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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
PFOHL BROTHERS LANDFILL, AERO LAKE
WATER AND SEDIMENT SAMPLING PROGRAM

Background

The Pfohl Brothers Landfill operated between 1932 and 1969. The disposal of hazardous materials, including phenol tars, waste solvents, paints, thinners, pine tar pitch, rubber, and scrap metals, has been documented at the site. The estimated size of the Pfohl Brothers Landfill is 120+ acres.

In March 1988, the New York State Department of Environmental Conservation (NYSDEC) contracted Camp Dresser and McKee (CDM) to perform a Remedial Investigation/Feasibility Study (RI/FS) of the site. As part of this RI/FS, water and sediment samples were collected from Aero Lake. In May 1990, the NYSDEC Division of Fish and Wildlife (DFW) collected fish samples for analysis to determine the impacts of the landfill on Aero Lake. Surface soil samples around the lake and one sediment sample from the lake were collected during the June 1990 soil and sediment sampling program. Metals contamination in the lake sediments and water has been detected, specifically mercury and copper. In order to supplement existing data and further determine the extent of mercury and copper in Aero Lake, the NYSDEC DFW has recommended five additional samples of sediment and water be collected and analyzed.

Purpose and Scope

The purpose of this sampling event is to determine the extent of mercury and copper contamination in Aero Lake sediments and water. The sample locations will be distributed across the entire lake to better determine if the contaminants are from the site or some other unknown source.

Data Usage

The data collected during this investigation will be used for additional site characterization, risk assessment, and the selection of remedial alternatives.

Sample Locations

A total of five sample locations are planned for Aero Lake, with one sediment and one water sample at each location. Sample identification designation will be as follows:

ALS-1 Aero Lake Sediment Sample #1
ALW-1 Aero Lake Water Sample #1

The sample locations are described in Table 1 below, and shown on Figure 1.

Table 1

Sample ID	Lab ID	Approx. Location
ALS-1 ALW-1	991-xxx-01 991-xxx-02	About 200 feet north of the lake and unnamed stream connection.
ALS-2 ALW-2	991-xxx-03 991-xxx-04	Near the outlet on the west end of of the lake, about 200 feet east of shore.
ALS-3 ALW-3	991-xxx-05 991-xxx-06	North shore of lake, middle of northern-most bay near Thruway.
ALS-4 ALW-4	991-xxx-07 991-xxx-08	Northeast corner of the lake, about 200 feet southwest of short.
ALS-5 ALW-5	991-xxx-09 991-xxx-10	Deepest section of the lake based on available information and several soundings.

Analysis

The NYSDEC Mobile Laboratory in Saratoga will be performing all analysis. Necessary quality assurance/quality control (QA/QC) samples will be collected as specified by the laboratory. Sample containers will be supplied by the laboratory in coolers. Samples will be packed in ice upon collection. All samples will be collected in one day, and driven back to the laboratory the next day.

Water and sediment samples will be analyzed for Target Compound List (TCL) semi-volatiles and an abbreviated group of TCL metals. Table 2 is the abbreviated list of metals, the same list that was used in the NYSDEC June 1990 Stream and Soil Sampling Program.

Table 2

Arsenic	Lead
Barium	Manganese
Cadmium	Mercury
Chromium	Silver
Copper	Zinc

Sample Collection

Once the sample location is selected, an eight inch hole will be drilled through the ice with a hand auger. Depth to the bottom will be measured with a weighted tape and recorded. Samples should all be collected in locations of similar depth ($\pm$ 5 feet) with the exception of ALS/ALW-5, for comparison purposes. Once it is determined the location is satisfactory and the hole is cleared of all snow and ice shavings, the water sample (ALW) will be collected first by immersing the sample containers. Sediment samples will be collected second.

Lake sediment samples will be collected using a sediment hand coring tube equipped with extension handle, liner tubes and core catchers. The sampler will be pushed its full length (approximately 20 inches) into the sediment using one smooth motion. This will collect the most representative sample. Multiple attempts, or stabbing, will not be permitted, as the resulting core is a composite of surface sediments and cannot be considered representative. The sampler should be pressed into the sediments at least half way for the sample to be considered representative.

The sample will be removed from the liner tube onto a clean sheet of aluminum foil. The core will be measured and photographed before handling for compositing. It will then be sliced in half length wise, then each half split into four equal parts. Using disposable soil trowels, equal amounts from each of the eight pieces will be composited to fill the sample jar. Sample jars will then be wiped clean and placed in coolers.

In-situ measurements at each sampling location will include depth, temperature and pH of the surface water. Readings will be recorded in the field log book and on the field information form.

Each sample container will be coded, logged in a field notebook and field information form, and placed in a shipping cooler along with the sample submission forms completed for each sample. The exact sampling locations will be identified and graphically depicted in the field log book using fixed reference points or nearby physical features.

Decontamination

The majority of sampling equipment will be disposable and not require decontamination. Such equipment includes sampling trowels, spatulas, and foil. The liner tubes and nose piece for the sampler must be decontaminated after each sampler. Since the liner tubes and nose piece are the only parts to contact the sample, the rest of the sampler only needs to be decontaminated at the end of the day for clean storage. Excess mud will be wiped off the outside of the sampler after each sample.

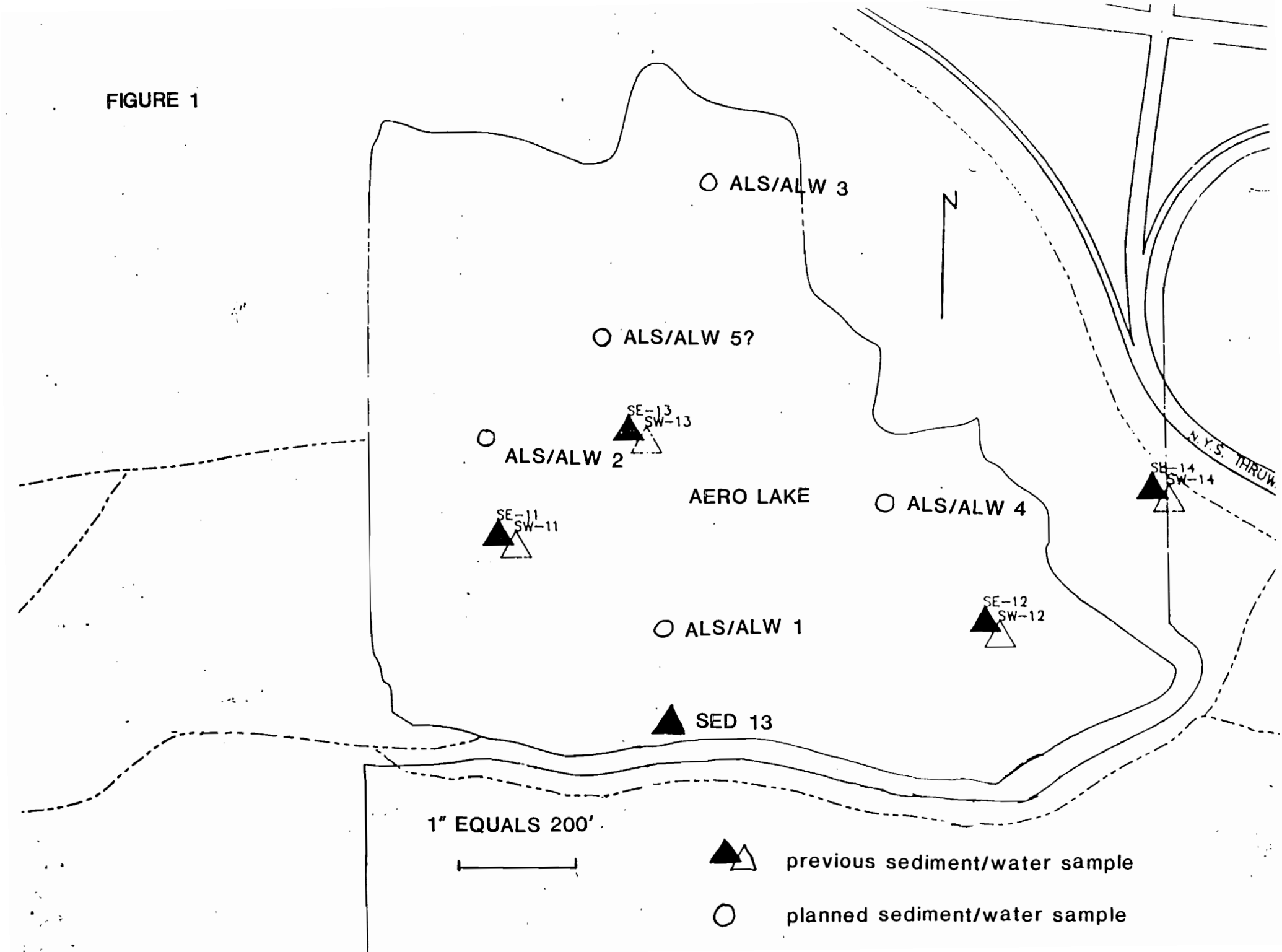
Decontamination of equipment will be with a water and detergent scrub then rinse with water. The water for this will be collected as needed from Aero Lake. The detergent will be liquid Tide or equivalent. Decon fluid will be discharged on the landfill at a point that it will not run off back to the stream.

Decontamination with regard to personal protection will be as stated in the site HASP.

Schedule

Sample collection is schedule for February 26, 1991, with mobilization to the site on February 25, 1991. It is anticipated that a sampling crew of three will take one day to collect the samples. Samples will be driven back to Albany on February 27, 1991. The chain of custody form and sample labels should be filled out in advance to the extent possible.

FIGURE 1


ALS/ALW 3
N
ALS/ALW 5?
SE-13
SW-13
ALS/ALW 2
AERO LAKE
ALS/ALW 4
SE-14
SW-14
N.Y.S. THRUW
SE-11
SW-11
SE-12
SW-12
ALS/ALW 1
SED 13
1" EQUALS 200'
previous sediment/water sample
planned sediment/water sample

MOBILE LABORATORY ANALYSIS REQUEST FORM

SITE NAME Pfohl Bros. Landfill REQUEST DATE 1-28-91

REGISTRY NUMBER 9-15-043 REGION 9 T&A CODE 1858

TOTAL NUMBER OF SAMPLING POINTS 5

NUMBER OF SAMPLES PER MATRIX:

WATER: VOA ____ BNA 5 PEST/PCB ____ METALS 5

SOILS: VOA ____ BNA 5 PEST/PCB ____ METALS 5

OTHER: VOA ____ BNA ____ PEST/PCB ____ METALS ____

METALS SELECTED As, Ba, Cd, Cr, Cu, Pb, Mn, Hg, Ag, Zn

PERSON COLLECTING/SUBMITTING SAMPLES B. Brown & J. White

OFFICE PHONE NUMBER 457-4343

SAMPLE SUBMISSION DATE 2-27-91

CHEMICALS SUSPECTED OF BEING ON THIS SITE ____

OTHER SITE INFORMATION ____

LAB SAMPLE NUMBER ____