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September 18, 2012

Mr. Carl Hoffman
NYSDEC Central Office
625 Broadway 12th Floor
Albany, NY 12233

Re: PCB Delineation Sampling
Cross County/Kessman Sanitation Landfill
Patterson, NY
NYSDEC Site No. 340011

Dear Mr. Hoffman:

Aztech Technologies, Inc. (Aztech) has prepared a Field Sampling Plan for the Cross County/Kessman Landfill located in Patterson, NY. Analytical results from the April 2012 sampling event identified concentrations of PCBs above NYSDEC Restricted Use Cleanup Objectives for the protection of ecological resources (NYCRR – Chapter IV Quality Services - Subpart 375-6). These exceedances led to the preparation of this detailed delineation sampling plan.

The plan consists of a brief site background, purpose and scope, summary of recent results, standard operating procedures, and cost estimate. Aztech recommends that this plan be implemented during the early fall of 2012. The purpose of the sampling plan is to delineate the limits of offsite mitigation of PCB contamination.

Please review the following plan and cost estimate for the work and lab analysis described. Upon your approval, Aztech would like to mobilize to the site before the end of September to collect the necessary samples and delineate the off-site wetland contamination.

Please feel free to contact me if you have any questions.

Thank you,

Joseph J Sabanos
Project Manager
Aztech Technologies, Inc.

Attachments:
Field Sampling Plan

1.0 Introduction and Site Background

On behalf of the New York State Department of Environmental Conservation (NYSDEC), Aztech Technologies, Inc. (Aztech), has prepared this Field Sampling Plan for the collection and analysis of sediment potentially impacted by Polychlorinated Biphenyls (PCBs) at the Cross County Sanitary-Kessman Landfill (the site). The site is located on Cornwall Hill Road in the Town of Putnam in Patterson County. The Great Swamp of Patterson lies approximately 2000 feet to the north and is the home to over 90 species of birds and other various wetland dwelling wildlife. Historically the site was used as a landfill for industrial wastes from 1963 through 1974. During that time the landfill accepted unknown quantities of hazardous PCB-containing waste.

Historically, offsite contamination derived from the leachate seeps along the northeast slope of the landfill has been found in the adjacent wetlands. In 1983 when a Phase I Site Assessment was conducted, 40-60 partly exposed drums containing unknown liquids were identified. These drums were later confirmed as the source of the offsite PCB contamination.

Following a subsequent removal of 115 contaminated drums in 1993, samples were later collected from the adjacent soil in May, 1994. According to the Record of Decision (ROD), these samples were found to contain concentrations of PCBs at 2,970 parts per million (ppm). When residual contamination was identified, the DEC determined that all remaining drums and impacted soil must be removed from the site. Immediate action was taken due to the potential impact on New York City's drinking water supply reservoir system. In June of 1994, 157 drums and approximately 100 cubic yards of impacted soil were excavated and drummed for offsite disposal.

An additional site investigation took place in the adjacent wetlands following the remedial actions completed in 1994. In 2001, three (3) sediment samples were collected from the adjacent wetland. Samples analyzed for PCBs contained total concentrations of PCBs at 248, 804, and 540 parts per billion (ppb). The prominent Aroclor in each of the samples was Aroclor 1232.

Additional wetland sediment samples were collected by Iyer Environmental Group PLLC during a site-wide investigation conducted in 2007. Analysis of those samples identified concentrations of PBCs at 3.5, 23.2, and 2.2 ppm.

Today the site is capped and is monitored by Aztech through annual media sampling events and quarterly site inspections. Residual PCB contamination has been identified in wetland sediments adjacent to the site.

2.0 Purpose and Scope

The purpose of preparing and implementing this Field Sampling Plan for PCB analysis of sediments is to delineate the limits of contamination identified in the wetlands adjacent to the northeast perimeter of the site. In April of 2012 an annual site-wide sampling event was conducted by Aztech as required by the site's Operations and Maintenance Plan. During that event, samples were collected from sediment, surface water, and groundwater.

Analytical results identified concentrations of PCBs in sediment at multiple locations along the northeast perimeter of the landfill. Concentrations of these contaminants were also identified at levels considered to be hazardous according to the Code of Federal Regulations (CFR), Title 40: Protection of the Environment, Part: 261, §261.24, Table 1 - Maximum Concentrations of Contaminants for the Toxicity Characteristic. Details of those exceedances and hazardous concentrations are displayed in **Table 1**.

In a conscience effort to reduce the amount of contamination migrating from the site into the adjacent wetland habitat and New York City's drinking water supply reservoir system, Aztech is proposing the sampling in order to delineate the locations of sediment with PCB impacts identified above the cleanup objectives. Delineation will identify the limits of contaminant migration. Once contaminant limits are identified, a footprint area for future excavation and disposal will be delineated and the mass sediment will be tabulated and presented in a report to the NYSDEC for review.

3.0 Summary of Recent Sampling Results

Analytical results from the April 2012 sampling event identified PCBs along the northeast perimeter of the site. PCBs were identified in sediments in excess of concentrations listed for NYSDEC Subpart 375-6: Remedial Program Soil Cleanup Objectives for Restricted Use – "Protection of Ecological Resources". Although guidelines for NYSDEC Subpart 375-6: Remedial Program Soil Cleanup Objectives for Restricted Use – "Protection of Groundwater" are also applicable due to the site's proximity to the NYC watershed, "Protection of Ecological Resources" limits are more stringent and are also applicable due to the site's proximity to The Great Swamp of Patterson.

Surface water analysis identified concentrations of PCBs above NYSDEC Part 703: Standards for Surface Water and Groundwater Quality Standards and Effluent Limitations "Health (Water Source)".

Table 1: Sediment/Surface Water PCB Concentrations

Sample Name	**PCB Concentration (ppb)**
Soil Cleanup Objective - Protection of Ecological Resources	**1,000.00**
Sediment -1	77,000.00
Sediment -2	300.00
Sediment -3	900.00
Surface Water/Groundwater Discharge Limits	**0.09**
Surface Water – 1	55.00
Surface Water – 2	0.66
Surface Water – 3	0.61

4.0 Standard Operating Procedures

Sampling of sediment at the site will be conducted by a crew of two field technicians/geologists. Individual sediment and surface water sample locations from the April 2012 sampling event identified to contain concentrations of total PCBs >500 ppb demonstrated the need for additional contaminant delineation sampling.

The extent of the contamination leaching from the landfill into the adjacent wetlands and, the exact location of the contaminant source is unknown. Locations of recently collected samples are displayed on the site map **(Figure 1)**.

Once each sample location has been identified, the crew will stake out a string-line along the toe of the slope where the landfill cap meets the adjacent wetland. Samples will be collected along the toe of the slope every 20 linear feet for the entire length of the wetlands (approximately 280 feet). A second string-line will be delineated at a 20 foot offset farther into the wetlands. Samples will be collected every 20 linear feet along the offset string-line for the entire length of the wetlands. Additional offset string-lines will be set every 20 feet farther into the wetlands for a total distance of 100 feet from the toe of the slope (**Figure 1**). Access into the wetlands will be through the use of a flat bottom boat. Sediment samples will be collected at a depth of one-to-six inches below the bottom of the wetlands pond.

All sediment samples collected will be analyzed for PCBs using EPA method 8082. Sample analysis will include nine (9) aroclors due to the age of the source contaminants and historical range of aroclors identified on the site.

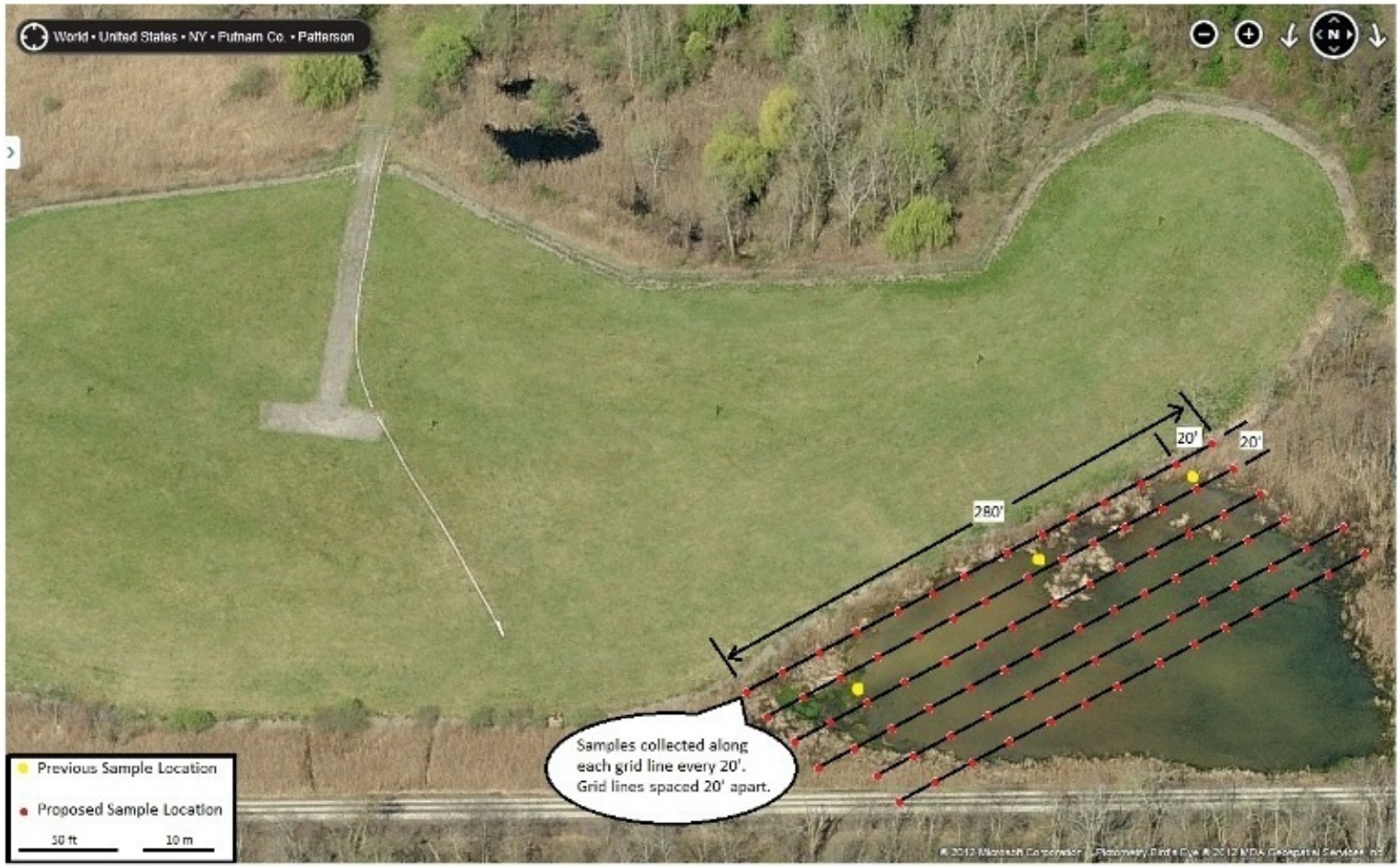
Sample locations will be documented on field log sheets so that analytical results may be plotted on a site map for future evaluation. Reporting will include Category B deliverables. Laboratory analysis will be sent to a third party for validation and a data usability summary report (DUSR) will be generated to determine if the results are acceptable for use.

A report summarizing all sampling methods and analytical results will be prepared once all data has been received. Delineation sampling analysis will be used to map contaminant concentration contours throughout the wetlands area and help to identify the source area and distribution of impacted sediment. That report will also include a discussion of remedial alternatives, if warranted.

5.0 Cost Estimate

Please see the cost estimate created below for a breakdown of services.

Sediment Delineation Sampling Event Cost Estimate		
Mob/Demob/Per Diem	$	785.55
Labor/Equipment (Two days)	$	2,841.75
Lab Analysis	$	6,120.24
DUSR	$	1,320.00
Reporting	$	1,397.53
Total	**$**	**12,465.07**



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NYSDEC - Cross County Sanitation Landfill

Site Number: 3-40-011

Patterson, Putnam County, New York

Map Source: Bing Maps - Bird's Eye View

Figure: Site map w/sample locations