECD4: 1. RTX-CLPest I, 30m, 0.32mm ID, 0.5um df. 2. RTX-CLPest II, 30m, 0.32mm ID, 0.25um df
GCECD5: 1. RTX-CLPest I, 30m, 0.32mm ID, 0.5um df. 2. RTX-CLPest II, 30m, 0.32mm ID, 0.25um df

A. GC Column Resolution, Endrin, and DDT Breakdown

A resolution check solution and a performance check sample (PEM) for endrin and DDT breakdown, as required by EPA methodology, were analyzed at the proper frequency, reported in the data package, and were acceptable with the exception of the PEM on 4/4/08. The laboratory had reported the breakdown for DDT at 98% (limit=20%D); however, the raw data indicated the breakdown at around 5%. The validator requested a corrected form on August 27, which was received on September 3, 2008.

B. Initial Calibration (IC)

Two initial calibrations (4/1/08) were performed for the pesticide analyses: one on GCECD1 and one on instrument GCECD7. Two initial calibrations were performed in support of the PCB analyses (GCECD5 on 3/13/08 and GCECD4 on 3/12/08). The IC consists of five concentration levels of the individual pesticides (5-100ppb) for the pesticide analysis, and five concentration levels (50-1000 ppb) of 1016 and the 1260 standard (AR1660), and a single mid-point calibration for the other Aroclors (1221, 1232, 1242, 1248 and 1254) for the PCB analyses.

Documentation of all individual IC standards was present in the data package. Initial calibration curves were <20%RSD with the exceptions of 4,4-DDT (27%RSD) on column1 of GCECD7, and methoxychlor (29%RSD), and 4,4-DDT (44%RSD) on column2 of GCECD7; therefore, linear regression was performed and the r2 values for linear regression curve models were acceptable. All %RSD values for the PCBs were acceptable (<20%RSD). Since no pesticides were detected in any field samples and the %RSD values were above the limits, no data was qualified on this basis.

C. Analytical Sequence

The correct analytical sequence was followed in the analytical series for all standards and samples in this data set.

D. Continuing Calibration Verification

Continuing calibration (CC) verifications were performed for the pesticide analyses at the appropriate frequency and were acceptable with the following exceptions:

Analysis Date	Analysis Time	Compound	% D Column 1	% D Column 2	Action
4/4/08 CCAL03	2039	alpha-BHC	4.0	21.3	NAC
4/4/08 CCAL03	2039	delta-BHC	8.0	24.0	NAC
4/5/08 CCAL06	1351	Methoxychlor	28.0	2.0	NAC

Continuing Calibration limits = ≤20%D, NAC=No Action, Est. = Estimate (J, UJ)

The mid-point concentration of the Aroclor 1660 standard constitutes the continuing calibration. Documentation of all CC analyses was present and complete in the data package. Continuing calibration verifications were performed for the PCB analyses at the appropriate frequency and were acceptable with the following exceptions (>15%):

Analysis Date	Analysis Time	Compound	% D Column 1	% D Column 2	Action
4/1/08 CCAL01	1844	Aroclor 1016 (4)	16.7	2.1	NAC
4/1/08 CCAL02	2257	Aroclor 1016 (1)	15.9	8.7	NAC
4/1/08 CCAL02	2257	Aroclor 1016 (4)	19.2	4.1	NAC
4/3/08 CCAL02	0117	Aroclor 1016 (4)	16.7	6.5	NAC
4/3/08 CCAL02	0117	Aroclor 1016 (5)	20.5	0.5	NAC
4/3/08 CCAL03	0628	Aroclor 1016 (1)	15.7	11.7	NAC
4/3/08 CCAL03	0628	Aroclor 1016 (2)	18.7	3.4	NAC
4/3/08 CCAL03	0628	Aroclor 1016 (4)	21.5	10.4	NAC
4/3/08 CCAL03	0628	Aroclor 1016 (5)	46.1	6.0	NAC
4/11/08 CCAL05	1710	Aroclor 1016 (4)	36.0	7.6	NAC
4/11/08 CCAL05	1710	Aroclor 1016 (5)	15.6	5.2	NAC
4/11/08 CCAL06	2022	Aroclor 1016 (3)	17.8	11.6	NAC
4/11/08 CCAL06	2022	Aroclor 1016 (4)	54.6	15.4	NAC
4/4/08 CCAL07	1345	Aroclor 1016 (1)	19.2	5.3	NAC

Analysis Date	Analysis Time	Compound	% D Column 1	% D Column 2	Action
4/4/08 CCAL07	1345	Aroclor 1016 (5)	16.0	4.5	NAC
4/4/08 CCAL08	1953	Aroclor 1016 (1)	17.2	2.9	NAC
4/4/08 CCAL08	1953	Aroclor 1016 (3)	16.4	0.4	NAC
4/4/08 CCAL08	1953	Aroclor 1016 (4)	22.7	1.3	NAC
4/4/08 CCAL08	1953	Aroclor 1016 (5)	18.9	2.3	NAC
4/4/08 CCAL09	2334	Aroclor 1016 (1)	27.2	1.7	NAC
4/4/08 CCAL09	2334	Aroclor 1016 (2)	18.4	0.7	NAC
4/4/08 CCAL09	2334	Aroclor 1016 (3)	22.8	2.9	NAC
4/4/08 CCAL09	2334	Aroclor 1016 (4)	22.3	2.5	NAC
4/6/08 CCAL10	1006	Aroclor 1016 (1)	18.8	4.2	NAC
4/6/08 CCAL10	1006	Aroclor 1016 (5)	17.8	5.8	NAC
4/6/08 CCAL11	1328	Aroclor 1016 (1)	19.6	4.0	NAC
4/6/08 CCAL11	1328	Aroclor 1016 (4)	15.8	8.0	NAC
4/6/08 CCAL11	1328	Aroclor 1016 (5)	19.2	6.0	NAC
4/6/08 CCAL11	1328	Aroclor 1260 (1)	17.4	19.4	NAC
4/6/08 CCAL12	1943	Aroclor 1260 (3)	17.7	4.9	NAC
4/7/08 CCAL14	0441	Aroclor 1016 (5)	15.9	3.2	NAC

Since in most cases only the Aroclor 1016 exhibited elevated %D values and typically the %D values on the second column were acceptable, no data was qualified on this basis.

Documentation of independent calibration verification (ICV) standards were present in the data packages and presented in the raw data only and appeared acceptable.

Target analytes in the reported CC standards were within the RT windows established during the IC.

III. Blanks

Results for one water matrix and one soil matrix MB were reported with each extraction batch in association with the samples in this data set. No target compounds were reported any of the MBs.

IV. Surrogate Spike Compound Recovery

Percent recoveries (%R) of the two surrogates (tetrachloro-m-xylene [TMX] and decachlorobiphenyl [DCB]) in the pesticide analysis were correctly reported on the Form II-like summaries, and were within acceptance limits for the samples in these data sets, with the following exceptions: recoveries of DCB in 5B (212%) and 5A (172%).The laboratory appropriately reanalyzed sample 5B and the surrogate recovery replicated at 273%. In both samples, since recoveries of the other surrogate TMX were acceptable, recoveries were elevated due to a chromatographic interferences, and these results were subsequently rejected (R) and taken from the dilution analysis of these samples (see Section X), no data was qualified on this basis.

Percent recoveries of the two surrogates (TMX and DCB) in the PCB analysis were correctly reported on the Form II-like summaries, and were within acceptance limits for the samples in these data sets with the following exceptions: recoveries of DCB in Decon Water (14%), in 5ADL (25%), in 5B (675%), 1N1A (675%), and 5N1A (150%), and recoveries of TMX and DCB in 5S1A (0%, respectively), in 1B (300% and 700%), in 1S1ADL (243% and 33%) and 5BDL (0%). In all samples, with the exception of 5S1A for which the surrogates were effectively diluted out, recoveries of the other surrogate TMX were acceptable. Since recoveries for TMX were acceptable or recoveries were acceptable in the original analysis, recoveries of the DCB were elevated (chromatographic interferences), and some results were subsequently rejected (R) and taken from the dilution analysis of these samples (see Section X), no data was qualified on this basis.

V. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

Sample 1A was used for the MS/MSD analyses in this sample group as requested on the COC record. The spiking solution contained individual pesticides in the pesticide analysis and Aroclors 1016 and 1260 in the PCB analysis. Percent recoveries and relative percent differences (%RPD) between paired recoveries were reported on the Form III summaries within the data packages. %R and RPD results were correctly calculated, accurately reported, and acceptable with the following exceptions:

Sample ID	Compound	MS%R	MSD%R	Dup or MS/MSD % RPD	QC Limits	Action
1A	Aroclor 1016	379	460	52	55-128/20	NAC
1A	Aroclor 1260	1137	1681	39	58-140/20	NAC
1A	Heptachlor epoxide	259	101	88	44-160/20	NAC
1A	Gamma chlordane	211	219	4	61-147/20	NAC
1A	4,4'-DDE	292	298	2	50-144/20	NAC
1A	Dieldrin	497	500	1	41-154/38	NAC
1A	Endrin	211	174	19	31-165/45	NAC
1A	Endosulfan II	449	455	1	52-151/20	NAC
1A	4,4'-DDD	443	213	70	35-165/20	NAC
1A	4,4'DDT	1081	219	133	23-170/50	NAC
1A	Endrin aldehyde	865	843	3	48-152/20	NAC
1A	Endosulfan Sulfate	162	298	59	32-162/20	NAC
1A	Methoxychlor	443	449	1	44-163/20	NAC

NA=Not Applicable, NAC=No Action Est. = Estimate (J, UJ) associated sample

Since the recoveries of the Aroclors in the MS/MSD analyses were elevated and the concentration of the Aroclor in the samples was at or greater than 4 times the spike amount, no data was qualified on this basis.

Since the recoveries for the non-interfered pesticides were acceptable in the pesticide MS/MSD pair and no pesticides were detected in the samples, no data was qualified on this basis.

VI. Field Duplicate Precision

Sample FD-05 was identified as a field duplicate of 5A. Paired results were acceptable for the PCB results (<50%RPD for soils, Region I guidelines). No target analytes were detected in the pesticide analysis; therefore, no measurement of field precision was calculated based on these samples.

VII. Performance Evaluation Samples (PES)/Accuracy Check

Zero blank PE samples, commonly known as laboratory control samples or blank spikes (BS), were performed at the required frequency and results were provided on Form III-Like summaries for all analyses. Recoveries were within the laboratory-derived acceptance limits for all the blank spike analyses.

VIII. Extract Cleanup

According to the extraction bench sheets, cleanup procedures were performed for the soil samples. Acid cleanup (method 3665 – sulfuric acid) was performed for the PCB analyses and florisil (method 3620) was performed for the pesticide analyses. Although, no Form IX was provided in the data packages, the extraction bench sheet provided the method number and the lot no. used for the cleanup procedures. All samples and blank spikes were cleaned according to the methodology and the surrogate compound recoveries were acceptable to reflect the cleanup efficiencies.

IX. Target Compound Identification

Reported target compounds were correctly identified based on the best fit to the Aroclor pattern in the standards with supporting chromatograms present for all field samples in this data set. The laboratory mis-identified the peaks for quantitation of Aroclor 1254 in sample 5A and its dilution (5ADL). A revision was requested on August 27, 2008 and received on September 3, 2008.

The second column quantitation was in agreement with the first column in all samples (<25%) for the PCB concentration in all samples with the exception of the original analysis of TP-2 (26.7%). Since this sample was subsequently rejected due to the use of the data from the dilution analysis, no data was qualified on this basis as the R qualifier takes precedence.

X. Compound Quantitation and Reported Quantitation Limits

Target compound concentrations and quantitation limits were correctly calculated and accurately reported including adjustments for dilutions and percent solids. All samples were reported on a dry weight basis. Other than the mis-identification of the Aroclor peaks in sample 5A and its dilution (5ADL), all samples were reported correctly and the higher of the two values as reported on the Form X was reported on Form I.

The laboratory reported all non-detect concentrations to the method detection limit (MDL) as recorded on Form I along with the laboratory reporting limit (RL). An MDL is the minimum concentration of a substance that can be detected with 99% confidence that the analyte concentration is greater than zero. The low standard concentration for these methods supports the RL concentration as recorded on Form I but does not support the laboratories' method detection limit concentration in the analytical sequence. Since the concentration reported with a "U" on all reports is not supported by concentration of the low standard which provides precision and bias during these analyses for identification and quantitation, results for all non-detects in all samples have been qualified as estimated (UJ). The low standard of the calibration curve performed for these methods supports the RL concentration on Form I and not the MDL concentration; therefore, sensitivity at the MDL could not be assessed based on the data package alone.

Results for Aroclor 1254 in the original analysis of 5A, FD-05, 5N1A, 5W1A, 5E1A, 1A, 1E1A, 1W1A, 1S1A, 5B, TP-2, TP-3 and Decon Water were detected outside the linear range of the instrument. These samples were appropriately reanalyzed at subsequent dilutions. Results for Aroclor 1254 in 5A, FD-05, 5N1A, 5W1A, 5E1A, 1A, 1E1A, 1W1A, 1S1A, 5B, TP-2, TP-3 and Decon Water were rejected (R) due to detection of these compounds outside the linear range of the instrument. Results for this compound were replaced with the acceptable concentrations from the more diluted analysis of these samples (5ADL, FD-05DL, 5N1ADL, 5W1ADL, 5E1ADL, 1ADL, 1E1ADL, 1W1ADL, 1S1ADL, 5BDL, TP-2DL, TP-3DL and Decon WaterDL).

Results for other Aroclor compounds except those as noted above in the diluted analyses of 5ADL, FD-05DL, 5N1ADL, 5W1ADL, 5E1ADL, 1ADL, 1E1ADL, 1W1ADL, 1S1ADL, 5BDL, TP-2DL, TP-3DL and Decon WaterDL were rejected (R) because acceptable results for these compounds were taken from the original (less diluted) analysis of these samples.

"E" qualifiers were appropriately applied by the laboratory to sample Form I results when concentrations of target analytes were greater than the instrument calibration range. "D" qualifiers were appropriately applied by the laboratory to positive results from diluted sample analyses. The validator removed all laboratory-applied "E" and "D" qualifiers.

The values that the validator has judged to be acceptable are presented on the Data Summary Forms in Attachment A and on the Form 1s in Attachment B.

The Data Summary Forms (DSFs) in Attachment A list all individual sample analytes affected by the applied qualifications. All positive results are listed on these forms whether or not the value or qualifier was changed as a result of the validation. Where no result is listed, the compound was not detected and the RL was not qualified. Sample-specific quantitation limits may be found on the laboratory-generated Form I for each sample (Attachment B) or may be calculated from the information on the DSFs as follows: unadjusted RL (far left column) multiplied by the concentration/dilution factor (DF).

XI. System Performance

As evidenced by opening and closing calibration analyses, surrogate recoveries, and blank analyses, the GC/ECD systems used for these sample analyses were within control during the sequence of analyses for this sample group.

XII. Overall Evaluation of Data

Findings of the validation effort resulted in the following qualifications of sample results:

- Results for Aroclor 1254 in 5A, FD-05, 5N1A, 5W1A, 5E1A, 1A, 1E1A, 1W1A, 1S1A, 5B, TP-2, TP-3 and Decon Water were rejected (R) due to detection of these compounds outside the linear range of the instrument. Results for this compound were replaced with the acceptable concentrations from the more diluted analysis of these samples (5ADL, FD-05DL, 5N1ADL, 5W1ADL, 5E1ADL, 1ADL, 1E1ADL, 1W1ADL, 1S1ADL, 5BDL, TP-2DL, TP-3DL and Decon WaterDL).

- Results for other Aroclor compounds except those as noted above in the diluted analyses of 5ADL, FD-05DL, 5N1ADL, 5W1ADL, 5E1ADL, 1ADL, 1E1ADL, 1W1ADL, 1S1ADL, 5BDL, TP-2DL, TP-3DL and Decon WaterDL were rejected (R) because acceptable results for these compounds were taken from the original (less diluted) analysis of these samples.

- Since the concentration reported with a "U" on all reports is not supported by concentration of the low standard which provides precision and bias during these analyses for identification and quantitation, results for all non-detects in all samples have been qualified as estimated (UJ). The low standard of the calibration curve performed for these methods supports the RL concentration on Form I and not the MDL concentration; therefore, sensitivity at the MDL could not be assessed based on the data package alone.

The completed checklists as outlined in EPA Region II's SOPs were completed by the validator and found in Attachment C

XIII. Documentation

The COC records were present and accurately completed for all reported samples in this data set and the data package was complete with the following exceptions:

Pesticide Data Package:

- The DDT Breakdown form was incorrect for the PEM sample P1011969 analyzed on 4/4/08 (page 123). The front and rear columns used in the GC/ECDs identified on the summary reporting forms is different than that referenced in the Narrative for the

pesticide data package. The extraction "SONC" is indicated on the Form IV (blank) which is different than what was specified in the narrative "SOXH". For future sampling efforts, please be sure that all forms and the narrative document the correct information.

PCB Data Package

- The Narrative indicated that ECD4 and ECD5 with specific columns are referenced as the instruments used for the analysis of the PCBs; however, the sequence forms in the report referenced only ECD4 as being used and that columns in these instruments were CLPest I and II. The extraction "SONC" is indicated on the Form IV (blank) which is different than what was specified in the narrative "SOXH". For future sampling efforts, please be sure that all forms and the narrative document the correct information.

- Quantitation of AR1254 in Samples 5A and 5ADL is incorrect on Column 1, the peaks were misidentified and off set by one.

Corrections to the data packages were requested on August 27, 2008 and submitted to the validator and client on September 3, 2008.

- Improper edits were made on the COC records: any change in an entry should be made so as not to obscure the original entry, by the person making the change striking a single line through the entry and dating and initialing (signing) the change.

- Data in these packages were reported to the MDL rather than the RL as listed on the Form I summary. These methods require that the laboratory support the reporting of data to the low standard of the calibration curve. Therefore, for future sampling rounds the laboratory must report all data to the low standard of the curve or the RL rather than the MDL. Data that is reported to the MDL should be qualified as estimated (J) since the MDL is the concentration for detection not confidence in quantitation. If the laboratory chooses to report to the MDL than a blank spike at the MDL concentration must be performed with the other blank spike to determine sensitivity and accuracy at the MDL on a routine basis. MDL studies have been requested from the laboratory and review of these MDLs will be performed at the client's discretion.

These issues do not directly affect the validity of the analytical data but could be problematic if the results were to be used in a litigation situation.

This validation report shall be considered part of the data package for all future distributions of the pesticide and PCB analysis data.

ATTACHMENT A

DATA SUMMARY FORMS
SDG No. Z2180
Pesticide and PCBs in Water and Soil Samples

DATA SUMMARY FORM: POLYCHLORINATED BIPHENYL COMPOUNDS as AROCLORS
Soil Samples
(ug/kg)

Site Name: CANINE KENNEL

Sampling Dates: March 26 and 27, 2008

SDG No. Z2180

Stone Project No. 082074-F

	Client ID	5A		5ADL		FD-05		FD-05DL		5N1A		5N1ADL		5W1A		5W1ADL	
	Lab ID	Z2180-01		Z2180-01DL		Z2180-02		Z2180-02DL		Z2180-04		Z2180-04DL		Z2180-05		Z2180-05DL	
	%Solids	93		93		91		91		94		94		95		95	
	Dilution Factor	1		20		1		10		1		200		1		5	
MDL																	
4.0	Aroclor 1016		UJ	R			UJ	R			UJ	R			UJ	R	
4.9	Aroclor 1221		UJ	R			UJ	R			UJ	R			UJ	R	
5.1	Aroclor 1232		UJ	R			UJ	R			UJ	R			UJ	R	
2.3	Aroclor 1242		UJ	R			UJ	R			UJ	R			UJ	R	
4.9	Aroclor 1248		UJ	R			UJ	R			UJ	R			UJ	R	
5.0	Aroclor 1254	R		5000		R		3500		R		39000		R		1200	
4.0	Aroclor 1260		UJ	R			UJ	R			UJ	R			UJ	R	

DATA SUMMARY FORM: POLYCHLORINATED BIPHENYL COMPOUNDS as AROCLORS
Soil Samples
(ug/kg)

Site Name: CANINE KENNEL

Sampling Dates: March 26 and 27, 2008

SDG No. Z2180

Stone Project No. 082074-F

	Client ID	5E1A		5E1ADL		5S1A		1A		1ADL		1B		1E1A		1E1ADL	
	Lab ID	Z2180-06		Z2180-06DL		Z2180-07		Z2180-08		Z2180-08DL		Z2180-011		Z2180-12		Z2180-12DL	
	%Solids	89		89		89		93		93		83		82		82	
	Dilution Factor	1		5		200		1		5		500		1		10	
MDL																	
4.0	Aroclor 1016		UJ	R			UJ		UJ	R			UJ		UJ	R	
4.9	Aroclor 1221		UJ	R			UJ		UJ	R			UJ		UJ	R	
5.1	Aroclor 1232		UJ	R			UJ		UJ	R			UJ		UJ	R	
2.3	Aroclor 1242		UJ	R			UJ		UJ	R			UJ		UJ	R	
4.9	Aroclor 1248		UJ	R			UJ		UJ	R			UJ		UJ	R	
5.0	Aroclor 1254	R		1900		53000		R		1100		130000		R		2500	
4.0	Aroclor 1260		UJ	R			UJ		UJ	R			UJ		UJ	R	

DATA SUMMARY FORM: POLYCHLORINATED BIPHENYL COMPOUNDS as AROCLORS
Soil Samples
(ug/kg)

Site Name: CANINE KENNEL

Sampling Dates: March 26 and 27, 2008

SDG No. Z2180

Stone Project No. 082074-F

	Client ID	1W1A		1W1ADL		1N1A		1S1A		1S1ADL		5B		5BDL		TP-2	
	Lab ID	Z2180-13		Z2180-13DL		Z2180-14		Z2180-15		Z2180-15DL		Z2180-18		Z2180-18DL		Z2180-19	
	%Solids	96		96		82		89		89		92		92		96	
	Dilution Factor	1		10		500		1		50		500		2000		1	
MDL																	
4.0	Aroclor 1016		UJ	R			UJ		UJ	R			UJ		UJ		UJ
4.9	Aroclor 1221		UJ	R			UJ		UJ	R			UJ		UJ		UJ
5.1	Aroclor 1232		UJ	R			UJ		UJ	R			UJ		UJ		UJ
2.3	Aroclor 1242		UJ	R			UJ		UJ	R			UJ		UJ		UJ
4.9	Aroclor 1248		UJ	R			UJ		UJ	R			UJ		UJ		UJ
5.0	Aroclor 1254	R		2300		42000		R		7600		R		350000		R	
4.0	Aroclor 1260		UJ	R			UJ		UJ	R			UJ		UJ		UJ

DATA SUMMARY FORM: POLYCHLORINATED BIPHENYL COMPOUNDS as AROCLORS
Soil Samples
(ug/kg)

Site Name: CANINE KENNEL

Sampling Dates: March 26 and 27, 2008

SDG No. Z2180

Stone Project No. 082074-F

	Client ID	TP-2DL		TP-3		TP-3DL													
	Lab ID	Z2180-19DL		Z2180-20		Z2180-20DL													
	%Solids	96		95		95													
	Dilution Factor	10		1		50													
MDL																			
4.0	Aroclor 1016	R			UJ	R													
4.9	Aroclor 1221	R			UJ	R													
5.1	Aroclor 1232	R			UJ	R													
2.3	Aroclor 1242	R			UJ	R													
4.9	Aroclor 1248	R			UJ	R													
5.0	Aroclor 1254	1600		R		5400													
4.0	Aroclor 1260	R			UJ	R													

DATA SUMMARY FORM: POLYCHLORINATED BIPHENYL COMPOUNDS as AROCLORS
Water Samples
(ug/L)

Site Name: CANINE KENNEL

Sampling Dates: March 26 and 27, 2008

SDG No. Z2180

Stone Project No. 082074-F

	Client ID	FB		DECONWATER		DECONWATERDL		FIELD BLANK									
	Lab ID	Z2180-03		Z2180-16		Z2180-16DL		Z2180-017									
	Dilution Factor	1		1		5		1.12									
		FB0326						FB0327									
MDL																	
0.142	Aroclor 1016		UJ		UJ	R											
0.113	Aroclor 1221		UJ		UJ	R											
0.115	Aroclor 1232		UJ		UJ	R											
0.073	Aroclor 1242		UJ		UJ	R											
0.101	Aroclor 1248		UJ		UJ	R											
0.139	Aroclor 1254		UJ	R		32											
0.089	Aroclor 1260		UJ		UJ	R											

PESTICIDE COMPOUNDS
SOIL SAMPLES
(ug/kg)

Site Name: CANINE KENNEL

Sampling Dates: March 26 and 27, 2008

SDG No. Z2180

Stone Project No. 082074-F

	Client ID	5A		FD-05		5N1A		5W1A		5E1A		5S1A		1A		1B	
	Lab ID	Z2180-01		Z2180-02		Z2180-04		Z2180-05		Z2180-06		Z2180-07		Z2180-08		Z2180-011	
	%Solids	93		91		94		95		89		89		93		83	
MDL		1		1		1		1		1		1		1		1	
0.15	alpha-BHC		UJ		UJ		UJ		UJ		UJ		UJ		UJ		UJ
0.19	beta-BHC		UJ		UJ		UJ		UJ		UJ		UJ		UJ		UJ
0.19	delta-BHC		UJ		UJ		UJ		UJ		UJ		UJ		UJ		UJ
0.17	gamma-BHC (Lindane)		UJ		UJ		UJ		UJ		UJ		UJ		UJ		UJ
0.16	Heptachlor		UJ		UJ		UJ		UJ		UJ		UJ		UJ		UJ
0.17	Aldrin		UJ		UJ		UJ		UJ		UJ		UJ		UJ		UJ
0.20	Heptachlor epoxide		UJ		UJ		UJ		UJ		UJ		UJ		UJ		UJ
0.20	Endosulfan I		UJ		UJ		UJ		UJ		UJ		UJ		UJ		UJ
0.20	Dieldrin		UJ		UJ		UJ		UJ		UJ		UJ		UJ		UJ
0.20	4,4'-DDE		UJ		UJ		UJ		UJ		UJ		UJ		UJ		UJ
0.59	Endrin		UJ		UJ		UJ		UJ		UJ		UJ		UJ		UJ
0.21	Endosulfan II		UJ		UJ		UJ		UJ		UJ		UJ		UJ		UJ
0.28	4,4'-DDD		UJ		UJ		UJ		UJ		UJ		UJ		UJ		UJ
0.24	Endosulfan sulfate		UJ		UJ		UJ		UJ		UJ		UJ		UJ		UJ
0.17	4,4-DDT		UJ		UJ		UJ		UJ		UJ		UJ		UJ		UJ
0.22	Methoxychlor		UJ		UJ		UJ		UJ		UJ		UJ		UJ		UJ
0.49	Endrin Ketone		UJ		UJ		UJ		UJ		UJ		UJ		UJ		UJ
0.21	Endrin Aldehyde		UJ		UJ		UJ		UJ		UJ		UJ		UJ		UJ
0.20	alpha-Chlordane		UJ		UJ		UJ		UJ		UJ		UJ		UJ		UJ
0.19	gamma-Chlordane		UJ		UJ		UJ		UJ		UJ		UJ		UJ		UJ
3.7	Toxaphene		UJ		UJ		UJ		UJ		UJ		UJ		UJ		UJ
			UJ		UJ		UJ		UJ		UJ		UJ		UJ		UJ

PESTICIDE COMPOUNDS
SOIL SAMPLES
(ug/kg)

Site Name: CANINE KENNEL

Sampling Dates: March 26 and 27, 2008

SDG No. Z2180

Stone Project No. 082074-F

	Client ID	1E1A		1W1A		1N1A		1S1A		5B		TP-2		TP-3			
	Lab ID	Z2180-12		Z2180-13		Z2180-14		Z2180-15		Z2180-18		Z2180-19		Z2180-20			
	%Solids	82		96		82		89		92		96		95			
MDL		1		1		1		1		1		1		1			
0.15	alpha-BHC		UJ		UJ		UJ		UJ		UJ		UJ		UJ		
0.19	beta-BHC		UJ		UJ		UJ		UJ		UJ		UJ		UJ		
0.19	delta-BHC		UJ		UJ		UJ		UJ		UJ		UJ		UJ		
0.17	gamma-BHC (Lindane)		UJ		UJ		UJ		UJ		UJ		UJ		UJ		
0.16	Heptachlor		UJ		UJ		UJ		UJ		UJ		UJ		UJ		
0.17	Aldrin		UJ		UJ		UJ		UJ		UJ		UJ		UJ		
0.20	Heptachlor epoxide		UJ		UJ		UJ		UJ		UJ		UJ		UJ		
0.20	Endosulfan I		UJ		UJ		UJ		UJ		UJ		UJ		UJ		
0.20	Dieldrin		UJ		UJ		UJ		UJ		UJ		UJ		UJ		
0.20	4,4'-DDE		UJ		UJ		UJ		UJ		UJ		UJ		UJ		
0.59	Endrin		UJ		UJ		UJ		UJ		UJ		UJ		UJ		
0.21	Endosulfan II		UJ		UJ		UJ		UJ		UJ		UJ		UJ		
0.28	4,4'-DDD		UJ		UJ		UJ		UJ		UJ		UJ		UJ		
0.24	Endosulfan sulfate		UJ		UJ		UJ		UJ		UJ		UJ		UJ		
0.17	4,4-DDT		UJ		UJ		UJ		UJ		UJ		UJ		UJ		
0.22	Methoxychlor		UJ		UJ		UJ		UJ		UJ		UJ		UJ		
0.49	Endrin Ketone		UJ		UJ		UJ		UJ		UJ		UJ		UJ		
0.21	Endrin Aldehyde		UJ		UJ		UJ		UJ		UJ		UJ		UJ		
0.20	alpha-Chlordane		UJ		UJ		UJ		UJ		UJ		UJ		UJ		
0.19	gamma-Chlordane		UJ		UJ		UJ		UJ		UJ		UJ		UJ		
3.7	Toxaphene		UJ		UJ		UJ		UJ		UJ		UJ		UJ		
			UJ		UJ		UJ		UJ		UJ		UJ		UJ		

ATTACHMENT B

ANALYSIS DATA SUMMARY SHEETS (Form I)
SDG No. Z2180
Pesticide and PCBs in Water and Soil Samples

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	P.W. Grosser Consulting		Date Collected:	3/26/2008	
Project:	Canine Kennel		Date Received:	3/28/2008	
Client Sample ID:	CANINE-KENNEL-5A		SDG No.:	Z2180	
Lab Sample ID:	Z2180-01		Matrix:	SOIL	
Analytical Method:	8082		% Moisture:	7	
Sample Wt/Vol:	30	g	Extract Vol:	10000	uL

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P4012988.D	1	4/1/2008	4/11/2008	p4041108

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
12674-11-2	AROCLOR 1016	4.0	U J	18	4.0	ug/Kg
11104-28-2	AROCLOR 1221	4.9	U	18	4.9	ug/Kg
11141-16-5	AROCLOR 1232	5.1	U	18	5.1	ug/Kg
53469-21-9	AROCLOR 1242	2.3	U	18	2.3	ug/Kg
12672-29-6	AROCLOR 1248	4.9	U J	18	4.9	ug/Kg
11097-69-1	AROCLOR 1254	R ~~3300~~	~~J~~ 5000*	18	5.0	ug/Kg
11096-82-5	AROCLOR 1260	4.0	U J	18	4.0	ug/Kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	16.57	83 %	44 - 141		SPK: 20
2051-24-3	Decachlorobiphenyl	16.5	83 %	34 - 145		SPK: 20

* taken from the dilution analysis

KBond 9/3/08

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**P.W. Grosser Consulting**	**Date Collected:**	**3/26/2008**
Project:	**Canine Kennel**	**Date Received:**	**3/28/2008**
Client Sample ID:	**CANINE-KENNEL-5ADL**	**SDG No.:**	**Z2180**
Lab Sample ID:	**Z2180-01DL**	**Matrix:**	**SOIL**
Analytical Method:	**8082**	**% Moisture:**	**7**
Sample Wt/Vol:	**30 g**	**Extract Vol:**	**10000 uL**

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P4012989.D	20	4/1/2008	4/11/2008	P4041108

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
12674-11-2	AROCLOR 1016	80	UD	360	80	ug/Kg
11104-28-2	AROCLOR 1221	98	UD	360	98	ug/Kg
11141-16-5	AROCLOR 1232	100	UD	360	100	ug/Kg
53469-21-9	AROCLOR 1242	45	UD	360	45	ug/Kg
12672-29-6	AROCLOR 1248	99	UD	360	99	ug/Kg
11097-69-1	AROCLOR 1254	5000	D	360	100	ug/Kg
11096-82-5	AROCLOR 1260	80	UD	360	80	ug/Kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	21.8	109 %	44 - 141		SPK: 20
2051-24-3	Decachlorobiphenyl	5	25 %	34 - 145		SPK: 20

8/29/08

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CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	P.W. Grosser Consulting	**Date Collected:**	3/26/2008
Project:	Canine Kennel	**Date Received:**	3/28/2008
Client Sample ID:	CANINE-KENNEL-FD-05	**SDG No.:**	Z2180
Lab Sample ID:	Z2180-02	**Matrix:**	SOIL
Analytical Method:	8082	**% Moisture:**	9
Sample Wt/Vol:	30 g	**Extract Vol:**	10000 uL

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P5018828.D	1	4/1/2008	4/4/2008	P5031308

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
12674-11-2	AROCLOR 1016	4.1	U J	19	4.1	ug/Kg
11104-28-2	AROCLOR 1221	5.0	U	19	5.0	ug/Kg
11141-16-5	AROCLOR 1232	5.3	U	19	5.3	ug/Kg
53469-21-9	AROCLOR 1242	2.3	U	19	2.3	ug/Kg
12672-29-6	AROCLOR 1248	5.1	U J	19	5.1	ug/Kg
11097-69-1	AROCLOR 1254	R ~~2300~~	~~E~~ 3500 *	19	5.1	ug/Kg
11096-82-5	AROCLOR 1260	4.1	U J	19	4.1	ug/Kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	20.24	101 %	44 - 141		SPK: 20
2051-24-3	Decachlorobiphenyl	23.06	115 %	34 - 145		SPK: 20

* taken from the dilution analyses

KBW

8/29/08

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E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	P.W. Grosser Consulting	**Date Collected:**	3/26/2008
Project:	Canine Kennel	**Date Received:**	3/28/2008
Client Sample ID:	CANINE-KENNEL-FD-05DL	**SDG No.:**	Z2180
Lab Sample ID:	Z2180-02DL	**Matrix:**	SOIL
Analytical Method:	8082	**% Moisture:**	9
Sample Wt/Vol:	30 g	**Extract Vol:**	10000 uL

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P5018934.D	10	4/1/2008	4/6/2008	P5031308

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
12674-11-2	AROCLOR 1016	41	UD	190	41	ug/Kg
11104-28-2	AROCLOR 1221	50	UD	190	50	ug/Kg
11141-16-5	AROCLOR 1232	53	UD	190	53	ug/Kg
53469-21-9	AROCLOR 1242	23	UD	190	23	ug/Kg
12672-29-6	AROCLOR 1248	51	UD	190	51	ug/Kg
11097-69-1	AROCLOR 1254	3500	D	190	51	ug/Kg
11096-82-5	AROCLOR 1260	41	UD	190	41	ug/Kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	17	85 %	44 - 141		SPK: 20
2051-24-3	Decachlorobiphenyl	19.5	98 %	34 - 145		SPK: 20

KPW
8/29/08

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B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	P.W. Grosser Consulting	**Date Collected:**	3/26/2008
Project:	Canine Kennel	**Date Received:**	3/28/2008
Client Sample ID:	CANINE-KENNEL-5N1A	**SDG No.:**	Z2180
Lab Sample ID:	Z2180-04	**Matrix:**	SOIL
Analytical Method:	8082	**% Moisture:**	6
Sample Wt/Vol:	30 g	**Extract Vol:**	10000 uL

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P5018829.D	1	4/1/2008	4/4/2008	P5031308

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
12674-11-2	AROCLOR 1016	4.0	U J	18	4.0	ug/Kg
11104-28-2	AROCLOR 1221	4.8	U	18	4.8	ug/Kg
11141-16-5	AROCLOR 1232	5.1	U	18	5.1	ug/Kg
53469-21-9	AROCLOR 1242	2.2	U	18	2.2	ug/Kg
12672-29-6	AROCLOR 1248	4.9	U J	18	4.9	ug/Kg
11097-69-1	AROCLOR 1254	R ~~9300~~	~~E~~ 39000	18*	5.0	ug/Kg
11096-82-5	AROCLOR 1260	4.0	U J	18	4.0	ug/Kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	14.67	73 %	44 - 141		SPK: 20
2051-24-3	Decachlorobiphenyl	19.36	97 %	34 - 145		SPK: 20

* taken from the dilution analysis
KBW
8/29/08

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E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**P.W. Grosser Consulting**	**Date Collected:**	**3/26/2008**
Project:	**Canine Kennel**	**Date Received:**	**3/28/2008**
Client Sample ID:	**CANINE-KENNEL-5N1ADL**	**SDG No.:**	**Z2180**
Lab Sample ID:	**Z2180-04DL**	**Matrix:**	**SOIL**
Analytical Method:	**8082**	**% Moisture:**	**6**
Sample Wt/Vol:	**30 g**	**Extract Vol:**	**10000 uL**

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P5018970.D	200	4/1/2008	4/7/2008	P5031308

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
12674-11-2	AROCLOR 1016	790	UD	3600	790	ug/Kg
11104-28-2	AROCLOR 1221	970	UD	3600	970	ug/Kg
11141-16-5	AROCLOR 1232	1000	UD	3600	1000	ug/Kg
53469-21-9	AROCLOR 1242	450	UD	3600	450	ug/Kg
12672-29-6	AROCLOR 1248	980	UD	3600	980	ug/Kg
11097-69-1	AROCLOR 1254	39000	D	3600	990	ug/Kg
11096-82-5	AROCLOR 1260	790	UD	3600	790	ug/Kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	24	120 %	44 - 141		SPK: 20
2051-24-3	Decachlorobiphenyl	30	150 %	34 - 145		SPK: 20

KRW 8/29/08

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N = Presumptive Evidence of a Compound

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	P.W. Grosser Consulting	**Date Collected:**	3/26/2008
Project:	Canine Kennel	**Date Received:**	3/28/2008
Client Sample ID:	CANINE-KENNEL-5W1A	**SDG No.:**	Z2180
Lab Sample ID:	Z2180-05	**Matrix:**	SOIL
Analytical Method:	8082	**% Moisture:**	5
Sample Wt/Vol:	30 g	**Extract Vol:**	10000 uL

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P5018830.D	1	4/1/2008	4/4/2008	P5031308

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
12674-11-2	AROCLOR 1016	3.9	U J	18	3.9	ug/Kg
11104-28-2	AROCLOR 1221	4.8	U	18	4.8	ug/Kg
11141-16-5	AROCLOR 1232	5.0	U	18	5.0	ug/Kg
53469-21-9	AROCLOR 1242	2.2	U	18	2.2	ug/Kg
12672-29-6	AROCLOR 1248	4.8	U J	18	4.8	ug/Kg
11097-69-1	AROCLOR 1254	~~830~~	E 1200 *	18	4.9	ug/Kg
11096-82-5	AROCLOR 1260	3.9	U J	18	3.9	ug/Kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	22.9	115 %	44 - 141		SPK: 20
2051-24-3	Decachlorobiphenyl	23.9	120 %	34 - 145		SPK: 20

* taken from the dilution analysis
KBW
8/29/08

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CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**P.W. Grosser Consulting**	**Date Collected:**	**3/26/2008**
Project:	**Canine Kennel**	**Date Received:**	**3/28/2008**
Client Sample ID:	**CANINE-KENNEL-5W1ADL**	**SDG No.:**	**Z2180**
Lab Sample ID:	**Z2180-05DL**	**Matrix:**	**SOIL**
Analytical Method:	**8082**	**% Moisture:**	**5**
Sample Wt/Vol:	**30 g**	**Extract Vol:**	**10000 uL**

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P5018936.D	5	4/1/2008	4/6/2008	P5031308

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
12674-11-2	AROCLOR 1016	20	UD	89	20	ug/Kg
11104-28-2	AROCLOR 1221	24	UD	89	24	ug/Kg
11141-16-5	AROCLOR 1232	25	UD	89	25	ug/Kg
53469-21-9	AROCLOR 1242	11	UD	89	11	ug/Kg
12672-29-6	AROCLOR 1248	24	UD	89	24	ug/Kg
11097-69-1	AROCLOR 1254	1200	D	89	25	ug/Kg
11096-82-5	AROCLOR 1260	20	UD	89	20	ug/Kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	26.55	133 %	44 - 141		SPK: 20
2051-24-3	Decachlorobiphenyl	24.2	121 %	34 - 145		SPK: 20

KBW 8/29/08

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CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**P.W. Grosser Consulting**	**Date Collected:**	**3/26/2008**
Project:	**Canine Kennel**	**Date Received:**	**3/28/2008**
Client Sample ID:	**CANINE-KENNEL-5E1A**	**SDG No.:**	**Z2180**
Lab Sample ID:	**Z2180-06**	**Matrix:**	**SOIL**
Analytical Method:	**8082**	**% Moisture:**	**11**
Sample Wt/Vol:	**30 g**	**Extract Vol:**	**10000 nL**

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P5018831.D	1	4/1/2008	4/4/2008	P5031308

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
12674-11-2	AROCLOR 1016	4.2	U J	19	4.2	ug/Kg
11104-28-2	AROCLOR 1221	5.1	U	19	5.1	ug/Kg
11141-16-5	AROCLOR 1232	5.4	U	19	5.4	ug/Kg
53469-21-9	AROCLOR 1242	2.4	U	19	2.4	ug/Kg
12672-29-6	AROCLOR 1248	5.2	U J	19	5.2	ug/Kg
11097-69-1	AROCLOR 1254	~~1400~~ 1900 *	~~E~~	19	5.2	ug/Kg
11096-82-5	AROCLOR 1260	4.2	U J	19	4.2	ug/Kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	22.01	110 %	44 - 141		SPK: 20
2051-24-3	Decachlorobiphenyl	17.49	87 %	34 - 145		SPK: 20

* taken from the dilution analysis

KBow 8/29/08

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N = Presumptive Evidence of a Compound

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	P.W. Grosser Consulting	**Date Collected:**	3/26/2008
Project:	Canine Kennel	**Date Received:**	3/28/2008
Client Sample ID:	CANINE-KENNEL-5E1ADL	**SDG No.:**	Z2180
Lab Sample ID:	Z2180-06DL	**Matrix:**	SOIL
Analytical Method:	8082	**% Moisture:**	11
Sample Wt/Vol:	30 g	**Extract Vol:**	10000 uL

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P5018937.D	5	4/1/2008	4/6/2008	P5031308

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
12674-11-2	AROCLOR 1016	21	UD	95	21	ug/Kg
11104-28-2	AROCLOR 1221	26	UD	95	26	ug/Kg
11141-16-5	AROCLOR 1232	27	UD	95	27	ug/Kg
53469-21-9	AROCLOR 1242	12	UD	95	12	ug/Kg
12672-29-6	AROCLOR 1248	26	UD	95	26	ug/Kg
11097-69-1	AROCLOR 1254	1900	D	95	26	ug/Kg
11096-82-5	AROCLOR 1260	21	UD	95	21	ug/Kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	21.45	107 %	44 - 141		SPK: 20
2051-24-3	Decachlorobiphenyl	16.5	83 %	34 - 145		SPK: 20

KBW
8/29/08

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N = Presumptive Evidence of a Compound

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	P.W. Grosser Consulting	**Date Collected:**	3/26/2008
Project:	Canine Kennel	**Date Received:**	3/28/2008
Client Sample ID:	CANINE-KENNEL-5S1A	**SDG No.:**	Z2180
Lab Sample ID:	Z2180-07	**Matrix:**	SOIL
Analytical Method:	8082	**% Moisture:**	11
Sample Wt/Vol:	30 g	**Extract Vol:**	10000 uL

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P5018939.D	200	4/1/2008	4/6/2008	P5031308

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
12674-11-2	AROCLOR 1016	840	U J	3800	840	ug/Kg
11104-28-2	AROCLOR 1221	1000	U	3800	1000	ug/Kg
11141-16-5	AROCLOR 1232	1100	U	3800	1100	ug/Kg
53469-21-9	AROCLOR 1242	470	U	3800	470	ug/Kg
12672-29-6	AROCLOR 1248	1000	U J	3800	1000	ug/Kg
11097-69-1	AROCLOR 1254	53000		3800	1000	ug/Kg
11096-82-5	AROCLOR 1260	840	U J	3800	840	ug/Kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	0	0 %	44 - 141		SPK: 20
2051-24-3	Decachlorobiphenyl	0	0 %	34 - 145		SPK: 20

KBM 8/24/08

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CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**P.W. Grosser Consulting**	**Date Collected:**	**3/26/2008**
Project:	**Canine Kennel**	**Date Received:**	**3/28/2008**
Client Sample ID:	**CANINE-KENNEL-1A**	**SDG No.:**	**Z2180**
Lab Sample ID:	**Z2180-08**	**Matrix:**	**SOIL**
Analytical Method:	**8082**	**% Moisture:**	**7**
Sample Wt/Vol:	**30 g**	**Extract Vol:**	**10000 uL**

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P5018833.D	1	4/1/2008	4/4/2008	P5031308

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
12674-11-2	AROCLOR 1016	4.0	U J	18	4.0	ug/Kg
11104-28-2	AROCLOR 1221	4.9	U	18	4.9	ug/Kg
11141-16-5	AROCLOR 1232	5.1	U	18	5.1	ug/Kg
53469-21-9	AROCLOR 1242	2.2	U	18	2.2	ug/Kg
12672-29-6	AROCLOR 1248	4.9	U J	18	4.9	ug/Kg
11097-69-1	AROCLOR 1254	~~1100~~	~~E~~ 1100 *	18	5.0	ug/Kg
11096-82-5	AROCLOR 1260	4.0	U J	18	4.0	ug/Kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	20.34	102 %	44 - 141		SPK: 20
2051-24-3	Decachlorobiphenyl	21.07	105 %	34 - 145		SPK: 20

* taken the dilution
Analysis

KRW
8/29/08

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**P.W. Grosser Consulting**	**Date Collected:**	**3/26/2008**
Project:	**Canine Kennel**	**Date Received:**	**3/28/2008**
Client Sample ID:	**CANINE-KENNEL-1ADL**	**SDG No.:**	**Z2180**
Lab Sample ID:	**Z2180-08DL**	**Matrix:**	**SOIL**
Analytical Method:	**8082**	**% Moisture:**	**7**
Sample Wt/Vol:	**30 g**	**Extract Vol:**	**10000 uL**

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P5018940.D	5	4/1/2008	4/6/2008	P5031308

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
12674-11-2	AROCLOR 1016	20	UD	91	20	ug/Kg
11104-28-2	AROCLOR 1221	24	UD	91	24	ug/Kg
11141-16-5	AROCLOR 1232	26	UD	91	26	ug/Kg
53469-21-9	AROCLOR 1242	11	UD	91	11	ug/Kg
12672-29-6	AROCLOR 1248	25	UD	91	25	ug/Kg
11097-69-1	AROCLOR 1254	1100	D	91	25	ug/Kg
11096-82-5	AROCLOR 1260	~~20~~	~~UD~~	91	20	ug/Kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	19.75	99 %	44 - 141		SPK: 20
2051-24-3	Decachlorobiphenyl	18.45	92 %	34 - 145		SPK: 20

KBM 08/29/08

U = Not Detected
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J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

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Report of Analysis

Client:	**P.W. Grosser Consulting**	**Date Collected:**	**3/26/2008**
Project:	**Canine Kennel**	**Date Received:**	**3/28/2008**
Client Sample ID:	**CANINE-KENNEL-1B**	**SDG No.:**	**Z2180**
Lab Sample ID:	**Z2180-11**	**Matrix:**	**SOIL**
Analytical Method:	**8082**	**% Moisture:**	**5**
Sample Wt/Vol:	**30 g**	**Extract Vol:**	**10000 uL**

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P5018947.D	500	4/1/2008	4/6/2008	P5031308

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
12674-11-2	AROCLOR 1016	2000	U J	8900	2000	ug/Kg
11104-28-2	AROCLOR 1221	2400	U	8900	2400	ug/Kg
11141-16-5	AROCLOR 1232	2500	U |	8900	2500	ug/Kg
53469-21-9	AROCLOR 1242	1100	U |	8900	1100	ug/Kg
12672-29-6	AROCLOR 1248	2400	U J	8900	2400	ug/Kg
11097-69-1	AROCLOR 1254	130000		8900	2500	ug/Kg
11096-82-5	AROCLOR 1260	2000	U J	8900	2000	ug/Kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	60	300 %	44 - 141		SPK: 20
2051-24-3	Decachlorobiphenyl	140	700 %	34 - 145		SPK: 20

KPond 8/26/08

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N = Presumptive Evidence of a Compound

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Report of Analysis

Client:	P.W. Grosser Consulting	**Date Collected:**	3/26/2008
Project:	Canine Kennel	**Date Received:**	3/28/2008
Client Sample ID:	CANINE-KENNEL-1E1A	**SDG No.:**	Z2180
Lab Sample ID:	Z2180-12	**Matrix:**	SOIL
Analytical Method:	8082	**% Moisture:**	18
Sample Wt/Vol:	30 g	**Extract Vol:**	10000 uL

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P5018837.D	1	4/1/2008	4/4/2008	P5031308

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
12674-11-2	AROCLOR 1016	4.6	U J	21	4.6	ug/Kg
11104-28-2	AROCLOR 1221	5.6	U	21	5.6	ug/Kg
11141-16-5	AROCLOR 1232	5.8	U	21	5.8	ug/Kg
53469-21-9	AROCLOR 1242	2.6	U	21	2.6	ug/Kg
12672-29-6	AROCLOR 1248	5.6	U J	21	5.6	ug/Kg
11097-69-1	AROCLOR 1254	~~1800~~	~~E~~ 2500 J	21	5.7	ug/Kg
11096-82-5	AROCLOR 1260	4.5	U J	21	4.5	ug/Kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	16.52	83 %	44 - 141		SPK: 20
2051-24-3	Decachlorobiphenyl	14.93	75 %	34 - 145		SPK: 20

R taken from the dilution analysis

KPM 8/29/08

U = Not Detected
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E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

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Report of Analysis

Client:	**P.W. Grosser Consulting**	**Date Collected:**	**3/26/2008**
Project:	**Canine Kennel**	**Date Received:**	**3/28/2008**
Client Sample ID:	**CANINE-KENNEL-1E1ADL**	**SDG No.:**	**Z2180**
Lab Sample ID:	**Z2180-12DL**	**Matrix:**	**SOIL**
Analytical Method:	**8082**	**% Moisture:**	**18**
Sample Wt/Vol:	**30 g**	**Extract Vol:**	**10000 uL**

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P5018933.D	10	4/1/2008	4/6/2008	P5031308

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
12674-11-2	AROCLOR 1016	46	UD	210	46	ug/Kg
11104-28-2	AROCLOR 1221	56	UD	210	56	ug/Kg
11141-16-5	AROCLOR 1232	58	UD	210	58	ug/Kg
53469-21-9	AROCLOR 1242	26	UD	210	26	ug/Kg
12672-29-6	AROCLOR 1248	56	UD	210	56	ug/Kg
11097-69-1	AROCLOR 1254	2500	D	210	57	ug/Kg
11096-82-5	AROCLOR 1260	~~45~~	~~UD~~	210	45	ug/Kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	14.9	75 %	44 - 141		SPK: 20
2051-24-3	Decachlorobiphenyl	12.9	65 %	34 - 145		SPK: 20

KBW 8/29/08

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N = Presumptive Evidence of a Compound

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Report of Analysis

Client:	P.W. Grosser Consulting	**Date Collected:**	3/26/2008
Project:	Canine Kennel	**Date Received:**	3/28/2008
Client Sample ID:	CANINE-KENNEL-1W1A	**SDG No.:**	Z2180
Lab Sample ID:	Z2180-13	**Matrix:**	SOIL
Analytical Method:	8082	**% Moisture:**	4
Sample Wt/Vol:	30 g	**Extract Vol:**	10000 uL

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P5018838.D	1	4/1/2008	4/4/2008	P5031308

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
12674-11-2	AROCLOR 1016	3.9	U J	18	3.9	ug/Kg
11104-28-2	AROCLOR 1221	4.8	U	18	4.8	ug/Kg
11141-16-5	AROCLOR 1232	5.0	U	18	5.0	ug/Kg
53469-21-9	AROCLOR 1242	2.2	U	18	2.2	ug/Kg
12672-29-6	AROCLOR 1248	4.8	U J	18	4.8	ug/Kg
11097-69-1	AROCLOR 1254	~~1700~~	~~E~~ 2300*	18	4.9	ug/Kg
11096-82-5	AROCLOR 1260	3.9	U J	18	3.9	ug/Kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	20.06	100 %	44 - 141		SPK: 20
2051-24-3	Decachlorobiphenyl	18.01	90 %	34 - 145		SPK: 20

*taken from the dilution analysis

KBW
8/29/08

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N = Presumptive Evidence of a Compound

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Report of Analysis

Client:	P.W. Grosser Consulting	**Date Collected:**	3/26/2008
Project:	Canine Kennel	**Date Received:**	3/28/2008
Client Sample ID:	CANINE-KENNEL-1W1ADL	**SDG No.:**	Z2180
Lab Sample ID:	Z2180-13DL	**Matrix:**	SOIL
Analytical Method:	8082	**% Moisture:**	4
Sample Wt/Vol:	30 g	**Extract Vol:**	10000 uL

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P5018950.D	10	4/1/2008	4/6/2008	P5031308

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
12674-11-2	AROCLOR 1016	39	UD	180	39	ug/Kg
11104-28-2	AROCLOR 1221	48	UD	180	48	ug/Kg
11141-16-5	AROCLOR 1232	50	UD	180	50	ug/Kg
53469-21-9	AROCLOR 1242	22	UD	180	22	ug/Kg
12672-29-6	AROCLOR 1248	48	UD	180	48	ug/Kg
11097-69-1	AROCLOR 1254	2300	D	180	49	ug/Kg
11096-82-5	AROCLOR 1260	39	UD	180	39	ug/Kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	25.2	126 %	44 - 141		SPK: 20
2051-24-3	Decachlorobiphenyl	12.5	63 %	34 - 145		SPK: 20

KBW
8/29/08

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N = Presumptive Evidence of a Compound

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Report of Analysis

Client:	**P.W. Grosser Consulting**	**Date Collected:**	**3/27/2008**
Project:	**Canine Kennel**	**Date Received:**	**3/28/2008**
Client Sample ID:	**ANINE-KENNEL-1N1A**	**SDG No.:**	**Z2180**
Lab Sample ID:	**Z2180-14**	**Matrix:**	**SOIL**
Analytical Method:	**8082**	**% Moisture:**	**18**
Sample Wt/Vol:	**30 g**	**Extract Vol:**	**10000 uL**

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P5018964.D	500	4/1/2008	4/7/2008	P5031308

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
12674-11-2	AROCLOR 1016	2300	U J	10000	2300	ug/Kg
11104-28-2	AROCLOR 1221	2800	U	10000	2800	ug/Kg
11141-16-5	AROCLOR 1232	2900	U	10000	2900	ug/Kg
53469-21-9	AROCLOR 1242	1300	U	10000	1300	ug/Kg
12672-29-6	AROCLOR 1248	2800	U J	10000	2800	ug/Kg
11097-69-1	AROCLOR 1254	42000		10000	2800	ug/Kg
11096-82-5	AROCLOR 1260	2300	U J	10000	2300	ug/Kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	10	50 %	44 - 141		SPK: 20
2051-24-3	Decachlorobiphenyl	105	525 %	34 - 145		SPK: 20

8/29/08

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J = Estimated Value
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N = Presumptive Evidence of a Compound

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Report of Analysis

Client:	**P.W. Grosser Consulting**	**Date Collected:**	**3/27/2008**
Project:	**Canine Kennel**	**Date Received:**	**3/28/2008**
Client Sample ID:	**CANINE-KENNEL-1S1A**	**SDG No.:**	**Z2180**
Lab Sample ID:	**Z2180-15**	**Matrix:**	**SOIL**
Analytical Method:	**8082**	**% Moisture:**	**11**
Sample Wt/Vol:	**30 g**	**Extract Vol:**	**10000 uL**

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P5018840.D	1	4/1/2008	4/4/2008	P5031308

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
12674-11-2	AROCLOR 1016	4.2	U J	19	4.2	ug/Kg
11104-28-2	AROCLOR 1221	5.1	U	19	5.1	ug/Kg
11141-16-5	AROCLOR 1232	5.4	U	19	5.4	ug/Kg
53469-21-9	AROCLOR 1242	2.4	U	19	2.4	ug/Kg
12672-29-6	AROCLOR 1248	5.2	U J	19	5.2	ug/Kg
11097-69-1	AROCLOR 1254	~~R 3300~~	~~E~~ 7600 *	19	5.3	ug/Kg
11096-82-5	AROCLOR 1260	4.2	U J	19	4.2	ug/Kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	19.34	97 %	44 - 141		SPK: 20
2051-24-3	Decachlorobiphenyl	18.93	95 %	34 - 145		SPK: 20

* Taken from the dilution analysis

KBM
8/29/08

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N = Presumptive Evidence of a Compound

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Report of Analysis

Client:	**P.W. Grosser Consulting**	**Date Collected:**	**3/27/2008**
Project:	**Canine Kennel**	**Date Received:**	**3/28/2008**
Client Sample ID:	**CANINE-KENNEL-1S1ADL**	**SDG No.:**	**Z2180**
Lab Sample ID:	**Z2180-15DL**	**Matrix:**	**SOIL**
Analytical Method:	**8082**	**% Moisture:**	**11**
Sample Wt/Vol:	**30 g**	**Extract Vol:**	**10000 uL**

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P5018948.D	50	4/1/2008	4/6/2008	P5031308

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
12674-11-2	AROCLOR 1016	210	UD	950	210	ug/Kg
11104-28-2	AROCLOR 1221	260	UD	950	260	ug/Kg
11141-16-5	AROCLOR 1232	270	UD	950	270	ug/Kg
53469-21-9	AROCLOR 1242	120	UD	950	120	ug/Kg
12672-29-6	AROCLOR 1248	260	UD	950	260	ug/Kg
11097-69-1	AROCLOR 1254	7600	D	950	260	ug/Kg
11096-82-5	AROCLOR 1260	~~210~~ R	~~UD~~	950	210	ug/Kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	48.5	243 %	44 - 141		SPK: 20
2051-24-3	Decachlorobiphenyl	6.5	33 %	34 - 145		SPK: 20

KBW
8/29/08

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N = Presumptive Evidence of a Compound

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Report of Analysis

Client:	P.W. Grosser Consulting	**Date Collected:**	3/26/2008
Project:	Canine Kennel	**Date Received:**	3/28/2008
Client Sample ID:	CANINE-KENNEL-5B	**SDG No.:**	Z2180
Lab Sample ID:	Z2180-18	**Matrix:**	SOIL
Analytical Method:	8082	**% Moisture:**	8
Sample Wt/Vol:	30 g	**Extract Vol:**	10000 uL

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P5018963.D	500	4/1/2008	4/7/2008	P5031308

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
12674-11-2	AROCLOR 1016	2000	U J	9200	2000	ug/Kg
11104-28-2	AROCLOR 1221	2500	U	9200	2500	ug/Kg
11141-16-5	AROCLOR 1232	2600	U	9200	2600	ug/Kg
53469-21-9	AROCLOR 1242	1100	U	9200	1100	ug/Kg
12672-29-6	AROCLOR 1248	2500	U J *	9200	2500	ug/Kg
11097-69-1	AROCLOR 1254	R ~~560000~~	~~E~~ 350000	9200	2500	ug/Kg
11096-82-5	AROCLOR 1260	2000	U J	9200	2000	ug/Kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	15	75 %	44 - 141		SPK: 20
2051-24-3	Decachlorobiphenyl	135	675 %	34 - 145		SPK: 20

* taken from the dilution analysis

KBM 8/29/08

U = Not Detected
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MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

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Report of Analysis

Client:	P.W. Grosser Consulting	**Date Collected:**	3/26/2008
Project:	Canine Kennel	**Date Received:**	3/28/2008
Client Sample ID:	CANINE-KENNEL-5BDL	**SDG No.:**	Z2180
Lab Sample ID:	Z2180-18DL	**Matrix:**	SOIL
Analytical Method:	8082	**% Moisture:**	8
Sample Wt/Vol:	30 g	**Extract Vol:**	10000 uL

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P5018968.D	2000	4/1/2008	4/7/2008	P5031308

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
12674-11-2	AROCLOR 1016	8100	UD	37000	8100	ug/Kg
11104-28-2	AROCLOR 1221	9900	UD	37000	9900	ug/Kg
11141-16-5	AROCLOR 1232	10000	UD	37000	10000	ug/Kg
53469-21-9	AROCLOR 1242	4600	UD	37000	4600	ug/Kg
12672-29-6	AROCLOR 1248	10000	UD	37000	10000	ug/Kg
11097-69-1	AROCLOR 1254	350000	D	37000	10000	ug/Kg
11096-82-5	AROCLOR 1260	8100	UD	37000	8100	ug/Kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	0	0 %	44 - 141		SPK: 20
2051-24-3	Decachlorobiphenyl	0	0 %	34 - 145		SPK: 20

KBW 8/29/08

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E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

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Report of Analysis

Client:	P.W. Grosser Consulting	**Date Collected:**	3/26/2008
Project:	Canine Kennel	**Date Received:**	3/28/2008
Client Sample ID:	CANINE-KENNEL-TP-2	**SDG No.:**	Z2180
Lab Sample ID:	Z2180-19	**Matrix:**	SOIL
Analytical Method:	8082	**% Moisture:**	4
Sample Wt/Vol:	30 g	**Extract Vol:**	10000 uL

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P5018842.D	1	4/1/2008	4/4/2008	P5031308

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
12674-11-2	AROCLOR 1016	3.9	U J	18	3.9	ug/Kg
11104-28-2	AROCLOR 1221	4.8	U	18	4.8	ug/Kg
11141-16-5	AROCLOR 1232	5.0	U	18	5.0	ug/Kg
53469-21-9	AROCLOR 1242	2.2	U	18	2.2	ug/Kg
12672-29-6	AROCLOR 1248	4.8	U J	18	4.8	ug/Kg
11097-69-1	AROCLOR 1254	R ~~1900~~ ~~EP~~ 1600 *		18	4.9	ug/Kg
11096-82-5	AROCLOR 1260	3.9	U J	18	3.9	ug/Kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	18.78	94 %	44 - 141		SPK: 20
2051-24-3	Decachlorobiphenyl	11.03	55 %	34 - 145		SPK: 20

* taken from the dilution analysis

KPW

8/29/08

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J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

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Report of Analysis

Client:	**P.W. Grosser Consulting**	**Date Collected:**	**3/26/2008**
Project:	**Canine Kennel**	**Date Received:**	**3/28/2008**
Client Sample ID:	**CANINE-KENNEL-TP-2DL**	**SDG No.:**	**Z2180**
Lab Sample ID:	**Z2180-19DL**	**Matrix:**	**SOIL**
Analytical Method:	**8082**	**% Moisture:**	**4**
Sample Wt/Vol:	**30 g**	**Extract Vol:**	**10000 uL**

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P5018946.D	10	4/1/2008	4/6/2008	P5031308

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
12674-11-2	AROCLOR 1016	39	UD	180	39	ug/Kg
11104-28-2	AROCLOR 1221	48	UD	180	48	ug/Kg
11141-16-5	AROCLOR 1232	50	UD	180	50	ug/Kg
53469-21-9	AROCLOR 1242	22	UD	180	22	ug/Kg
12672-29-6	AROCLOR 1248	48	UD	180	48	ug/Kg
11097-69-1	AROCLOR 1254	1600	D	180	49	ug/Kg
11096-82-5	AROCLOR 1260	39	UD	180	39	ug/Kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	17.4	87 %	44 - 141		SPK: 20
2051-24-3	Decachlorobiphenyl	8.3	42 %	34 - 145		SPK: 20

8/29/08

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**P.W. Grosser Consulting**	**Date Collected:**	**3/26/2008**
Project:	**Canine Kennel**	**Date Received:**	**3/28/2008**
Client Sample ID:	**CANINE-KENNEL-TP-3**	**SDG No.:**	**Z2180**
Lab Sample ID:	**Z2180-20**	**Matrix:**	**SOIL**
Analytical Method:	**8082**	**% Moisture:**	**5**
Sample Wt/Vol:	**30 g**	**Extract Vol:**	**10000 uL**

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P5018843.D	1	4/1/2008	4/4/2008	P5031308

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
12674-11-2	AROCLOR 1016	3.9	U J	18	3.9	ug/Kg
11104-28-2	AROCLOR 1221	4.8	U	18	4.8	ug/Kg
11141-16-5	AROCLOR 1232	5.0	U	18	5.0	ug/Kg
53469-21-9	AROCLOR 1242	2.2	U	18	2.2	ug/Kg
12672-29-6	AROCLOR 1248	4.8	U J	18	4.8	ug/Kg
11097-69-1	AROCLOR 1254	R ~~3000~~	~~E~~ 5400*	18	4.9	ug/Kg
11096-82-5	AROCLOR 1260	3.9	U J	18	3.9	ug/Kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	21.98	110 %	44 - 141		SPK: 20
2051-24-3	Decachlorobiphenyl	18.9	95 %	34 - 145		SPK: 20

* taken from the dilution analysis

KPW 8/29/08

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

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Report of Analysis

Client:	**P.W. Grosser Consulting**	**Date Collected:**	**3/26/2008**
Project:	**Canine Kennel**	**Date Received:**	**3/28/2008**
Client Sample ID:	**CANINE-KENNEL-TP-3DL**	**SDG No.:**	**Z2180**
Lab Sample ID:	**Z2180-20DL**	**Matrix:**	**SOIL**
Analytical Method:	**8082**	**% Moisture:**	**5**
Sample Wt/Vol:	**30 g**	**Extract Vol:**	**10000 uL**

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P5018969.D	50	4/1/2008	4/7/2008	P5031308

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
12674-11-2	AROCLOR 1016	200	UD	890	200	ug/Kg
11104-28-2	AROCLOR 1221	240	UD	890	240	ug/Kg
11141-16-5	AROCLOR 1232	250	UD	890	250	ug/Kg
53469-21-9	AROCLOR 1242	110	UD	890	110	ug/Kg
12672-29-6	AROCLOR 1248	240	UD	890	240	ug/Kg
11097-69-1	AROCLOR 1254	5400	D	890	250	ug/Kg
11096-82-5	AROCLOR 1260	200	UD	890	200	ug/Kg
SURROGATES						
877-09-8	Tetrachloro-m-xylene	21	105 %	44 - 141		SPK: 20
2051-24-3	Decachlorobiphenyl	21.5	108 %	34 - 145		SPK: 20

8/29/08

U = Not Detected
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B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

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Report of Analysis

Client:	**P.W. Grosser Consulting**	**Date Collected:**	**3/26/2008**
Project:	**Caniue Kennel**	**Date Received:**	**3/28/2008**
Client Sample ID:	**CANINE-KENNEL-FB**	**SDG No.:**	**Z2180**
Lab Sample ID:	**Z2180-03**	**Matrix:**	**WATER**
Analytical Method:	**8082**	**% Moisture:**	**100**
Sample Wt/Vol:	**1000 mL**	**Extract Vol:**	**10000 uL**

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P4012632.D	1	4/1/2008	4/1/2008	P4031208

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
12674-11-2	AROCLOR 1016	0.142	U J	0.50	0.142	ug/L
11104-28-2	AROCLOR 1221	0.113	U	0.50	0.113	ug/L
11141-16-5	AROCLOR 1232	0.115	U	0.50	0.115	ug/L
53469-21-9	AROCLOR 1242	0.073	U	0.50	0.073	ug/L
12672-29-6	AROCLOR 1248	0.101	U	0.50	0.101	ug/L
11097-69-1	AROCLOR 1254	0.139	U	0.50	0.139	ug/L
11096-82-5	AROCLOR 1260	0.0890	U J	0.50	0.0890	ug/L
SURROGATES						
877-09-8	Tetrachloro-m-xylene	20.28	101 %	42 - 133		SPK: 20
2051-24-3	Decachlorobiphenyl	15.15	76 %	30 - 141		SPK: 20

8/29/08

U = Not Detected
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E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

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Report of Analysis

Client:	P.W. Grosser Consulting	**Date Collected:**	3/27/2008
Project:	Canine Kennel	**Date Received:**	3/28/2008
Client Sample ID:	CANINE-KENNEL-DECON-WATE	**SDG No.:**	Z2180
Lab Sample ID:	Z2180-16	**Matrix:**	WATER
Analytical Method:	8082	**% Moisture:**	100
Sample Wt/Vol:	1000 mL	**Extract Vol:**	10000 uL

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P4012633.D	1	4/1/2008	4/1/2008	P4031208

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
12674-11-2	AROCLOR 1016	0.142	U J	0.50	0.142	ug/L
11104-28-2	AROCLOR 1221	0.113	U	0.50	0.113	ug/L
11141-16-5	AROCLOR 1232	0.115	U	0.50	0.115	ug/L
53469-21-9	AROCLOR 1242	0.073	U	0.50	0.073	ug/L
12672-29-6	AROCLOR 1248	0.101	U J	0.50	0.101	ug/L
11097-69-1	AROCLOR 1254	R ~~29~~	~~E~~ 32 *	0.50	0.139	ug/L
11096-82-5	AROCLOR 1260	0.0890	U J	0.50	0.0890	ug/L
SURROGATES						
877-09-8	Tetrachloro-m-xylene	12.07	60 %	42 - 133		SPK: 20
2051-24-3	Decachlorobiphenyl	2.73	14 %	30 - 141		SPK: 20

* taken from dilution analysis

KBon 8/29/08

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N = Presumptive Evidence of a Compound

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Report of Analysis

Client:	**P.W. Grosser Consulting**	**Date Collected:**	**3/27/2008**
Project:	**Canine Kennel**	**Date Received:**	**3/28/2008**
Client Sample ID:	**CANINE-KENNEL-DECON-WATE**	**SDG No.:**	**Z2180**
Lab Sample ID:	**Z2180-16DL**	**Matrix:**	**WATER**
Analytical Method:	**8082**	**% Moisture:**	**100**
Sample Wt/Vol:	**1000 mL**	**Extract Vol:**	**10000 uL**

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P4012699.D	5	4/1/2008	4/3/2008	P4031208

CAS Number	Paramcter	Conc	Qualifier	RL	MDL	Units
TARGETS						
12674-11-2	AROCLOR 1016	0.710	UD	2.5	0.710	ug/L
11104-28-2	AROCLOR 1221	0.565	UD	2.5	0.565	ug/L
11141-16-5	AROCLOR 1232	0.575	UD	2.5	0.575	ug/L
53469-21-9	AROCLOR 1242	0.365	UD	2.5	0.365	ug/L
12672-29-6	AROCLOR 1248	0.505	UD	2.5	0.505	ug/L
11097-69-1	AROCLOR 1254	32	D	2.5	0.695	ug/L
11096-82-5	AROCLOR 1260	0.4400	UD	2.5	0.4400	ug/L
SURROGATES						
877-09-8	Tetrachloro-m-xylene	9.700001	49 %	42 - 133		SPK: 20
2051-24-3	Decachlorobiphenyl	7.15	36 %	30 - 141		SPK: 20

R

8/29/08

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N = Presumptive Evidence of a Compound

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Report of Analysis

Client:	P.W. Grosser Consulting	**Date Collected:**	3/27/2008
Project:	Canine Kennel	**Date Received:**	3/28/2008
Client Sample ID:	CANINE-KENNEL-FIELD BLANK	**SDG No.:**	Z2180
Lab Sample ID:	Z2180-17	**Matrix:**	WATER
Analytical Method:	8082	**% Moisture:**	100
Sample Wt/Vol:	890 mL	**Extract Vol:**	10000 uL

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P4012634.D	1	4/1/2008	4/1/2008	P4031208

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
12674-11-2	AROCLOR 1016	0.160	U J	0.56	0.160	ug/L
11104-28-2	AROCLOR 1221	0.127	U	0.56	0.127	ug/L
11141-16-5	AROCLOR 1232	0.129	U	0.56	0.129	ug/L
53469-21-9	AROCLOR 1242	0.082	U	0.56	0.082	ug/L
12672-29-6	AROCLOR 1248	0.113	U	0.56	0.113	ug/L
11097-69-1	AROCLOR 1254	0.156	U	0.56	0.156	ug/L
11096-82-5	AROCLOR 1260	0.1000	U J	0.56	0.1000	ug/L
SURROGATES						
877-09-8	Tetrachloro-m-xylene	18.92	95 %	42 - 133		SPK: 20
2051-24-3	Decachlorobiphenyl	11.94	60 %	30 - 141		SPK: 20

4/29/08

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N = Presumptive Evidence of a Compound

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Report of Analysis

Client:	P.W. Grosser Consulting	**Date Collected:**	3/26/2008
Project:	Canine Kennel	**Date Received:**	3/28/2008
Client Sample ID:	CANINE-KENNEL-5A	**SDG No.:**	Z2180
Lab Sample ID:	Z2180-01	**Matrix:**	SOIL
Analytical Method:	8081	**% Moisture:**	7
Sample Wt/Vol:	30 g	**Extract Vol:**	10000 uL

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P1011996.D	1	4/1/2008	4/5/2008	P7040108

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
319-84-6	alpha-BHC	0.15	U J	1.8	0.15	ug/Kg
319-85-7	beta-BHC	0.19	U	1.8	0.19	ug/Kg
319-86-8	delta-BHC	0.19	U	1.8	0.19	ug/Kg
58-89-9	gamma-BHC (Lindane)	0.17	U	1.8	0.17	ug/Kg
76-44-8	Heptachlor	0.16	U	1.8	0.16	ug/Kg
309-00-2	Aldrin	0.17	U	1.8	0.17	ug/Kg
1024-57-3	Heptachlor epoxide	0.20	U	1.8	0.20	ug/Kg
959-98-8	Endosulfan I	0.20	U	1.8	0.20	ug/Kg
60-57-1	Dieldrin	0.20	U	1.8	0.20	ug/Kg
72-55-9	4,4'-DDE	0.20	U	1.8	0.20	ug/Kg
72-20-8	Endrin	0.61	U	1.8	0.61	ug/Kg
33213-65-9	Endosulfan II	0.21	U	1.8	0.21	ug/Kg
72-54-8	4,4'-DDD	0.29	U	1.8	0.29	ug/Kg
1031-07-8	Endosulfan sulfate	0.25	U	1.8	0.25	ug/Kg
50-29-3	4,4'-DDT	0.17	U	1.8	0.17	ug/Kg
72-43-5	Methoxychlor	0.23	U	1.8	0.23	ug/Kg
53494-70-5	Endrin ketone	0.50	U	1.8	0.50	ug/Kg
7421-93-4	Endrin aldehyde	0.21	U	1.8	0.21	ug/Kg
5103-71-9	alpha-Chlordane	0.20	U	1.8	0.20	ug/Kg
5103-74-2	gamma-Chlordane	0.19	U	1.8	0.19	ug/Kg
8001-35-2	Toxaphene	3.8	U J	18	3.8	ug/Kg
SURROGATES						
2051-24-3	Decachlorobiphenyl	34.42	172 %	30 - 161		SPK: 20
877-09-8	Tetrachloro-m-xylene	16.28	81 %	30 - 158		SPK: 20

HBW 8/29/08

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Report of Analysis

Client:	P.W. Grosser Consulting	**Date Collected:**	3/26/2008
Project:	Canine Kennel	**Date Received:**	3/28/2008
Client Sample ID:	CANINE-KENNEL-FD-05	**SDG No.:**	Z2180
Lab Sample ID:	Z2180-02	**Matrix:**	SOIL
Analytical Method:	8081	**% Moisture:**	9
Sample Wt/Vol:	30 g	**Extract Vol:**	10000 uL

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P1011997.D	1	4/1/2008	4/5/2008	P7040108

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
319-84-6	alpha-BHC	0.15	U J	1.9	0.15	ug/Kg
319-85-7	beta-BHC	0.20	U	1.9	0.20	ug/Kg
319-86-8	delta-BHC	0.20	U	1.9	0.20	ug/Kg
58-89-9	gamma-BHC (Lindane)	0.18	U	1.9	0.18	ug/Kg
76-44-8	Heptachlor	0.16	U	1.9	0.16	ug/Kg
309-00-2	Aldrin	0.18	U	1.9	0.18	ug/Kg
1024-57-3	Heptachlor epoxide	0.21	U	1.9	0.21	ug/Kg
959-98-8	Endosulfan I	0.21	U	1.9	0.21	ug/Kg
60-57-1	Dieldrin	0.21	U	1.9	0.21	ug/Kg
72-55-9	4,4'-DDE	0.21	U	1.9	0.21	ug/Kg
72-20-8	Endrin	0.63	U	1.9	0.63	ug/Kg
33213-65-9	Endosulfan II	0.22	U	1.9	0.22	ug/Kg
72-54-8	4,4'-DDD	0.30	U	1.9	0.30	ug/Kg
1031-07-8	Endosulfan sulfate	0.25	U	1.9	0.25	ug/Kg
50-29-3	4,4'-DDT	0.18	U	1.9	0.18	ug/Kg
72-43-5	Methoxychlor	0.23	U	1.9	0.23	ug/Kg
53494-70-5	Endrin ketone	0.52	U	1.9	0.52	ug/Kg
7421-93-4	Endrin aldehyde	0.22	U	1.9	0.22	ug/Kg
5103-71-9	alpha-Chlordane	0.21	U	1.9	0.21	ug/Kg
5103-74-2	gamma-Chlordane	0.20	U	1.9	0.20	ug/Kg
8001-35-2	Toxaphene	3.9	U J	19	3.9	ug/Kg
SURROGATES						
2051-24-3	Decachlorobiphenyl	26.78	134 %	30 - 161		SPK: 20
877-09-8	Tetrachloro-m-xylene	13.92	70 %	30 - 158		SPK: 20

8/29/08

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N = Presumptive Evidence of a Compound

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Report of Analysis

Client:	**P.W. Grosser Consulting**	**Date Collected:**	**3/26/2008**
Project:	**Canine Kennel**	**Date Received:**	**3/28/2008**
Client Sample ID:	**CANINE-KENNEL-5N1A**	**SDG No.:**	**Z2180**
Lab Sample ID:	**Z2180-04**	**Matrix:**	**SOIL**
Analytical Method:	**8081**	**% Moisture:**	**6**
Sample Wt/Vol:	**30 g**	**Extract Vol:**	**10000 uL**

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P1011998.D	1	4/1/2008	4/5/2008	P7040108

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
319-84-6	alpha-BHC	0.15	U J	1.8	0.15	ug/Kg
319-85-7	beta-BHC	0.19	U	1.8	0.19	ug/Kg
319-86-8	delta-BHC	0.19	U	1.8	0.19	ug/Kg
58-89-9	gamma-BHC (Lindane)	0.17	U	1.8	0.17	ug/Kg
76-44-8	Heptachlor	0.16	U	1.8	0.16	ug/Kg
309-00-2	Aldrin	0.17	U	1.8	0.17	ug/Kg
1024-57-3	Heptachlor epoxide	0.20	U	1.8	0.20	ug/Kg
959-98-8	Endosulfan I	0.20	U	1.8	0.20	ug/Kg
60-57-1	Dieldrin	0.20	U	1.8	0.20	ug/Kg
72-55-9	4,4'-DDE	0.20	U	1.8	0.20	ug/Kg
72-20-8	Endrin	0.60	U	1.8	0.60	ug/Kg
33213-65-9	Endosulfan II	0.21	U	1.8	0.21	ug/Kg
72-54-8	4,4'-DDD	0.29	U	1.8	0.29	ug/Kg
1031-07-8	Endosulfan sulfate	0.24	U	1.8	0.24	ug/Kg
50-29-3	4,4'-DDT	0.17	U	1.8	0.17	ug/Kg
72-43-5	Methoxychlor	0.22	U	1.8	0.22	ug/Kg
53494-70-5	Endrin ketone	0.50	U	1.8	0.50	ug/Kg
7421-93-4	Endrin aldehyde	0.21	U	1.8	0.21	ug/Kg
5103-71-9	alpha-Chlordane	0.20	U	1.8	0.20	ug/Kg
5103-74-2	gamma-Chlordane	0.19	U	1.8	0.19	ug/Kg
8001-35-2	Toxaphene	3.8	U J	18	3.8	ug/Kg
SURROGATES						
2051-24-3	Decachlorobiphenyl	21.79	109 %	30 - 161		SPK: 20
877-09-8	Tetrachloro-m-xylene	10.82	54 %	30 - 158		SPK: 20

8/29/08

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E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

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Report of Analysis

Client:	P.W. Grosser Consulting	**Date Collected:**	3/26/2008
Project:	Canine Kennel	**Date Received:**	3/28/2008
Client Sample ID:	CANINE-KENNEL-5W1A	**SDG No.:**	Z2180
Lab Sample ID:	Z2180-05	**Matrix:**	SOIL
Analytical Method:	8081	**% Moisture:**	5
Sample Wt/Vol:	30 g	**Extract Vol:**	10000 uL

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P1011999.D	1	4/1/2008	4/5/2008	P7040108

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
319-84-6	alpha-BHC	0.15	U J	1.8	0.15	ug/Kg
319-85-7	beta-BHC	0.19	U	1.8	0.19	ug/Kg
319-86-8	delta-BHC	0.19	U	1.8	0.19	ug/Kg
58-89-9	gamma-BHC (Lindane)	0.17	U	1.8	0.17	ug/Kg
76-44-8	Heptachlor	0.16	U	1.8	0.16	ug/Kg
309-00-2	Aldrin	0.17	U	1.8	0.17	ug/Kg
1024-57-3	Heptachlor epoxide	0.20	U	1.8	0.20	ug/Kg
959-98-8	Endosulfan I	0.20	U	1.8	0.20	ug/Kg
60-57-1	Dieldrin	0.20	U	1.8	0.20	ug/Kg
72-55-9	4,4'-DDE	0.20	U	1.8	0.20	ug/Kg
72-20-8	Endrin	0.60	U	1.8	0.60	ug/Kg
33213-65-9	Endosulfan II	0.21	U	1.8	0.21	ug/Kg
72-54-8	4,4'-DDD	0.28	U	1.8	0.28	ug/Kg
1031-07-8	Endosulfan sulfate	0.24	U	1.8	0.24	ug/Kg
50-29-3	4,4'-DDT	0.17	U	1.8	0.17	ug/Kg
72-43-5	Methoxychlor	0.22	U	1.8	0.22	ug/Kg
53494-70-5	Endrin ketone	0.49	U	1.8	0.49	ug/Kg
7421-93-4	Endrin aldehyde	0.21	U	1.8	0.21	ug/Kg
5103-71-9	alpha-Chlordane	0.20	U	1.8	0.20	ug/Kg
5103-74-2	gamma-Chlordane	0.19	U	1.8	0.19	ug/Kg
8001-35-2	Toxaphene	3.8	U J	18	3.8	ug/Kg
SURROGATES						
2051-24-3	Decachlorobiphenyl	18.39	92 %	30 - 161		SPK: 20
877-09-8	Tetrachloro-m-xylene	16.64	83 %	30 - 158		SPK: 20

KBM 8/29/08

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	P.W. Grosser Consulting	**Date Collected:**	3/26/2008
Project:	Canine Kennel	**Date Received:**	3/28/2008
Client Sample ID:	CANINE-KENNEL-5E1A	**SDG No.:**	Z2180
Lab Sample ID:	Z2180-06	**Matrix:**	SOIL
Analytical Method:	8081	**% Moisture:**	11
Sample Wt/Vol:	30 g	**Extract Vol:**	10000 nL

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P1012000.D	1	4/1/2008	4/5/2008	P7040108

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
319-84-6	alpha-BHC	0.16	U J	1.9	0.16	ug/Kg
319-85-7	beta-BHC	0.20	U	1.9	0.20	ug/Kg
319-86-8	delta-BHC	0.20	U	1.9	0.20	ug/Kg
58-89-9	gamma-BHC (Lindane)	0.18	U	1.9	0.18	ug/Kg
76-44-8	Heptachlor	0.17	U	1.9	0.17	ug/Kg
309-00-2	Aldrin	0.18	U	1.9	0.18	ug/Kg
1024-57-3	Heptachlor epoxide	0.21	U	1.9	0.21	ug/Kg
959-98-8	Endosulfan I	0.21	U	1.9	0.21	ug/Kg
60-57-1	Dieldrin	0.21	U	1.9	0.21	ug/Kg
72-55-9	4,4'-DDE	0.21	U	1.9	0.21	ug/Kg
72-20-8	Endrin	0.64	U	1.9	0.64	ug/Kg
33213-65-9	Endosulfan II	0.22	U	1.9	0.22	ug/Kg
72-54-8	4,4'-DDD	0.30	U	1.9	0.30	ug/Kg
1031-07-8	Endosulfan sulfate	0.26	U	1.9	0.26	ug/Kg
50-29-3	4,4'-DDT	0.18	U	1.9	0.18	ug/Kg
72-43-5	Methoxychlor	0.24	U	1.9	0.24	ug/Kg
53494-70-5	Endrin ketone	0.53	U	1.9	0.53	ug/Kg
7421-93-4	Endrin aldehyde	0.22	U	1.9	0.22	ug/Kg
5103-71-9	alpha-Chlordane	0.21	U	1.9	0.21	ug/Kg
5103-74-2	gamma-Chlordane	0.20	U	1.9	0.20	ug/Kg
8001-35-2	Toxaphene	4.0	U J	19	4.0	ug/Kg
SURROGATES						
2051-24-3	Decachlorobiphenyl	18.32	92 %	30 - 161		SPK: 20
877-09-8	Tetrachloro-m-xylene	15.98	80 %	30 - 158		SPK: 20

8/29/08

U = Not Detected
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MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	P.W. Grosser Consulting	**Date Collected:**	3/26/2008
Project:	Canine Kennel	**Date Received:**	3/28/2008
Client Sample ID:	CANINE-KENNEL-5S1A	**SDG No.:**	Z2180
Lab Sample ID:	Z2180-07	**Matrix:**	SOIL
Analytical Method:	8081	**% Moisture:**	11
Sample Wt/Vol:	30 g	**Extract Vol:**	10000 uL

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P1012001.D	1	4/1/2008	4/5/2008	P7040108

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
319-84-6	alpha-BHC	0.16	U J	1.9	0.16	ug/Kg
319-85-7	beta-BHC	0.20	U	1.9	0.20	ug/Kg
319-86-8	delta-BHC	0.20	U	1.9	0.20	ug/Kg
58-89-9	gamma-BHC (Lindane)	0.18	U	1.9	0.18	ug/Kg
76-44-8	Heptachlor	0.17	U	1.9	0.17	ug/Kg
309-00-2	Aldrin	0.18	U	1.9	0.18	ug/Kg
1024-57-3	Heptachlor epoxide	0.21	U	1.9	0.21	ug/Kg
959-98-8	Endosulfan I	0.21	U	1.9	0.21	ug/Kg
60-57-1	Dieldrin	0.21	U	1.9	0.21	ug/Kg
72-55-9	4,4'-DDE	0.21	U	1.9	0.21	ug/Kg
72-20-8	Endrin	0.64	U	1.9	0.64	ug/Kg
33213-65-9	Endosulfan II	0.22	U	1.9	0.22	ug/Kg
72-54-8	4,4'-DDD	0.30	U	1.9	0.30	ug/Kg
1031-07-8	Endosulfan sulfate	0.26	U	1.9	0.26	ug/Kg
50-29-3	4,4'-DDT	0.18	U	1.9	0.18	ug/Kg
72-43-5	Methoxychlor	0.24	U	1.9	0.24	ug/Kg
53494-70-5	Endrin ketone	0.53	U	1.9	0.53	ug/Kg
7421-93-4	Endrin aldehyde	0.22	U	1.9	0.22	ug/Kg
5103-71-9	alpha-Chlordane	0.21	U	1.9	0.21	ug/Kg
5103-74-2	gamma-Chlordane	0.20	U	1.9	0.20	ug/Kg
8001-35-2	Toxaphene	4.0	U J	19	4.0	ug/Kg
SURROGATES						
2051-24-3	Decachlorobiphenyl	24.44	122 %	30 - 161		SPK: 20
877-09-8	Tetrachloro-m-xylene	18.8	94 %	30 - 158		SPK: 20

8/29/08

U = Not Detected
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E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	P.W. Grosser Consulting	**Date Collected:**	3/26/2008
Project:	Canine Kennel	**Date Received:**	3/28/2008
Client Sample ID:	CANINE-KENNEL-1A	**SDG No.:**	Z2180
Lab Sample ID:	Z2180-08	**Matrix:**	SOIL
Analytical Method:	8081	**% Moisture:**	7
Sample Wt/Vol:	30 g	**Extract Vol:**	10000 uL

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P1012002.D	1	4/1/2008	4/5/2008	P7040108

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
319-84-6	alpha-BHC	0.15	U J	1.8	0.15	ug/Kg
319-85-7	beta-BHC	0.19	U	1.8	0.19	ug/Kg
319-86-8	delta-BHC	0.19	U	1.8	0.19	ug/Kg
58-89-9	gamma-BHC (Lindane)	0.17	U	1.8	0.17	ug/Kg
76-44-8	Heptachlor	0.16	U	1.8	0.16	ug/Kg
309-00-2	Aldrin	0.17	U	1.8	0.17	ug/Kg
1024-57-3	Heptachlor epoxide	0.20	U	1.8	0.20	ug/Kg
959-98-8	Endosulfan I	0.20	U	1.8	0.20	ug/Kg
60-57-1	Dieldrin	0.20	U	1.8	0.20	ug/Kg
72-55-9	4,4'-DDE	0.20	U	1.8	0.20	ug/Kg
72-20-8	Endrin	0.61	U	1.8	0.61	ug/Kg
33213-65-9	Endosulfan II	0.21	U	1.8	0.21	ug/Kg
72-54-8	4,4'-DDD	0.29	U	1.8	0.29	ug/Kg
1031-07-8	Endosulfan sulfate	0.25	U	1.8	0.25	ug/Kg
50-29-3	4,4'-DDT	0.17	U	1.8	0.17	ug/Kg
72-43-5	Methoxychlor	0.22	U	1.8	0.22	ug/Kg
53494-70-5	Endrin ketone	0.50	U	1.8	0.50	ug/Kg
7421-93-4	Endrin aldehyde	0.21	U	1.8	0.21	ug/Kg
5103-71-9	alpha-Chlordane	0.20	U	1.8	0.20	ug/Kg
5103-74-2	gamma-Chlordane	0.19	U	1.8	0.19	ug/Kg
8001-35-2	Toxaphene	3.8	U J	18	3.8	ug/Kg
SURROGATES						
2051-24-3	Decachlorobiphenyl	17.13	86 %	30 - 161		SPK: 20
877-09-8	Tetrachloro-m-xylene	17.77	89 %	30 - 158		SPK: 20

KBW 8/29/08

U = Not Detected
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E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	P.W. Grosser Consulting	**Date Collected:**	3/26/2008
Project:	Canine Kennel	**Date Received:**	3/28/2008
Client Sample ID:	CANINE-KENNEL-1B	**SDG No.:**	Z2180
Lab Sample ID:	Z2180-11	**Matrix:**	SOIL
Analytical Method:	8081	**% Moisture:**	5
Sample Wt/Vol:	30 g	**Extract Vol:**	10000 uL

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P1012005.D	1	4/1/2008	4/5/2008	P7040108

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
319-84-6	alpha-BHC	0.15	U J	1.8	0.15	ug/Kg
319-85-7	beta-BHC	0.19	U	1.8	0.19	ug/Kg
319-86-8	delta-BHC	0.19	U	1.8	0.19	ug/Kg
58-89-9	gamma-BHC (Lindane)	0.17	U	1.8	0.17	ug/Kg
76-44-8	Heptachlor	0.16	U	1.8	0.16	ug/Kg
309-00-2	Aldrin	0.17	U	1.8	0.17	ug/Kg
1024-57-3	Heptachlor epoxide	0.20	U	1.8	0.20	ug/Kg
959-98-8	Endosulfan I	0.20	U	1.8	0.20	ug/Kg
60-57-1	Dieldrin	0.20	U	1.8	0.20	ug/Kg
72-55-9	4,4'-DDE	0.20	U	1.8	0.20	ug/Kg
72-20-8	Endrin	0.60	U	1.8	0.60	ug/Kg
33213-65-9	Endosulfan II	0.21	U	1.8	0.21	ug/Kg
72-54-8	4,4'-DDD	0.28	U	1.8	0.28	ug/Kg
1031-07-8	Endosulfan sulfate	0.24	U	1.8	0.24	ug/Kg
50-29-3	4,4'-DDT	0.17	U	1.8	0.17	ug/Kg
72-43-5	Methoxychlor	0.22	U	1.8	0.22	ug/Kg
53494-70-5	Endrin ketone	0.49	U	1.8	0.49	ug/Kg
7421-93-4	Endrin aldehyde	0.21	U	1.8	0.21	ug/Kg
5103-71-9	alpha-Chlordane	0.20	U	1.8	0.20	ug/Kg
5103-74-2	gamma-Chlordane	0.19	U	1.8	0.19	ug/Kg
8001-35-2	Toxaphene	3.8	U J	18	3.8	ug/Kg
SURROGATES						
2051-24-3	Decachlorobiphenyl	21.91	110 %	30 - 161		SPK: 20
877-09-8	Tetrachloro-m-xylene	15.15	76 %	30 - 158		SPK: 20

Kbm 8/29/08

U = Not Detected
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E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	P.W. Grosser Consulting	**Date Collected:**	3/26/2008
Project:	Canine Kennel	**Date Received:**	3/28/2008
Client Sample ID:	CANINE-KENNEL-1E1A	**SDG No.:**	Z2180
Lab Sample ID:	Z2180-12	**Matrix:**	SOIL
Analytical Method:	8081	**% Moisture:**	18
Sample Wt/Vol:	30 g	**Extract Vol:**	10000 uL

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P10I2006.D	1	4/1/2008	4/5/2008	P7040108

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
319-84-6	alpha-BHC	0.17	U J	2.1	0.17	ug/Kg
319-85-7	beta-BHC	0.22	U	2.1	0.22	ug/Kg
319-86-8	delta-BHC	0.22	U	2.1	0.22	ug/Kg
58-89-9	gamma-BHC (Lindane)	0.19	U	2.1	0.19	ug/Kg
76-44-8	Heptachlor	0.18	U	2.1	0.18	ug/Kg
309-00-2	Aldrin	0.19	U	2.1	0.19	ug/Kg
1024-57-3	Heptachlor epoxide	0.23	U	2.1	0.23	ug/Kg
959-98-8	Endosulfan I	0.23	U	2.1	0.23	ug/Kg
60-57-1	Dieldrin	0.23	U	2.1	0.23	ug/Kg
72-55-9	4,4'-DDE	0.23	U	2.1	0.23	ug/Kg
72-20-8	Endrin	0.69	U	2.1	0.69	ug/Kg
33213-65-9	Endosulfan II	0.24	U	2.1	0.24	ug/Kg
72-54-8	4,4'-DDD	0.33	U	2.1	0.33	ug/Kg
1031-07-8	Endosulfan sulfate	0.28	U	2.1	0.28	ug/Kg
50-29-3	4,4'-DDT	0.19	U	2.1	0.19	ug/Kg
72-43-5	Methoxychlor	0.26	U	2.1	0.26	ug/Kg
53494-70-5	Endrin ketone	0.57	U	2.1	0.57	ug/Kg
7421-93-4	Endrin aldehyde	0.24	U	2.1	0.24	ug/Kg
5103-71-9	alpha-Chlordane	0.23	U	2.1	0.23	ug/Kg
5103-74-2	gamma-Chlordane	0.22	U	2.1	0.22	ug/Kg
8001-35-2	Toxaphene	4.4	U J	21	4.4	ug/Kg
SURROGATES						
2051-24-3	Decachlorobiphenyl	15.15	76 %	30 - 161		SPK: 20
877-09-8	Tetrachloro-m-xylene	13.65	68 %	30 - 158		SPK: 20

KBond 8/29/08

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J = Estimated Value
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N = Presumptive Evidence of a Compound

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**P.W. Grosser Consulting**	**Date Collected:**	**3/26/2008**
Project:	**Canine Kennel**	**Date Received:**	**3/28/2008**
Client Sample ID:	**CANINE-KENNEL-1W1A**	**SDG No.:**	**Z2180**
Lab Sample ID:	**Z2180-13**	**Matrix:**	**SOIL**
Analytical Method:	**8081**	**% Moisture:**	**4**
Sample Wt/Vol:	**30 g**	**Extract Vol:**	**10000 uL**

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P1012007.D	1	4/1/2008	4/5/2008	P7040108

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
319-84-6	alpha-BHC	0.15	U J	1.8	0.15	ug/Kg
319-85-7	beta-BHC	0.19	U	1.8	0.19	ug/Kg
319-86-8	delta-BHC	0.19	U	1.8	0.19	ug/Kg
58-89-9	gamma-BHC (Lindane)	0.17	U	1.8	0.17	ug/Kg
76-44-8	Heptachlor	0.16	U	1.8	0.16	ug/Kg
309-00-2	Aldrin	0.17	U	1.8	0.17	ug/Kg
1024-57-3	Heptachlor epoxide	0.20	U	1.8	0.20	ug/Kg
959-98-8	Endosulfan I	0.20	U	1.8	0.20	ug/Kg
60-57-1	Dieldrin	0.20	U	1.8	0.20	ug/Kg
72-55-9	4,4'-DDE	0.20	U	1.8	0.20	ug/Kg
72-20-8	Endrin	0.59	U	1.8	0.59	ug/Kg
33213-65-9	Endosulfan II	0.21	U	1.8	0.21	ug/Kg
72-54-8	4,4'-DDD	0.28	U	1.8	0.28	ug/Kg
1031-07-8	Endosulfan sulfate	0.24	U	1.8	0.24	ug/Kg
50-29-3	4,4'-DDT	0.17	U	1.8	0.17	ug/Kg
72-43-5	Methoxychlor	0.22	U	1.8	0.22	ug/Kg
53494-70-5	Endrin ketone	0.49	U	1.8	0.49	ug/Kg
7421-93-4	Endrin aldehyde	0.21	U	1.8	0.21	ug/Kg
5103-71-9	alpha-Chlordane	0.20	U	1.8	0.20	ug/Kg
5103-74-2	gamma-Chlordane	0.19	U	1.8	0.19	ug/Kg
8001-35-2	Toxaphene	3.7	U J	18	3.7	ug/Kg
SURROGATES						
2051-24-3	Decachlorobiphenyl	15.59	78 %	30 - 161		SPK: 20
877-09-8	Tetrachloro-m-xylene	15.29	76 %	30 - 158		SPK: 20

8/29/08

U = Not Detected
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J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	P.W. Grosser Consulting	**Date Collected:**	3/27/2008
Project:	Canine Kennel	**Date Received:**	3/28/2008
Client Sample ID:	ANINE-KENNEL-1N1A	**SDG No.:**	Z2180
Lab Sample ID:	Z2180-14	**Matrix:**	SOIL
Analytical Method:	8081	**% Moisture:**	18
Sample Wt/Vol:	30 g	**Extract Vol:**	10000 uL

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P1011981.D	1	4/1/2008	4/4/2008	P7040108

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
319-84-6	alpha-BHC	0.17	U J	2.1	0.17	ug/Kg
319-85-7	beta-BHC	0.22	U	2.1	0.22	ug/Kg
319-86-8	delta-BHC	0.22	U	2.1	0.22	ug/Kg
58-89-9	gamma-BHC (Lindane)	0.19	U	2.1	0.19	ug/Kg
76-44-8	Heptachlor	0.18	U	2.1	0.18	ug/Kg
309-00-2	Aldrin	0.19	U	2.1	0.19	ug/Kg
1024-57-3	Heptachlor epoxide	0.23	U	2.1	0.23	ug/Kg
959-98-8	Endosulfan I	0.23	U	2.1	0.23	ug/Kg
60-57-1	Dieldrin	0.23	U	2.1	0.23	ug/Kg
72-55-9	4,4'-DDE	0.23	U	2.1	0.23	ug/Kg
72-20-8	Endrin	0.69	U	2.1	0.69	ug/Kg
33213-65-9	Endosulfan II	0.24	U	2.1	0.24	ug/Kg
72-54-8	4,4'-DDD	0.33	U	2.1	0.33	ug/Kg
1031-07-8	Endosulfan sulfate	0.28	U	2.1	0.28	ug/Kg
50-29-3	4,4'-DDT	0.19	U	2.1	0.19	ug/Kg
72-43-5	Methoxychlor	0.26	U	2.1	0.26	ug/Kg
53494-70-5	Endrin ketone	0.57	U	2.1	0.57	ug/Kg
7421-93-4	Endrin aldehyde	0.24	U	2.1	0.24	ug/Kg
5103-71-9	alpha-Chlordane	0.23	U	2.1	0.23	ug/Kg
5103-74-2	gamma-Chlordane	0.22	U	2.1	0.22	ug/Kg
8001-35-2	Toxaphene	4.4	U J	21	4.4	ug/Kg
SURROGATES						
2051-24-3	Decachlorobiphenyl	17.64	88 %	30 - 161		SPK: 20
877-09-8	Tetrachloro-m-xylene	12.4	62 %	30 - 158		SPK: 20

KBon 8/29/08

U = Not Detected
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J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	P.W. Grosser Consulting	**Date Collected:**	3/27/2008
Project:	Canine Kennel	**Date Received:**	3/28/2008
Client Sample ID:	CANINE-KENNEL-1S1A	**SDG No.:**	Z2180
Lab Sample ID:	Z2180-15	**Matrix:**	SOIL
Analytical Method:	8081	**% Moisture:**	11
Sample Wt/Vol:	30 g	**Extract Vol:**	10000 uL

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P1011982.D	1	4/1/2008	4/4/2008	P7040108

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
319-84-6	alpha-BHC	0.16	U J	1.9	0.16	ug/Kg
319-85-7	beta-BHC	0.20	U	1.9	0.20	ug/Kg
319-86-8	delta-BHC	0.20	U	1.9	0.20	ug/Kg
58-89-9	gamma-BHC (Lindane)	0.18	U	1.9	0.18	ug/Kg
76-44-8	Heptachlor	0.17	U	1.9	0.17	ug/Kg
309-00-2	Aldrin	0.18	U	1.9	0.18	ug/Kg
1024-57-3	Heptachlor epoxide	0.21	U	1.9	0.21	ug/Kg
959-98-8	Endosulfan I	0.21	U	1.9	0.21	ug/Kg
60-57-1	Dieldrin	0.21	U	1.9	0.21	ug/Kg
72-55-9	4,4'-DDE	0.21	U	1.9	0.21	ug/Kg
72-20-8	Endrin	0.64	U	1.9	0.64	ug/Kg
33213-65-9	Endosulfan II	0.22	U	1.9	0.22	ug/Kg
72-54-8	4,4'-DDD	0.30	U	1.9	0.30	ug/Kg
1031-07-8	Endosulfan sulfate	0.26	U	1.9	0.26	ug/Kg
50-29-3	4,4'-DDT	0.18	U	1.9	0.18	ug/Kg
72-43-5	Methoxychlor	0.24	U	1.9	0.24	ug/Kg
53494-70-5	Endrin ketone	0.53	U	1.9	0.53	ug/Kg
7421-93-4	Endrin aldehyde	0.22	U	1.9	0.22	ug/Kg
5103-71-9	alpha-Chlordane	0.21	U	1.9	0.21	ug/Kg
5103-74-2	gamma-Chlordane	0.20	U	1.9	0.20	ug/Kg
8001-35-2	Toxaphene	4.0	U J	19	4.0	ug/Kg
SURROGATES						
2051-24-3	Decachlorobiphenyl	12.86	64 %	30 - 161		SPK: 20
877-09-8	Tetrachloro-m-xylene	12.64	63 %	30 - 158		SPK: 20

KBW 8/29/08

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**P.W. Grosser Consulting**	**Date Collected:**	**3/26/2008**
Project:	**Canine Kennel**	**Date Received:**	**3/28/2008**
Client Sample ID:	**CANINE-KENNEL-5B**	**SDG No.:**	**Z2180**
Lab Sample ID:	**Z2180-18**	**Matrix:**	**SOIL**
Analytical Method:	**8081**	**% Moisture:**	**8**
Sample Wt/Vol:	**30 g**	**Extract Vol:**	**10000 uL**

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P1011983.D	1	4/1/2008	4/4/2008	P7040108

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
319-84-6	alpha-BHC	0.15	U J	1.8	0.15	ug/Kg
319-85-7	beta-BHC	0.20	U	1.8	0.20	ug/Kg
319-86-8	delta-BHC	0.20	U	1.8	0.20	ug/Kg
58-89-9	gamma-BHC (Lindane)	0.17	U	1.8	0.17	ug/Kg
76-44-8	Heptachlor	0.16	U	1.8	0.16	ug/Kg
309-00-2	Aldrin	0.17	U	1.8	0.17	ug/Kg
1024-57-3	Heptachlor epoxide	0.21	U	1.8	0.21	ug/Kg
959-98-8	Endosulfan I	0.21	U	1.8	0.21	ug/Kg
60-57-1	Dieldrin	0.21	U	1.8	0.21	ug/Kg
72-55-9	4,4'-DDE	0.21	U	1.8	0.21	ug/Kg
72-20-8	Endrin	0.62	U	1.8	0.62	ug/Kg
33213-65-9	Endosulfan II	0.22	U	1.8	0.22	ug/Kg
72-54-8	4,4'-DDD	0.29	U	1.8	0.29	ug/Kg
1031-07-8	Endosulfan sulfate	0.25	U	1.8	0.25	ug/Kg
50-29-3	4,4'-DDT	0.17	U	1.8	0.17	ug/Kg
72-43-5	Methoxychlor	0.23	U	1.8	0.23	ug/Kg
53494-70-5	Endrin ketone	0.51	U	1.8	0.51	ug/Kg
7421-93-4	Endrin aldehyde	0.22	U	1.8	0.22	ug/Kg
5103-71-9	alpha-Chlordane	0.21	U	1.8	0.21	ug/Kg
5103-74-2	gamma-Chlordane	0.20	U	1.8	0.20	ug/Kg
8001-35-2	Toxaphene	3.9	U J	18	3.9	ug/Kg
SURROGATES						
2051-24-3	Decachlorobiphenyl	42.34	212 %	30 - 161		SPK: 20
877-09-8	Tetrachloro-m-xylene	16.95	85 %	30 - 158		SPK: 20

KBM 9/29/08

U = Not Detected
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MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Assoeiated Method Blank
N = Presumptive Evidence of a Compound

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	P.W. Grosser Consulting	**Date Collected:**	3/26/2008
Project:	Canine Kennel	**Date Received:**	3/28/2008
Client Sample ID:	CANINE-KENNEL-5BRE	**SDG No.:**	Z2180
Lab Sample ID:	Z2180-18RE	**Matrix:**	SOIL
Analytical Method:	8081	**% Moisture:**	8
Sample Wt/Vol:	30 g	**Extract Vol:**	10000 uL

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P1012019.D	1	4/1/2008	4/5/2008	P7040108

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
319-84-6	alpha-BHC	0.15	U J	1.8	0.15	ug/Kg
319-85-7	beta-BHC	0.20	U	1.8	0.20	ug/Kg
319-86-8	delta-BHC	0.20	U	1.8	0.20	ug/Kg
58-89-9	gamma-BHC (Lindane)	0.17	U	1.8	0.17	ug/Kg
76-44-8	Heptachlor	0.16	U	1.8	0.16	ug/Kg
309-00-2	Aldrin	0.17	U	1.8	0.17	ug/Kg
1024-57-3	Heptachlor epoxide	0.21	U	1.8	0.21	ug/Kg
959-98-8	Endosulfan I	0.21	U	1.8	0.21	ug/Kg
60-57-1	Dieldrin	0.21	U	1.8	0.21	ug/Kg
72-55-9	4,4'-DDE	0.21	U	1.8	0.21	ug/Kg
72-20-8	Endrin	0.62	U	1.8	0.62	ug/Kg
33213-65-9	Endosulfan II	0.22	U	1.8	0.22	ug/Kg
72-54-8	4,4'-DDD	0.29	U	1.8	0.29	ug/Kg
1031-07-8	Endosulfan sulfate	0.25	U	1.8	0.25	ug/Kg
50-29-3	4,4'-DDT	0.17	U	1.8	0.17	ug/Kg
72-43-5	Methoxychlor	0.23	U	1.8	0.23	ug/Kg
53494-70-5	Endrin ketone	0.51	U	1.8	0.51	ug/Kg
7421-93-4	Endrin aldehyde	0.22	U	1.8	0.22	ug/Kg
5103-71-9	alpha-Chlordane	0.21	U	1.8	0.21	ug/Kg
5103-74-2	gamma-Chlordane	0.20	U	1.8	0.20	ug/Kg
8001-35-2	Toxaphene	3.9	U J	18	3.9	ug/Kg
SURROGATES						
2051-24-3	Decachlorobiphenyl	54.63	273 %	30 - 161		SPK: 20
877-09-8	Tetrachloro-m-xylene	17.64	88 %	30 - 158		SPK: 20

KBrd 8/29/08

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	P.W. Grosser Consulting	**Date Collected:**	3/26/2008
Project:	Canine Kennel	**Date Received:**	3/28/2008
Client Sample ID:	CANINE-KENNEL-TP-2	**SDG No.:**	Z2180
Lab Sample ID:	Z2180-19	**Matrix:**	SOIL
Analytical Method:	8081	**% Moisture:**	4
Sample Wt/Vol:	30 g	**Extract Vol:**	10000 uL

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P1011984.D	1	4/1/2008	4/4/2008	P7040108

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
319-84-6	alpha-BHC	0.15	U J	1.8	0.15	ug/Kg
319-85-7	beta-BHC	0.19	U	1.8	0.19	ug/Kg
319-86-8	delta-BHC	0.19	U	1.8	0.19	ug/Kg
58-89-9	gamma-BHC (Lindane)	0.17	U	1.8	0.17	ug/Kg
76-44-8	Heptachlor	0.16	U	1.8	0.16	ug/Kg
309-00-2	Aldrin	0.17	U	1.8	0.17	ug/Kg
1024-57-3	Heptachlor epoxide	0.20	U	1.8	0.20	ug/Kg
959-98-8	Endosulfan I	0.20	U	1.8	0.20	ug/Kg
60-57-1	Dieldrin	0.20	U	1.8	0.20	ug/Kg
72-55-9	4,4'-DDE	0.20	U	1.8	0.20	ug/Kg
72-20-8	Endrin	0.59	U	1.8	0.59	ug/Kg
33213-65-9	Endosulfan II	0.21	U	1.8	0.21	ug/Kg
72-54-8	4,4'-DDD	0.28	U	1.8	0.28	ug/Kg
1031-07-8	Endosulfan sulfate	0.24	U	1.8	0.24	ug/Kg
50-29-3	4,4'-DDT	0.17	U	1.8	0.17	ug/Kg
72-43-5	Methoxychlor	0.22	U	1.8	0.22	ug/Kg
53494-70-5	Endrin ketone	0.49	U	1.8	0.49	ug/Kg
7421-93-4	Endrin aldehyde	0.21	U	1.8	0.21	ug/Kg
5103-71-9	alpha-Chlordane	0.20	U	1.8	0.20	ug/Kg
5103-74-2	gamma-Chlordane	0.19	U	1.8	0.19	ug/Kg
8001-35-2	Toxaphene	3.7	U J	18	3.7	ug/Kg
SURROGATES						
2051-24-3	Decachlorobiphenyl	10.5	53 %	30 - 161		SPK: 20
877-09-8	Tetrachloro-m-xylene	14.51	73 %	30 - 158		SPK: 20

KPon 8/29/08

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E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	P.W. Grosser Consulting	**Date Collected:**	3/26/2008
Project:	Canine Kennel	**Date Received:**	3/28/2008
Client Sample ID:	CANINE-KENNEL-TP-3	**SDG No.:**	Z2180
Lab Sample ID:	Z2180-20	**Matrix:**	SOIL
Analytical Method:	8081	**% Moisture:**	5
Sample Wt/Vol:	30 g	**Extract Vol:**	10000 uL

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P1011985.D	1	4/1/2008	4/4/2008	P7040108

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
319-84-6	alpha-BHC	0.15	U J	1.8	0.15	ug/Kg
319-85-7	beta-BHC	0.19	U	1.8	0.19	ug/Kg
319-86-8	delta-BHC	0.19	U	1.8	0.19	ug/Kg
58-89-9	gamma-BHC (Lindane)	0.17	U	1.8	0.17	ug/Kg
76-44-8	Heptachlor	0.16	U	1.8	0.16	ug/Kg
309-00-2	Aldrin	0.17	U	1.8	0.17	ug/Kg
1024-57-3	Heptachlor epoxide	0.20	U	1.8	0.20	ug/Kg
959-98-8	Endosulfan I	0.20	U	1.8	0.20	ug/Kg
60-57-1	Dieldrin	0.20	U	1.8	0.20	ug/Kg
72-55-9	4,4'-DDE	0.20	U	1.8	0.20	ug/Kg
72-20-8	Endrin	0.60	U	1.8	0.60	ug/Kg
33213-65-9	Endosulfan II	0.21	U	1.8	0.21	ug/Kg
72-54-8	4,4'-DDD	0.28	U	1.8	0.28	ug/Kg
1031-07-8	Endosulfan sulfate	0.24	U	1.8	0.24	ug/Kg
50-29-3	4,4'-DDT	0.17	U	1.8	0.17	ug/Kg
72-43-5	Methoxychlor	0.22	U	1.8	0.22	ug/Kg
53494-70-5	Endrin ketone	0.49	U	1.8	0.49	ug/Kg
7421-93-4	Endrin aldehyde	0.21	U	1.8	0.21	ug/Kg
5103-71-9	alpha-Chlordane	0.20	U	1.8	0.20	ug/Kg
5103-74-2	gamma-Chlordane	0.19	U	1.8	0.19	ug/Kg
8001-35-2	Toxaphene	3.8	U J	18	3.8	ug/Kg
SURROGATES						
2051-24-3	Decachlorobiphenyl	18.51	93 %	30 - 161		SPK: 20
877-09-8	Tetrachloro-m-xylene	17.54	88 %	30 - 158		SPK: 20

KBM 4/29/08

U = Not Detected
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E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	P.W. Grosser Consulting	**Date Collected:**	3/26/2008
Project:	Canine Kennel	**Date Received:**	3/28/2008
Client Sample ID:	CANINE-KENNEL-FB	**SDG No.:**	Z2180
Lab Sample ID:	Z2180-03	**Matrix:**	WATER
Analytical Method:	8081	**% Moisture:**	100
Sample Wt/Vol:	1000 mL	**Extract Vol:**	10000 uL

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P7020856.D	1	4/1/2008	4/1/2008	P7040108

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
319-84-6	alpha-BHC	0.0063	U J	0.050	0.0063	ug/L
319-85-7	beta-BHC	0.0070	U	0.050	0.0070	ug/L
319-86-8	delta-BHC	0.0500	U	0.050	0.0500	ug/L
58-89-9	gamma-BHC (Lindane)	0.0071	U	0.050	0.0071	ug/L
76-44-8	Heptachlor	0.0227	U	0.050	0.0227	ug/L
309-00-2	Aldrin	0.0299	U	0.050	0.0299	ug/L
1024-57-3	Heptachlor epoxide	0.0121	U	0.050	0.0121	ug/L
959-98-8	Endosulfan I	0.0076	U	0.050	0.0076	ug/L
60-57-1	Dieldrin	0.0073	U	0.050	0.0073	ug/L
72-55-9	4,4'-DDE	0.0072	U	0.050	0.0072	ug/L
72-20-8	Endrin	0.0069	U	0.050	0.0069	ug/L
33213-65-9	Endosulfan II	0.0073	U	0.050	0.0073	ug/L
72-54-8	4,4'-DDD	0.0070	U	0.050	0.0070	ug/L
1031-07-8	Endosulfan sulfate	0.0086	U	0.050	0.0086	ug/L
50-29-3	4,4'-DDT	0.0064	U	0.050	0.0064	ug/L
72-43-5	Methoxychlor	0.0072	U	0.050	0.0072	ug/L
53494-70-5	Endrin ketone	0.0078	U	0.050	0.0078	ug/L
7421-93-4	Endrin aldehyde	0.0088	U	0.050	0.0088	ug/L
5103-71-9	alpha-Chlordane	0.0076	U	0.050	0.0076	ug/L
5103-74-2	gamma-Chlordane	0.0078	U	0.050	0.0078	ug/L
8001-35-2	Toxaphene	0.0900	U J	0.50	0.0900	ug/L
SURROGATES						
2051-24-3	Decachlorobiphenyl	18.11	91 %	45 - 131		SPK: 20
877-09-8	Tetrachloro-m-xylene	19.16	96 %	30 - 151		SPK: 20

KBord 8/29/08

U = Not Detected
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B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**P.W. Grosser Consulting**	**Date Collected:**	**3/27/2008**
Project:	**Canine Kennel**	**Date Received:**	**3/28/2008**
Client Sample ID:	**CANINE-KENNEL-FIELD BLANK**	**SDG No.:**	**Z2180**
Lab Sample ID:	**Z2180-17**	**Matrix:**	**WATER**
Analytical Method:	**8081**	**% Moisture:**	**100**
Sample Wt/Vol:	**890 mL**	**Extract Vol:**	**10000 nL**

File ID:	Dilution:	Date Prep	Date Analyzed	Analytical Batch ID
P7020857.D	1	4/1/2008	4/1/2008	P7040108

CAS Number	Parameter	Conc	Qualifier	RL	MDL	Units
TARGETS						
319-84-6	alpha-BHC	0.0071	U J	0.056	0.0071	ug/L
319-85-7	beta-BHC	0.0079	U	0.056	0.0079	ug/L
319-86-8	delta-BHC	0.0562	U	0.056	0.0562	ug/L
58-89-9	gamma-BHC (Lindane)	0.0080	U	0.056	0.0080	ug/L
76-44-8	Heptachlor	0.0255	U	0.056	0.0255	ug/L
309-00-2	Aldrin	0.0336	U	0.056	0.0336	ug/L
1024-57-3	Heptachlor epoxide	0.0136	U	0.056	0.0136	ug/L
959-98-8	Endosulfan I	0.0085	U	0.056	0.0085	ug/L
60-57-1	Dieldrin	0.0082	U	0.056	0.0082	ug/L
72-55-9	4,4'-DDE	0.0081	U	0.056	0.0081	ug/L
72-20-8	Endrin	0.0078	U	0.056	0.0078	ug/L
33213-65-9	Endosulfan II	0.0081	U	0.056	0.0081	ug/L
72-54-8	4,4'-DDD	0.0079	U	0.056	0.0079	ug/L
1031-07-8	Endosulfan sulfate	0.0097	U	0.056	0.0097	ug/L
50-29-3	4,4'-DDT	0.0072	U	0.056	0.0072	ug/L
72-43-5	Methoxychlor	0.0080	U	0.056	0.0080	ug/L
53494-70-5	Endrin ketone	0.0087	U	0.056	0.0087	ug/L
7421-93-4	Endrin aldehyde	0.0099	U	0.056	0.0099	ug/L
5103-71-9	alpha-Chlordane	0.0086	U	0.056	0.0086	ug/L
5103-74-2	gamma-Chlordane	0.0087	U	0.056	0.0087	ug/L
8001-35-2	Toxaphene	0.1011	U J	0.56	0.1011	ug/L
SURROGATES						
2051-24-3	Decachlorobiphenyl	14.84	74 %	45 - 131		SPK: 20
877-09-8	Tetrachloro-m-xylene	18.64	93 %	30 - 151		SPK: 20

KPBW 4/29/08

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E = Value Exceeds Calibration Range

J = Estimated Value
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N = Presumptive Evidence of a Compound

ATTACHMENT C

SOP# HW44 8081A Pesticides Checklist
SOP# HW45 8082A PCB Checklist
SDG No. Z2180
Pesticide and PCBs in Water and Soil Samples

USEPA
Hazardous Waste Support Branch
Validating Pesticide Compounds
Organochlorine Pesticides By Gas Chromatography
SW-846 Method 8081B

Prepared by: George Karras Date: 12/8/06
George Karras, Chemist
Hazardous Waste Support Section

Prepared by: Russell Amone Date: 12-8-06
Russell Amone, Chemist
Hazardous Waste Support Section

Concurred by: Linda Mauel Date: 12/11/06
Linda Mauel, Chief
Hazardous Waste Support Section

Approved by: Robert Runyon Date: 12/11/06
Robert Runyon, Chief
Hazardous Waste Support Branch

Annual Review

Reviewed by: _____ Date: _____
Name

Reviewed by: _____ Date: _____
Name

INTRODUCTION

Scope and Applicability

This SOP offers detailed guidance in evaluating laboratory data generated according to "SW846-Method 8081B November 2000. Method 8081B is used to determine the concentration of pesticide compounds in extracts prepared from many types of solid waste matrices, soils, air sampling media and water samples. The validation methods and actions discussed in this document are based on the requirements set forth in SW846 Method 8081B, Method 8000C and the "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," January 2005. This document covers technical problems specific to each fraction and sample matrix; however, situations may arise where data limitations must be assessed based on the reviewer's professional judgement.

Summary of Method

To ensure a thorough evaluation of each result in a data case, the reviewer must complete the checklist within this SOP, answering specific questions while performing the prescribed "ACTIONS" in each section. Qualifiers (or flags) are applied to questionable or unusable results as instructed. The data qualifiers discussed in this document are defined on page 4.

The reviewer must prepare a detailed data assessment to be submitted along with the completed SOP checklist. The Data Assessment must list all data qualifications, reasons for qualifications, instances of missing data and contract non-compliance.

Reviewer Qualifications

Data reviewers must possess a working knowledge of SW846 Analytical Methods and National Functional Guidelines mentioned above.

DEFINITIONS

Acronyms

CLP - Contract Laboratory Program
CRQL - Contract Required Quantitation Limit
%D - percent difference
DCB - decachlorobiphenyl
DoC - Date of Collection
GC - gas chromatography
GC/ECD - gas chromatograph/electron capture detector
GC/MS - gas chromatograph/mass spectrometer
GPC - gel permeation chromatography
IS - internal standard
kg - kilogram
µg - microgram
MS - matrix spike
MSD - matrix spike duplicate
ℓ - liter
mℓ - milliliter
PCB - Polychlorinated biphenyl
PE - performance evaluation
PEM - Performance Evaluation Mixture
QC - quality control
RAS - Routine Analytical Services
RIC - reconstructed ion chromatogram
RPD - relative percent difference
RRF - relative response factor
RRF - average relative response factor (from initial calibration)
RRT - relative retention time
RSD - relative standard deviation
RT - retention time
RSCC - Regional Sample Control Center
SDG - sample delivery group
SMC - system monitoring compound
SOP - standard operating procedure
SOW - Statement of Work
SVOA - semivolatile organic acid
TCL - Target Compound List
TCLP - Toxicity Characteristics Leachate Procedure
TCMX -tetrachloro-m-xylene
TIC - tentatively identified compound
TOPO - Task Order Project Officer
TPO - Technical Project Officer
VOA - Volatile organic
VTSR - Validated Time of Sample Receipt

Data Qualifiers

U- The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J- The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

N- The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

JN- The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ- The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R- The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

LAB QUALIFIERS:

D - The positive value is the result of an analysis at a secondary dilution factor.

B - The analyte is present in the associated method blank as well as in the sample. This qualifier has a different meaning when validating inorganic data.

E - The concentration of this analyte exceeds the calibration range of the instrument.

A - Indicates a Tentatively Identified Compound (TIC) is a suspected adol-condensation product.

X,Y,Z- Laboratory defined flags. The data reviewer must change these qualifiers during validation so that the data user may understand their impact on the data.

USEPA Region II
SW846 Method 8081B Pesticides

Date: October 2006
SOP HW-44, Rev.1.0

PACKAGE COMPLETENESS AND DELIVERABLES

CASE NUMBER: Z2180 SDG# Z2180
LAB: CHEMTECH, Mountainside NJ SITE: CANINE KENNEL

		YES	NO	N/A
1.0	Data Completeness and Deliverables			
1.1	Has all the data been submitted in CLP deliverable format?	[X]	___	___
1.2	Have any missing deliverables been received and added to the data package?	[X] X 9/2/08 KM	___	
	ACTION: Call lab for explanation/resubmittal of any missing deliverables. If lab cannot provide them, note the effect on review of the data in the reviewer narrative.	per Validator request		
2.0	Cover Letter, SDG Narrative			
2.1	Is a laboratory narrative or cover letter present?	[X]	___	___
2.2	Are the case number and/or SDG number contained in the narrative or cover letter? Z2180 —	[X]	___	___
3.0	Data Validation Checklist			
3.1	Does this data package contain:			
	Water data?	[X]	___	___
	Waste data?	[ ]	X	X
	Soil/solid data?	[X]	___	___

ORGANOCHLORINE PESTICIDE

	YES	NO	N/A

1.0 Traffic Reports and Laboratory Narrative

1.1 Are traffic report and chain-of-custody forms present for all samples? [X] ___ ___

ACTION: If no, contact lab for replacement of missing or illegible copies.

1.2 Do the traffic reports, chain-of-custody forms or SDG narrative indicate any problems with sample receipt, condition of the samples, analytical problems or special circumstances affecting the quality of the data? ~~X~~ ~~[X]~~ ___

ACTION: If any sample analyzed as a soil, other than than TCLP, contains 50%-90% water, all data should be qualified as estimated, "J." If a soil sample, other than TCLP, contains more than 90% water, all non detects are qualified as unusable, "R", and positive results flagged "J". % Solids > 80%.

ACTION: If samples were not iced or if the ice was melted upon arrival at the laboratory and the temperature of the cooler was elevated (> 10° C), flag all positive results "J" and all non-detects "UJ". ✓

2.0 Holding Times

2.1 Have any organochlorine pesticide technical holding times, determined from date of collection to date of extraction, been exceeded? ___ [X] ___ ✓

Water and waste samples for organochlorine pesticide analysis must be extracted within 7 days of the date of collection. Extracts must be analyzed within 40 days of the date of extraction Soils and solid samples must be extracted within 14 days of collection and analyzed within 40 days of extraction.

ACTION: Qualify sample results according to Table 1.

Table 1. Holding Time Criteria

Matrix	Preserved	Criteria	Action	
			Detected compounds	Non-detected compounds
Aqueous	No	≤ 7 days(extraction) ≤ 40 days(analysis)	J*	UJ*
	No	> 7 days(extraction) > 40 days(analysis)	J*	UJ
	Yes	≤ 7 days(extraction) ≤ 40 days(analysis)	No qualification	
	Yes	> 7 days(extraction) > 40 days(analysis)	J	UJ
	Yes/No	> 28 days (gross exceedance)	J	R
Non-aqueous	No	≤ 14days(extraction) ≤ 40 days (analysis)	J*	UJ*
	No	> 14days(extraction) >40 days(analysis)	J	UJ
	Yes	≤ 14days(extraction) ≤ 40 days(analysis)	No qualification	
	Yes	> 14days(extraction) > 40 days(analysis)	J	UJ
	Yes/No	> 28 days (gross exceedance)	J	R

* only if cooler temperature exceeds 10°C; no action required if cooler temperature < 10°C.

YES NO N/A

3.0 Surrogate Recovery (Form II/Equivalent)

3.1 Were the recoveries of tetrachloro-m-xylene (TCMX) and decachlorobiphenyl (DCB) presented on CLP Surrogate Recovery Summary forms (Form II), or equivalent, for each of the following matrices?

a. Water/Waste [X] ___ ___

b. Soil/Solid [X] ___ ___

3.2 Are all the pesticide samples listed on the appropriate surrogate recovery form for each of the following matrices?

a. Water [X] ___ ___

b. Waste [ ] ___ X

c. Soil/Solid [X] ___ ___

ACTION: Call lab for explanation/resubmittals. If missing deliverables are unavailable, document the effect in the data assessment.

3.3 Are all recovery limits for the surrogates TCMX and DCB between 30-150% for all samples, including MS and MSDs, LCSs and all blanks? [] X ___

Note: Reviewer shall use lab in-house recover limits if available. In-house criteria should be examined for reasonableness. 5B(212%) DCB 5BRE (273%)

3 exceptions for DCB – 5A (172%) DCB

ACTION: Circle all outliers in red. Follow surrogate action Table 2. Dilutions used for Reporting

no action –

3.5 Were surrogate retention times (RT) within the windows established during the initial 5-point analysis? [X] ___ ___

ACTION: Follow surrogate action, Table 2 below.

Surrogate Summary
SW-846

SDG No.: Z2180
Client: P.W. Grosser Consulting

Analytical Method: EPA SW-846 8082

Lab Sample ID	Client ID	Parameter	Spike	Result	Recovery	Qual	Limits Low	Limits High
Z2180-02	CANINE-KENNEL-F	Decachlorobiphenyl	20	23.06	115		34.00	145.00
Z2180-04	CANINE-KENNEL-5	Tetrachloro-m-xylene	20	14.67	73		44.00	141.00
		Decachlorobiphenyl	20	19.36	97		34.00	145.00
Z2180-05	CANINE-KENNEL-5	Tetrachloro-m-xylene	20	22.9	115		44.00	141.00
		Decachlorobiphenyl	20	23.9	120		34.00	145.00
Z2180-06	CANINE-KENNEL-5	Tetrachloro-m-xylene	20	22.01	110		44.00	141.00
		Decachlorobiphenyl	20	17.49	87		34.00	145.00
Z2180-08	CANINE-KENNEL-1	Tetrachloro-m-xylene	20	20.34	102		44.00	141.00
		Decachlorobiphenyl	20	21.07	105		34.00	145.00
I.BLK	PIBLK11	Tetrachloro-m-xylene	20	30.33	152		42.00	133.00
		Decachlorobiphenyl	20	29.39	147		30.00	141.00
Z2180-12	CANINE-KENNEL-1	Tetrachloro-m-xylene	20	16.52	83		44.00	141.00
		Decachlorobiphenyl	20	14.93	75		34.00	145.00
Z2180-13	CANINE-KENNEL-1	Tetrachloro-m-xylene	20	20.06	100		44.00	141.00
		Decachlorobiphenyl	20	18.01	90		34.00	145.00
Z2180-15	CANINE-KENNEL-1	Tetrachloro-m-xylene	20	19.34	97		44.00	141.00
		Decachlorobiphenyl	20	18.93	95		34.00	145.00
Z2180-19	CANINE-KENNEL-T	Tetrachloro-m-xylene	20	18.78	94		44.00	141.00
		Decachlorobiphenyl	20	11.03	55		34.00	145.00
Z2180-20	CANINE-KENNEL-T	Tetrachloro-m-xylene	20	21.98	110		44.00	141.00
		Decachlorobiphenyl	20	18.9	95		34.00	145.00
Z2180-09MS	CANINE-KENNEL-1	Tetrachloro-m-xylene	20	21.33	107		44.00	141.00
		Decachlorobiphenyl	20	16.14	81		34.00	145.00
Z2180-10MSD	CANINE-KENNEL-1	Tetrachloro-m-xylene	20	22.48	112		44.00	141.00
		Decachlorobiphenyl	20	20.22	101		34.00	145.00
I.BLK	PIBLK12	Tetrachloro-m-xylene	20	29	145		42.00	133.00
		Decachlorobiphenyl	20	27.98	140		30.00	141.00
	PIBLK13	Tetrachloro-m-xylene	20	23.76	119		42.00	133.00
		Decachlorobiphenyl	20	24.27	121		30.00	141.00
Z2180-12DL	CANINE-KENNEL-1	Tetrachloro-m-xylene	20	14.9	75		44.00	141.00
		Decachlorobiphenyl	20	12.9	65		34.00	145.00
Z2180-02DL	CANINE-KENNEL-F	Tetrachloro-m-xylene	20	17	85		44.00	141.00
		Decachlorobiphenyl	20	19.5	98		34.00	145.00
Z2180-05DL	CANINE-KENNEL-5	Tetrachloro-m-xylene	20	26.55	133		44.00	141.00
		Decachlorobiphenyl	20	24.2	121		34.00	145.00
Z2180-06DL	CANINE-KENNEL-5	Tetrachloro-m-xylene	20	21.45	107		44.00	141.00
		Decachlorobiphenyl	20	16.5	83		34.00	145.00
Z2180-07	CANINE-KENNEL-5	Tetrachloro-m-xylene	20	0	0	*	44.00	141.00
		Decachlorobiphenyl	20	0	0	*	34.00	145.00
Z2180-08DL	CANINE-KENNEL-1	Tetrachloro-m-xylene	20	19.75	99		44.00	141.00
		Decachlorobiphenyl	20	18.45	92		34.00	145.00

5SHA 200K

Chemtech

Surrogate Summary
SW-846

SDG No.: Z2180
Client: P.W. Grosser Consulting

Analytical Method: EPA SW-846 8082

Lab Sample ID	Client ID	Parameter	Spike	Result	Recovery	Qual	Limits Low	Limits High
I.BLK	PIBLK01	Tetrachloro-m-xylene	20	20.42	102		42.00	133.00
		Decachlorobiphenyl	20	21.79	109		30.00	141.00
	PIBLK02	Tetrachloro-m-xylene	20	22.33	112		42.00	133.00
		Decachlorobiphenyl	20	19.29	96		30.00	141.00
PB33134B	PB33134B	Tetrachloro-m-xylene	20	18.67	93		42.00	133.00
		Decachlorobiphenyl	20	18.01	90		30.00	141.00
PB33134BS	PB33134BS	Tetrachloro-m-xylene	20	19.05	95		42.00	133.00
		Decachlorobiphenyl	20	17.35	87		30.00	141.00
Z2180-03	CANINE-KENNEL-F	Tetrachloro-m-xylene	20	20.28	101		42.00	133.00
		Decachlorobiphenyl	20	15.15	76		30.00	141.00
Z2180-16	CANINE-KENNEL-D	Tetrachloro-m-xylene	20	12.07	60		42.00	133.00
		Decachlorobiphenyl	20	2.73	14	*	30.00	141.00
Z2180-17	CANINE-KENNEL-F	Tetrachloro-m-xylene	20	18.92	95		42.00	133.00
		Decachlorobiphenyl	20	11.94	60		30.00	141.00
I.BLK	PIBLK03	Tetrachloro-m-xylene	20	22.05	110		42.00	133.00
		Decachlorobiphenyl	20	20	100		30.00	141.00
	PIBLK04	Tetrachloro-m-xylene	20	19.58	98		42.00	133.00
		Decachlorobiphenyl	20	20.74	104		30.00	141.00
Z2180-16DL	CANINE-KENNEL-D	Tetrachloro-m-xylene	20	.700001	49		42.00	133.00
		Decachlorobiphenyl	20	7.15	36		30.00	141.00
I.BLK	PIBLK05	Tetrachloro-m-xylene	20	22.12	111		42.00	133.00
		Decachlorobiphenyl	20	19.89	99		30.00	141.00
	PIBLK06	Tetrachloro-m-xylene	20	22.91	115		42.00	133.00
		Decachlorobiphenyl	20	24.44	122		30.00	141.00
	PIBLK07	Tetrachloro-m-xylene	20	23.79	119		42.00	133.00
		Decachlorobiphenyl	20	23.53	118		30.00	141.00
Z2180-01	CANINE-KENNEL-5	Tetrachloro-m-xylene	20	16.57	83		44.00	141.00
		Decachlorobiphenyl	20	16.5	83		34.00	145.00
Z2180-01DL	CANINE-KENNEL-5	Tetrachloro-m-xylene	20	21.8	109		44.00	141.00
		Decachlorobiphenyl	20	5	25	*	34.00	145.00
I.BLK	PIBLK08	Tetrachloro-m-xylene	20	24.48	122		42.00	133.00
		Decachlorobiphenyl	20	23.4	117		30.00	141.00
	PIBLK09	Tetrachloro-m-xylene	20	19.21	96		42.00	133.00
		Decachlorobiphenyl	20	17.32	87		30.00	141.00
	PIBLK10	Tetrachloro-m-xylene	20	26.67	133		42.00	133.00
		Decachlorobiphenyl	20	27.09	135		30.00	141.00
PB33138B	PB33138B	Tetrachloro-m-xylene	20	21.04	105		44.00	141.00
		Decachlorobiphenyl	20	23.27	116		34.00	145.00
PB33138BS	PB33138BS	Tetrachloro-m-xylene	20	22.9	115		44.00	141.00
		Decachlorobiphenyl	20	25.32	127		34.00	145.00
Z2180-02	CANINE-KENNEL-F	Tetrachloro-m-xylene	20	20.24	101		44.00	141.00

YES NO N/A

Table 2. Surrogate Recovery Criteria ✓

Criteria	Action	
	Detected Target Compounds	Non-detected Target Compounds
%R > 200%	J	Use professional judgement
150% < %R ≤ 200%	J	No qualification
30% ≤ %R ≤ 150%	No qualification	
10% ≤ %R < 30%	J	UJ
%R < 10% (sample dilution not a factor)	J	R
%R < 10% (sample dilution is a factor)	Use professional judgement	
RT out of RT window	Use professional judgement	
RT within RT window	No qualification	

No Action as Tox - Acceptable ~ dilutions, elevated

3.6 Are there any transcription/calculation errors between raw data and Form II? [ ] X ___

ACTION: If large errors exist, call lab for explanation/resubmittal. Make any necessary corrections and document the effect in data assessments.

4.0 Laboratory Control Sample(LCS) (BS) BLANK SPIKE

4.1 Is the LCS prepared, extracted, analyzed, and reported once for every 20 field samples. [X] ___ ___

ACTION: If any Laboratory Control Sample data are missing, call the lab for explanation /resubmittals. Make note in the data assessment.

YES NO N/A

4.2 Were Laboratory Control Samples analyzed at the required concentration for all analytes of interest as specified in Table 3 below. [X] ___ ___

ALL Compounds Spiked @ ≈ 20 ug/Kg

Note: Use lab in-house criteria, if available.

Past , 5 ug/L
16.6 ug/L

Table 3. LCS Spiking Criteria

LCS Spike Compound	Spiking solution ug/l	Amount spiked to 100ml aqueous sample or 30g soil sample ml	Recovery Limits (%)
gamma-BHC	0.05	1	50-120
Heptachor epoxide	0.05	1	50-120
Dieldrin	0.01	1	30-130
4,4'-DDE	0.01	1	50-150
Endrin	0.01	1	50-120
Endosulfan sulfate	0.01	1	50-120
gamma-Chloradane	0.05	1	30-130
Tetrachloro-m-xylene(surrogate)	0.20	3	30-150
Decachlorobiphenyl (surrogate)	0.40	3	30-150

Note: The LCS might be spiked with the same analytes at the same concentration as the matrix spike. ✓

ACTION: If Laboratory Control Samples were not analyzed at the required concentration or the required frequency, make note in the data assessment and use professional judgement to determined the affect on the data.

4.3 Do average recovery for each analyte meet the corresponding QC acceptance criteria listed in table above? [X] ___ ___

YES NO N/A

ACTION: For LCS % recovery not meeting the required recovery, follow the required action in Table 4 below.

Table 4. LCS Recovery Criteria

Criteria	Action	
	Detected Associated Compounds	Non-Detected Compounds
%R > Upper Acceptance Limit	J	No qualification
%R < Upper Acceptance Limit	J	R
Lower Acceptance Limit ≤ %R ≤ Upper Acceptance Limit	No qualifications	

5.0 Matrix Spikes (Form III/Equivalent)

5.1 Are all data for matrix spike and matrix duplicate or matrix spike duplicate (MS/MD or MS/MSD) present and complete for each matrix? [X] ___ ___

Sample -1A - Soil

NOTE: For soil and waste samples showing detectable amounts of organics, the lab may substitute replicate samples in place of the matrix spike (see page 8000B-40, section 8.5.3).

No Waters — FB or DECON Water only

5.2 Have MS/MD or MS/MSD results been summarized on Form III/Equivalent? [X] ___ ___

ACTION: If any data are missing take action as specified in section 3.2 above.

5.3 Were matrix spikes analyzed at the required frequency for each of the following matrices? (One MS/MD, MS/MSD or laboratory replicate must be performed for every 20 samples of similar matrix or concentration level. Laboratories analyzing one to ten samples per month are required to analyze at least one MS per month [page 8000B-39, section 8.5.])

		YES	NO	N/A
a.	Water (EQ. BLANK, FIELD BL. DECON)	[ ]	___	X
b.	Waste	[ ]	___	X
c.	Soil/Solid	[X]	___	___

ACTION: If any MS/MD, MS/MSD or replicate data are missing, take the action specified in 3.2 above.

5.4 We Were Matrix Spike Samples analyzed at the required concentration for all analytes of interest as specified in Table 5 below. [X] ___ ___

Note: Spiking analytes may differ from those in Table 5. Check QA project plan or task order.

Table 5. Matrix Spiking Criteria

Matrix Spike Compound	Spiking solution ug/l	Amount spiked to 100ml aqueous sample or 30g soil sample ml
gamma-BHC	0.05	1
Heptachor	0.05	1
Aldrin	0.05	1
Dieldrin	1.0	1
Endrin	1.0	1
4,4'-DDT	1.0	1

Note: For aqueous organic extractable, the spike concentration should be:

1) For regulatory compliance monitoring - the regulatory concentration limit or 1 to 5 times the expected background concentration, whichever is higher;

2) For all other aqueous samples - the larger of either 1 to 5 x times the expected background

YES NO N/A

concentration, or the same as the QC check sample concentration (see section 4 above);

3) For soil/solid and waste samples - the recommended concentration is 20 times the estimated quantitation limit (EQL).

No action is taken based on MS or replicate data alone. However, using informed professional judgement, the data reviewer may use the matrix spike or laboratory replicate results in conjunction with other QC criteria and determine the need for some qualification of the data. In some instances it may be determined that only the replicate or spiked samples are affected. Alternatively, the data may suggest that the laboratory is having a systematic problem with one or more analytes, thereby affecting all associated samples.

5.5 Do average recovery for each analyte meet the corresponding QC acceptance criteria listed in Table 6 below. [ ] X [ ]

Note: Use lab in-house criteria, if available.

Table 6. Matrix Spike Recovery Criteria

Compound	% Recovery Water	RPD Water	% Recovery Soil	RPD Soil
gamma-BHC	56-123	0-15	46-127	0-50
Heptachor	40-13	0-20	35-130	0-31
Aldrin	40-120	0-22	34-132	0-43
Dieldrin ↑	52-126	0-18	31-134	0-38
Endrin ↑	56-121	0-21	42-139	0-45
4,4'-DDT	38-127	0-27	23-134	0-50

NOTE: The actual number of MS analytes depends on the number analytes being measured (e.g., total number of MS plus MSD compounds). If only chlordane or toxaphene are the analytes of

↑ elevated – ~~not attached~~ KBM 9/2/08
see report – Summary –

YES NO N/A

interest, the spiked sample should contain the most representative multi-component analyte.

ACTION: Follow the matrix spike actions (Table 7) for pesticide analyses.

Table 7. Matrix Spike Qualifying Criteria

Criteria	Action	
	Detected Associated Compounds	Non-Detected Compounds
%R or RPD > Upper Acceptance Limit	J	No qualification ✓
20% R ≤ %R < Lower Acceptance Limit	J	UJ
%R < 20%	J	Use professional judgement
Lower Acceptance Limit ≤ %R; RPD ≤ Upper Acceptance Limit	No qualifications	

Note: When the results of the matrix spike analyses indicates a potential problem due to the sample matrix itself, the LCS results are used to verify the laboratory can perform analyses in a clean matrix.

6.0 Blanks (Form IV/Equivalent)

6.1 Was reagent blank data reported on Method Blank Summary form(s) (Form IV)?

6.2 Frequency of Analysis: Has a reagent blank been analyzed for every 20 (or less) samples of similar matrix or concentration or each extraction batch? [X] ___ ___

Note: Method blank should be analyzed, either after the calibration standard or at any other time during the analytical shift.

PB33135B ∅
PB33136B ∅

YES NO N/A

ACTION: If any blank data are missing, take action as specified above (section 3.2). If blank data is not available, reject (R) all associated positive data. However, using professional judgement, the data reviewer may substitute field blank data for missing method blank data.

6.3 Chromatography: review the blank raw data - chromatograms, quant reports or data system printouts.

Is the chromatographic performance (baseline stability) for each instrument acceptable for pesticides? X ___ ___

ACTION: Use professional judgement to determine the effect on the data.

7.0 Contamination

NOTE: "Water blanks", "distilled water blanks" and "drilling water blanks" are validated like any other sample and are not used to qualify the data. Do not confuse them with the other QC blanks discussed below.

7.1 Do any method/instrument/reagent/cleanup blanks have positive results for organochlorine pesticides? When applied as described below, the contaminant concentration in these blanks are multiplied by the sample Dilution Factor and corrected for % moisture when necessary. ___ X ___

7.2 Do any field/rinse blanks have positive organochlorine pesticide results? ___ X ___

ACTION: Prepare a list of the samples associated with each of the contaminated blanks. (Attach a separate sheet.)

NOTE: All field blank results associated to a particular group of samples (may exceed one per case or one per day) may be used to qualify data. Blanks may not be qualified because of contamination in

YES NO N/A

another blank. Field blanks must be qualified for surrogate, or calibration QC problems.

ACTION: Follow the directions in Table 8 below to qualify sample results due to contamination. Use the largest value from all the associated blanks.

NOTE: DECON WATER — DRUM for Disposal —

Table 8. Blank Contamination Criteria

Blank Type	Blank Result	Sample Result	Action for Samples
Method, Clean up, Instrument, Field	Detects	Not detected	No qualification
	< CRQL	< CRQL	Report CRQL value with a U
		≥ CRQL	No qualification
	> CRQL	< CRQL	Report CRQL value with a U
		≥ CRQL and < blank contamination	Report the concentration for the sample with a U
		≥ CRQL and ≥ blank contamination	No qualification
	= CRQL	< CRQL	Report CRQL value with a U
		≥ CRQL	No qualification
	Gross contamination	Detects	Qualify results as unusable R

Note: Analytes qualified "U" for blank contamination are treated as "hits" when qualifying the calibration criteria.

Note: When applied as described in Table 8 above, the contaminant concentration in the blank is multiplied by the sample dilution factor.

NOTE: If gross blank contamination exists(e.g., saturated peaks, "hump-o-grams", "junk peaks"), all affected positive compounds in the associated samples should be qualified as unusable "R", due to interference.

YES NO N/A

Non-detected pesticide target compounds do not require qualification unless the contamination is so high that it interferes with the analyses of non-detected compounds.

7.3 Are there field/rinse/equipment blanks associated with every sample? [X] ___ ___

ACTION: For low level samples, note in data assessment that there is no associated field/rinse/equipment blank. Exception: samples taken from a drinking water tap do not have associated field blanks.

8.0 Gas Chromatography with Electron Capture Detector (GC/ECD) Instrument Performance Check (CLP Form VI and Form VII Equivalent)

8.1 Was the proper gas chromatographic column used for the analysis of organochlorine pesticides? Check raw data, instrument logs, or contact the lab to determine what type of columns were used. (See Method 8081B-8, section 4.2) [X] ___ ___

8.2 If capillary columns were used, were they both wide bore (.53 mm ID) fused silica GC columns, such as DB-608 and DB-1701 or equivalent. Indicate the specific type of column used for:

Forms – CLPPEST
CLP-PEST I
.32mm
forms
(.53mm)

column 1: ~~GCECD7 - ZB-MR2~~ / ~~GCECD-1 - RTX-1701~~
(0.32 mm ID) narrative
column 2: ~~ZB-MR1~~ / ~~RTX-5~~

revised narrative 9/3/08

ACTION: Note any changes to the suggested materials in section 8.1 above in the data assessment. Also note the impact (positive or negative) such changes have on the analytical results.

Discrepancies between forms – Narrative
Contact lab for clarification

9.0 Calibration and GC Performance

9.1 Are the following Gas Chromatograms and Data Systems Printouts for both columns present for all samples, blanks, MS, replicates?

a. DDT/endrin breakdown check [X] ___ ___

CHEMTECH

CASE NARRATIVE

P.W. Grosser Consulting
Project Name: Canine Kennel
Project # N/A
Chemtech Project # Z2180

A. Number of Samples and Date of Receipt:
17 Solid samples were received on 3/28/08.
3 Water samples were received on 3/28/08.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: PCBs, TCL Pesticide/PCBs, TCL Pesticides, and TCL Pesticides/PCBs. This data package contains results for PCBs.

C. Analytical Techniques:
The analyses were performed on instrument GCECD 5. The front column is RTX-CLPest which is 30 meters, 0.32 mm ID, 0.5 um df, Catalog # 11139. The rear column is RTX-CLPestII which is 30 meters, 0.32 mm ID, 0.25 um df, Catalog # 11324.
The analyses were performed on instrument GCECD 4. The front column is RTX-CLPest which is 30 meters, 0.32 mm ID, 0.5 um df, Catalog # 11139. The rear column is RTX-CLPestII which is 30 meters, 0.32 mm ID, 0.25 um df, Catalog # 11324.
The analysis of PCBs. was based on method 8082 and the extraction for soil sample was done based on method 3541. The extraction for water sample was done based on method 3510.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria except for CANINE-KENNEL-DECON-WATER, CANINE-KENNEL-5ADL, CANINE-KENNEL-5S1A, CANINE-KENNEL-1B, CANINE-KENNEL-1S1ADL, CANINE-KENNEL-5B, ANINE-KENNEL-1N1A, CANINE-KENNEL-5BDL and CANINE-KENNEL-5N1ADL.
The Retention Times were acceptable for all samples.
The MS recoveries met the requirements for all compounds except for Aroclor-1016 and Aroclor-1260.
The MSD recoveries met the acceptable requirements except for Aroclor-1016 and Aroclor-1260.
The RPD recoveries met criteria except for Aroclor-1016 and Aroclor-1260.
The Blank Spike met requirements for all samples.
The Blank analysis did not indicate the presence of lab contamination.
Samples CANINE-KENNEL-5A, CANINE-KENNEL-FD-05, CANINE-KENNEL-5N1A, CANINE-KENNEL-5W1A, CANINE-KENNEL-5E1A, CANINE-KENNEL-1A, CANINE-KENNEL-1E1A, CANINE-KENNEL-1W1A, CANINE-KENNEL-1S1A,

		YES	NO	N/A
b.	toxaphene	[X]	___	___
c.	technical chlordane	[X]	___	___
d.	5 pt. initial calibration standards ✓	[X]	___	___
e.	calibration verification standards	[X]	___	___
f.	LCS	[X]	___	___
g.	Method blanks	[X]	___	___

ACTION: If no, take action specified in 3.2 above.

9.2 Has a DDT/endrin breakdown check standard (at the mid-concentration level) been analyzed at the beginning of each analytical sequence on both columns (page 8081B-24, section 8.2.3)? [X] ___ ___

ACTION: If no, take action as specified in 3.2 above.

9.3 Has the individual % breakdown exceeded 20.0% on either column for:

- 4,4' - DDT? All form on 4/4/08 However raw data correct [X] → [X] ___
- endrin? No exceedance Contact Lab for form correction ___ [ ] ___

ACTION: If any % breakdown has failed the QC criteria in the breakdown check standard, qualify all sample analyses in the entire analytical sequence as described below.

a. If 4,4'-DDT breakdown is greater than 20.%:

i. Qualify all positive results for DDT with 'J". If DDT was not detected, but DDD and DDE are positive, then qualify the quantitation limit for DDT as unusable ("R").

ii. Qualify positive results for DDD and DDE as presumptively present at an approximated quantity ("NJ").

YES NO N/A

b. If endrin breakdown is greater than 20.0%:

i. Qualify all positive results for endrin with "J". If endrin was not detected, but endrin aldehyde and endrin ketone are positive, then qualify the quantitation limit for endrin as unusable ("R").

ii. Qualify positive results for endrin ketone and endrin aldehyde as presumptively present at an approximated quantity ("NJ").

9.4 Are data summary forms (containing calibration factors or response factors) for the initial 5 pt. calibration and daily calibration verification standards present and complete for each column and each analytical sequence? [X] ___ ___

NOTE: If internal standard calibration procedure is used (page 8000B-16, section 7.4.2.2), then response factors must be used for %RSD calculations and compound quantitation. If, external standard calibration procedures are used (page 8000B-16, section 7.4.2.1), then calibration factors must be used.

ACTION: If any data are missing or it cannot be determined how the laboratory calculated calibration factors or response factors, contact the lab for explanation/resubmittals. Make necessary corrections and note any problems in the data assessment.

9.5 Are there any transcription/calculation errors between raw data and data summary forms. ___ [X] ___

ACTION: If large errors exist, call lab for explanation/resubmittal, make necessary corrections and document the effect in data assessments.

9.6 Are standard retention time (RT) windows for each analyte of interest presented on modified CLP summary forms? [X] ___ ___

YES NO N/A

ACTION: If any data are missing, or it cannot be determined how RT windows were calculated, call the lab for explanation/resubmittals. Note any problems in the data assessment.

NOTE: Retention time windows for all pesticides are established using retention times from three calibration standards analyzed during the entire analytical sequence (page 8081B-15, section 7.4.6).

A 72 hr. sequence is not required with this method, however, the method states that best results are obtained using retention times which span the entire sequence; i.e., using the mid level from the 5 pt. calibration, one of the mid-concentration standards analyzed during mid-sequence and one analyzed at the end.

9.7 Were RT windows on the confirmation column established using three standards as described above? [X] ___ ___

NOTE: RT windows for the confirmation column should be established using a 3 pt. calibration, preferably spanning the entire analytical sequence as described in 9.6 above. If RT windows on one column are tighter than the other, this may result in false negatives when attempting to identify compounds in the samples.

ACTION: Note potential problems, if any, in the data assessment.

9.8 Do all standard retention times in each level of the initial 5 pt. calibrations for pesticides fall within the windows established during the initial calibration sequence? [X] ___ ___

ACTION: i. If no, all samples in the entire analytical sequence are potentially affected. Check to see if three standards, spanning the entire sequence were used to obtained RT windows. If the lab used three standards from the 5 pt., RT windows

YES NO N/A

may be too tight. If so, RT windows should be recalculated as per page 8081B-15, section 7.4.6.2

ii. Alternatively, check to see if the chromatograms contain peaks within an expanded window surrounding the expected retention times.

If no peaks are found and the surrogates are visible, non-detects are valid. If peaks are present but cannot be discerned through pattern recognition or by using revised RT windows, qualify all positive results and non-detects as unusable, "R".

ACTION: For toxaphene and chlordane, the RT may be outside the RT window, but these analytes may still be identified from their individual patterns.

9.9 Has the linearity criteria for the initial calibration standards been satisfied for both columns? (% RSD must be < allowable limits* for all analytes). [ ] X ___

ACTION: If no, follow the actions in Table 9 below.

Table 9. Initial Calibration Linearity Criteria

Criteria	Criteria	
	Detected Associated Compounds	**Non-Detected Associated Compounds**
% RSD exceeds allowable limits*	J	No qualification
% RSD within allowable limits*	NO qualifications	

* %RSD ≤ 20% for single component compounds except alpha-BHC and delta-BHC.
%RSD ≤ 25% for alpha-BHC and delta-BHC
%RSD ≤ 30% for Toxaphene peaks
%RSD ≤ 30% for surrogates(tetrachloro-m-xylene and decachlorobiphenyl).

9.10 Has a calibration verification standard containing all analytes of interest been analyzed on each

ECD1 OK
ECD2 4,4'-DDT (21%RSD) Column 1 DDT(44%RSD) Methoxychlor (49%RSD) Column 2

	YES	NO	N/A
working day, prior to sample analyses (pages 8081B-15, sections 7.5.2)?	[X]	___	___
9.11 Has a calibration verification standard also been analyzed after every 10 samples and at the end of each analytical sequence (page 8081B-15, section 7.5.2)?	[X]	___	___

ACTION: If no, take action as specified in section 3.2 above.

9.12 Has no more than 12 hours elapsed from the injection of the opening CCV and the end of the analytical sequence (closing CCV). Has no more than 72 hours elapsed from the injection of the sample with a Toxaphene detection and the Toxaphene CCV?	[X]	___	X

ACTION: See Table 10 below.

9.13 Has the percent difference (%D) exceeded ± 20% for any organochlorine pesticide analyte in any calibration verification standard?	X	[ ]	___
9.14 Has a new 5 pt. calibration curve been generated for those analytes which failed in the calibration verification standard (page 8081B-16, section 7.5.2.2), and all samples which followed the out-of-control standard (page 8081B-16, section 7.5.2.3) reinjected? only on 1 column	[X]	___	___

ACTION: If the %D for any analyte exceeded the ± 20% criterion and the instrument was not recalibrated for those analytes, see table below.

9.15 Have <u>daily</u> retention time windows been properly calculated for each analyte of interest (page 8081B-16, section 7.5.3)), using RTs from the associated mid concentration standard and standard deviation from the initial calibration)?	[X]	___	___

YES NO N/A

ACTION: If no, take action specified in section 3.2 above or recalculate RT windows using the procedure outlined in method 8081B-16, section 7.5.3.

9.16 Do all standard retention times for each mid concentration standard fall within the windows established during the initial calibration sequence? [X] ___ ___

9.17 Do all standard retention times for each mid-concentration standard (analyzed after every 10 samples) fall within the daily RT windows (page 8081B-16, section 7.5.3)? [X] ___ ___

ACTION: If the answer to either 9.15 or 9.16 above is no, check the chromatograms of all samples which followed the last in-control standard. All samples analyzed after the last in-control standard must be re-injected, if initial analysis indicated the presence of the specific analyte that exceeded the retention time criteria (page 8081B-18, section 7.5.7.). If samples were not re-analyzed, document under Contract Non-compliance in the Data Assessment.

Reviewer has two options to determine how to qualify questionable sample data. First option is to determine if possible peaks are present within daily retention time window. If no possible peaks are found, non-detects are valid. If possible peaks are found (or interference), qualify positive hits as presumptively present "NJ" and non-detects are rejected "R". Second option is to use the ratio of the retention time of the analyte over the retention time of either surrogate. The passing criteria is $\pm$ 0.06 RRT units of the RRT of the standard component. Reject "R" all questionable analytes exceeding criteria, and "NJ" all other positive hits.

For any multi-response analytes, retention time windows should be used but analyst and reviewer should rely primarily on pattern recognition or use option 2 specified in paragraph above.

YES NO N/A

See Table 10 below.

Table 10. CCV Criteria

Criteria	Action	
	Detected Associated Compounds	Non-Detected Associated Compounds
RT out of RT window	Use professional judgement	
%D not within +/- 20%	J	UJ
Time elapsed greater than section 9.12 criteria.	R	
%D, time elapsed, RT are all within acceptable limits.	No qualifications	

9.18 Are there any transcription/calculation errors between raw data and data summary forms? ___ [X] ___

ACTION: If large errors exists, call lab for explanation/resubmittal, make any necessary corrections and document the effect in data assessments under "Conclusions".

10.0 Analytical Sequence Check (Form VIII-PEST/Equivalent)

10.1 Have all samples been listed on CLP Form VIII or equivalent, and are separate forms present for each column? [X] ___ ___

ACTION: If no, take action specified in 3.2 above.

10.2 Was the proper analytical sequence followed for each initial calibration and subsequent analyses? [X] ___ ___

ACTION: If no, use professional judgement to determine the severity of the effect on the data and qualify it

YES NO N/A

accordingly. Generally, the effect is negligible unless the sequence was grossly altered or the calibration was also out of limits.

11.0 Extraction Method Cleanup Efficiency Verification (Form IX/Equivalent)

11.1 Method 8081B permits a variety of extraction techniques to be used for sample preparation. Which extraction procedure was used?

1. Aqueous samples:

1. Separatory funnel (Method 3510) Waters - None

2. Continuous liquid-liquid extraction (Method 3520) _____

3. Solid phase extraction (Method 3535) _____

4. Other _____

2. Solid samples:

1. Soxhlet (Method 3540) _____

2. Automated Soxhlet (Method 3541) Solids

3. Pressurized fluid (Method 3545) _____

4. Microwave extraction (Method 3546) _____

5. Ultrasonic extraction (Method 3550) _____

6. Supercritical fluid (Method 3562) _____

7. Other _____

11.2 Is Form IX - Pest-1/Equivalent present and complete for each lot of Florisil/Cartridges used? (Florisil Cleanup, Method 3620A, is required for all organochlorine pesticide extracts.) ~~X~~ 1 ~~X~~ ~~X~~

No Form IX submitted noted on extraction logbook, 9/3/08 KBM

YES NO N/A

ACTION: If no, take action specified in 3.2 above. If data suggests that florisil cleanup was not performed, make note in the reviewer narrative.

NOTE: Method 3620A uses Florisil, while the SOW/CLP allows for Florisil cartridges. Method 3620A does not list which pesticides and surrogate(s) to use to verify column efficiency. The reviewer must check project plan to verify method used as well as the correct pesticide list. If not stated or available, use the CLP listing or accept what the laboratory used.

11.3 Are all samples listed on modified CLP Pesticide Florisil/Cartridge Check Form? No form listed on extraction Sheet [X] ___ X

ACTION: If no, take action specified in 3.2 above. KDW 4/3/08

11.4 If GPC Cleanup was performed, is Form IX - Pest-2/ Equivalent present? [ ] X X

ACTION: If GPC was not performed and sample results indicate significant sulfur interference, make note in the data assessment.

NOTE: GPC cleanup is not required and is optional. The reviewer should check Project Plan to verify requirement.

11.5 Were the same compounds on Form IX used to check the efficiency of the cleanup procedures? [ ] ___ X

11.6 Are percent recoveries (% R) of the pesticide and surrogate compounds used to check the efficiency of the cleanup procedures within QC limits listed on Form IX:

80-120% for florisil cartridge check? [X] ___ X KDW 9/3/08
in BS and samples

80-110% for GPC calibration? [ ] ___ X

YES NO N/A

Qualify only the analyte(s) which fail the recovery criteria as follows:

ACTION: If % R are < 80%, qualify positive results "J" and quantitation limits "UJ". Non-detects should be qualified "R" if zero %R was obtained for pesticide compounds. Qualify positive results "J" (estimated).

NOTE: If 2,4,5-trichlorophenol was used to measure the efficiency of the Florisil cleanup and the recovery was > 5%, sample data should be evaluated for potential interferences.

12.0 Pesticide Identification

12.1 Has CLP Form X, showing retention time data for positive results on the two GC columns, been completed for every sample in which a pesticide was detected? [X] ___ ___

ACTION: If no, take action specified in 3.2 above, or compile a list comparing the retention times for all sample hits on the two columns.

12.2 Are there any transcription/calculation errors between raw data and data summary forms (initial calibration summaries, calibration verification summaries, analytical sequence summaries, GPC and Florisil cleanup verification forms)? ___ [X] ___

ACTION: If large errors exist, call lab for explanation/resubmittal, make necessary corrections and note error in the data assessment.

12.3 Are retention times (RT) of sample compounds within the established RT windows for both analyses? [X] [X] ___ KBW 8/28/08

Note: Confirmation can be supported by other qualitative techniques such as GC/MS (Method 8270), or GC/AED (Method 8085) if sensitivity permits.

YES NO N/A

ACTION: Qualify as unusable (R) all positive results which were not confirmed by second GC column analysis. Also qualify "R", unusable, all positive results not within RT windows unless associated standard compounds are similarly biased. The reviewer should use professional judgement to assign an appropriate quantitation limit.

12.4 Check chromatograms for false negatives, especially if RT windows on each column were established differently (see section 9.7 above). Also check for false negatives among the multiple peak compounds toxaphene and chlordane. Were there any false negatives? ___ [X] ___

ACTION: Use professional judgement to decide if the compound should be reported. If there is reason to believe that peaks outside retention RT windows should be reported, make corrections to data summary forms (Form I) and note in data assessment.

12.5 Was GC/MS confirmation used as the second column Confirmation? (This is not required). [ ] X ___

12.6 Is the percent difference (%D) calculated for the positive sample results on the two GC columns <25.0%? [X] ___ ___

NOTE: The method 8081B requires quantitation from one column. The second column is to confirm the presence of an analyte. Calibration for the Confirmation column is a one point calibration. It is the reviewer's responsibility to verify from the project plan what the lab was required to report. If the lab was required to report concentrations from both columns, continue with validation for % Difference. If required, but not reported, either contact the lab for results or calculate the concentrations from the calibration. If not required, skip this section. Document actions in Data Assessment.

YES NO N/A

ACTION: If the reviewer finds neither column shows interference for the positive hits, the data should be qualified as follows:

% Difference	Qualifier
0-25%	none
26-70%	"J"
71-100%	"NJ"
101-200% (No Interference)	"R"
101-200% (Interference detected) "NJ"	
>50% (Pesticide vale is <CRQL)	"U"
>201%	"R"

Note: The lower of the two values is reported on Form I. If using professional judgement,the reviewer determines that the higher result was more acceptable, the reviewer should replace the value and indicate the reason for the change in the data assessment.

13.0 Compound Quantitation and Reported Detection Limits

13.1 Are there any transcription/calculation errors in Form I results? Check at least two positive values. Were any errors found? ___ [X] ___

NOTE: Single-peak pesticide results can be checked for rough agreement between quantitative results obtained on the two GC columns. The reviewer should use professional judgement to decide whether a much larger concentration obtained on one column versus the other indicates the presence of an interfering compound. If an interference is suspected, the lower of the two values should be reported and qualified according to section 12.6 above. This necessitates a determination of an estimated concentration on the confirmation column. The narrative should indicate that the presence of interferences has led to the quantitation of the second column confirmation results.

Laboratory reported "non-detects" to the MDL rather than "RL" w/ a "U": therefore all non-detects qualified as "UJ" as the concentrations not supported by Cow standard

Request MDLs for review.

9/3/08

YES NO N/A

13.2 Are the EDLs (Estimated Detection Limits) adjusted to reflect sample dilutions and, for soils, % moisture? [X] ___ ___

ACTION: If errors are large, call lab for explanation/resubmittal, make any necessary corrections and document effect in data assessments.

ACTION: When a sample is analyzed at more than one dilution, the lowest EDLs are used (unless a QC exceedance dictates the use of the higher EDL data from the diluted sample analysis). Replace concentrations that exceed the calibration range in the original analysis by crossing out the value on the original Form I and substituting it with data from the analysis of diluted sample. Specify which Form I is to be used, then draw a red "X" across the entire page of all Form I's that should not be used, including any in the summary package.

ACTION: EDLs affected by large, off-scale peaks should be qualified as unusable, "R". If the interference is on-scale, the reviewer can provide a modified EDL flagged "UJ" for each affected compound.

14.0 Chromatogram Quality

14.1 Were baselines stable? [X] ___ ___

14.2 Were any electropositive displacement (negative peaks) or unusual peaks seen? ___ [X] ___
Some in IBLK

ACTION: Note all system performance problems in the data assessment.

15.0 Field Duplicates

15.1 Were any field duplicates submitted for organochlorine pesticide analysis? [X] ___ ___

ACTION: Compare the reported results for field duplicates and calculate the relative percent difference.

ACTION: Any gross variation between field duplicate results must be addressed in the reviewer narrative. However, if large differences exist, the identity of the field duplicates is questionable. An attempt should be made to determine the proper identification of field duplicates.

No positive hits in Samples
no evaluation of precision
performed

Tim B. Watts

8/28/08

5A, field duplicate FD-05

USEPA
Hazardous Waste Support Branch
Validating PCB Compounds
PCBs By Gas Chromatography SW-846 Method 8082A

Prepared by: George Karras Date: 12/8/06
George Karras, Chemist
Hazardous Waste Support Section

Prepared by: Russell Amone Date: 12-8-06
Russell Amone, Chemist
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Concurred by: Linda Mauel Date: 12/11/06
Linda Mauel, Chief
Hazardous Waste Support Section

Approved by: Robert Runyon Date: 12/11/06
Robert Runyon, Chief
Hazardous Waste Support Branch

Annual Review

Reviewed by:_____ Date:_____
Name

Reviewed by:_____ Date:_____
Name

Yes NO N/A

INTRODUCTION

Scope and Applicability

This SOP offers detailed guidance in evaluating laboratory data generated according to "SW846-Method 8082A" November 2000. Method 8082A is used to determine the concentration of PCB compounds in extracts prepared from many types of solid waste matrices, soils, and water samples. The validation methods and actions discussed in this document are based on the requirements set forth in SW846 Method 8082A, Method 8000C and the "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," January 2005. This document covers technical problems specific to each fraction and sample matrix; however, situations may arise where data limitations must be assessed based on the reviewer's professional judgement.

Summary of Method

To ensure a thorough evaluation of each result in a data case, the reviewer must complete the checklist within this SOP, answering specific questions while performing the prescribed "ACTIONS" in each section. Qualifiers (or flags) are applied to questionable or unusable results as instructed. The data qualifiers discussed in this document are defined on page 4.

The reviewer must prepare a detailed data assessment to be submitted along with the completed SOP checklist. The Data Assessment must list all data qualifications, reasons for qualifications, instances of missing data and contract non-compliance.

Reviewer Qualifications

Data reviewers must possess a working knowledge of SW846 Analytical Methods and National Functional Guidelines mentioned above.

Yes NO N/A

DEFINITIONS

Acronyms

BNA - base neutral acid(another name for Semi Volatiles)
CLP - Contract Laboratory Program
CRQL - Contract Required Quantitation Limit
%D - percent difference
DCB -decachlorobiphenyl
DoC - Date of Collection
GC - gas chromatography
GC/ECD - gas chromatograph/electron capture detector
GC/MS - gas chromatograph/mass spectrometer
GPC - gel permeation chromatography
IS - internal standard
kg - kilogram
µg - microgram
MS - matrix spike
MSD - matrix spike duplicate
ℓ - liter
mℓ - milliliter
PCB - Polychlorinated biphenyl
PE - performance evaluation
PEM - Performance Evaluation Mixture
QC - quality control
RAS - Routine Analytical Services
RIC - reconstructed ion chromatogram
RPD - relative percent difference
RRF - relative response factor
RRF - average relative response factor (from initial calibration)
RRT - relative retention time
RSD - relative standard deviation
RT - retention time
RSCC - Regional Sample Control Center
SDG - sample delivery group
SMC - system monitoring compound
SOP - standard operating procedure
SOW - Statement of Work
SVOA - semivolatile organic acid
TCL - Target Compound List
TCLP - Toxicity Characteristics Leachate Procedure ___
TCMX -tetrachloro-m-xylene
TIC - tentatively identified compound
TOPO - Task Order Project Officer
TPO - Technical Project Officer
VOA - Volatile organic

Yes NO N/A

VTSR - Validated Time of Sample Receipt

Data Qualifiers

U- The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J- The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

- The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

JN- The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ- The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R- The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

LAB QUALIFIERS:

D- The positive value is the result of an analysis at a secondary dilution factor.

B- The analyte is present in the associated method blank as well as in the sample. This qualifier has a different meaning when validating inorganic data.

E- The concentration of this analyte exceeds the calibration range of the instrument.

A- Indicates a Tentatively Identified Compound (TIC) is a suspected adol-condensation product.

X,Y,Z- Laboratory defined flags. The data reviewer must change these qualifiers during validation so that the data user may understand their impact on the data.

Yes NO N/A

PACKAGE COMPLETENESS AND DELIVERABLES

CASE NUMBER: Z2180 SDG# Z2180

LAB: CHEMTECH Lab. Monkside N.J. SITE: CANINE KENNEL

1.0 Data Completeness and Deliverables

1.1 Has all the data been submitted in CLP deliverable format? [X] ___ ___

1.2 Have any missing deliverables been received and added to the data package? [X] ___ ___

ACTION: Call lab for explanation/resubmittal of any missing deliverables. If lab cannot provide them, note the effect on review of the data in the reviewer narrative. Per Validator request

2.0 Cover Letter, SDG Narrative

2.1 Is a laboratory narrative or cover letter present? [X] ___ ___

2.2 Are the case number and/or SDG number contained in the narrative or cover letter? [X] ___ ___

3.0 Data Validation Checklist

3.1 Does this data package contain:

Water data? X ___

Waste data? ___ X

Soil/solid data? X ___

POLYCHLORINATED BIPHENYLS

1.0 Traffic Reports and Laboratory Narrative

1.1 Are traffic report and chain-of-custody forms present for all samples? [X] ___ ___

Yes NO N/A

ACTION: If no, contact lab for replacement of missing or illegible copies.

1.2 Do the traffic reports, chain-of-custody forms or SDG narrative indicate any problems with sample receipt, condition of the samples, analytical problems or special circumstances affecting the quality of the data? — [X] —

ACTION: If any sample analyzed as a soil, other than TCLP, contains 50%-90% water, all data should be qualified as estimated, "J." If a soil sample, other than TCLP, contains more than 90% water, non detects shall be qualified as unusable, "R."

ACTION: If samples were not iced or if the ice was melted upon arrival at the laboratory and the temperature of the cooler was elevated (> 10° C), flag all positive results "J" and all non-detects "UJ".

2.0 Holding Times

2.1 Have any PCB technical holding times, determined from date of collection to date of extraction, been exceeded? — [X] —

Water and waste samples for PCB analysis must be extracted within 7 days of the date of collection. Extracts must be analyzed within 40 days of the date of extraction. Soils and solid samples must be extracted within 14 days of collection and analyzed within 40 days of extraction.

ACTION: If technical holding times are exceeded, flag all positive results as estimated, "J," and sample quantitation limits "UJ" and document in the narrative that holding times were exceeded. If analyses were done more than 14 days beyond holding time, either on the first analysis or upon re-analysis, the reviewer must use professional judgement to determine the reliability of the data and the effects of additional storage on the sample results. At a minimum, all the data should at least be

Yes NO N/A

qualified "J", but the reviewer may determine that non-detects are unusable,"R." (Table 1)

Table 1. Holding Time Criteria

Matrix	Preserved	Criteria	Action	
			Detected compounds	Non-detected compounds
Aqueous	No	≤ 7 days(extraction) ≤ 40 days(analysis)	J*	UJ*
	No	> 7 days(extraction) > 40 days(analysis)	J	UJ
	Yes	≤ 7 days(extraction) ≤ 40 days(analysis)	No qualification	
	Yes	> 7 days(extraction) > 40 days(analysis)	J	UJ
	Yes/No	> 28 days (gross exceedance)	J	R
Non-aqueous	No	≤ 14days(extraction) ≤ 40 days (analysis)	J*	UJ*
	No	> 14days(extraction) >40 days(analysis)	J	UJ
	Yes	≤ 14days(extraction) ≤ 40 days(analysis)	No qualification	
	Yes	> 14days(extraction) > 40 days(analysis)	J	UJ
	Yes/No	> 28 days(gross exceedance)	J	R

* only if cooler temperature exceeds 10°C; no action required if cooler temperature < 10°C.

3.0 Surrogate Recovery (Form II/Equivalent)

3.1 Were the recoveries of tetrachloro-m-xylene (TCMX) and decachlorobiphenyl (DCB) presented on CLP Surrogate Recovery Summary forms (Form II), or equivalent, for each of the following matrices?

a. Water/Waste [X] ___ ___

	Yes	NO	N/A
b. Soil/Solid	[X]	___	___

3.2 Are all the PCB samples listed on the appropriate surrogate recovery form for each of the following matrices?

a. Water	[X]	___	___
b. Waste	[ ]	___	X
c. Soil/Solid	[X]	___	___

ACTION: Call lab for explanation/resubmittals. If missing deliverables are unavailable, document the effect in the data assessment.

3.3 Are all recovery limits for the surrogates TCMX and DCB between 30-150% for all samples, including MS and MSDs, LCSs and all blanks? [ ] X ___

Note: Reviewer shall use lab in-house recovery limits, if available. In-house criteria should be examined for reasonableness. see attached

ACTION: Circle all outliers in red. Follow surrogate criteria, Table 2.

Note: DCB is used when PCBs are determined as Aroclors. DCB is the internal standard when determining PCB congeners and TCMX the surrogate.

3.4 Were surrogate retention times (RT) within the windows established during the initial 5-point analysis? [X] ___ ___

ACTION: Follow surrogate criteria, Table 2.

Table 2. Surrogate Recovery Criteria

Criteria	Action	
	Detected Target Compounds	Non-detected Target Compounds
%R > 200%	J	Use professional judgement

Chemtech

Surrogate Summary
SW-846

SDG No.: Z2180
Client: P.W. Grosser Consulting

Analytical Method: EPA SW-846 8082

Lab Sample ID	Client ID	Parameter	Spike	Result	Recovery	Qual	Limits Low	Limits High
I.BLK	PIBLK01	Tetrachloro-m-xylene	20	20.42	102		42.00	133.00
		Decachlorobiphenyl	20	21.79	109		30.00	141.00
	PIBLK02	Tetrachloro-m-xylene	20	22.33	112		42.00	133.00
		Decachlorobiphenyl	20	19.29	96		30.00	141.00
PB33134B	PB33134B	Tetrachloro-m-xylene	20	18.67	93		42.00	133.00
		Decachlorobiphenyl	20	18.01	90		30.00	141.00
PB33134BS	PB33134BS	Tetrachloro-m-xylene	20	19.05	95		42.00	133.00
		Decachlorobiphenyl	20	17.35	87		30.00	141.00
Z2180-03	CANINE-KENNEL-F	Tetrachloro-m-xylene	20	20.28	101		42.00	133.00
		Decachlorobiphenyl	20	15.15	76		30.00	141.00
Z2180-16	CANINE-KENNEL-D	Tetrachloro-m-xylene	20	12.07	60		42.00	133.00
		Decachlorobiphenyl	20	2.73	14	*	30.00	141.00
Z2180-17	CANINE-KENNEL-F	Tetrachloro-m-xylene	20	18.92	95		42.00	133.00
		Decachlorobiphenyl	20	11.94	60		30.00	141.00
I.BLK	PIBLK03	Tetrachloro-m-xylene	20	22.05	110		42.00	133.00
		Decachlorobipbenyl	20	20	100		30.00	141.00
	PIBLK04	Tetrachloro-m-xylene	20	19.58	98		42.00	133.00
		Decachlorobiphenyl	20	20.74	104		30.00	141.00
Z2180-16DL	CANINE-KENNEL-D	Tetrachloro-m-xylene	20	.700001	49		42.00	133.00
		Decachlorobiphenyl	20	7.15	36		30.00	141.00
I.BLK	PIBLK05	Tetrachloro-m-xylene	20	22.12	111		42.00	133.00
		Decachlorobiphenyl	20	19.89	99		30.00	141.00
	PIBLK06	Tetrachloro-m-xylene	20	22.91	115		42.00	133.00
		Decachlorobiphenyl	20	24.44	122		30.00	141.00
	PIBLK07	Tetrachloro-m-xylene	20	23.79	119		42.00	133.00
		Decachlorobiphenyl	20	23.53	118		30.00	141.00
Z2180-01	CANINE-KENNEL-5	Tetrachloro-m-xylene	20	16.57	83		44.00	141.00
		Decachlorobiphenyl	20	16.5	83		34.00	145.00
Z2180-01DL	CANINE-KENNEL-5	Tetrachloro-m-xylene	20	21.8	109		44.00	141.00
		Decachlorobiphenyl	20	5	25	*	34.00	145.00
I.BLK	PIBLK08	Tetrachloro-m-xylene	20	24.48	122		42.00	133.00
		Decachlorobiphenyl	20	23.4	117		30.00	141.00
	PIBLK09	Tetrachloro-m-xylene	20	19.21	96		42.00	133.00
		Decachlorobiphenyl	20	17.32	87		30.00	141.00
	PIBLK10	Tetrachloro-m-xylene	20	26.67	133		42.00	133.00
		Decachlorobiphenyl	20	27.09	135		30.00	141.00
PB33138B	PB33138B	Tetrachloro-m-xylene	20	21.04	105		44.00	141.00
		Decachlorobiphenyl	20	23.27	116		34.00	145.00
PB33138BS	PB33138BS	Tetrachloro-m-xylene	20	22.9	115		44.00	141.00
		Decachlorobiphenyl	20	25.32	127		34.00	145.00
Z2180-02	CANINE-KENNEL-F	Tetrachloro-m-xylene	20	20.24	101		44.00	141.00

Surrogate Summary
SW-846

SDG No.: Z2180
Client: P.W. Grosser Consulting

Analytical Method: EPA SW-846 8082

Lab Sample ID	Client ID	Parameter	Spike	Result	Recovery	Qual	Limits Low	Limits High
Z2180-02	CANINE-KENNEL-F	Decachlorobiphenyl	20	23.06	115		34.00	145.00
Z2180-04	CANINE-KENNEL-5	Tetrachloro-m-xylene	20	14.67	73		44.00	141.00
		Decachlorobiphenyl	20	19.36	97		34.00	145.00
Z2180-05	CANINE-KENNEL-5	Tetrachloro-m-xylene	20	22.9	115		44.00	141.00
		Decachlorobiphenyl	20	23.9	120		34.00	145.00
Z2180-06	CANINE-KENNEL-5	Tetrachloro-m-xylene	20	22.01	110		44.00	141.00
		Decachlorobiphenyl	20	17.49	87		34.00	145.00
Z2180-08	CANINE-KENNEL-1	Tetrachloro-m-xylene	20	20.34	102		44.00	141.00
		Decachlorobiphenyl	20	21.07	105		34.00	145.00
I.BLK	PIBLK11	Tetrachloro-m-xylene	20	30.33	152		42.00	133.00
		Decachlorobiphenyl	20	29.39	147		30.00	141.00
Z2180-12	CANINE-KENNEL-1	Tetrachloro-m-xylene	20	16.52	83		44.00	141.00
		Decachlorobiphenyl	20	14.93	75		34.00	145.00
Z2180-13	CANINE-KENNEL-1	Tetrachloro-m-xylene	20	20.06	100		44.00	141.00
		Decachlorobiphenyl	20	18.01	90		34.00	145.00
Z2180-15	CANINE-KENNEL-1	Tetrachloro-m-xylene	20	19.34	97		44.00	141.00
		Decachlorobiphenyl	20	18.93	95		34.00	145.00
Z2180-19	CANINE-KENNEL-T	Tetrachloro-m-xylene	20	18.78	94		44.00	141.00
		Decachlorobiphenyl	20	11.03	55		34.00	145.00
Z2180-20	CANINE-KENNEL-T	Tetrachloro-m-xylene	20	21.98	110		44.00	141.00
		Decachlorobiphenyl	20	18.9	95		34.00	145.00
Z2180-09MS	CANINE-KENNEL-1	Tetrachloro-m-xylene	20	21.33	107		44.00	141.00
		Decachlorobiphenyl	20	16.14	81		34.00	145.00
Z2180-10MSD	CANINE-KENNEL-1	Tetrachloro-m-xylene	20	22.48	112		44.00	141.00
		Decachlorobiphenyl	20	20.22	101		34.00	145.00
I.BLK	PIBLK12	Tetrachloro-m-xylene	20	29	145		42.00	133.00
		Decachlorobiphenyl	20	27.98	140		30.00	141.00
	PIBLK13	Tetrachloro-m-xylene	20	23.76	119		42.00	133.00
		Decachlorobiphenyl	20	24.27	121		30.00	141.00
Z2180-12DL	CANINE-KENNEL-1	Tetrachloro-m-xylene	20	14.9	75		44.00	141.00
		Decachlorobiphenyl	20	12.9	65		34.00	145.00
Z2180-02DL	CANINE-KENNEL-F	Tetrachloro-m-xylene	20	17	85		44.00	141.00
		Decachlorobiphenyl	20	19.5	98		34.00	145.00
Z2180-05DL	CANINE-KENNEL-5	Tetrachloro-m-xylene	20	26.55	133		44.00	141.00
		Decachlorobiphenyl	20	24.2	121		34.00	145.00
Z2180-06DL	CANINE-KENNEL-5	Tetrachloro-m-xylene	20	21.45	107		44.00	141.00
		Decachlorobiphenyl	20	16.5	83		34.00	145.00
Z2180-07	CANINE-KENNEL-5	Tetrachloro-m-xylene	20	0	0	*	44.00	141.00
		Decachlorobiphenyl	20	0	0	*	34.00	145.00
Z2180-08DL	CANINE-KENNEL-1	Tetrachloro-m-xylene	20	19.75	99		44.00	141.00
		Decachlorobiphenyl	20	18.45	92		34.00	145.00

Surrogate Summary
SW-846

SDG No.: Z2180
Client: P.W. Grosser Consulting

Analytical Method: EPA SW-846 8082

Lab Sample ID	Client ID	Parameter	Spike	Result	Recovery	Qual	Limits Low	Limits High
I.BLK	PIBLK14	Tetrachloro-m-xylene	20	28.18	141		42.00	133.00
		Decachlorobiphenyl	20	25.13	126		30.00	141.00
	PIBLK15	Tetrachloro-m-xylene	20	23.85	119		42.00	133.00
		Decachlorobiphenyl	20	23.35	117		30.00	141.00
Z2180-19DL	CANINE-KENNEL-T	Tetrachloro-m-xylene	20	17.4	87		44.00	141.00
		Decachlorobiphenyl	20	8.3	42		34.00	145.00
Z2180-11	CANINE-KENNEL-1	Tetrachloro-m-xylene	20	60	300	*	44.00	141.00
		Decachlorobiphenyl	20	140	700	*	34.00	145.00
Z2180-15DL	CANINE-KENNEL-1	Tetrachloro-m-xylene	20	48.5	243	*	44.00	141.00
		Decachlorobiphenyl	20	6.5	33	*	34.00	145.00
Z2180-13DL	CANINE-KENNEL-1	Tetrachloro-m-xylene	20	25.2	126		44.00	141.00
		Decachlorobiphenyl	20	12.5	63		34.00	145.00
I.BLK	PIBLK16	Tetrachloro-m-xylene	20	26.67	133		42.00	133.00
		Decachlorobiphenyl	20	27.71	139		30.00	141.00
Z2180-18	CANINE-KENNEL-5	Tetrachloro-m-xylene	20	15	75		44.00	141.00
		Decachlorobiphenyl	20	135	675	*	34.00	145.00
Z2180-14	ANINE-KENNEL-1N	Tetrachloro-m-xylene	20	10	50		44.00	141.00
		Decachlorobiphenyl	20	105	525	*	34.00	145.00
Z2180-18DL	CANINE-KENNEL-5	Tetrachloro-m-xylene	20	0	0	*	44.00	141.00
		Decachlorobiphenyl	20	0	0	*	34.00	145.00
Z2180-20DL	CANINE-KENNEL-T	Tetrachloro-m-xylene	20	21	105		44.00	141.00
		Decachlorobiphenyl	20	21.5	108		34.00	145.00
Z2180-04DL	CANINE-KENNEL-5	Tetrachloro-m-xylene	20	24	120		44.00	141.00
		Decachlorobiphenyl	20	30	150	*	34.00	145.00
I.BLK	PIBLK17	Tetrachloro-m-xylene	20	29.37	147		42.00	133.00
		Decachlorobiphenyl	20	30.41	152		30.00	141.00

		Yes NO N/A
150% < %R ≤ 200%	J	No qualification
30% ≤ %R ≤ 150%	No qualification	
10% ≤ %R < 30%	J	UJ
%R < 10% (sample dilution not a factor)	J	R
%R < 10% (sample dilution is a factor)	Use professional judgement	
RT out of RT window	Use professional judgement	
RT within RT window	No qualification	

3.6 Are there any transcription/calculation errors between raw data and Form II? [ ] X ___

ACTION: If large errors exist, call lab for explanation/resubmittal. Make any necessary corrections and document the effect in data assessments.

4.0 Laboratory Control Sample (LCS)

4.1 Are raw data and percent recoveries present for all Laboratory Control samples as required by Method 8000B (section 8.5) and Method 8082A (section 8.4.2)? [X] ___ ___

Verify that QC check samples were extracted and analyzed by the same procedures used for the actual samples.

ACTION: If any Laboratory Control Sample data are missing, call the lab for explanation/ resubmittals. Make note in the data assessment. BLANK SPIKE

NOTE: For aqueous samples, an additional QC check sample must be prepared and analyzed when any analyte in a matrix spike fails the required acceptance criteria (see section 5.3 below).

Yes NO N/A

The additional QC check sample must contain each analyte that failed in the MS analysis.

Note: When the results for matrix spike analysis indicates a problem due to sample matrix effects, the LCS results are used to verify the laboratory can perform the analysis in a clean sample.

4.2 Were Laboratory Control Samples analyzed at the required concentration as specified in Method 8000B(sec 8.5) for all analytes as specified in Table 3. [X] ___ ___

Note: Use lab in-house criteria, if available.

ACTION: If Laboratory Control Samples were not analyzed at the required concentration or the required frequency, make note in the data assessment and use professional judgement to determined the affect on the data.

4.3 Were the LCS recoveries within the percent recoveries as specified in Table 3. [X] ___ ___

Table 3. LCS Criteria

Compound	% Recovery
Aroclor 1016	50-150
Aroclor 1260	50-150
Tetrachloro-m-xylene (surrogate)	30-150
decachlorobiphenyl (surrogate)	30-150

4.4 If no, were Laboratory Control Samples re-analyzed? [ ] ___ [X]

ACTION: If QC check samples were not re-analyzed, or a general system problem is indicated by repeated failure to meet the QC acceptance criteria specified in the method, make note in the data assessment and use Table 4 recovery actions criteria.

Yes NO N/A

Table 4. LCS Recovery Actions

Criteria	Action	
	Detected Associated Compounds	**Non-Detected Compounds**
%R > Upper Acceptance Limit	J	No qualification
%R < Lower Acceptance Limit	J	R
Lower Acceptance Limit ≤ %R ≤ Upper Acceptance Limit	No qualifications	

5.0 Matrix Spikes (Form III/Equivalent)

5.1 Are all data for one matrix spike and matrix duplicate (unspiked) pair (MS/Dup) or matrix spike/matric spike duplicate (MS/MSD)present and complete for each matrix (Method 8082A Section 8.4.1)? [X] ___ ___

NOTE: For soil and waste samples showing detectable amounts of target analytes, the lab may substitute replicate samples in place of the matrix spike (see Method 8000B-40, section 8.5.3). No water — 082 only FB, Decon

5.2 Have MS/Dup or MS/MSD results been summarized on modified CLP Form III? [X] ___ ___

ACTION: If any data are missing take action as specified in section 3.2 above.

5.3 Were matrix spikes analyzed at the required frequency for each of the following matrices? (One MS/Dup, MS/MSD must be performed for every 20 samples of similar matrix or concentration level. Laboratories analyzing one to ten samples per month are required to analyze at least one MS per month (Method 8000B-39 (section 8.5)).

a. Water [ ] ___ [X]

Yes NO N/A

b. Waste [ ] ___ X

c. Soil/Solid X ___ ___

ACTION: If any MS/Dup or MS/MSD data are missing, take the action specified in 3.2 above.

5.4 Were Laboratory Control Samples analyzed for all analytes as specified in Table 5, or did the lab use the optional QC acceptance criteria i.e., in-house criteria? [X] X ___

List the criteria used and make note in data assessment.

Criteria used 65-126, 76-131 RPD 20

Table 5. MS/MSD Criteria

Compound	Percent Recovery QC Limits	RPD
Aroclor 1016	29-135	0-15
Aroclor 1260	29-135	0-20

5.5 Was the matrix spike prepared at the proper spike concentration? (Method 8000B, section 8.5.1-8.5.2) X ___ ___

For aqueous organic extractable, the spike concentration should be prepared according options in: Method 8000B-40, (section 8.5.1 and 8.5.2).

5.6 Were the matrix spike and matrix spike duplicate recovery and RPD limits met as specified in Table 5. Note: No qualification of the data is necessary on MS and MSD data alone. Use professional judgement to use the MS and MSD results in conjunction with other QC criteria to determine the need for some qualification of the data. If any MS and MSD, percent recovery, or RPD results in the Arcolor fraction is out of specification (Table 5), qualify data to include the consideration of the existence interference in the raw data. In some instances it may be determined that only the replicate or spiked samples are affected. Alternatively, the data may suggest that the laboratory is having a systematic problem with one or more analytes, thereby affecting all associated samples. Use professional judgement to determine the need for qualifications of detects of non-spiked compounds.

Yes NO N/A
[ ] X ___

Table 6. MS/MSD Actions for Analysis

Criteria	Action	
	Detected Associated Compounds	Non-Detected Compounds
%R or RPD > Upper Acceptance Limit	J	No qualification
20% ≤ %R < Lower Acceptance Limit	J	UJ
%R < 20%	J	Use professional judgement
Lower Acceptance Limit ≤ %R ≤ Upper Acceptance Limit	No qualifications	

No Qual. Conc in Samples 4x that of Spike -

6.0 Blanks (Form IV/Equivalent)

6.1 Was reagent blank data reported on CLP equivalent Method Blank Summary form(s) (Form IV)? [X] ___ ___

6.2 Frequency of Analysis: Has a reagent blank been analyzed for every 20 (or less) samples of similar matrix or concentration or each extraction batch? [X] ___ ___

Note: Method blank should be analyzed, either after the calibration standard or at any time during the analytical shift.

ACTION: If any blank data are missing, take action as specified above (section 3.2) . If blank data is not available, reject (R) all associated positive data. However, using professional judgement, the data reviewer may substitute field blank data for missing method blank data.

6.3 Chromatography: review the blank raw data - chromatograms, quant reports or data system

Yes NO N/A

printouts.

Is the chromatographic performance (baseline stability) for each instrument acceptable for PCBs? [X] ___ ___

7.0 Contamination

NOTE: "Water blanks", "distilled water blanks" and "drilling water blanks" are validated like any other sample and are not used to qualify the data. Do not confuse them with the other QC blanks discussed below.

7.1 Do any method/instrument/reagent/cleanup blanks have positive results for PCBs? When applied as described below, the contaminant concentration in these blanks are multiplied by the sample Dilution Factor and corrected for % moisture when necessary. ___ [X] ___

7.2 Do any field/rinse blanks have positive PCB results? ___ [X] ___

ACTION: Prepare a list of the samples associated with each of the contaminated blanks. (Attach a separate sheet.)

NOTE: All field blank results associated to a particular group of samples (may exceed one per case or one per day) may be used to qualify data. Blanks may not be qualified because of contamination in another blank. Field blanks must be qualified for surrogate, or calibration QC problems.

ACTION: Follow the directions in Table 7 below to qualify sample results due to contamination. Use the largest value from all the associated blanks.

Table 7. Blank Contamination Criteria

Blank Type	Blank Result	Sample Result	Action for Samples

Yes NO N/A

Method, Clean up, Instrument, Field	Detects	Not detected	No qualification
	< CRQL	< CRQL	Report CRQL value with a U
		≥ CRQL	No qualification
	> CRQL	< CRQL	Report CRQL value with a U
		≥ CRQL and < blank contamination	Report the concentration for the sample with a U
		≥ CRQL and ≥ blank contamination	No qualification
	= CRQL	< CRQL	Report CRQL value with a U
		≥ CRQL	No qualification
	Gross contamination	Detects	Qualify results as unusable R

Note: Analytes qualified "U" for blank contamination are treated as "hits" when qualifying for calibration criteria.

Note: When applied as described in Table 7 above, the contaminant concentration in the blank is multiplied by the sample dilution factor.

NOTE: If gross blank contamination exists(e.g., saturated peaks, "hump-o-grams," "junk" peaks), all affected positive compounds in the associated samples should be qualified as unusable "R", due to interference. Non-detected pesticide target compounds do not require qualification unless the contamination is so high that it interferes with the analyses of non-detected compounds.

7.3 Are there field/rinse/equipment blanks associated with every sample? DAILY [X] ___ ___

ACTION: For low level samples, note in data assessment that there is no associated field/rinse/equipment blank. Exception: samples taken from a drinking water tap do not have associated field blanks.

Yes NO N/A

8.0 Gas Chromatography with Electron Capture Detector (GC/ECD) Instrument Performance Check (CLP Form VI and Form VII Equivalent)

8.1 Was the proper gas chromatographic capillary column used for the analysis of PCBs? [X] ___ ___

Action: Check raw data, instrument logs, or contact the lab to determine what type of columns were used. (Method 8082, section 4.2)

8.2 Indicate the specific type of narrow bore or wide bore (.53 mm ID, fused silica GC columns, such as DB-608 and DB-1701 or equivalent).

column 1: RTX-CLPesT I

column 2: RTX-CLPesT II

ACTION: Note any changes to the suggested materials in section 8.1 above in the data assessment. Also note the impact (positive or negative) such changes have on the analytical results.

9.0 Calibration and GC Performance

9.1 Are the following Gas Chromatograms and Data Systems Printouts for both columns present for all samples, blanks, MS, replicates?

a. Samples [X] ___ ___

b. All blanks [X] ___ ___

c. Matrix spike samples [X] ___ ___

d. 5 pt. initial calibration standards [X] ___ ___

e. calibration verification standards [X] ___ ___

f. Laboratory Control samples (LCS) [X] ___ ___

ACTION: If no, take action specified in 3.2 above.

9.2 Are data summary forms (containing calibration factors or response factors) for the initial 5

Yes NO N/A

pt. calibration and daily calibration verification standards present and complete for each column and each analytical sequence? X ___ ___

Note: Calibration Aroclor mixtures other than 1016/1260 may be used (as per approved project QA plan)

NOTE: If internal standard calibration procedure is used (Method 8000B-15(section 7.4.2.2)), then response factors must be used for %RSD calculations and compound quantitation. If, external standard calibration procedures are used (Method 8000B-16 (section 7.4.2.1)), then calibration factors must be used. The internal standard approach is highly recommended for PCB congener analysis.

ACTION: If any data are missing or it cannot be determined how the laboratory calculated calibration factors or response factors, contact the lab for explanation/resubmittals. Make necessary corrections and note any problems in the data assessment.

9.3 Are there any transcription/calculation errors between raw data and data summary forms? ___ X ___

ACTION: If large errors exist, call lab for explanation/resubmittal, make necessary corrections and document the effect in data assessments.

9.4 Are standard retention time (RT) windows for each PCB peak of interest presented on modified CLP summary forms? X ___ ___

ACTION: If any data are missing, or it cannot be determined how RT windows were calculated, call the lab for explanation/resubmittals. Note any problems in the data assessment.

NOTE: Retention time windows for all PCBs are established using retention times from three calibration standards analyzed during the entire analytical sequence (Method 8000B, section 7.6). Best results are obtained

Yes NO N/A

using retention times which span the entire sequence; i.e., using the calibration verification/continuing calibration standards analyzed every 12 hours.

9.5 Were RT windows on the confirmation column established using three standards as described above? X ___ ___

NOTE: RT windows for the confirmation column should be established using a 3 pt. calibration, preferably spanning the entire analytical sequence as described in 9.4 above. If RT windows on one column are tighter than the other, this may result in false negatives when attempting to identify compounds in the samples.

ACTION: Note potential problems, if any, in the data assessment.

9.6 Do all standard retention times in each level of the initial 5 pt. calibrations for PCBs fall within the windows established during the initial calibration sequence? X ___ ___

ACTION i: If no, all samples in the entire analytical sequence are potentially affected. Check to see if three standard spanning the entire sequence were used to obtained RT windows. If the lab used three standards from the 5 pt., RT windows may be too tight. If so, RT windows should be recalculated as per Method 8081B-15 (section 7.4.6).

ii. Alternatively, check to see if the chromatograms contain peaks within an expanded window surrounding the expected retention times.

If no peaks are found and the surrogates are visible, non-detects are valid. If peaks are present but cannot be discerned through pattern recognition or by using revised RT windows, qualify all positive results and non-detects as unusable, "R".

9.7 Has the linearity criteria for the initial calibration standards been satisfied for both

Yes NO N/A

columns? (% RSD for the calibration factors (CFs) for the three to five major peaks of each of the Aroclor compounds must be < 20.0%). [X] ___ ___

ACTION: If no, follow Table 8 criteria.

Table 8. Initial Calibration CF Action for Aroclor Analysis

Criteria	Action	
	Detected Associated Compounds	Non-Detected Associated Compounds
% RSD > 20% ✓	J	UJ
% RSD within allowable limits	No qualifications	✓

9.8 Does the calibration verification/continuing calibration standard contain the PCB peaks of interest, analyzed on each working day, prior to sample analyses (Method 8082, sections 7.6.2)? [✓] ___ ___

9.9 Has a calibration verification/continuing calibration standard been analyzed after every 10 samples and at the end of each analytical sequence (Method 8082A, section 7.6.2). [X] ___ ___

ACTION: If no, take action as specified in section 3.2 above.

9.10 Has the percent difference (%D) between the Calibration Factor (CF) of each of the three to five peaks used to identify the Aroclor in the CCV and the CF from these peaks in the initial calibration exceeded ± 15%. X Clomuns Amts — [X] [ ] ___ One column OR another for Aroclor 1016 only — None in Samples

9.11 Has a new 5 pt. initial calibration curve been generated for those PCB analytes which failed in the calibration verification/continuing calibration standard (8000B, section 7.7.3), and all samples which followed the out-of-control Used Ar 1260 ok ___

Yes NO N/A

calibration verification/standard continuing calibration Standard? in narrative [ ] X ___

ACTION: If the %D for any analyte exceeded the ± 15% criterion and the instrument was not recalibrated for those analytes, qualify positive results for all associated samples (those which followed the out-of-control standard) "J" and sample quantitation limits "UJ". (see Table 9) ✓

9.12 Have retention time (RT) windows been properly calculated for each analyte of interest (Method 8000B, section 7.6), using RTs from the associated calibration verification/continuing standard? [X] ___ ___

ACTION: If no, take action specified in section 3.2 above

9.13 Do all standard retention times for each calibration verification/continuing calibration standard fall within the windows established during the initial calibration sequence? [X] ___ ___

9.14 Do all standard retention times for each mid-concentration standard (analyzed after every 10 samples) fall within the <u>daily</u> RT windows. [X] ___ ___

ACTION: For any multi-response analytes, retention time windows should be used but analyst and reviewer should rely primarily on pattern recognition or use paragraph B below. If the answer to either 9.13 or 9.14 above is no, check the chromatograms of all samples which followed the last in-control standard. If samples were not re-analyzed, all samples analyzed after the last in-control standard must be evaluated using professional judgement.

(A) For non-detected target compounds, check to see if the sample chromatograms contain any peaks that are close to the expected RT window of the Arcolor of interest. If no peaks are present, no qualification of data is necessary. If peaks are present close th RT window of the Aroclor of interest, qualify the non-detected values as presumptively present "N".

Yes NO N/A

(B) For detected compounds in the affected samples, if peaks within the RT window, no qualification necessary. If peaks are close to the expected RT window of the Aroclor of interest, the reviewer can examine the data package for the presence of three or more standards the Aroclor of interest that were run within the analytical sequence during which the sample was analyzed. If three or more such standards are present, the RT window can be reevaluated using the Mean Retention Times of the standards. If the peaks in the affectd sample fall within the revised window, qualify the detected target compounds "NJ". If the reviewer cannot do anything with the data to resolve the problem of concern, qualify all non-detects as unusable "R". (Table 9)

9.15 Has no more than 12 hours elapsed from the injection of the opening CCV and the end of the analytical sequence sequence (closing CCV). (Table 9) [ ] [X] ___

Table 9. CCV Criteria

Criteria	Action	
	Detected Associated Compounds	**Non-Detected Associated Compounds**
RT out of RT window	Use professional judgement (Sec 9.14)	
%D not within +/- 15%	J	UJ
Time elapsed greater than section 9.15 criteria.	R	
%D, time elapsed, RT are all within acceptable limits.	No qualifications	

9.16 Are there any transcription/calculation errors between raw data and data summary forms? ___ [X] ___

ACTION: If large errors exists, call lab for explanation/resubmittal, make any necessary corrections and document the effect in data assessments under "Conclusions".

10.0 Analytical Sequence Check (Form VIII-PEST/Equivalent)

10.1 Have all samples been listed on CLP Form VIII or equivalent, and are separate forms present for each column? [X] ___ ___

Yes NO N/A

ACTION: If no, take action specified in 3.2 above.

10.2 Was the proper analytical sequence followed for each initial calibration and subsequent analyses? [X] ___ ___

ACTION: If no, use professional judgement to determine the severity of the effect on the data and qualify it accordingly. Generally, the effect is negligible unless the sequence was grossly altered or the calibration was also out of limits.

10.3 Were the TCMX/DCB surrogate RTs for the samples within the mean surrogate RT from the initial calibration? [X] ___ ___

Action: If no, see "Action" in section 9.14 above

11.0 Extraction Techniques for Sample Preparation

Method 8082A permits a variety of extraction techniques to be used for sample preparation. Check which extraction procedure was used?

1. Aqueous samples:

    1. Separatory funnel (Method 3510) [X] ___ ___
    2. Continuous liquid-liquid extraction (Method 3520) [ ] ___ ___
    3. Solid phase extraction (Method 3535) [ ] ___ ___
    4. Other [ ] ___ ___

2. Solid samples:

    1. Soxhlet (Method 3540) [ ] ___ ___
    2. Automated Soxhlet (Method 3541) [X] ___ ___
    3. Pressurized fluid (Method 3545) [ ] ___ ___
    4. Microwave extraction (Method 3546) [ ] ___ ___
    5. Ultrasonic extraction (Method 3550) [ ] ___ ___

Yes NO N/A

6. Supercritical fluid (Method 3562) [ ] ___ ___

7. Other [ ] ___ ___

11.1 Extract Cleanup - Efficiency Verification (Form IX/Equivalent)

11.1.1 Method 8082 (section 7.2) references method 3660 (sulfur) and 3665A (sulfuric acid) to use for cleaning extracts. Were one or both method used? 3665 Acid Cleanup [X] [X] ___

KBM 9/3/08

ACTION: If no, take action specified in 3.2 above. If data suggests cleanup was not performed, make note in the data assessment.

NOTE: Method 3620A, Florisil, may be used per approved project QA plan. The method does not list which analytes and surrogate(s) to use to verify column efficiency. The reviewer must check project plan to verify method used as well as the correct PCB list. If not stated or available, use the CLP listing or accept what the laboratory used.

11.2 Are all samples listed on modified CLP PCBs Florisil/Cartridge Check Form? [ ] ___ [X]

ACTION: If no, take action specified in 3.2 above.

11.3 Was GPC Cleanup (method 3640A) performed? [ ] [X] ___

NOTE: GPC cleanup is not required and is optional. The reviewer should check Project Plan to verify requirement.

11.4 Were the same PCB analytes used in calibration used to check the efficiency of the cleanup procedures? BS- only [X] [X] ___

KBM 9/3/08

11.5 Are percent recoveries (% R) of the PCBs and surrogate compounds used to check the efficiency of the cleanup procedures within lab's in-house QC limits (use 70-130% if not available). [X] [X] ___

in BS

KBM 9/3/08

Yes NO N/A

70-130% for GPC calibration? [ ] ___ X

Qualify only the analyte(s) which fail the recovery criteria as follows:

ACTION: If % R are < 70%, qualify positive results "J" and quantitation limits "UJ". Non-detects should be qualified "R" if zero %R was obtained for PCBs. Use professional judgement to qualify positive results if recoveries are greater than the upper limit.

12.0 PCB Identification

12.1 Has CLP Form X or equivalent, showing retention time data for positive results on the two GC columns, been completed for every sample in which a PCB was detected? X ___ ___

ACTION: If no, take action specified in 3.2 above, or compile a list comparing the retention times for all sample hits on the two columns.

12.2 Are there any transcription/calculation errors between raw data and data summary forms (initial calibration summaries, calibration verification summaries, analytical sequence summaries, GPC and cleanup verification forms)? X [ ] ___

ACTION: If large errors exist, call lab for explanation/resubmittal, make necessary corrections and note error in the data assessment. Sample 5A Inconsistent peak identifications for quantitation — Request Revision/ resubmit sample 09/30/08

12.3 Are retention times (RT) of sample compounds within the established RT windows for both columns/analyses? X ___ ___

ACTION: Qualify as unusable (R) all positive results which were not confirmed by second GC column analysis. Also qualify "R", unusable, all positive results not within RT windows unless associated standard compounds are similarly biased. The reviewer should use professional judgement to assign an appropriate quantitation limit.

Yes NO N/A

12.4 Check chromatograms for false negatives, especially if RT windows on each column were established differently.
Were there any false negatives? ___ [X] ___

ACTION: Use professional judgement to decide if the compound should be reported. If there is reason to believe that peaks outside retention RT windows should be reported, make corrections to data summary forms (Form I) and note in data assessment.

12.5 Was GC/MS confirmation provided when sample concentration was sufficient (> 10 ug/ml) in the final extract? [ ] X ___

ACTION: Indicate with red pencil which Form I results were confirmed by GC/MS and also note in data assessment. GC/MS confirmation is an option, see section 7.10 of Method 8082A-20. If GC/MS confirmation is not available, follow action in section 3.2.

12.6 Is the percent difference (%D) calculated for the positive sample results on the two GC columns <25.0%? [ ] X ___

NOTE: The method requires quantitation from one column. The second column is to confirm the presence of an analyte. It is the reviewer's responsibility to verify from the project plan what the lab was required to report. If the lab was required to report concentrations from both columns, continue with validation for % Difference. If required, but not reported, either contact the lab for results or calculate the concentrations from the calibration. If not required, skip this section. Document actions in Data Assessment.

5A @ 43.50%
Due to mis-ID of peaks
Request Recalculation
5ADL OK
TP-2-2670 Use Dilution!

ACTION: If the reviewer finds neither column shows interference for the positive hits, the data should be qualified as follows:

% Difference	Qualifier

Yes NO N/A

0-25%	none
26-70%	"J"
71-100%	"NJ"
101-200% (No Interference)	"R"
101-200% (Interference detected)	"NJ"
>50% (PCBs value is <CRQL)	"U"
>200%	"R"

HIGHER Reported

Note: The lower of the two values is reported on Form I. If using professional judgement, the reviewer determines that he higher result was more acceptable, the reviewer should replace the value and indicate the reason for the change in the data assessment.

13.0 Compound Quantitation and Reported Detection Limits

13.1 Are there any transcription/calculation errors in Form I results? Check at least two positive values. Were any errors found? V ☐ ___

NOTE: Single-peak PCBs results can be checked for rough agreement between quantitative results obtained on the two GC columns. The reviewer should use professional judgement to decide whether a much larger concentration obtained on one column versus the other indicates the presence of an interfering compound. If an interference is suspected, the lower of the two values should be reported and qualified according to section 12.6 above. This necessitates a determination of an estimated concentration on the confirmation column. The narrative should indicate that the presence of interferences has led to the quantitation of the second column confirmation results.

noted above MS-ID Peaks request Recal

13.2 Are the EDLs (Estimated Detection Limits) adjusted to reflect sample dilutions and, for soils, % moisture? ☒ ___ ___

ACTION: If errors are large, call lab for explanation/resubmittal, make any necessary corrections and document effect in data assessments.

Yes NO N/A

ACTION: When a sample is analyzed at more than one dilution, the lowest EDLs are used (unless a QC exceedance dictates the use of the higher EDL data from the diluted sample analysis). Replace concentrations that exceed the calibration range in the original analysis by crossing out the value on the original Form I and substituting it with data from the analysis of diluted sample. Specify which Form I is to be used, then draw a red "X" across the entire page of all Form I's that should not be used, including any in the summary package.

ACTION: EDLs affected by large, off-scale peaks should be qualified as unusable, "R". If the interference is on-scale, the reviewer can provide a modified EDL flagged "UJ" for each affected compound.

14.0 Chromatogram Quality

14.1 Were baselines stable? [X] ___ ___

14.2 Were any electropositive displacement (negative peaks) or unusual peaks seen? ___ [ ] ___

ACTION: Note all system performance problems in the data assessment.

15.0 Field Duplicates

15.1 Were any field duplicates submitted for PCB analysis? [X] ___ ___

ACTION: Compare the reported results for field duplicates and calculate the relative percent difference.

ACTION: Any gross variation between field duplicate results must be addressed in the reviewer narrative. However, if large differences exist, the identity of the field duplicates is questionable. An attempt should be made

Yes NO N/A

to determine the proper identification of field duplicates.

Sample 5A ⟶ field duplicate ID - FD05

RPD = 35%

Use Region I limits 30% RPD Waters
50% RPD Soils

9/3/08

APPENDIX H

LABORATORY ANALYTICAL REPORTS

LOCATED ON THE ATTACHED CD

APPENDIX I

WASTE MANIFESTS

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	NYSCESQG	1	516-924-7873	000186520 JJK

GENERATOR

5. Generator's Name and Mailing Address
SUFFOLK COUNTY HEALTH SERVICES
15 HORSEBLOCK PLACE, FARMINGVILLE NY 11738

Generator's Site Address (if different than mailing address)
CANINE KENNEL @ GABRESKI AIRPORT
MOEN STREET, W. HAMPTON NY

Generator's Phone: 631-854-2501

6. Transporter 1 Company Name
AMERICAN ENVIRONMENTAL ASSESSMENT CORP

U.S. EPA ID Number
NYR000044412

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
CHEMICAL POLLUTION CONTROL
120 S. FOURTH STREET, BAYSHORE NY 11706

U.S. EPA ID Number
NYD 082 785 429

Facility's Phone: 631-586-0333

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ POLYCHLORINATED BIPHENYL, SOLID, (CAPACITORS) 9, UN 3432, PG III	XX2	DM	770	kg	B007 L		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
2265
APPROVAL # SD 17355 (1) UNIQUE CONT # 00001-00002 (OSD 5/1/08)

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: X Bobby Beasley (Agent For) | Signature: (Agent For) | Month 05 | Day 01 | Year 08

INT'L

16. International shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: X Bobby Beasley | Signature | Month 05 | Day 01 | Year 08

Transporter 2 Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month | Day | Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name | Signature | Month 05 | Day 01 | Year 08

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

PSC

Environmental Services Division

May 23, 2008

Mr. Daniel Rivers
Amercian Environmental Assessment Corp.
188 Long Island Avenue
Wyandanch, NY 11798
631-586-2000
631-586-9605 (FAX)

RE: Generator: Suffolk County Department of Health Services
15 Horseblock Road
Farmingville, NY

Pick up location: Canine Kennels
Gabreski Airport
Westhampton, New York

Manifest No.: 000186520 JJK

Dear Mr. Rivers,

Please note that Chemical Pollution Control received two 55 gallon drums of PCB Capacitors from the above referenced generator. The waste was received on May 1, 2008.

Upon receipt at our facility the shipment was weighed. The weights are as follows:

Unique Cont #	Description	Out of Service Date	Weight (Kg)	Weight (P)
00001	PCB Capacitors	5/1/08	140	308
00002	PCB Capacitors	5/1/08	139	305

If you require any additional information of if I could be of assistance in any manner please do not hesitate to contact me at anytime.

Best regards,

Gary Scoppio
Location Manager

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of 1	3. Emergency Response Phone (631) 586-2000	4. Waste Tracking Number 600660

5. Generator's Name and Mailing Address
SUFFOLK COUNTY HEALTH SERVICES
15 HORSEBLOCK PLACE, FARMINGVILLE NY 11738
Generator's Phone: 631-854-2501

Generator's Site Address (if different than mailing address)
CANINE KENNEL @ GABRESKI AIRPORT
W. HAMPTON NY

6. Transporter 1 Company Name
AMERICAN ENVIRONMENTAL ASSESSMENT CORP.
U.S. EPA ID Number NYR000044412

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
CHEMICAL POLLUTION CONTROL
120 S. FOURTH STREET, BAYSHORE NY 11706
Facility's Phone: 631-586-0333
U.S. EPA ID Number NYD 082 785 429

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	NON RCRA NON DOT REGULATED LIQUID (DECON WATER)	XX2	DM	XX55	G	
2.	NON RCRA NON DOT Regulated Solid (POLY)	XX1	PM	XX20	LBS	
3.						
4.						

13. Special Handling Instructions and Additional Information

APPROVAL # SD 17353

14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name: X Bobby Beasley (Agent for) | Signature: BBeasley (Agent For) | Month 05 | Day 01 | Year 08

INT'L

15. International Shipments ☑ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: X Bobby Beasley | Signature: BBeasley | Month 05 | Day 01 | Year 08

Transporter 2 Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Andrew Maltese | Signature: Andrew Maltese | Month 5 | Day | Year

PCB MANIFEST CONTINUATION FORM

Generator Name: Suffolk County Health Services Manifest Doc. No.: 000186520 JSK

Generator Address: 15 Horseblock Place, Farmingville, NY 11738

Generator USEPA ID No.:

1. LINE ITEM #	2. UNIQUE DRUM NO. OR SERIAL/ID NO.	3. PCB WASTE IDENTITY/ DESCRIPTION	4. OUT OF SERVICE DATE	5. WT. IN Kg OF THE PCB WASTE
9(1)	00001	PCB capacitors	5/1/08	385 → 140 (JS)
9(1)	00002	PCB capacitors	5/1/08	385 → 139 sbf

I hereby certify that all information submitted on this and all associated documents is complete and accurate to the best of my knowledge and information.

Generator Signature: _____ Title: AGENT

Printed Name: DANIEL J RIVERS Date: 5-6-08

APPENDIX J

PROJECT PHOTOGRAPHS

PHOTO 1

View of mounded area at the Canine Kennel.

PHOTO 2

Boat yard adjacent to Canine Kennel (western border).

PHOTO 3

View of capacitor at land surface.

PHOTO 4

GPR used to determine the depth of the fill material.

PHOTO 5

Backhoe used to place capacitors in drums for disposal.

PHOTO 6

Test pits (TP-1 through TP-4) identified metal debris throughout the disturbed area.

PHOTO 7

During the test pit phase, capacitors were found below grade in TP-4.

PHOTO 8

Geoprobe™ used to install six monitoring wells at the site.

PHOTO 9

Monitoring wells developed after installation.

APPENDIX K

FISH AND WILDLIFE RESOURCES IMPACT ANALYSIS REPORT

Fish and Wildlife Resource Impact Assessment
Suffolk County Former Canine Kennel
Gabreski Airport, Westhampton Beach NY

PREPARED FOR: **PW Grosser Consulting, Inc.**
630 Johnson Avenue, Suite 7
Bohemia, NY 1176

PREPARED BY: **Land Use Ecological Services, Inc.**
William P. Bowman, Ph.D.
PO Box 1060
Riverhead, NY 11901
(631) 727-2400
wbowman@landuse.us

DATE: **June 10, 2008**
LAST REVISED: **October 24, 2008**

1. Description of Ecological Resources at the Suffolk County Former Canine Kennel Site:
The ecological communities of the site and within 0.5 miles of the site have been characterized based on field inspections by William P. Bowman PhD on May 7 and June 4, 2008 and according to the classifications described in *The Ecological Communities of New York State* (Edinger et al., 2002). The site largely consists of a mid-successional pitch pine-oak forest. The forest canopy is comprised mostly of pitch pine (*Pinus rigida*) with scattered oaks, principally white oak (*Quercus alba*) but with some red oak (*Quercus rubra*) and scarlet oak (*Quercus coccinea*) present. The understory of this forest consists of a continuous layer of heath shrubs, including lowbush blueberry (*Vaccinium pallidum* and *Vaccinium angustifolium*) and black huckleberry (*Gaylussacia baccata*), that is interspersed with scrub oak (*Quercus ilicifolia*) present as individual shrubs or in small clumps. The herbaceous layer in this forest stand is sparse with observed species including Pennsylvania sedge (*Carex pennsylvanica*) and wintergreen (*Gaultheria procumbens*).

To the north of the site, in the area of the dilapidated kennels, there is an open area featuring a mix of herbaceous vegetation and scattered woody shrubs typical of disturbed soils and waste places and native grasslands and heathlands. Typical plant species included downy chess (*Bromus tectorum*), sweet vernal grass (*Anthoxanthum odoratum*), Kentucky blue grass (*Poa pratensis*), sheep fescue (*Festuca ovina*), dwarf cinquefoil (*Potentilla canadensis*), wild strawberry (*Fragaria virginiana*), small-flowered cranesbill (*Geranium pusillum*), yarrow (*Achillea millefolium*), bearberry (*Arctostaphylos uva-ursi*), beach heather (*Hudsonia tomentosa*), reindeer lichen (*Cladonia sp*), bayberry (*Morella pennsylvanica*), and eastern red cedar (*Juniperus virginiana*).

Several species of songbirds were observed on the site and on adjacent properties during the field investigations with eastern towhee (*Pipio erythrophthalmus*), blue jay (*Cyanocitta cristata*), and pine warbler (*Denroica pinus*) as the most commonly observed species. Mammals expected to utilize the site and adjacent properties may include white-tailed deer (*Odocoileus virginianus*), red fox (*Vulpes fulva*), white-footed mouse (*Peromyscus leucopus*), house mouse (*Mus musculus*), meadow vole (*Microtus pennsylvanicus*), pine vole (*Pitmys pinetorum*), eastern chipmunk (*Tamias striatus*), southern flying squirrel (*Glaucomys volans*), eastern cottontail (*Sylvilagus floridanus*), woodchuck (*Marmota monax*), raccoon (*Procryon lotor*), opossum (*Didelphis marsupialis*), striped skunk (*Mephitis mephitis*), and long-tailed weasel (*Mustela frenata*). A complete list of the plant and bird species observed on May 7 and June 4, 2008 is presented in Attachment A.

The pitch pine-oak forest present on the subject property features a typical diversity and density of native vegetation and does not show any obvious visual indications of contamination such as stunted vegetation, abnormal plant growth, or diseased plant tissues. Due to the diversity and quality of the pitch pine-oak forest present, it is expected that the site will provide foraging, cover, and breeding habitat for a typical diversity and density of wildlife including invertebrates (particularly lepidopterons), birds, and mammals. There were no obvious visual indications of adverse impacts of contamination on wildlife (*i.e*. extensive or recent wildlife mortality). The skeletal remains of a white-tailed deer were observed to the north of the site in the cleared area surrounding the dilapidated kennel. Due to the abundance of white-tailed deer, it is assumed that these remains were the result of natural mortality.

2. Description of Terrestrial Ecological Resources with 0.5 miles of the Suffolk County Former Canine Kennel Site:

As will be discussed in following section, the terrestrial ecological communities present on adjacent properties and within 0.5 miles of the site provide very high quality habitat for a wide variety of plants, invertebrates (particularly lepidopterons), and wildlife with many habitats classified by the New York Natural Heritage Program to be of statewide significance. As shown on Figure 1, the nearby areas of Gabreski Airport feature large areas of pitch pine-oak forest and pitch pine-oak-heath woodlands, as well as, areas of grasslands and heathlands surrounding the airport's runways. The pitch pine-oak forests and pitch pine-oak-heath woodlands extend to the east into the Quogue Wildlife Refuge. In addition, the northern end of the Quogue Wildlife Refuge contains a small area of dwarf pine plains, a woodland ecological community that is considered to be critically imperiled globally and is only known to occur in the New York State in the area of Westhampton and Quogue.

a. Pitch Pine-Oak Forests and Pitch Pine-Oak-Heath Woodlands

i. Ecological Communities

Pitch pine-oak forests are a variable forest type featuring a mix of pitch pine and various oaks (scarlet oak, white oak, red oak, and black oak) found on well-drained sandy soils of glacial outwash plains or moraines. The relative proportion of pine to oak in these forests may vary substantially between nearly pure stands of pitch pine with widely spaced co-dominant oak tree to nearly pure stands of oaks with widely spaced, often emergent, pine trees. At the site, pitch pine is dominant with scattered white oak and lesser numbers of red oak and scarlet oak. Oaks become more dominant in the portions of the forest located in the southeastern corner of the Quogue Wildlife Refuge. This occurrence of pitch pine-oak forest is considered to be of statewide significance by the New York Natural Heritage Program (NYNHP, correspondence dated May 19, 2008). Characteristic birds include eastern towhee (*Piplio erthrophthalmus*), pine warbler (*Dendroica pinus*), prairie warbler (*Dendroica discolor*), blue jay (*Cyanocitta cristata*), and whip-poor-will (*Caprimulgus vociferus*). The New York Rare Bird Alert (http://www.virtualbirder.com/vbirder/realbirds/rbas/NY.html) frequently reports occurrences of whip-poor-will (*Caprimulgus vociferus*) and chuck-will's-widow (*Caprimulgus carolinensis*) in the pine-oak forests and woodlands of the Gabreski airport and Quogue Wildlife Refuge. Due to the abundance of *Quercus ilicifolia* and *Vaccinium* sp. in the understory, this forest has the potential to provide habitat for a wide range of lepidopterans, as will be described in the following sections.

The pitch pine-oak forest gradually transitions to a pitch pine-oak-heath woodland to the north and west of the site. In general, this transition is associated with a reduction in height of dominant canopy trees, a reduction in canopy cover to between 30 and 60%, and increased abundance of dense thickets of *Quercus ilicifolia*. There is no distinct transition between these two related ecological communities as the interface consists of an intergrading mosaic of intermediate patches. In addition, patches of pine-oak-heath woodland appear to occur within the pine-oak forest on both the Gabreski and Quogue Wildlife Refuge properties.

The pitch pine-oak-heath woodland community gradually transitions into pitch pine-scrub oak barrens and dwarf pitch pine plains at the north end of the Quogue Wildlife Refuge. Pine-oak barrens are characterized by 60-80% coverage by scrub oak thickets and are interspersed with patches of native prairie grasses. Dwarf pitch pine plains are characterized by a dense thicket of dwarf pitch pine trees and scrub oak that typically does not exceed 4 to 8 ft in height. These communities are present in the northern portion of the Quogue Wildlife Refuge, but are located greater than 0.5 miles from the site. Dwarf pitch pine plains are considered to be of statewide significance and are critically imperiled globally (Edinger et al. 2002; NYNHP, correspondence dated May 18, 2008).

ii. Significant Wildlife Occurrences Indicated by New York Natural Heritage Program

Coastal Barrens Buckmoth (*Hemileuca maia*)- The nearby dwarf pine plains provide habitat for the largest population of this New York State-Special Concern species in New York State (NYNHP correspondence dated May 19, 2008). Various oak, especially scrub oak (*Quercus ilicifolia*), are host plants for the caterpillars for this species and adult moths lay clusters of eggs which encircle oak twigs. Scrub oak is a dominant plant species in the understory of the pitch pine-oak forest stand located in the eastern and southern portions of the site. Accordingly, this stand provides suitable habitat for this species. In addition, clusters of buckmoth egg cases where found on *Q. ilicifolia* twigs located within 200' of the site at the western edge of the Quogue Wildlife Refuge.

Pine Barrens Underwing (*Catocala herodias gerhardi*)- This New York State-Special Concern species is known to occur in the dwarf pine barrens located in the adjacent Quogue Wildlife Refuge (NYNHP correspondence dated May 19, 2008). This species is found in pitch pine–scrub oak barrens and scrub oak thickets. Although this species typically prefers more open habitats than the pitch pine-oak forest present at the site, the presence of *Q. ilicifolia* in the understory of the site and the proximity of preferred open habitats indicates that the site does provide suitable habitat for this species.

Jersey Jair Underwing (*Catocala jair*)- This New York State-Special Concern species is known to occur in the dwarf pine barrens located in the adjacent Quogue Wildlife Refuge (NYNHP correspondence dated May 19, 2008). This species is found in open xeric pitch pine barrens. *Q. ilicifolia* is the host plants for caterpillars of this species. Although the Jersey jair underwing typically prefers more open habitats than the pitch pine-oak forest present at the site, the presence of *Q. ilicifolia* in the understory of the site and the proximity of preferred open habitats indicates that the site does provide suitable habitat for this species.

Noctuid Moth (*Chaetagleae cerata*)- This species is also known to occur in the dwarf pine barrens located in the adjacent Quogue Wildlife Refuge (NYNHP correspondence dated May 19, 2008). This species typically inhabits pitch pine–scrub oak barrens and heathlands on sandplains or rocky ridges. Laboratory studies indicate that caterpillars will feed upon cherry (*Prunus spp*.), *Q. ilicifolia*, and blueberry (*Vaccinium spp.*) foliage. Although this species prefers more open habitats than the pitch pine-oak forest present at the site, the prevalence of *Q. ilicifolia* and

Vaccinium angustifolium in the understory of the site and the proximity of preferred open habitats indicates that the site does provide suitable habitat for this species.

Dusted Skipper (*Atrytonopsis hianna*)- This species is also known to occur in the dwarf pine barrens located in the adjacent Quogue Wildlife Refuge (NYNHP correspondence dated May 19, 2008). This species inhabits a wide range of open habitats including grasslands, prairies, barrens, and old fields. The host plants for the caterpillars are the native upland grasses, little bluestem (*Andropogon scoparius*) and big bluestem (*A. gerardi*). The adult butterflies feed on nectar from flowers including Japanese honeysuckle, wild strawberry, blackberry, wild hyacinth, phlox, vervain, and red clover. The absence of an abundance of host plants for this species indicates that the site is unlikely to provide suitable habitat.

Packard's Lichen Moth (*Cisthene packardii*)- This species is also known to occur in the dwarf pine barrens located in the adjacent Quogue Wildlife Refuge (NYNHP correspondence dated May 19, 2008). This species inhabits areas dominated by pitch pine, scrub oak, bearberry, black huckleberry, lowbush blueberry, false heather, and associated lichens. The caterpillars of this species feed on lichens. The presence of suitable vegetation indicates that the site provides habitat for this species.

b. Grasslands and Heathlands

i. Ecological Communities

The mowed grasslands surrounding the runways of Gabreski airport provide habitat for a wide variety of wildlife species that are dependent on early successional habitats. These grasslands feature a mix of native prairie grasses and grasses typical of old field or disturbed areas. Many of the open areas located at the margins of the woodlands and the maintained grasslands, within clearings between dirt roads in the Gabreski property, and along edges of trails feature native prairie grasses and herbaceous vegetation typical of maritime heathlands (Edinger et al., 2002), including bearberry (*Arctostaphylos uva-ursi*), beach heather (*Hudsonia tomentosa*), and reindeer lichen (*Cladonia sp*).

ii. Significant Wildlife Occurrences Indicated by New York Natural Heritage Program

The New York Natural Heritage Program has documented the use of these grasslands by upland sandpiper (*Bartramia longicauda*) and northern harrier (*Circus cyaneus*). In addition, the New York Rare Bird Alert (http://www.virtualbirder.com/vbirder/realbirds/rbas/NY.html) as also had reports of vesper sparrows (*Pooectes gramineus*) in these fields. Both of these species are considered to be threatened in New York State. The upland sandpiper prefers large areas of short grass for feeding on insects and courtship with interspersed or adjacent taller grasses for nesting and brood cover. On Long Island and throughout the northeastern United States, airfields provide the majority of suitable habitat for these birds, although grazed pastures and grassy fields also are used (Carter, 1992). Northern Harriers hunt for small mammals in a wide range of open habitats including grasslands, shrubland, and marshes (Andrle and Carroll, 1988; McGowan and Corwin, 2008). They nest on the ground in areas of dense vegetation. There are no areas of grasslands open areas located on the site, although a disturbed grassland and heathland habitat exists just to the north. Accordingly, due to the dependence of upland sandpiper and northern harrier on

grassland habitats for foraging for insects and rodents, respectively, it is unlikely that these protected species will be foraging at the site and be exposed to contaminants.

3. **Discussion of Terrestrial Ecological Pathways for Contaminants of Concern:**

Four known contaminants of potential concern have been documented at the Suffolk County Former Canine Kennel Site: dieldrin, 4,4'-DDE, Aroclor-1254, and Aroclor-1260 (PWGC, 2007). Dieldrin, DDE, and the Aroclors are potential bioaccumulators in both terrestrial and aquatic systems (USEPA, 2007a; USEPA, 2005).

Soil sampling pursuant to the approved Remedial Investigation Work Plan (PWGC, 2007) indicated that Arochlor-1254 concentrations slightly exceeded NYSDEC allowable soil concentration criteria. The allowable soil concentration for PCBs is 1.0 ppm for Restricted Use Soil Clean-up Objectives, specified in NYCRR Part 375 Environmental Remediation Programs (NYSDEC 2006). Elevated Arochlor-1254 concentrations were observed throughout the site (PWGC, 2008). The maximum observed contaminant concentration was 150,000 ppm (PWGC, 2008). The mean contaminant concentration throughout the site was 74.6 ppm ± 454.5 (SD) based on the sampling analysis under the Remedial Investigation (PWGC, 2008). Elevated Arochlor-1254 concentrations were observed throughout the site, but the highest concentrations were observed in the surface soil samples collected adjacent to the capacitors. No detectable soil concentrations of dieldrin, 4,4'-DDE, or Aroclor-1260 were observed (PWGC, 2008).

Aroclor-1254 is more water-soluble than other PCB's and, therefore, sorbs more readily to organic substrates and are persistent in soils (USEPA, 2005). Potential pathways for entrance of Arochlor-1254 into terrestrial ecological food chains include foraging by songbirds and small mammals on seeds and soil invertebrates (*i.e.* earthworms and insect larvae) in contaminated soils, browsing of white-tailed deer on herbaceous vegetation and understory shrubs in contaminated soils, and herbivory of foliage by invertebrates (including lepidopteran larvae) and subsequent predation by songbirds.

Conflicting studies exist on the potential for PCB uptake by plants and subsequent translocation to aboveground stems and leaves. Some studies have observed the uptake and translocation of PCBs in various crops including zucchini (White, 2001; Zeeb et al., 2006), pumpkin (Whitfield-Aslund et al., 2007), and some grasses (*Carex normalis* and *Festuca arundinacea*) (Zeeb et al., 2006; Whitfield-Aslund et al., 2007). However, other studies have indicated that, due to the tendency of PCBs to sorb strongly to soils, root uptake is not likely and, accordingly, plant roots are not generally sampled in studies (O'Connor, 1996; Puri et al., 1997). In addition, when plant uptake does occur PCBs are not translocated in large quantities to aboveground stems and leaves. For example, Whitfield-Aslund et al. (2007) found that PCB concentration in plant tissues decreased with increasing distance from the plant root. In a study of the ecological effects of PCB-contaminated soils on terrestrial food webs in Michigan, researchers found that plants did not bioaccumulate PCBs and that the exposure of herbivores due to ingestion of plants was minimal (Blankenship et al. 2005). Therefore, due to the tendency of PCBs to not accumulate in foliage, twigs, and woody stems, it is not anticipated that Arochlor-1254 contamination poses a significant risk to foliage herbivores such as white-tailed deer or lepidopteran larvae.

The more significant potential pathway for site contaminants into the terrestrial food chain is the predation of invertebrates, i.e. earthworms, and insect larvae, i.e. the larval grubs of june bugs (*Phyllophaga sp.*) and other beetles, by songbirds and small mammals and subsequent predation by higher-level predators such as great horned owl (*Bubo virginianus*) and red-tailed hawk (*Buteo jamaicensis*). Small mammals are most likely to exhibit elevated contaminant concentrations in tissues or experience adverse impacts on organism health or reproductive activity. However, due to the small and localized size of the contaminated site (~1 acre) relative to the size of the home ranges and population densities of potentially affected wildlife, the potential effects of contamination are likely to be limited to only a small number of organisms. For example, population densities of white-footed mouse (*Peromyscus leucopus*) and short-tailed shrew (*Blarina brevicauda*) range between are 35-85 individuals per acre and 12-40 individuals per acre, respectively (Nupp and Swihart 1998; Lima et al. 2002). Home ranges of short-tailed shrews range between 0.96-2.38 acres per individual (Buckner, 1966; Faust et al., 1971). Home territories of songbirds are variable in size depending on species and availability of food (Newton, 1998), nest sites (Brawn and Balda, 1988), and mates (Chuang-Dobbs et al., 2001), but are expected to range between 2.2 and 9.9 acres (Lambert and Hannon, 2000; Sillett et al., 2004; Hallworth et al., 2008). Nesting territories of red-tailed hawks and great-horned owls are 790 to 3090 acres and 560 to 2190 acres in size, respectively (Minor et al., 1993; Rohner, 1997). In light of the small size of the contamination, the potential effects on several dozen small mammals are not considered to be a significant due to the commonplace nature of these organisms. Similarly, the numbers of impacted songbirds and raptors are likely to be very small and no significant impacts to bird populations are expected. It should be noted that there are no mammals or birds listed as endangered, threatened, or special concern reported to occur at the site (NYNHP correspondence dated May 19, 2008).

As stated previously, the site contamination is not expected to be a significant adverse risk to white-tailed deer individuals or populations due to the tendency of plants to uptake PCBs and accumulate these contaminants in foliage. However, due to hunting of white-tailed deer and human consumption of deer meat, further discussion of the potential pathway of contaminants from the site to humans is warranted. The home ranges of white-tailed deer are large (106.7 acres, Kilpatrick and Spohr, 2000) relative to the size of the site; therefore, minimizing the potential for any significant bioaccumulation of contaminants. Lastly, hunting is prohibited on the Gabreski Airport and Quogue Wildlife Refuge and, accordingly, the ingestion of trace contaminants by white-tailed deer is not likely to enter a food chain pathway resulting in eventual consumption by humans.

4. Description of Aquatic Ecological Resources with 0.5 miles of the Suffolk County Former Canine Kennel Site:

Freshwater wetlands located at the headwaters of Quantuck Creek are found in Quogue Wildlife Refuge and within 0.5 miles of the site. Due to the excessively drained nature of the Carver-Plymouth sands located in the areas surrounding the site (USDA-SCS, 1975), no surface flow of runoff is expected from the site to these wetlands even during the most severe precipitation events. These freshwater wetlands are regulated by the NYSDEC under Article 24 (Freshwater Wetlands Act) of the Environmental Conservation Law (ECL) and are classified as NYSDEC-regulated freshwater wetland Q-1 (Quogue Quadrangle). These wetlands drain into Quantuck Creek which is a NYDEC-regulated tidal wetland pursuant to Article 25 (Tidal Wetlands Act) of

the ECL. Many of these wetlands are considered to have statewide significance by the New York Natural Heritage Program (NYNHP, correspondence dated May 19, 2008) including a coastal plain Atlantic white cedar swamp, a coastal plain poor fen, and a pine barrens shrub swamp. All of these ecological communities are located in the area of North Ponds, as shown on Figure 1. Both the coastal plain Atlantic white cedar swamp and the coastal plain poor fen are critically imperiled and known to occur in fewer than 5 locations in New York State (Edinger et al. 2002). The coastal plain swamp provides habitat for Atlantic white cedar (*Chamaecyparis thyoides*) which is listed as rare in New York State (NYNHP, correspondence dated May 19, 2008). Pine barrens shrub swamps are considered to be vulnerable in New York State and are known to occur in 20-100 locations. This freshwater wetland system also provides habitat for the New York State-Endangered button sedge (*Carex bullata*) which is known to occur in the freshwater headwaters of Quantuck Creek to the south of Old Ice Pond (NYNHP, correspondence dated May 19, 2008). All of the freshwater wetlands within the Quogue Wildlife Refuge provide exceptionally high quality habitats for a rich diversity of plants, invertebrates, fish, and wildlife resources. Freshwater fish found in the waters of Old Ice Pond and North Pond include chain pickerel (*Esox niger*), brown bullhead (*Ameiurus nebulosus*), largemouth bass (*Micropterus salmoides*), yellow perch (*Perca flavescens*), American eel (*Anguilla rostrata*), and various sunfish (*Lepomis sp.*).

5. **Discussion of Aquatic Ecological Pathways for Contaminants of Concern:**
As stated previously, no surface flow of runoff is expected from the site to these wetlands even during the most severe precipitation events. Accordingly, there is no potential for site contaminants to be transported via surface runoff to the nearby freshwater wetlands. Transport of site contaminants to these wetlands via groundwater is also not likely. Investigations of the contaminant groundwater at six sites on the subject property indicated that there are no detectable levels of Arochlor-1254 or other contaminants in the site's groundwater (PWGC, 2008). Due to the absence of both surface flow from the site to nearby surface waters and groundwater contamination at the site, there is no pathway for exposure of the aquatic ecological resources in Quogue Wildlife Refuge to any contaminants of concern.

6. Human Uses of Lands and Resources within 2.0 miles of the Suffolk County Former Canine Kennel Site:

Figure 1 indicates that adjacent lands are within the Francis S. Gabreski Airport and the 305 acre Quogue Wildlife Refuge located to the east. The airport has no commercial flights and only supports private planes, as well as, the 106th Rescue Wing of the New York Air National Guard. The airport is a restricted area and, accordingly, there is no public use of the ecological communities within the airport boundaries. A boat storage facility is maintained and operated adjacent to the site. The Quogue Wildlife Refuge features a large network of walking and hiking trails and is extensively utilized for environmental education programs for the general public and school groups. The refuge conducts kayaking programs on Old Ice Pond. Only passive recreational and educational activities occur at the Refuge and hunting, fishing, and collection of biological specimens is prohibited. Since hunting and fishing are prohibited at both the Quogue Wildlife Refuge and Gabreski Airport, there are no direct pathways for site contaminants to become consumed by people. The nearest hunting and fishing opportunities are provided by the New York State lands located to the north of Sunrise Highway at the David Sarnoff Preserve,

~2.75 miles to the northwest, and the estuarine waters present at the head of Quantuck Creek, ~0.65 miles to the southeast. The tidal waters of Quantuck Creek and Quantuck Bay are part of the Moriches Bay complex and provide habitat for marine finfish, shellfish, waterfowl, shorebirds, and many other species of breeding, wintering, and migratory wildlife. The bay supports an important winter flounder (*Pleuronectes americanus*) fishery and serves as both nursery and foraging ground for yearling striped bass (*Morone saxatilis*) and bluefish (*Pomatomus saltatrix*), American shad (*Alosa sapidissima*), and summer flounder (*Paralichthys dentatus*). Shellfisheries for blue crab (*Callinectes sapidus*) and northern quahog (*Mercenaria mercenaria*) are also present.

The nearest residential properties are located 0.5 miles form the site to the east and southeast. These residential properties are located on the opposite side of the Quantuck Creek watershed. These properties are served by municipal water through the Suffolk County Water Authority (SCWA). The SCWA's water supply wells are located more than 0.5 miles from the site to the southwest (~0.70 miles) and northeast (~1.5 miles).

7. Conclusions

Site investigation has indicated that soil concentrations of Arochlor-1254 slightly exceed NYSDEC allowable soil concentration criteria. Arochlor-1254 is known to bioaccumulate in both terrestrial and aquatic ecosystems. However, due to the following factors, the contaminants present on the Suffolk County Former Canine Kennel at Gabreski Airport are not expected to have had significant adverse impacts to terrestrial or aquatic ecological resources and, accordingly, no further ecological impact assessment is required under NYSDEC Draft DER-10 Technical Guidance for Site Investigation and Remediation (NYSDEC, 2002).

•The spatial extent of contamination is ~1 acre, which is small relative to the home range of the songbirds, raptors, and white-tailed deer (*Odocoileus virginianus*) expected to utilize the site.
•The organisms expected to be most at risk of potential adverse impacts are small mammals which feed on soil invertebrates, such as white-footed mice (*Peromyscus leucopus*). Any potential adverse impacts are not expected to be significant to the populations of these commonplace species, as impacts would only be expected to affect a small number of individuals.
•Adverse impacts to herbivores, such as white-tailed deer, are not expected due to the tendency of PCBs to sorb strongly to soils and not be taken up be plants and translocated to foliage.
•Adverse impacts to the herbivorous larvae of protected lepidopterans are not expected due to the tendency of PCBs to sorb strongly to soils and not be taken up be plants and translocated to foliage.
•Adverse impacts to the aquatic ecological resources present in Quogue Wildlife Refuge are not expected due to the absence of groundwater contamination at the site and absence of surface water flow due to the well-drained soils present at the site.
•No potential pathways terminating in human consumption of contaminants exist as there is no hunting or fishing authorized on the Gabreski Airport and Quogue Wildlife Refuge properties.

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Attachment A:
Observed Plant and Bird Species During Field Inspections on May 7 and June 4, 2008
Prepared by William P. Bowman PhD (Land Use Ecological Services)

Common Name	Scientific Name
Pitch Pine	Pinus rigida
Scrub Oak	Quercus ilicifolia
White Oak	Quercus alba
Red Oak	Quercus rubra
Scarlet Oak	Quercus coccinea
Eastern Red Cedar	Junipus virginiana
Bayberry	Morella pennsylvanica
Lowbush Blueberry	Vaccinium pallidum
Lowbush Blueberry	Vaccinium angustifolium
Black Huckleberry	Gaylussacia baccata
Sweet Fern	Comptonia peregrine
Bearberry	Arctostaphylos uva-ursi
Heather	Hudsonia tomentosa
Wintergreen	Gaultheria procumbens
Pennsylvania Sedge	Carex pennsylvanica
Little Bluestem	Schizachyrium scoparium
Hair Grass	Deschampsia flexuosa
Switchgrass	Panicum virgatum
Downy Chess	Bromus tectorum
Sweet Vernal Grass	Anthoxanthum odoratum
Kentucky Blue Grass	Poa pratensis
Sheep Fescue	Festuca ovina
Red Fescue	Festuca rubra
Dwarf Cinquefoil	Potentilla canadensis
Rough-fruited Cinquefoil	Potentilla recta
Wild Strawberry	Fragaria virginiana
Ox-Eye Daisy	Chrysanthemum leucanthemum
Small-flowered Cranesbill	Geranium pusillum
Cow Vetch	Vicia cracca
Yellow Wood Sorrel	Oxalis europaea
Yarrow	Achillea millefolium
Hawkweed	Heiracium sp.
Cypress Spurge	Euphorbia cyparrissias
Tartarian Honeysuckle	Lonicera tartarica

Common Name	Scientific Name

Northern Mockingbird	Mimus polyglotta
Eastern Towhee	Pipio erythrophthalmus
Mourning Dove	Zenadia macroura
Blue Jay	Cyanocitta cristata
Common Flicker	Colaptes aura
Black-capped Chickadee	Poecile atricapilla
Yellow-rumped Warbler	Dendroica coronata
Pine Warbler	Dendroica pinus
Prairie Warbler	Dendroica discolor
Song Sparrow	Melospiza melodia
Chipping Sparrow	Spizella passerina