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TECHNICAL ASSISTANCE TEAM FOR EMERGENCY RESPONSE REMOVAL AND PREVENTION
EPA CONTRACT 68-01-7367

Mr. Michael Strimbu
Deputy Project Officer
Emergency Response Section
Western Response Unit
U.S. Environmental Protection Agency
11th Floor
230 South Dearborn Street
Chicago, Illinois 60604

May 28, 1987

TAT-05-G2-00082

EPA Region 5 Records Ctr.



241680

Re: Quality Assurance/Quality Control Plan
Summit Equipment and Supplies
Akron, Ohio

Dear Mr. Strimbu:

As requested by On-Scene Coordinator (OSC) Ralph Dollhopf, the Technical Assistance Team (TAT) has compiled the attached Quality Assurance/Quality Control (QA/QC) Plan for the Summit Equipment and Supplies (SES) site in Akron, Ohio.

As of May 28, 1987 all data reviewed by the TAT from SES had met the QA/QC requirements of the TAT. The acceptance of each data set has been indicated by the TAT Samples Management Coordinator's initials on each data set received.

It is recommended that for any future sampling projects of this type that a QA/QC program be outlined prior to any sample collection.

If you should have any questions or require further information, please feel free to contact us.

Very truly yours,

ROY F. WESTON, INC

Sally Matz

Sally Matz
Environmental Chemist,

Scott D. Springer/ps

Scott D. Springer
Technical Assistance Team
Leader, Region V

SM/phs

Roy F. Weston, Inc.

SPILL PREVENTION & EMERGENCY RESPONSE DIVISION

In Association with ICF Technology Inc., C.C. Johnson & Associates, Inc., Resource Applications, Inc.,
Geo/Resource Consultants, Inc., and Environmental Toxicology International, Inc.



QUALITY ASSURANCE/QUALITY CONTROL PLAN

SUMMIT EQUIPMENT AND SUPPLIES
AKRON, OHIO



1.0 BACKGROUND AND PROJECT DESCRIPTION

Summit Equipment and Supplies (SES) is a six acre operating iron and scrap metal processing facility located in Akron, Ohio. The facility has been acquiring and reprocessing electrical transformers and capacitors since the late 1960s. As a result of improper handling, storage and disposal of many of the transformers and capacitors the facility has become contaminated with polychlorinated biphenyls (PCBs). On March 10, 1987 the U.S. Environmental Protection Agency (U.S. EPA) began a removal action at SES. An integral part of this removal action was an extensive sampling effort designed to determine the extent-of-contamination both on and off site, and to characterize material for disposal. The Region V Technical Assistance Team (TAT) designed and implemented the sampling program.

2.0 PROJECT ORGANIZATION AND RESPONSIBILITY

Project Manager-Ralph Dollhopf, U.S. EPA
As On-Scene Coordinator (OSC), responsible for oversight of all activity at SES.

Field Sampling and Field Quality Assurance-Larry Mencin, TAT
Jerry Klein, TAT

Responsible for collection of samples; shipment of samples from the field to the selected analytical laboratory; and maintenance of sampling and custody records.

Laboratory Analysis and Laboratory QA-Sally Matz, TAT
Responsible for selection of laboratory to conduct analyses; oversight of laboratory performance and QA; and evaluation of the analytical report provided by the selected laboratory.

3.0 SAMPLE MATERIALS AND LABORATORY ANALYSIS

Parameter - PCB

Sample Container - Eight ounce pre-cleaned jars with teflon lined lids for all samples.

Swipe samples-Whatman #4, 12.5 cm filter paper
Reagent grade hexane

Preservative - None. Samples to be kept in cool, dark place until delivered to laboratory

Holding Time - Extraction within seven days of collection.

Laboratory - Wadsworth/ALERT Testing, Canton and Cleveland, Ohio



Analytical Methods - Solids--U.S. EPA Method 8080-GC/EC
Oils--U.S. EPA Method 8080-GC/EC
Water--U.S. EPA Method 608-GC/EC

Quality Assurance Objectives - Accuracy--Solids 62-118%
Oil 57-117%
Water 42-106%
Precision--Solids + 52%
Oil + 62%
Water + 41%
Completeness-- 90%

Discussion - Wadsworth is a member of the National Contract Laboratory Program (NCLP) and therefore is an EPA-approved lab. This ensures that Wadsworth has demonstrated that they can provide quality analytical data using EPA-approved protocol. The TAT was provided with a copy of Wadsworth's Qualifications Profile and QA/QC Statement prior to implementation of the analytical project. Wadsworth was required to carry out the requested analysis using EPA-approved protocol for preparation, analysis, storage and preservation of the samples. The analytical method is that which is routinely used for PCB analysis. All methods involve gas chromatography with electron capture detectors (GC/EC).

4.0 SAMPLING PROCEDURE

All sample collection, handling, preservation and storage was completed following EPA approved guidelines as set forth in the analytical method and the attached TAT Sample Handling Protocol (SHP). Disposable sampling equipment (wooden tongue depressors) and clean surgical gloves for each sampling location minimized the chance of cross contamination between samples. Field duplicates were collected from approximately 5-10% of the sample locations. Soil samples were homogenized prior to placement in the sample jars to ensure adequate duplication. Samples were transported to Wadsworth and analyzed within 24 hours of sample receipt.

5.0 SAMPLE CUSTODY

Samples were maintained under custody by the TAT following procedures outlined in the TAT SHP. Samples were transported to Wadsworth by the TAT or designated lab personnel. Once received by Wadsworth the custody of the samples was maintained as outlined in the QA/QC Statement.

6.0 CALIBRATION PROCEDURES AND FREQUENCY

Wadsworth was requested to maintain all calibration that is routinely carried out as a part of their QA/QC Statement requirements.



7.0 ANALYTICAL PROCEDURES

Wadsworth was requested to and carried out the requested analysis using EPA-approved protocol for preparation, analysis, storage and preservation of the samples. U.S. EPA Method 8080 was used to analyze the solids and oils while Method 608 was used for water. The laboratory routinely performed all the QA/QC that Wadsworth requires in their QA/QC Statement including blanks, matrix spikes, and matrix spike duplicates. All calculations and QA/QC was verified by the Laboratory QA/QC Coordinator at Wadsworth prior to the report submission. The soil samples were analyzed on a dry weight basis and homogenized by the lab prior to analysis. Detection limits were set at 1 ppm barring matrix interference.

8.0 DATA VALIDATION AND REPORTING

Wadsworth reported each analyzed sample in terms of detectable concentration of PCB and detection limits. A summary of QA data was reported and included results of blanks, matrix spikes, matrix spike duplicates and internal standard recovery. Verbal data was reported by Wadsworth within 24 hours of sample receipt to aid in the removal action activities at SES but this data was utilized only with the knowledge that it was verbal data and had not been subject to the final QA/QC review. The analytical reports and QA/QC summary were subject to QA/QC review by the TAT to ensure that the data met all the requirements of the project.

9.0 QUALITY CONTROL CHECKS

As an additional check on the labs QA/QC the TAT included its own QC samples along with the routine samples. The majority of the QC samples were sent into the lab "blind". The QA/QC samples utilized by the TAT included:

Field blank - sample transported to the sampling location and back, carried through the entire sampling procedure and stored with the samples. Verifies that no contamination was introduced during sampling or storage of samples. Also allows a limited check for lab contaminants. At the time of sampling, a universal soil blank was unavailable so a soil blank was not submitted to the laboratory.

Field Duplicates - a second sample of one location submitted to the lab "blind". Verifies the lab's analytical precision by acting as an external check. Also provides an indication of the variation in sample collection procedures. Approximately 5-10% of the samples collected were duplicates. Attachment B contains the SES Duplicate Log.

Results of the QC samples indicated that the lab was providing quality analytical data. The samples also gave an indication of the TAT's sampling procedures.

ATTACHMENT A

TAT SAMPLE HANDLING PROTOCOL

MEMORANDUM

TO: All TAT Members
FROM: S. Matz SM
DATE: February 12, 1986

Attached is your copy of the updated sample handling protocol. Quite a few changes have been made and I would appreciate it if everyone took the time to familiarize themselves with the new protocol. If you have any questions or comments, please contact me.

/amp

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I. Sample Handling Protocol

A. Initiation of the Sampling Case

The Technical Assistance Team becomes involved in numerous types of sampling activities. These activities range from grab samples at an Emergency Response to extent of contamination studies at a potential Emergency Action site to evidentiary samples during an Immediate Removal Action. Each type of sampling requires a planning and organization stage when decisions and preparations are made concerning how many and what kind of samples will be taken, where the sample locations will be, and how the samples will be taken. Oftentimes TAT members have very little time to make these decisions, and less to make the preparations. To help ensure the effectiveness of the sampling plan in providing useful analytical results, the approach should be discussed with as many knowledgeable people as possible. Each TAT member should review their sampling approach with either Scott Springer, Steve Faryan, or Sally Matz, depending on their availability.

In addition to these organizational and planning activities, each sampling project must be coordinated through TAT sample management. If samples are to be analyzed through the Contract Laboratory Program (CLP), TAT sample management will contact the VIAR Sample Management Office (SMO). This sample management coordination initiates the sampling case and should be done early in the project, with as much lead time to the sampling date as possible.

Sample management is coordinated by Sally Matz, with Steve Faryan and Dean Geers acting as backup. When a TDD or TDD task requires sampling and National Contract Laboratory (NCL) or Central Regional Laboratory (CRL) analysis, the project officer should call Sally as soon as possible so that she may assign CRL numbers (sample numbers) and set up the case. If Sally is not available, Steve or Dean will perform these duties.

Information required for sample management, which will be discussed in the following sections, includes the site name and location, the number and type (matrix) of samples, the hazard level of the samples, the desired analyses, and the shipping date. It is very important that the shipping date be as accurate as possible because the contract laboratories in the NCL program base their

schedules and quotas on them. This information can be fed to the sample coordinator piecemeal, as it is most important just to initiate the case and make the appropriate personnel aware of it. When the case has been set up, the project officer will be notified of the case number. The case number is to be used on all paperwork associated with a given set of samples. It is used to track the samples' and analytical results' progress through NCL analysis and CRL review.

When SMO has arranged the analytical services requested, TAT sample management is notified of the NCL(s) to which the samples should be sent. The project officer is then notified and he/she should refer to Attachment 1 for appropriate NCL addresses. If both organic and inorganic analyses are requested, two (sometimes more) labs may be assigned.

Analytical services are provided under two programs by the CLP: Routine Analytical Services (RAS) and Special Analytical Services (SAS). RASs consist of analyses on low and medium level water, soil, and sediment samples for priority pollutant organics, Task I and II metals, and cyanide. Specific isomer analyses for 2,3,7,8-tetrachlorodibenzo-p-dioxin in soils and sediments is also RAS. If a TAT requirement for analytical services is outside the scope of current NCL contracts and the RAS program, Special Analytical Services (SAS) can provide limited custom or tailored response to the need. SASs are required under the following conditions:

1. Priority pollutant organic and metals analysis of oils
2. RCRA solid waste parameters (EP Toxicity, Ignitability, Corrosivity, Reactivity)
3. Nonisomer-specific dioxins or furans analysis.
4. Parameters other than the 114 Priority Pollutant Organics or the Tasks 1 and 2 Metals and Cyanide
5. Lower detection limits or quality control that is more extensive than what is normally provided

6. Turn-around times less than 30 days
7. High hazard samples
8. Other requests not included in above list or in current contracts.

When a SAS is required, Sally Matz (Steve Faryan or Dean Geers in Sally's absence) submits a SAS request to Chuck Elly and informs SMO of the appropriate case setup information. SMO responds upon initial contact by assigning a SAS number which is used in the same manner as a case number. As with a case number, the SAS number must appear on all relevant documents. This is further explained in the following sections.

The following sections outline the sampling protocol to be applied towards all TAT sampling projects. EPA has mandated TAT to satisfy their custody and handling requirements so that quality data can be produced from samples of documented integrity. The protocol includes general sampling, paperwork, and chain-of-custody requirements. It is not designed or intended to be all-inclusive or include direction on sample collection techniques. Specific sampling problems should be addressed on a case-by-case basis with TAT sample management.

B. Definitions and Basic Sampling Requirements

A basic requirement of both sampling and analysis is to have a general idea of what hazards and contaminant concentrations can be expected from a given sample. This information is required by SMO when initiating a case and by the laboratory when they design their analytical approach. All samplers should make themselves cognizant of hazards associated with any sampling project. Following are the definitions used by EPA to delineate low, medium, and high concentration samples.

Low

Concentration - A sample where 0-10 ppm of a single contaminant is expected. This would include environmental soil and water samples, groundwaters, surface waters, most off-site wastes, soils, wells, leachate springs, ditches and rivers. Contamination in these samples

would be highly diluted and considered to be low hazard.

Medium

Concentration - A sample in which 10 ppm to 15% of a single contaminant is expected. This would include on-site water and soil samples, samples from areas around leaking drums, lagoons, on-site impoundments, leachate collection pools, and on-site ditches. Contamination in these samples would be directly from the source but diluted or weathered.

High

Concentration A sample in which 15% to 100% of a single contaminant is expected. This would include samples collected from drums, surface impoundments, storage tanks, spills, or direct discharges. These samples would be relatively undiluted and considered a high hazard.

These concentration levels determine the size of the sample required and types of preservative to be added. Table 1 summarizes these sample requirements for the most common analyses. A complete list of preservative requirements and holding times for low hazard samples can be found in Attachment 2. No preservatives are required and no holding times have been established for medium and high hazard samples. Analyses outside the basic groups identified in the table generally require Special Analytical Services as described in Part A. It should be noted that all bottles and jars referred to in Table 1 are supplied by a contractor and should be maintained in adequate supply at TAT offices. Bottles and jars can only be ordered by authorized requestors (AR). The following TAT members are authorized bottle requestors and should be contacted if bottles are needed: Craig Bell, Ed Burk, Steve Faryan, and Curt Michols.

Quality Control samples should be sent with each sample batch. Low and medium level samples for organic and inorganic analyses should be accompanied by a Field Reagent Blank and a Matrix Spike Duplicate. No blank should be sent with soil samples as there is no accepted standard

TABLE 1

SAMPLE SIZE AND PRESERVATION FOR COMMONLY REQUESTED ANALYSES

Analysis	Water	Soil	Preservative
1. Organics			
a. Extractables			
Low	2-80 oz amber glass bottles	1-3 oz. glass* jar	Ice to 4°C
Medium	4-32 oz glass, or, 8-16 oz. glass bottles	1-3 oz. glass* jar	No preservat.
High ^o	1-8 oz. glass* jar	1-8 oz. glass*	No preservat.
b. Volatiles			
Low ⁺	2-40 ml glass vials	2-120 ml glass vials (white cap)	Ice to 4°C
Medium	Extractable sample suffices	Extractable sample suffices	--
High	Extractable sample suffices	Extractable sample suffices	
c. 2,3,7,8-TCDD (Dioxin)	Soils only	4 oz glass jar	No preservat.

TABLE 1 (Continued)

Analysis	Water	Soil	Preservative
2. Inorganics			
a. Task 1 and 2 Metals			
Low	1-1 liter HDPE bottle	1-8 oz glass jar*	Water-5 ml 1:1HNO ₃ (pH<2), no ice Soil-ice to 4°C (optional)
Medium	1-16 oz glass jar*	1-8 oz glass* jar	No preserv.
High ^o	1-8 oz glass* jar	1-8 oz glass* jar	No preserv.
b. Cyanide			
Low	1-1 liter HDPE bottle	1-8 oz plastic jar	Water-5 ml 6N NaOH; ice to 4°C. Soil-ice to 4°C (optional)
Medium	1-16 oz glass jar*	Task I & II suffices	No preserv.
High ^o	1-8 oz glass* jar	1-8 oz glass* jar	No preserv.

* All 8 oz. samples should be filled at least 3/4 full.

+ Volatile Organic Analyses samples should be taken so that no air is present in the sample.

^o Only one 8 oz sample required for all high hazard analyses.

soil blank at this time. NCL requires that for each matrix (water, soil, other) taken for organic analysis, one extra volume of sample should be taken at one of the sampling locations. This sample should be given the same sample number as others taken at the location and marked "MATRIX SPIKE DUPLICATE" in the remarks box of the sample tag. For example, a case with three low level waters for priority pollutant organics will require that the following samples be sent:

- Sample 1, 2 80-oz. bottles, 2 40-ml vials
- Sample 2, 2 80-oz., 2 40-ml vials
- Sample 3, 2 80-oz., 2 40-ml vials
- Blank, 2 80-oz., 2 40-ml vials
- Matrix Spike Duplicate, 2 80-oz., 2 40-ml vials

When dealing with large numbers of samples, one duplicate for every 10 samples should also be sent. These duplicates act as an external quality assurance/quality control check on the lab as well as providing an indication of the variability of the sample collection technique.

No extra volume samples are required for inorganics analysis. Additional samples to be sent for dioxin analysis are a blank designated for matrix spike and a rinsate if applicable. The blank should be designated as a matrix spike on the custody record and tag and the Dioxin Shipment Record. A rinsate is a solvent (usually TCE) used on sampling equipment. Blanks consist of distilled/deionized water for inorganics analysis and carbon-free water for organics analysis. Treat all quality control samples as regular field samples, i.e., add the same preservatives to the blank as are added to the samples and ship all samples in identical packaging.

C. Chain-of-Custody Requirements

Implementation of chain-of-custody procedures is required for all TAT sampling projects. Documentation of chain-of-custody is necessary to demonstrate proper handling of samples and to provide reasonable evidence that a given sample was neither exchanged with another nor contaminated during any transfer process. Also, the custody process assures that the original sample was the one tested and the same one from which analytical results were received.

TAT personnel must use the EPA Office of Enforcement system of custody. This system employs a Chain-of-Custody Record, Custody Tags, and Custody Seals (Attachments 3, 4, 5). The Custody Record accompanies the sample set and provides documentation of each custody transfer, as described later in this section, from sample collection through analysis, to storage or disposal. All information pertinent to the samples is recorded on the custody record. Custody tags are used to identify and track individual samples. Each tag is numbered so that it can be recorded on the custody record and associated with a CRL sample number. Custody seals are numbered stickers placed over the closures of the cooler or shipping container used to transport the samples to a contracted laboratory. If the seal is broken upon arrival at the laboratory, the SMO and TAT are notified and must decide if analysis should still take place.

The Chain-of-Custody Record requires the following information (Attachment 3):

- 1 - PROJECT NUMBER - consists of the first symbols of the CRL sample number. The code will be assigned by the sample coordinator. It is of the form:

Fiscal Year $\frac{86}{7}$ $\frac{CY}{7}$ $\frac{01}{7}$ sample group (01-99)
TAT Sample Designation

- 2 - PROJECT NAME - the site name, preferably the EPA site name, if available.
- 3 - SAMPLERS - all individuals in the sampling team should sign their names in this box.
- 4 - STATION NUMBER - consists of the last three symbols of the CRL sample number S01-S99; the specific sample number. These numbers will be assigned with the project number.
- 5 - DATE - the date the sample was taken, after the fashion:
month/day/year
- 6 - TIME - the time the sample was taken, in military fashion, between 0000 and 2400.

- 7 - COMPOSITE OR GRAB - one column must be checked to designate sample type.
- 8 - STATION LOCATION - brief description of station location. A description for a sample location should always be the same between samples and sampling personnel.
- 9 - NUMBER OF CONTAINERS - state the number and size of containers, i.e., 3-8 oz or 2-40 ml.
- 10 - REQUESTED ANALYSES - Analyses requested of laboratory, i.e., Priority Pollutant Organics, Volatiles, and Task I Metals.
- 11 - Check boxes for samples corresponding to requested analyses.
- 12 - CRL CUSTODY TAG NUMBER - write in tag number for each sample.
- 13 - TRAFFIC REPORT NUMBER - write in traffic report number that corresponds to sample (see Sec. D for description of Traffic Reports). If samples are strictly SAS, the SAS numbers should be written in.
- 14 - CUSTODY SEAL NUMBER - note custody seal numbers used on shipping container.
- 15 - RELINQUISHED BY - must always be the signature of a person whose signature appears in box 3, Samplers. Samples must never be transferred without signing the relinquished box.
- 16 - DATE - the date samples were relinquished, after the fashion month/day/year.
- 17 - TIME - the time samples were relinquished in military fashion from 0000 to 2400.
- 18 - RECEIVED BY - when transferring samples, someone must always receive them by signing this box. When shipping samples by air freight, the samples will be received upon arrival at the laboratory. Custody is maintained inherently by the air freight company as long as the custody seals are not broken.

- 19 - REMARKS - indicate the name of the laboratory to which the samples are being sent.
- 20 - REMARKS - indicate the air freight company and the air bill number transferring the samples.
- 21 - REMARKS - indicate the SMO assigned Case Number.

The Custody Tag (Attachment 4) is attached directly onto the sample so that it can be identified from the Custody Record. Each bottle should have a custody tag. All items entered on the Tag should be in indelible ink. The following information is required on the Tag:

- 1. Project Code
- 2. Station Number
- 3. Month/day/year of collection
- 4. Time of collection
- 5. Designate Composite or Grab
- 6. Station Location
- 7. Samplers (Signatures)

Items 1-7 must be identical to the corresponding boxes on the Custody Record.

- 8. Preservative - if the sample has been preserved, whether chemically or by refrigeration, the "yes" box should be checked.
- 9. Analyses - each analysis requested for the sample should be checked. This, also, will correspond to the Custody Record.
- 10. Additional analytical requests can be added in box 10.
- 11. Remarks - preservatives used and additional analyses requested should be placed in this box.
- 12. Lab Sample Number - left blank by the samplers. This number will be assigned at the laboratory.

13. Tag Number - the sample custody tracking number. This number must be noted on the Custody Record with the corresponding CRL sample number.

The system of custody is completed when the Custody Record and Custody Tags have been properly completed and a Custody Seal (Attachment 5) has been used to secure the shipping container. The Custody Seal number should be entered on the Custody Record so as to establish its correct use.

D. Shipping Samples to National Contract Laboratories

The majority of TAT samples are sent to NCLs for analyses. Because TAT is enjoined to follow EPA and SMO procedures a virtual plethora of paperwork must accompany each sample shipment or "Case." All samples collected and transferred by TAT must abide to the preceding section of EPA custody requirements. If samples are sent to NCLs additional shipping and cost tracking paperwork is required. Following is a list of all paperwork required for shipping low or medium hazard samples to NCL's for routine analyses:

- Organics Traffic Reports with associated labels
- Inorganics Traffic Reports with associated labels
- SAS Packing List (replaces Traffic Reports on projects that are strictly SAS)
- Dioxin Shipment Record (replaces Traffic Reports on projects that are strictly for 2,3,7,8-TCDD in soils)
- Chain-of-Custody Record
- Custody Tag
- Custody Seals
- Shipper's Declaration of Dangerous Goods (for medium hazard and high hazard samples only)
- Basic Data Form
- Airbill

In this section, the Traffic Reports and Basic Data Forms will be detailed. For an explanation of the Shipper's Declaration, see information on sending high hazard samples later in this section.

Each low or medium level sample sent to NCL for RAS or combined RAS/SAS analyses must be accompanied by an organic or inorganic traffic report. If twenty samples are sent for priority pollutant organic and Task 1+2 metals analysis, then twenty organic traffic reports will accompany the shipment to the organic analytical laboratory and twenty inorganic traffic reports will accompany the shipment to the inorganic analytical laboratory.

An organic traffic report (Attachment 6) is filled out as follows:

Box 1 - The Case Number is assigned by SMO when the sample management coordinator initiates the sample project. The project officer will be notified of this number when it is received. The Case Number should also appear on the Custody Record. If the case has Special Analytical Service (SAS) components, the SMO assigned SAS number shall also be noted.

Sample Site Name/Code is the designated EPA site name and code, for National Priority List (NPL) sites. If the site is not on the NPL, the project officer should use the site name used on the TOD.

Box 2 - The sample concentration (low or medium) must be checked.

Box 3 - The sample matrix must be checked (water or soil/sediment).

Box 4 - Address of the NCL contracted to do the requested analyses. This laboratory is arranged by the SMO and sample management coordinator. Addresses for NCLs are included in Attachment 1.

Box 5 - Regional Office is 5. The project officer should put his name and office phone number under Sampling Personnel. Sampling date must also be noted.

Box 6 - This requirement is explained on the Traffic Report. The separate extractable/VOA boxes are for low level, the single soil/sediment box for low and

medium level, and the combined extractable/VOA box for medium level samples only. The number of containers should also include the size of container as follows: 2-1/2 gallon or 2-8 oz. Total volume includes all samples in a given group.

Box 7 - Be sure to include all shipping information.

Box 8 - The sample description must be designated.

Box 9 - A description of the sample location; the CRL sample number should be included here.

Box 10- Special Handling Instructions include information known about the samples' characteristics and potential contaminants. Also, a brief description of SAS requirements, i.e., 15-day turn-around, or analysis of oils.

When filling out the Traffic Report, be sure to apply enough pressure so that all pages are clear. The Traffic Report sample number in the upper right-hand corner must be noted on the Custody Record. The sample labels attached to the Traffic Report must be attached to the corresponding sample for tracking purposes. The first eight labels are for use with low-level samples, whereas the last four labels should be used for medium level samples. Because medium level samples must be shipped inside metal cans, the can should also be labeled. All labels should be taped over with transparent tape to assure they reach the laboratory intact.

An Inorganic Traffic Report (Attachment 7) is filled out in a similar manner to the Organic Traffic Report. As with the organic form, the number in the upper right-hand corner of the form should be noted on the Custody Record. If samples are taken in the same location for inorganic and organic analyses, the Organic Traffic Report number for the corresponding sample should be put in the blank at the lower left-hand corner of the Inorganic form. In Block #8, Task 1 and 2 metals are the routine analyses normally requested which include twenty-one metals, Task #3 includes only

cyanide, as ammonia and sulfide analytical requests are now SAS. Labels from the Inorganic Traffic Report are attached to samples in the same manner as those for Organic Traffic Reports.

If samples are collected and shipped to NCLs strictly for Special Analytical Services, then the SAS Packing List (Attachment 14) replaces both the organic and inorganic Traffic Reports. It is completed as follows:

- Box 1 - SAS Number is assigned by SMO when the sample management coordinator initiates the sample project. The SAS Number should also appear on the Custody Record.
- Box 2 - Sampling Office is Region V TAT. The project manager should put his name and office phone number in the provided space.
- Box 3 - Sampling Date(s) for the sample shipment.
- Box 4 - Date Shipped to laboratory.
- Box 5 - Site Name/Code is preferably the EPA designated name.
- Box 6 - Shipping address for the NCL.
- Box 7 - Sample numbers are the CLP numbers or consecutive suffixes to the SAS number, i.e., if the SAS number is 0001e for a three sample shipment, the numbers would be 0001e-1, 0001e-2, and 0001e-3. This number should be placed on the chain-of-custody in place of the Traffic Report numbers.
- Box 8 - Sample Description should provide the following information sequentially: Hazard, Matrix, Analysis, Tag Number, i.e., medium soil for EP Toxicity, Tag 5-2001.

If samples are collected and shipped to NCLs strictly for isomer analysis of 2,3,7,8-tetrachlorodibenzo-p-dioxin (dioxin), then the Dioxin Shipment Record (Attachment 15) replaces the Traffic Reports. It is completed as follows:

- Box 1 - The SMO assigned Case Number which will be obtained by TAT Sample Management.
- Box 2 - The sequential number for batch shipments (up to 24 samples) from a site.
- Box 3 - EPA Site Name and Location.
- Box 4 - Sampler's name, office location and telephone number.
- Box 5 - Sampling date and expected analysis time.
- Box 6 - Laboratory address and shipment date.
- Box 7 - These numbers are specific for dioxin and must be obtained from TAT sample management. Labels with the assigned numbers will be issued to identify sample containers.
- Box 8 - Sample matrix which under the RAS contract can only be a soil or sediment.
- Box 9 - The only other matrix accepted under the RAS contract is a solvent used for rinsing sampling equipment.
- Box 10 - Sample Description can be one of the following:
- Field Sample - a soil/sediment sample taken as a primary objective of the sampling plan.
- Sample to Duplicate - a duplicate of a field sample.
- Sample to Spike - a field sample or blank designated for matrix spike (for determining analytical recovery efficiency).
- Blank - a sample of similar characteristics to the field samples but taken in an area virtually assured of being free from dioxin contamination.
- Equipment Rinsate - a solvent sample of material used to rinse equipment after its decontamination.

Other: Reserved for samples accepted under the sample program but which are SAS.

Another form needed when shipping samples to a NCL is the Basic Data Form. This group of forms is used by CRL to monitor usage of the Contract Laboratory Program and costs incurred therein. A Basic Data Form must be filled out for each set of samples to be analyzed by a given methodology.

The Basic Data Form for NCL samples has been simplified to one standard form (Attachment 16). It should be filled out as follows:

- o Case #/SAS # - The Case # or SAS # assigned by SMO when the sample management coordinator initiates the sample project. The project officer will be notified of this number when it is received.
- o Site name - Designated EPA site name.
- o Laboratory - The NCL laboratory to which the samples were sent.
- o Date shipped - Date samples were shipped to the lab.
- o Superfund DU number - 8212 for oil sampling, Y905 for hazardous substance sampling.
- o EPA RPM (S.M.S.)/(CES) - Write Region V TAT and the OSC assigned to the project.
- o Activity number - C46A00 for all TAT sampling.
- o CRL Log number - CRL sample # 86CY__.
- o Organic Traffic Report number - Write the Organic Traffic Report #.
- o Inorganic Traffic Report # - Write the Inorganic Traffic Report #.
- o Analysis - Check under appropriate analysis for each sample.

The Basic Data Forms for CRL are separated into five groups based on types of sample analyses. These groups are: toxic substances, pesticides and PCBs, metals, nutrients, and biology. The TAT will use the first three most often. The toxic substances forms include the general organic scan and priority pollutant analyses as well as specific isomer and isomer group dioxin analyses for water, sediment, oil, and fish. Pesticides and PCB forms include specific analyses of types and groups of pesticides, herbicides, PCBs, and PBBs in the same matrices as on the toxic substances forms. Metals Basic Data Forms specify analyses for metals groups or specific metals by either ICAP or AA analysis. Again, the same sample matrices are specified. These three groups include most routine TAT analytical requests with one exception. Cyanide analysis, commonly requested along with metals, appears on the nutrient forms. Also on the nutrient forms are the occasionally requested analyses of pH, acid anions, hexavalent chromium, COD, TOC, BOD, nitrates, nitrites, ammonia, sulfide, and the RCRA tests of ignitability, reactivity, and corrosivity. It is unlikely that the Biology Basic Data Forms would be used by TAT. Attachment 13 consists of an example of a completed CRL Basic Data Form. Original forms are available in each office. For all samples a form should be selected for each type of analyses to be performed. The form should be filled out as follows:

- o Division/Branch - Spill Response Section/TAT, or EDO/TAT for satellite offices.
- o Sampling Date - Date samples were collected or if sampling dates are different, date samples are shipped.
- o Lab Arrival Date - Estimated lab arrival date, normally one day after shipment.
- o Due Date - Normally 30 calendar days from lab arrival date, 51 days for high hazard.
- o DU Number - B212 for oil sampling, Y905 for hazardous substance sampling.

- o Data Set Number - Leave blank, CRL assigned.
- o Study - Site name.
- o Priority - Leave blank, CRL assigned unless otherwise instructed.
- o Contractor - CRL
- o Activity Number - A six digit code to be placed in the upper right-hand corner of the form. The code number used for all TAT sampling is C46A00.
- o Log number - Write in the CRL sample number.
- o Sample Description - Write in the the Custody Tag number.
- o Analysis - Check under appropriate analysis for each sample.

The name of the OSC for the site, if known, should be indicated on the form in the upper right-hand corner.

High level or high hazard samples are analyzed under different conditions and contracts than other samples. Currently, this type of sample is not handled under NCL contracts and must be coordinated under Special Analytical Services. High hazard samples are sent to the National Enforcement Investigation Center (NEIC) in Denver, Colorado, for preparation before being sent to a NCL (as with all other samples custody procedures must be followed closely).

Following is a list of paperwork required when shipping high hazard samples for analysis:

- High Hazard Traffic Report
- Chain-of-Custody Record
- Custody Tags
- Custody Seals
- Basic Data Form
- Declaration for Dangerous Goods (also required for medium hazard samples)
- Airbill

Refer to Sections C and D for instructions on Custody procedures and the Basic Data Form, respectively. High Hazard Traffic Reports and Declaration for Dangerous Goods forms are detailed in this Section.

A High Hazard Traffic Report (Attachment 8) is similar in most respects to the Organic and Inorganic Traffic Reports. The form is filled out and distributed in the same manner and the labels are attached to the sample. As with medium level samples, shipment of high hazard samples requires placing the sample in a half gallon can (see Section II). This can should also be labelled with one of the report stickers. Also, as with the other forms, the traffic report sample number found in the upper right-hand corner should be noted on the Chain-of-Custody Record. The High Hazard Traffic Report requires samplers to specify any known or suspected hazards that the samples present. This should be done with as much accuracy and detail as possible so that the laboratory can properly handle the samples. The Preparations Requested section of the traffic report includes both organic and inorganic analyses since only one container of a high hazard sample is sent for all analyses.

An additional form required when sending medium and high hazard samples is the Shipper's Declaration of Dangerous Goods. This form declares the shipment as containing hazardous materials and proclaims that all containers associated with the shipment comply with prescribed regulations. Further detail of shipping and packaging requirements and procedures can be found in the Region V Sample Shipping and Packaging Guide (Section II). The Declaration of Dangerous Goods (Attachment 9) is completed for all applicable containers going to any single destination. The TAT normally sends high hazard samples designated as Flammable Liquids or Flammable Solids. This designation is based on DOT guidance for samples of unknown contamination and characteristics (40 CFR Part 173.402h). An example of each of these can be found in Attachments 10 and 11. Be sure to include "Limited Quantity" in parenthesis under the "Quantity and Type of Packing" column. An airbill

(Attachment 12) will be required for any type of sample that is sent by air freight. The point of note on this form is the shipper's reference. The PCS number for the sampling activity must be entered in the blank space.

E. Shipping Samples to the Central Regional Laboratory

Paper work required for sending samples to the CRL includes all custody related forms and the basic data form. Specifically these are:

- Chain-of-Custody Record
- Custody Tag
- Custody Seals
- Basic Data Form
- Airbill, if necessary
- Shipper's Declaration of Dangerous Goods, if necessary.

All forms should be filled out in the same manner as described for NCLs.

F. Distribution of Copies

The following is a form by form detail of copy distribution:

1. Chain-of-Custody Record - white copy accompanies samples, yellow copy to Chuck Elly, pink copy to Sally Matz, and a xerox copy to the TDD files.
2. Traffic Reports - top copy to SMO, second copy (pink) to Chuck Elly, third and fourth copies accompany samples and xerox copy for TDD files.
3. Basic Data Form - originals are sent to Chuck Elly. A copy is retained for TDD files.
4. Shipper's Declaration for Dangerous Goods - last copy is kept for TDD files. All other copies accompany the samples.
5. Dioxin Shipping Record - top copy (white) to SMO, second copy (yellow) to Chuck Elly, third (pink) and fourth (gold) copies go with the samples. Xerox a copy for TDD files.

6. Packing List - top copy (white) to SMO, second copy (yellow) to Chuck Elly, third (pink) and fourth (gold) copies go with the samples. Xerox a copy for TDD files.

Chuck Elly's address is:

U.S. EPA Region V
Central Regional Laboratory, 5 SCRL
536 S. Clark Street
Chicago, IL 60605
ATTN: Chuck Elly

SMO's address is:

U.S. EPA
CLP Sample Management Office
P.O. Box 818
Alexandria, VA 22313

II. Region V TAT Sample Packaging and Shipping Guidelines

A. Packaging

Samples sent by Region V TAT are subject to packaging guidelines, recommendations and regulations of the Department of Transportation (DOT), the Contract Laboratory Program (CLP), and the National Enforcement Investigations Center (NEIC). These agencies should and must be abided by in the interest of satisfying the TAT contract and avoiding financial penalties to WESTON for violations. To assure that all TAT members in Region V have explicit understanding of their responsibilities in sample packaging the following procedures have been developed. All samples sent to a laboratory for analysis by a TAT member will conform to the packaging requirements outlined here.

1. Low Hazard Samples

Low level or low hazard samples shipped by TAT personnel are not subject to DOT regulations. There are, however, guidelines and recommendations of the CLP and NEIC to which TAT must abide. For packaging low hazard samples TAT members must:

1. Collect and preserve samples in appropriate containers as required by CLP and outlined in Section I3. Assure that the sample is properly preserved and the cap is sealed with tape.
2. Attach sample tags to each sample as required by CLP and outlined in Section IC and D.
3. Place each sample in a ziploc baggie in such a manner that the sample tag can be read.
4. Place each sample in the shipping container (cooler) which has been lined with two (2) inches of vermiculite or equivalent absorbent material.
5. Surround each sample container with vermiculite or equivalent absorbent material.
6. If ice is required, place an eight (8) pound bag over the vermiculite-covered samples.
7. To prevent breakage and provide stability during transport, fill the shipping container with the absorbent material.
8. Place all shipping paperwork to accompany the samples, excluding airbill, in a manila envelope. This envelope should then be put in a ziploc baggie and taped inside the cooler lid.

NOTE: When shipping samples to a CLP laboratory, the only acceptable shipping container is a metal cooler.

9. Close and seal the cooler using strapping tape. Place the two custody seals documented on the custody record (Section IC) over the shipping container closure.
10. Mark the shipping container with the following information and labels:
 - Shipper's address
 - Laboratory address (consignee)
 - This end up, with arrow, label, (for liquids only).

No other information is required on the shipping containers for low hazard samples, and, when the samples are shipped, no other labels should appear on the containers (this means remove all extra labels).

2. Medium and High Hazard Samples

Medium and high hazard samples shipped by TAT personnel are subject to DOT regulations. Therefore, to comply with the prescribed regulations, all TAT personnel must abide by the following procedures. Please note that all samples for dioxin analysis, regardless of concentration, should be classified and packaged at least as medium level samples.

1. Collect samples in appropriate containers as required by CLP and outlined in Section I. No preservatives are used for medium and high hazard samples. Assure that the sample container cap is sealed with tape.
2. Attach sample tags to each sample as required by CLP and outlined in Section IC and ID.
3. Place each sample in a ziploc bag in such a way that the sample tag can be read.
4. Place each sealed bag inside a metal can and fill the can with absorbent cushioning material such as vermiculite. The can must be sealed, preferably using clips but tape may also be used.
5. Place the name and address of the laboratory on the can.
6. Place a "Flammable Liquid, n.o.s." or "Flammable Solid, n.o.s." label on the can.
7. Place a "Cargo Aircraft Only" label on the can.
8. Place each can in the shipping container (cooler) which has been lined with two (2) inches of absorbent material.

9. Surround each can with absorbent material and to prevent sample breakage and provide stability during transport, fill the shipping container with absorbent material.
10. Place all shipping paperwork to, accompany the samples, excluding the airbill and Shipper's Declaration of Dangerous Goods in a manila envelope. Secure the envelope in a ziploc bag and place the bag on top of the absorbent material in the cooler.
11. Close and seal the cooler using strapping tape. Place the two custody seals documented on the Custody Record (Section IC) over the shipping container closure.
12. Mark the shipping container with the following information and labels:
 - Shipper's address
 - Laboratory address (consignee)
 - "This End Up," with arrow, label (for liquids only)
 - "Cargo Only Aircraft" label
 - "Inside Containers Comply with Prescribed Regulation"s label.
 - "Flammable Liquid" or "Flammable Solid" label.
 - Additional hand-written label indicating DOT proper shipping name, e.g., "Flammable Liquid, n.o.s. UN1993," or "Flammable Solid, n.o.s. UN1325.

(This is required only if the "Flammable Liquid" or "Flammable Solid" labels do not exhibit the applicable DOT proper shipping name.)

These labels need only be placed on one face of a cooler. Packages having a volume greater than 64 ft³ (4'x4'x4') require labeling on two sides or ends.

Figures 1 and 2 indicate the proper labelling of coolers for the two major types of medium and high hazard samples sent by TAT personnel, flammable liquids and flammable solids.

B. Shipping and SMO Notification

To ship packaged samples, the samplers need only to fill out an air bill and for medium, high hazard, and dioxin samples, a Declaration of Dangerous Goods. Detailed directions concerning these forms can be found in Section IO.

After shipping, the sampler should call the TAT Sample Management and relay the following information:

- Case and/or SAS number
- Number and type of samples shipped
- Carrier and air bill number
- Method of shipment (usually overnight)
- Special instructions or problems.

The TAT Sample management will then notify SMO of the shipment.

**CURRENT CLP SMO
IFB ANALYSIS LABORATORIES**

January 1986

INORGANICS

Accu-Labs Research (ACCU)
11485 West 48th Avenue
Wheat Ridge, CO 80033
303/423-2766

..ADDED

68-01-7066 (WA 84-J092)

JAN 2 1986

TAT REG V

William Gilgun, President
Catherine Cairns, Project Manager-Sample Scheduling
Connie Hiatt, Sample Custodian-Air Bills-Sample Scheduling (Alt.)
Dana Horn, Sample Custodian (Alt.)-Air Bills
Bob Summers, Radiation (SAS)

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2950 S. Shaver, A-14
Pasadena, TX 77502
713/941-6703

68-01-6883 (WA 83-A196)

ATTN: KYU JIN LEE

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Syed Hussain, Sample Scheduling (Alt.)
Rick Robinson, Sample Scheduling (Alt.)
Jean Blilie, Invoicing

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West Sacramento, CA 95691
916/372-1393

68-01-6810 (WA 83-A124)
68-01-6873 (WA 83-A195)
68-01-7062 (WA 84-J091)
68-01-7070 (WA 84-J092)

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Tony Wong, Project Manager-SAS Bids
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68-01-6873 (WA 83-A196)
68-01-6874 (WA 83-A195)

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Martin H. Wolf, President
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Keith Hausknecht, Sample Scheduling
Marie Studer, Sample Scheduling (Alt.)
Pat Bragger, Invoicing

Centec Analytical Services (CENTEC)
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Salem, VA 24153
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Dave Tompkins, President-Sample Scheduling (Alt.)
Cheryl Daniel, Project Manager-Sample Scheduling
Jim Crites, Sample Scheduling (Alt.)
Beverly Craig, Sample Custodian-Air Bills

Lab List, 1/86, 32-B

INORGANICS (continued)

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360 West 11th Street 68-01-6875 (WA 83-A195)
New York, NY 10014
212/255-2100 ATTN: DAVID WILLIAMS

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CompuChem Laboratories (COMPU) 68-01-6831 (WA 83-A196)
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Research Triangle Park, NC 27709
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Claude Buller, President
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Richard Bloom, Sample Scheduling, SAS Bids
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Hittman-Ebasco Associates, Inc. (HITMAN) 68-01-7056 (WA 84-J091)
9151 Ramsey Road
Columbia, MD 21045
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JTC Environmental Consultants, Inc. (JTC) 68-01-7063 (WA 84-J091)
Four Research Place, Suite L-10 68-01-7071 (WA 84-J092)
Rockville, MD 20850
301/921-9790 ATTN: ED DANTSKE

Dr. John T. Cookson, Jr., President-SAS Contracts
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Norma Comeford, Sample Scheduling
Tess Garcia, Invoicing

Mack Laboratories (MACK) 68-01-7065 (WA 84-J092)
2199 Dartmore Avenue
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Radian Corporation (RADIAN)
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Rocky Mountain Analytical Lab, Inc. (RMAL)
5530 Marshall Street
Arvada, CO 80002
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68-01-6379 (WA 83-A196)

68-01-7059 (WA 84-J091)

68-01-7063 (WA 84-J092)

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Tony Maiorana, Lab Director-Sample Scheduling-SAS Bids-Invoicing-SAS Contracts
John Laferty, Sample Scheduling (Alt.)
Kathy Hutchinson, Air Bills
Terry Epstein, Invoicing

Spectrix Corporation (SPECS)
3911 Fondren, Suite 100
Houston, TX 77063
713/266-6800

68-01-7067 (WA 84-J092)

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Candy Friday, Sample Scheduling (Alt.)
Mary Foster, Sample Custodian-Air Bills
Shelly Neeld, Invoicing

Toxicon Laboratories (TOXI)
3213 Monterrey Boulevard
Baton Rouge, LA 70814
504/925-5012

68-01-6309 (WA 83-A124)

ATTN: CHARLES MANOS

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U.S. Testing Company, Inc. (USTEST)
1415 Park Avenue
Hoboken, NJ 07030
201/792-2400

68-01-7058 (WA 84-J091)

ATTN: FRANK BUCZYNSKI

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Springfield, VA 22151
703/750-3000

68-01-6882 (WA 83-A196)
68-01-7072 (WA 84-J092)

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Dr. Richard Ronan, Lab Director-QA
Bill Nivens, Project Manager-SAS Bids (642-6762)
Janet Beckman, Sample Scheduling
Bob Maxfield, Sample Scheduling (Alt.)
Sue Haessler, Invoicing

Weyerhaeuser Company (WEYER)
Weyerhaeuser Technology Center
2B-25
Tacoma, WA 98477
206/924-6373

68-01-7060 (WA 84-J091)

Tom Frost, Project Manager-SAS Contracts
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Steve Vincent, Sample Scheduling (Alt.) (-6452)
John Wilkins, Invoicing

Shipping Address:

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Weyerhaeuser Technology Center
32901 - 32nd Drive South
Federal Way, WA 98003

Wilson Laboratories (WILSON)
525 North Eighth Street
Salina, KS 67402
913/825-7186

68-01-6811 (WA 83-A125)
68-01-7061 (WA 84-J091)

ATTN: BERNIE SIEMENS

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Stephen E. Ascher, P.E.; Lab Director-SAS Contracts
Ms. Bernadine (Bernie) Siemens, Project Manager-Sample Scheduling-SAS Bids-Invoicing
Len Newcomer, Sample Scheduling (Alt.)
Bruce Fast, Sample Scheduling (Alt.)
Dave LaMaster, Sample Scheduling (Alt.)

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Acurex Corporation (ACUREX)
Energy & Environmental Division
405 Clyde Avenue
Mountain View, CA 94042
415/964-3200

68-01-6763 (WA 83-A064)
68-01-6782 (WA 83-A064)
68-01-7142 (WA 85-J176)

ATTN: CLAIRE FERGUSON

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James Thompson, SAS Contracts-Sample Scheduling (Alt.)
Dick Scott, Project Manager-GC/MS Operations Manager-SAS Bids
Claire Ferguson, Sample Scheduling
Marge Freese, Invoicing

Analytical Resources, Inc. (ARI)
3008B Sixteenth Avenue West
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68-01-7263 (WA 85-J176)

Susan Rosa, Sample Scheduling-Invoicing
Mark Weidner, Sample Scheduling (Alt.)

Analytical Technologies, Inc. (ATI)
225 West 30th Street
National City, CA 92050
619/477-4173 or 4174

68-01-7014 (WA 84-A266)

Robert Bentley, Contracts
~~Mike Hiett, Program Manager-Sample Scheduling-SAS Contracts-SAS Bids~~
Bob Woods, Sample Scheduling (Alt.)

Aquatec, Inc. (AQUAI)
75 Green Mountain Drive
South Burlington, VT 05401
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ATTN: DR. JOSEPH
COMEAU

68-01-7020 (WA 84-A266)
68-01-6850 (WA 83-A197)
68-01-7150 (WA 84-J177)

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George Starbuck, Sample Scheduling (Alt.)
Kim Bryant, Sample Scheduling (Alt.)
Shelley Diego, Invoicing

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MCNEILL

68-01-6958 (WA 84-A267)
68-01-6965 (WA 84-A266)
68-01-7140 (WA 85-J176)
68-01-7147 (WA 85-J177)

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Dr. Mike Mille, Project Manager
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Ruby Ulrich, Invoicing

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Cambridge Analytical Associates (CAMBRG) 68-01-6791 (WA 83-A093)
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Pat Bragger, Invoicing

Century Refining Company (CENREF) 68-01-7161 (WA 85-J176)
695 North Seventh St.
Brighton, CO 80601
303/659-0497
(Mailing Address: P.O. Box 68)

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Russ VandeVelde, Document Control-Sample Scheduling (Alt.)
Corrine Bringman, Sample Scheduling-Sample Coordination-Air Bills

Clayton Environmental Consultants Inc. (CLAYTN) 68-01-7100 (WA 85-J005)
25711 Southfield Road
Southfield, MI 48075
313/424-3360

Bob Lieckfield, Laboratory Director (2nd Alt.)
Daryl Strandbergh, Project Manager-Sample Scheduling, Program Memo Receipt
Paul Epstein, Sample Scheduling (Alt.)
Tom Hill, Invoicing

CompuChem Laboratories (COMPU) 68-01-6366 (WA 83-A198)
3308 Chapel Hill/Nelson Highway 68-01-7017 (WA 84-A266)
Research Triangle Park, NC 27709 ATTN: ANN
919/549-3263 FLAHERTY
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Richard Bloom, Sample Scheduling, SAS Bids
Ann Flaherty, Client Services-Sample Scheduling (Alt.) (x259)
Larry Jakes, Sample Receipt
Selena Flynt, Invoicing
Mike Pearce, Credit Department-Data Problem Contact

EA Engineering Science & Technology Inc. (EAENG) 68-01-7099 (WA 85-J005)
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Sparks, MD 21152
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Dr. Mohan Khare, Sample Scheduling

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EAL Corporation (EAL)
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Richmond, CA 94804
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68-01-7079 (WA 85-J005)

ATTN: BEN TUCKER

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Mary Fencil, Project Manager-GC/MS Supervisor, Sample Scheduling
Jeff Brown, Asbestos Chemist-Asbestos SAS Bids
Rod Melgard, Radiation Chemist
Mary Hunt, Radiation Chemist-Radiation SAS Bids
Barbara McColeny, Invoicing

Ecology & Environment (E&E)
4285 Tennessee St.
Buffalo, NY 14225
716/631-0360

68-01-7158 (WA 85-J176)

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Tony Bogolin, Sample Scheduling (Alt.)
William Howard, Sample Coordination-Air Bills

Enseco Corporation (ENSECO)
205 Alewife Brook Parkway
Cambridge, MA 02138-1101
617/661-3111

68-01-7027 (WA 84-A267)

Dr. Curt Rose, President
Michael McDonough, Vice President
Dr. Dallas Wait, Vice President-Director of Analytical Services-
SAS Contracts-SAS Bids
Lucy Guzman, Asst. Lab Director-Sample Scheduling (Alt.)
Elly Kwong, Sample Scheduling
Bonnie Driscoll, Invoicing

Envirodyne Engineers (ENV)
12161 Lackland Road
St. Louis, MO 63146
314/434-6960

68-01-6852 (WA 83-A198)
68-01-7087 (WA 85-J006)

ATTN: SHAABAN
BEN-POORAT

Dr. David C. Kennedy, Vice President-Office Manager-SAS Contracts
Shaaban Ben-Poorat, Project Manager-Sample Scheduling-SAS Bids
Dr. Carol Byington, Sample Scheduling (Alt.)
Dorothy Haupt, Invoicing

Environmental Control Technology Corp. (ENCOT)
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Ann Arbor, MI 48104
313/761-1389

Awaiting Award

ATTN: PHIL BARTHOLOMAE

Peter F. Atkins, Jr., President
Dale Scherger, Vice President-Project Manager-SAS Contracts-
Sample Scheduling-Invoicing
Mike Jeager, GC/MS Group Leader-Sample Scheduling (Alt.)

Lab List, 1/86, 32-B

ORGANICS (continued)

Environmental Monitoring & Services, Inc. (EMSI)

EESD - EMSC

2421 W. Hillcrest Drive, Newbury Park

Ventura County, CA 91320

805/498-6771

68-01-7023 (WA 84-A267)

68-01-7144 (WA 85-J176)

Michael Taday, Program Manager-Sample Scheduling-SAS Contracts

June Turley, SAS Contracts

Richard Countess, Project Manager-RAS Scheduling

Sue Ozdemir, Sample Scheduling (Alt.)

Shelley Wright, Invoicing

Environmental Research Group (ERG)

117 North First Street

Ann Arbor, MI 48104

313/662-3104

ATTN: JAMES HARLESS

68-01-6869 (WA 83-A193)

68-01-7012 (WA 84-A266)

Joseph Hnatow, Project Manager-Sample Scheduling-SAS Bids

Robin Wooley, Sample Scheduling (Alt.)

Peg Merica, Invoicing

Environmental Testing & Certification Corp. (ETC)

284 Raritan Center Parkway

P.O. Box 7808

Edison, NJ 08818

201/225-5600

ATTN: DIANE FOSTER

68-01-6788 (WA 83-A063)

68-01-6789 (WA 83-A064)

68-01-6790 (WA 83-A093)

Swepe Davis, Vice President-Marketing (-6707)

Dr. Denis Lin, SAS Contracts (-6704)

Lynn Buzzi, Sample Scheduling-SAS Bids (-6747)

Jack Farrell, Sample Scheduling (Alt.)

Arlene Patrick, Invoicing

GCA Technology Division (GCA)

213 Burlington Road

Bedford, MA 01730

617/275-5444

ATTN: GAIL HUNT

68-01-7080 (WA 85-J005)

68-01-7145 (WA 85-J176)

Arthur Engelman, Manager-Contract Administrator-SAS Contracts

Jackie Farragut, Sample Scheduling-SAS Bids-Administrative Coordinator

Debra McGrath, Sample Scheduling (Alt.)

Mary Acthinson, SAS Awards

Joanna Hall, Invoicing

Gulf South Research Institute (GULF)

5010 LeRoy Johnson Road

New Orleans, LA 70126

504/283-4223

ATTN: CINDY PALAZZO

68-01-6959 (WA 84-A267)

68-01-7141 (WA 85-J176)

Jim Henderson, Project Manager-SAS Contracts*

Cindy Palazzo, Sample Scheduling-SAS Bids

Rich Whitney, SAS Bids-Technical Questions

Invoicing & Contracts: 7600 GSRI Ave., Baton Rouge, LA 70803

504/766-3300

*Evelyn L. Fike, SAS Contract-Mailing

Marsha LeBlanc, Invoicing

ORGANICS (continued)

Hazleton Laboratories (HAZLET)

68-01-6961 (WA 84-A267)

3301 Kinsman Boulevard

68-01-7146 (WA 85-J176)

Madison, WI 53704

ATTN: DAVID HILLS

608/241-4471

(Mailing Address: P.O. Box 7545; Madison, WI 53707)

Robert Conway, SAS Contracts

David Hills, Project Manager-Sample Scheduling-SAS Bids (Ext. 353)

Lee Gough, Sample Receipt

Mark Hottinger, Invoicing

IT Analytical Services (ITSTU)

68-01-7025 (WA 84-A267)

5815 Middlebrook Pike

Knoxville, TN 37921

ATTN: SNELL MILLS

615/583-6401

Snell Mills, III, Project Manager-Sample Scheduling

Jack Hall, Lab Director

Tom Wilson, GC/MS Technical Manager-Sample Scheduling (Alt.)-Air Bills

Diane Jones, Invoicing

IT Corporation (IT)

68-01-6962 (WA 84-A267)

17605 Fabrica Way, Suite D

Cerritos, CA 90701

714/523-9200

ATTN: LINDA KROKENBERGER

213/921-9831

Rich Merrill, Project Manager

Linda Krokenberger, SAS Contracts-Sample Scheduling-SAS Bids

Sherol Suhl, Sample Scheduling (Alt.)

Diane Sorensen, Invoicing

Laucks Testing Laboratories, Inc. (LAUCKS)

68-01-6964 (WA 84-A266)

940 South Harney Street

68-01-7024 (WA 84-A267)

Seattle, WA 98108

206/767-5060

ATTN: MIKE NELSON

Barbara McNatt, Management

Mike Nelson, Chief Chemist-Sample Scheduling-SAS Bids-SAS Contracts

Barbara Gleason, Sample Custodian

Mary Taylor, Invoicing

Nanco Laboratories, Inc. (NANCO)

68-01-7102 (WA 85-J006)

Unity Street at Route 376

Hopewell Junction, NY 12533

914/221-2485

ATTN: ARUN GAIND

(Mailing Address: P.O. Box 10)

Dr. Arun Gaind

Constance Gaind, Sample Scheduling

George O'Dell, Sample Scheduling

Joan Rossi, Invoicing

ORGANICS (continued)

NUS Corporation (NUS)
Park West Two
Cliff Mine Road
Pittsburgh, PA 15275
412/733-1030

63-01-7022 (WA 84-A267)

Al Kupiec, Marketing
Dave Danner, Project Manager
Peg Marple, Lab Manager-Sample Scheduling
Johanne Cosgrove, Sample Scheduling (Alt.)

Sample Shipment: NUS Corp., Lab Services Division
5350 Campbells Run Rd.
Pittsburgh, PA 15205

PEI Associates, Inc. (PEI)
11499 Chester Road
Cincinnati, OH 45246
513/782-4700

ATTN: BILL JESS

63-01-7015 (WA 84-A266)
63-01-7084 (WA 85-J006)

George A. Jutze, President (SAS Contract Addressee)
Bill Jess, Organic Lab Supervisor (-4686)
Craig Caldwell, Lab Coordinator-Sample Scheduling-SAS Bids (SAS Contract Recipient)
Bob Madden, Sample Scheduling (Alt.)
Lori Rutella, Sample Receipt
Pam Paul, Invoicing

Radian Corporation (RADIAN)
10395 Old Placerville Road
Sacramento, CA 95827
916/362-5332

ATTN: LUKE
PETKOVSEK

63-01-6853 (WA 83-A198)

David Jones, Business Manager
Luke Petkovsek, Project Manager-Sample Scheduling
Barbara Ogar, Sample Receipt-Air Bills

Rocky Mountain Analytical Lab, Inc. (RMAL)
5530 Marshall Street
Arvada, CO 80002
303/421-6611

ATTN: KIM ZILIS

63-01-7016 (WA 84-A266)
63-01-7083 (WA 85-J005)
63-01-7086 (WA 85-J006)

Dr. Mark J. Carter, President
John Logsdon, Lab Director
Ken Faust, Section Manager-SAS Contracts-Sample Scheduling & SAS Bids (Alt.)
Kim Zilis, Sample Scheduling-SAS Bids
Kathy Hutchinson, Air Bills
Terry Epstein, Invoicing

ORGANICS (continued)

Science Applications International Corp., (SAI)
Division of Applied Environmental Sciences
476 Prospect Street
La Jolla, CA 92038
619/456-7521

63-01-6351 (WA 83-A198)
63-01-7143 (WA 85-J176)

ATTN: BILL
VICK

Robert F. Shokes, Vice President-SAS Contracts
Tom Cullen, Sample Scheduling-SAS Bids (x7693)
Bill Vick, Sample Scheduling-SAS Bids (Alt.)
Gary Smith, Sample Scheduling (Alt.)
Mike Beckel, Sample Scheduling (Alt.)-Sample Receipt-Air Bills
Mary Kay Sinclair, Invoicing

S-Cubed (S³)
3398 Carmel Mountain Road
San Diego, CA 92121
619/453-0060

ATTN: PHIL RYAN

63-01-6368 (WA 83-A198)
63-01-7021 (WA 84-A267)

Eugene A. Burns, President-SAS Contracts
JoAnn Wilkinson, Project Manager-Sample Scheduling-SAS Bids-GC/MS (Alt.)
Paul Marsden, SAS Bids-Sample Scheduling (Alt.)
Jean Urabe, Invoicing

Southern Research Institute (SoRI)
2000 Ninth Avenue South
Birmingham, AL 35255
205/323-6592
(Mailing Address: P.O. Box 55303)

68-01-7098 (WA 85-J005)

Robert (Bob) Adams, Program Manager-Sample Scheduling
Dr. Ruby James

Southwest Laboratory of OK Inc. (SWOK)
10926 E. 55th Place
Tulsa, OK 74146
918/665-0680

63-01-7168 (WA 85-J177)

Jack Wright, President-Sample Scheduling
Jayant Sinnogpore, Sample Scheduling (Alt.)

Southwest Research Institute (SWRI)
6220 Culebra Rd.
San Antonio, TX 78238
512/684-5111

63-01-7167 (WA 85-J176)

S. H. Birgel, Director-SAS Contracts
David Camann, Sample Scheduling (512/522-2673)
Dr. Jong-Pyng Hsu, Sample Scheduling (Alt.) (512/522-2228)
Dr. Johnson, Sample Scheduling (2nd Alt.) (512/522-2176)

ORGANICS (continued)

Spectrix Corporation (SPECS) 68-01-6365 (WA 83-A197)
3911 Fondren, Suite 100 68-01-7018 (WA 84-A266)
Houston, TX 77063-5821 ATTN: MARY FENZIL 68-01-7149 (WA 85-J177)
713/266-6800

Dr. Harris A. Lichtenstein, President
Dennis Lichtenstein, Vice President-Treasurer
Ted Ostermann, Program Manager-Sample Scheduling
Shelley Neeld, Invoicing
Dan Tong, Sample Scheduling (Alt.)

Toxicon, Inc. (TOXI) 68-01-7026 (WA 84-A267)
3213 Monterrey Boulevard 68-01-7148 (WA 85-J177)
Baton Rouge, LA 70814
504/925-5012

Charles Westerman, Program Manager-Sample Scheduling

Utah Biomedical Test Laboratory, Inc. (UBTL) 68-01-6864 (WA 83-A197)
520 Wakara Way 68-01-7013 (WA 84-A266)
Salt Lake City, UT 84108 ATTN: DR. EDWARD SANDERS
801/584-3232

Dr. Edward Sanders, Organic Chemistry Division-SAS Contracts-
Sample Scheduling-SAS Bids
Jim Perkins, Project Manager

University of Iowa (IOWA) 68-01-7101 (WA 85-J005)
University Hygenic Laboratory ATTN: ROGER SPLINTER
Iowa City, IA 52242
319/353-5990

Dr. Roger Splinter, Sample Scheduling
Dr. George Brewer, Sample Scheduling (Alt.)
Mary Freitag, Sample Custodian

U.S. Testing Company, Inc. (USTEST)
1415 Park Avenue 68-01-6963 (WA 84-A267)
Hoboken, NJ 07030 ATTN: JANE LANDSBERG 68-01-7081 (WA 85-J005)
201/792-2400

Richard D. Posner, Vice President-SAS Contracts
Al Tordini, Project Manager-Invoicing-SAS Bids (Ext. 253)
Eli Paxot, Sample Scheduling (Ext. 325)
Jane Landsberg Dunn, Invoicing

ORGANICS (continued)

Versar, Inc. (VERSAR)
6850 Versar Center
Springfield, VA 22151
703/750-3000

ATTN: SCOTT POWERS

68-01-7019 (WA 84-A266)
68-01-7082 (WA 85-J005)
68-01-7085 (WA 85-J006)

Walter H. Rogers, Jr., Vice President-Treasurer-SAS Contracts
Charlie Carter, Sample Scheduling-SAS Bids (642-6756)
Victor Yastrop, GC Section Chief-SAS Bids (GC)
Scott Powers, GC/MS Lab Manager-Sample Scheduling (Alt.)
Sue Haessler, Invoicing

Wadsworth Testing (WADSWO)
1600 Fourth Street, S.E.
Canton, Ohio 44701
216/454-5809

68-01-7156 (WA 85-J177)

Tim Lavey, Project Manager-Sample Scheduling
Carol Boland, Sample Scheduling (Alt.)
Mike Sekel, Sample Scheduling (Alt.)

West Coast Analytical Service, Inc. (WCAS)
9840 Alburdis Avenue
Santa Fe Springs, CA 90670
213/948-2225

68-01-7110 (WA 85-J006)

ATTN: DAVID PIERCE

Dr. Jack Northington, President-Technical Director-SAS Bids-SAS Contracts
Joe Bramblett, Lab Manager

Western Research Institute (WRI)
P.O. Box 3395
Laramie, WY 82071
307/721-2217
(Shipping Address: Ninth & Louis Streets)

68-01-7160 (WA 85-J176)

Ken Baughman, Lab Manager-Sample Scheduling
Joe Morotti, Sample Scheduling (Alt.) (X 2204)
Marilyn Seckinger, Lab Custodian-Air Bills (X2243)

Weston Analytical Lab, Inc. (WESTON)
256 Welsh Pool Road
Lionville, PA 19353
215/524-0180

68-01-6731 (WA 83-A064)

ATTN: TED TREM

Carter Nulton, Organic Section Manager
Earl Hansen, Lab Manager
Stephanie Tobba, Sample Scheduling-Air Bills

ORGANICS (continued)

York Laboratories (YORK)
200 Monroe Turnpike
Monroe, Connecticut 06468
203/261-4458

68-01-7157 (WA 85-J177)

Robert Bradley, Vice President-Sample Scheduling
Dan Ott, Sample Scheduling (Alt.)
Jill Wakely, Sample Coordination-Air Bills

F.C. HART ASSOCIATES
QA LABORATORY, ROOM 19
944 E. HARMON AVENUE
LAS VEGAS, NEVADA
89109
ATTN: TERRY TILTON

DIOXINS

American Analytical & Technical Services, Inc. (AATS) 68-01-6933 (WA 84-A002)
10926 E. 55th Place
Tulsa, OK 74146 ATTN: ROBERT HARRIS
918/665-2069

Robert Harris, Sample Scheduling-SAS Bids
Jack Wright, Sample Scheduling (Alt.)-SAS Contracts
Jong Pyng Hsu, Organic Lab Manager
Fred Morley, Invoicing

Biospherics, Inc. (BIO) 68-01-6930 (WA 84-A002)
4928 Wyaconda Road
Rockville, MD 20852 DR. GILBERT LEVIN
301/770-7700

John Yarko, Sample Scheduling
Nancy Cargill, Sample Scheduling (Alt.)
Frank Fitzpatrick, Sample Scheduling (Alt.)

California Analytical Labs, Inc. (CAL) 68-01-6916 (WA 84-A002)
2544 Industrial Boulevard
West Sacramento, CA 95691 ATTN: ~~QUANTRAVE~~ BOB HART
916/372-1393 MIKE ORBANSKY

Dr. Paul Taylor, President-SAS Contracts
Dr. Michael Mülle, SAS Bids
Bob Hart, Sample Scheduling-SAS Bids (Alt.)
Bonnie McNeill, Sample Scheduling (Alt.)
Ruby Ulrich, Invoicing

CompuChem Laboratories (COMPU) 68-01-6915 (WA 84-A002)
3303 Chapel Hill/Nelson Highway
Research Triangle Park, NC 27709
919/549-3263
(Mailing Address: P.O. Box 12652)

Kevin McConnaghy, Project Manager-SAS Contracts
Jill Henes, Project Scientist
Richard Bloom, Sample Scheduling
Selena Flynt, Invoicing

Envirodyne Engineers (ENV) 68-01-6917 (WA 84-A002)
12161 Lackland Road
St. Louis, MO 63146 ATTN: JUDY STONE
314/434-6960

Dr. David C. Kennedy, Vice President-Office Manager-SAS Contracts
Will Soloman, Sample Scheduling-SAS Bids (Alt.)
Judy Stone, Document Control-Sample Scheduling-SAS Bids
Margaret Winter, SAS Bids (Alt.)
Dorothy Haupt, Invoicing

DIOXINS (continued)

Environmental Testing and Certification Corp. (ETC) 68-01-6913 (WA 84-A002)
234 Raritan Center Parkway
Edison, NJ 08837 ATTN: DIANE FOSTER
201/225-5600

Jack Farrell, Project Manager
Diane Foster, Sample Scheduling-SAS Bids
Dr. Denis Lin, SAS Contracts
Arlene Patrick, Invoicing

Geochem Research Inc. (GEO) 68-01-6931 (WA 84-A002)
16920 Park Row
Houston, TX 77084 ATTN: DR CHARLES BOHNSTEDT
713/492-2510

Dr. Charles Bohnstedt, Sample Scheduling-Invoicing
Brenda La Cille, Sample Scheduling (Alt.)
Louis Seims, Sample Scheduling (Alt.)

Hazleton Laboratories, Inc. (HAZLET) 68-01-6913 (WA 84-A002)
3301 Kinsman Boulevard
Madison, WI 53704 ATTN: DAVE HILLS
608/241-4477
(Mailing Address: P.O. Box 7545)

Robert Conway, SAS Contracts
Dave Hills, Sample Scheduling-SAS Bids (Ext. 353)
Dr. Emilio Sturino, Sample Scheduling (Alt.)
Mark Hottinger, Invoicing

Laucks Testing Laboratories, Inc. (LAUCKS) 68-01-6932 (WA 84-A002)
940 S. Harney Street
Seattle, WA 98108 ATTN: DR. MICHAEL NELSON
206/767-5060

Dr. Michael Nelson, Sample Scheduling
Barbara McNatt, Sample Scheduling (Alt.)
Charlene Nix, Sample Scheduling (Alt.)
Mary Taylor, Invoicing

O'Brien & Gere Engineers, Inc. (OBRIEN) 68-01-6934 (WA 84-A002)
1304 Buckley Road
Syracuse, NY 13221 ATTN: DAVID R. HILL
315/451-4700
(Mailing Address: P.O. Box 4873)

Antonio LoSurdo, Sample Scheduling-SAS Bids
David R. Hill, Sample Scheduling (Alt.)-SAS Contracts
Barbara Pauling, Sample Scheduling (2nd Alt.)

DIOXINS (continued)

Rocky Mountain Analytical Laboratory, Inc. (RMAL)
5530 Marshall Street
Arvada, CO 80002
303/421-6611

68-01-6914 (WA 84-A002)

ATTN: KIM ZILIS

Dr. Mark J. Carter, President-SAS Contracts
Ken Faust, Sample Scheduling-SAS Bids (Alt.)
Dr. John Logsdon, Sample Scheduling (Alt.)-SAS Bids

U.S. Testing Company, Inc. (USTEST)
1415 Park Avenue
Hoboken, NJ 07030
201/792-2400

68-01-6935 (WA 84-A002)

ATTN: AL TORDINI

Richard D. Posner, Vice President-SAS Contracts
Al Tordini, Project Manager-SAS Bids-Technical Contact
Eli Paxot, Sample Scheduling (Ext. 325)
Jane Landsberg Dunn, Invoicing-Documents Control

Versar, Inc. (VERSAR)
6850 Versar Center
Springfield, VA 22151
703/750-3000

68-01-6929 (WA 84-A002)

ATTN: ~~CHARLIE~~ CHARLIE CARTER

Charlie Carter, Sample Scheduling
Sue Haessler, Invoicing

ACID DEPOSITION

Environmental Monitoring & Service, Inc. (EMSI)
2421 W. Hillcrest Drive
Newbury Park, CA 91320
805/498-6771

68-01-6975 (WA 84-A240)
68-01-7138 (WA 85-J060)

Sue Ozdemir, Sample Scheduling
Shelley Wright, Invoicing
John W. Bradley

Global GeoChemistry Corporation (GLOBAL)
6919 Eton Avenue
Canoga Park, CA 91303
818/992-4103

68-01-6976 (WA 84-A240)
68-01-7172 (WA 85-J060)

Helen Kaplan, Secretary-Treasurer
Stan Shepard, Sample Scheduling

Huffman Laboratories, Inc. (HUFF)
3830 High Ct.
Wheat Ridge, CO 80034
303/424-3232

68-01-7256 (WA 85-J566)

Bob Heistand, Project Manager

NYS Dept. of Health & Health Research, Inc. (NYS)
Tower Building, Room 1315
Empire State Plaza
Albany, NY 12237
518/474-8565

68-01-7105 (WA 85-J060)

Dr. Hu Sain, Chief, Lab of Inorganic Analytical Chemistry
Dr. David Axelrod
Roger Rosenthal, Invoicing (X 5438)

Post, Buckley, Schuh & Jernigan, Inc. (PBSJ)
889 North Orange Ave.
Orlando, FL 32801
305/423-7275

68-01-7137 (WA 85-J060)

Phillip E. Searcy

ACID DEPOSITION (continued)

Versar, Inc. (VERSAR)
P.O. Box 1549
6850 Versar Center
Springfield, VA 22151
703/750-3000

68-01-6974 (WA 84-A240)
68-01-7164 (WA 85-J060)

Walter H. Rogers, Jr., Vice President-Treasurer
Ken Ives, Sample Scheduling (642-6761)

Weyerhaeuser Company (WEYER)
Weyerhaeuser Analytical & Testing Services
2B-25
Tacoma, WA 98477
206/924-6373

68-01-7255 (WA 84-J566)

Thomas Frost, Lab Manager

NON-IFB SAS

For use if insufficient number of IFB laboratories are available for competition.

Dioxin:

Battelle-Columbus Labs
505 King Avenue
Columbus, OH 43201
614/424-6424

Dr. David L. Miller, Dioxin Lab Manager-SAS Bids-Sample Scheduling (X6490)
Michael Sewell, SAS Contracts
Dr. Fred DeRoos, Sample Scheduling (Alt.) (X4247)
Gregory Krager, Accounts Receivable

IIT Research Institute
Chemistry Division
10 West 35th Street
Chicago, IL 60616
312/567-4000

Dr. Jack O'Neill, Sample Scheduling (Alt.) (X4267)
Mike Miller, SAS Bids-Sample Scheduling
T. R. Plonis, SAS Contracts
Kirit Parikh, Sample Scheduling (Alt.)-QA Officer (X4380)

IT Corporation
312 Directors Drive
Knoxville, TN 37923
615/690-3211

Stan Wojinski

Midwest Research Institute
425 Volker Boulevard
Kansas City, MO 64110
816/753-7600

Dr. John Stanley, SAS Bids-Sample Scheduling
Dr. John Going, Sample Scheduling (Alt.)
Robert Donaldson, SAS Contracts

Triangle Laboratories
4915 Prospectus Drive, Suite F
Research Triangle Park, NC 27709
919/544-5729

Dr. Ron Hass
Caroline Hass, Invoicing

Wright State University
Brehm Laboratory
3640 Colonel Glenn Road
Dayton, OH 45435
513/873-2202 (Direct)
513/873-3333 (University Operator)

Dr. Thomas O. Tiernan, SAS Contracts-SAS Bids-Sample Scheduling
Dr. Michael Taylor, Sample Scheduling (Alt.)-SAS Bids (Alt.)

NON-IFB SAS (continued)

Asbestos:

EMS Laboratories
12563 Crenshaw Boulevard
Hawthorne, CA 90250
213/973-6694

ATTN: DR BERNIE TOOPER

Dr. Bernie Tooper, Lab Director-SAS Bids-SAS Contracts
Tony Kolk, Sample Scheduling

McCrone Environmental Services, Inc.
200 Oakbrook Business Center
5500 Oakbrook Parkway
Norcross, GA 30093
404/449-8461

Donald Brooks, SAS Contracts
Randy Boltin, Sample Scheduling
James Smith, Sample Scheduling (Alt.)

PRESERVATIVES AND MAXIMUM HOLDING TIMES OF SAMPLES
(WATER, SOIL, SEDIMENT)

Based on U.S. EPA "Sample Handling Protocol for Hazardous Waste," May 20, 1983, low hazard samples must be preserved as follows:

1. Organics: Water, extractable
Preservative - iced to 4°C
Holding time - 2 days from collection to extraction

*Recommended
10 days - VOCs
for soil/sediment
samples*

Water, VOA
Preservative - iced to 4°C
Holding time - 7 days from collection to analysis

*extractions for
bn, acids & pest
must be performed
E/in 5 days of
sample receipt
for H₂O + 10 days
for soil/sediment
samples*

Soils/Sediments, Extractable + VOA
Preservative - iced to 4°C
Holding time - No holding time has been specified.

Water, metals
Preservative - 5 mls 1:1 HNO₃
Holding time - 6 months from collection to analysis

Water, mercury only
Preservative - 3 mls 1:1 HNO₃ or 5 mls
HNO₃, K₂Cr₂O₇
Holding time - 14 days with HNO₃, 25 days
with HNO₃, K₂Cr₂O₇ from collection
to analysis

Water, NH₃, TOC
Preservative - 1 mls 1:1 H₂SO₄, ice to
4°C
Holding time - 28 days from collection to
analysis

Water, pH, F⁻, general chemistry
Preservative - ice to 4°C
Holding time - 48 hours from collection to
analysis

Water, cyanide
Preservative - 5 mls 6N NaOH and ice to
4°C
Holding time - 14 days from collection to
analysis

Water, sulfide
Preservative - 8 mls zinc acetate solution
Holding time - 7 days from collection to
analysis

Water, oil and grease

Preservative - 10 ml 1:1 H_2SO_4

Holding time - 28 days from collection to analysis

Water, phenols

Preservative - 10 ml $\text{CuSO}_4\text{-H}_3\text{PO}_4$ and ice to 4°C

Holding time - 48 hours from collection to analysis

Inventory File

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5
230 South Dearborn Street
Chicago, Illinois 60604



Project Code (1)		Station No. (2)	Month/Day/Year (7)	Time (11)	Designate (5)	Grab	Preservative: Yes ☐ (9) No ☐
						Comp	
Station Location (3)		Station Location (3)		Samplers (Signatures) (12)		ANALYSES (9)	
						BOD Alions Solids (TSS) (TOS) (SS) COD, TOC, Nutrients Phenolics Mercury Metals Cyanide Oil and Grease Organics GC/MS Priority Pollutants Volatile Organics Pesticides Mutagenicity Bacteriology (10) Remarks (11)	
Tag No 544651 (13)		Lab Sample No (12)					

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION V
OFFICIAL SEAL
Nº 20460



ORGANICS WASTE REPORT

1

① Case Number: _____ Sample Site Name/Code: _____ _____ _____		② SAMPLE CONCENTRATION (Check One) ____ Low Concentration ____ Medium Concentration		④ Ship To: Attachment 6 Attn: _____ Transfer Ship To:																																							
⑤ Regional Office: Sampling Personnel: _____ (Name) _____ (Phone) Sampling Date: (Begin) _____ (End) _____		⑥ For each sample collected specify number of containers used and mark volume level on each bottle. <table border="1"><thead><tr><th></th><th>Number of Containers</th><th>Approximate Total Volume</th></tr></thead><tbody><tr><td>Water (Extractable)</td><td></td><td></td></tr><tr><td>Water (VOA)</td><td></td><td></td></tr><tr><td>Soil/Sediment</td><td></td><td></td></tr><tr><td>Water (Ext/VOA)</td><td></td><td></td></tr><tr><td>Other</td><td></td><td></td></tr></tbody></table>			Number of Containers	Approximate Total Volume	Water (Extractable)			Water (VOA)			Soil/Sediment			Water (Ext/VOA)			Other			<table border="1"><tbody><tr><td>E 2427</td><td>• Water (Extractable)</td></tr><tr><td>E 2427</td><td>• Water (Extractable)</td></tr><tr><td>E 2427</td><td>• Water (Extractable)</td></tr><tr><td>E 2427</td><td>• Water (VOA)</td></tr><tr><td>E 2427</td><td>• Water (VOA)</td></tr><tr><td>E 2427</td><td>• Water (VOA)</td></tr><tr><td>E 2427</td><td>• Soil/Sediment (Ext & V)</td></tr><tr><td>E 2427</td><td>• Soil/Sediment (Ext & V)</td></tr><tr><td>E 2427</td><td>• Water (Ext & V)</td></tr><tr><td>E 2427</td><td>• Water (Ext & V)</td></tr></tbody></table>		E 2427	• Water (Extractable)	E 2427	• Water (Extractable)	E 2427	• Water (Extractable)	E 2427	• Water (VOA)	E 2427	• Water (VOA)	E 2427	• Water (VOA)	E 2427	• Soil/Sediment (Ext & V)	E 2427	• Soil/Sediment (Ext & V)	E 2427	• Water (Ext & V)	E 2427	• Water (Ext & V)
	Number of Containers	Approximate Total Volume																																									
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Water (VOA)																																											
Soil/Sediment																																											
Water (Ext/VOA)																																											
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E 2427	• Water (VOA)																																										
E 2427	• Water (VOA)																																										
E 2427	• Water (VOA)																																										
E 2427	• Soil/Sediment (Ext & V)																																										
E 2427	• Soil/Sediment (Ext & V)																																										
E 2427	• Water (Ext & V)																																										
E 2427	• Water (Ext & V)																																										
⑦ Shipping Information Name of Carrier: _____ Date Shipped: _____ Airbill Number: _____																																											
⑧ Sample Description ____ Surface Water ____ Mixed Media ____ Ground Water ____ Solids ____ Leachate ____ Other (specify) _____				⑨ Sample Location																																							
⑩ Special Handling Instructions: (e.g., safety precautions, hazardous nature)																																											

SMOCOPY



U.S. ENVIRONMENTAL PROTECTION AGENCY

DEPARTMENT OF AGRICULTURE

INORGANICS TRANSFER REPORT

Sample Number

ME 1225

① Case Number: _____
Sample Site Name/Code: _____

② SAMPLE CONCENTRATION

(Check One)

_____ Low Concentration
_____ Medium Concentration

③ SAMPLE MATRIX

(Check One)

_____ Water
_____ Soil/Sediment

④ Ship To: _____

Attn: _____

Transfer _____

Ship To: _____

⑤ Sampling Office: _____

Sampling Personnel: _____

(Name) _____

(Phone) _____

Sampling Date: _____

(Begin) _____ (End) _____

⑥ Shipping Information:

Name Of Carrier: _____

ME1225 - Task 1 & 2

Date Shipped: _____

ME1225 - Task 1 & 2

Airbill Number: _____

ME1225 - Task 3

Sample Description:

(Check One)

_____ Surface Water
_____ Ground Water
_____ Leachate
_____ Mixed Media
_____ Solids
_____ Other _____

(specify)

⑧ Mark Volume Level

On Sample Bottle

Check Analysis required

_____ Task 1 & 2
_____ Task 3 Ammonia
Sulfide
Cyanide

ME1225 - Task 3

ME1225 - Task 3

ME1225 - Task 3

MATCHES ORGANIC SAMPLE NO. _____

ME1225 - Task 3

SMO COPY



HAZARDOUS WASTE (CERCLA) REPORT

FIELD SAMPLE RECORD

① Case Number: Sample Site Name/Code: 	② Field Sample Description: Drum Aqueous Liquid Sludge Solid Oil Other	③ Ship To: Attn:
④ Sampling Office: Sampling Personnel: (name) (phone) Sampling Date:) (end)	⑤ Known or Suspected Hazards: 	⑥ Sample Location:
⑧ Shipping Information: (name of carrier) (date shipped) (airbill number)	⑦ Preparations Requested: (check below) Sample Volume: _____ E 5503 Organics Volatile Organics E 5503 Base Neutral Acid TCDD Pesticides, PCB E 5503 Inorganics Total Metals E 5503 Total Mercury Strong Acid Anions E 5503	
⑨ Special Handling Instructions: 		

SMO Copy

Shipper

Air Waybill No

Page of Pages

Shipper's Reference Number
(optional)

Consignee

EMERY
WORLDWIDE*Five completed and signed copies of this Declaration must be handed to the operator.***WARNING**

Failure to comply in all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties. This Declaration must not, in any circumstances, be completed and/or signed by a consolidator, a forwarder or an IATA cargo agent.

TRANSPORT DETAILS

This shipment is within the limitations prescribed for *(delete not applicable)* Airport of Departure

PASSENGER AND CARGO AIRCRAFT	CARGO AIRCRAFT ONLY
------------------------------------	---------------------------

Airport of Destination

Shipment type *(delete not applicable)*

NON-RADIOACTIVE	RADIOACTIVE
-----------------	-------------

NATURE AND QUANTITY OF DANGEROUS GOODS*Parts 171 and 172 of 49CFR**Sub Section B 1 of IATA Dangerous Goods Regulations***Dangerous Goods Identification**

Proper Shipping Name	Class or Division	UN or ID No	Subsidiary Risk	Quantity and type of packing	Packing Inst.	Authorization

Additional Handling Information

This shipment prepared according to: ☐ 49CFR ☐ IATA Regulations

I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labelled, and are in all respects in the proper condition for transport by air according to the applicable International and National Government Regulations

Name/Title of Signatory

Place and Date

Signature

(see warning above)

Shipper **ROY F. WESTON, INC.**
666 W. DUNDEE, SUITE 1502
NORTHBROOK, IL 60062

Air Waybill No **01234**

Page **1** of **1** Pages

Shipper's Reference Number
 (optional) **2343-11-05-PCS**

Consignee

FRED C. HART ASSOCIATES
REGULATED SUBSTANCES LAB @ NEIC
DENVER FEDERAL CENTER
BUILDING 53 (GREEN TRAILER)
DENVER, COLORADO 80225

EMERY
WORLDWIDE



Five completed and signed copies of this Declaration must be handed to the operator.

WARNING

Failure to comply in all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties. This Declaration must not, in any circumstances, be completed and/or signed by a consolidator, a forwarder or an IATA cargo agent.

TRANSPORT DETAILS

This shipment is within the limitations prescribed for
 (delete non applicable)

Airport of Departure

☒ PASSENGER AND CARGO AIRCRAFT
☐ CARGO AIRCRAFT ONLY

CHICAGO

Airport of Destination

DENVER

Shipment type (delete non applicable)

☒ NON-RADIOACTIVE ~~RADIOACTIVE~~

NATURE AND QUANTITY OF DANGEROUS GOODS

Parts 171 and 172 of 49CFR

Sub Section B 1 of IATA Dangerous Goods Regulations

Dangerous Goods Identification

Proper Shipping Name	Class or Division	UN or ID No	Subs. hazard class	Quantity and type of packing	Packing Inst.	Authorization
FLAMMABLE SOLID, N.O.S.		UN 1325		1 cooler x 4-8oz jars NET TOTAL - 32oz (LIMITED QUANTITY)		
CARGO ONLY AIRCRAFT						

Additional Handling Information

49CFR PART 172.402(h)

This shipment prepared according to: ☒ 49CFR ☐ IATA Regulations

I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labelled, and are in all respects in the proper condition for transport by air according to the applicable International and National Government Regulations

Name/Title of Signatory

GEOFF WATKIN / PROJECT CHIEF

Place and Date

SHIPPER'S ADDRESS 10/17/84

Signature

(Signature)

[Signature]

Shipper **ROY F. WESTON, INC.**
666 W. DUNDEE, SUITE 1502
NORTHBROOK, IL 60062

Air Waybill No **01234**

Page **1** of **1** Pages

Shipper's Reference Number **2343-11-05-PCS**
(optional)

Consignee **ROCKY MOUNTAIN ANALYTICAL LABS**
5530 MARSHALL STREET
ARVADA, CO 80002
ATTN: TONY MAIORANA

EMERY
WORLDWIDE



Five completed and signed copies of this Declaration must be handed to the operator.

WARNING

Failure to comply in all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties. This Declaration must not, in any circumstances, be completed and/or signed by a consolidator, a forwarder or an IATA cargo agent.

TRANSPORT DETAILS

This shipment is within the limitations prescribed for (delete non applicable)

Airport of Departure

☒ PASSENGER AND CARGO AIRCRAFT
☐ CARGO AIRCRAFT ONLY

CHICAGO

Airport of Destination

DENVER

Shipment type (delete non applicable)

NON-RADIOACTIVE ~~OTHER~~

NATURE AND QUANTITY OF DANGEROUS GOODS

Parts 171 and 172 of 49CFR

Sub-Section B of IATA Dangerous Goods Regulations

Dangerous Goods Identification

Proper Shipping Name	Class or Division	UN or ID No	Subsidiary Risk	Quantity and type of packing	Packing Inst.	Authorization
Flammable Liquids.		UN1993		1 cooler x 4-8oz. jars NET TOTAL 32oz. (LIMITED QUANTITY)		
CARGO ONLY AIRCRAFT						

Additional Handling Information

49CFR PART 172.402(h)

This shipment prepared according to: ☒ 49CFR ☐ IATA Regulations

I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labelled and are in all respects in the proper condition for transport by air according to the applicable International and National Government Regulations

Name/Title of Signatory
Geoff Watkin / Project Chemist

Place and Date

SHIPPER'S ADDRESS 10/17/84

Signature

Geoffrey Watkin



☐ RM SERVICE
☐ PM SERVICE
☐ Other Service
☐ Saturday Delivery

Shipper's Account Number

Date

Origin Office

Shipment Number

83845

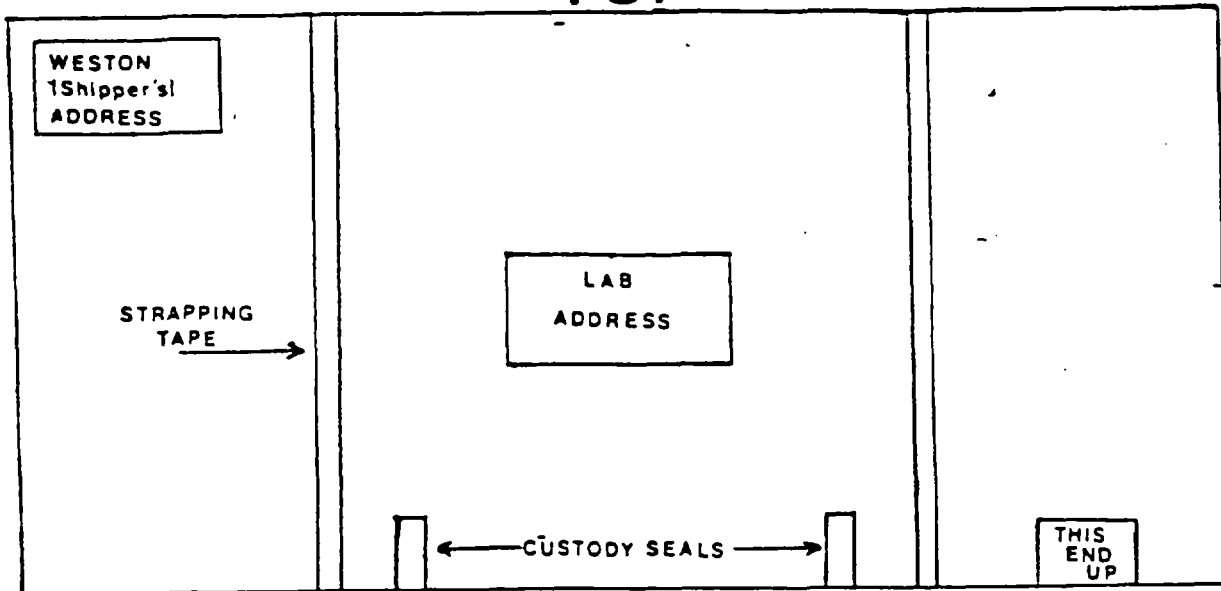
From TAT - 5 (312) 498-9094 WESTON / SPER Zip Code (Required)		To Zip Code (Required)	
Shipper's Reference No. 2343-01-05-		Declared Value \$	
Collect Shipper's Charges on Delivery C.O.D. ☐ Company Check Payable to Shipper Acceptable		Consignee's Account No. Consignee's Reference No. P.O. #	
Number of Pieces	Description and Marks	Check Here If ☐ Emery Envelope	Commodity Code
SPECIAL INSTRUCTIONS		☐ GOVT This non-negotiable air way bill is subject to the Terms and Conditions of Contract set forth on the reverse side of this copy. Emery shall not be liable for special, incidental, or consequential damages and disclaims all warranties, expressed or implied, with respect to carriage of this shipment. Unless a higher value is declared and an additional charge paid, the liability of Emery for this shipment is limited to an amount set forth in the Emery Service Guide in effect on the date of shipment.	
Subject to terms and conditions on reverse Shipper's Signature X		For International Shipments only: Declared Value for Customs \$ International Insurance Amount \$	
Form of Payment ☐ Cash or Check on Pick Up \$ ☐ Prepaid ☐ Collect ☐ GBL ☐ Bill To: (Address Below) Paying For ☐ Shipper ☐ Consignee ☒ Third Party		Goods Received At ☐ Shipper's Door ☐ Residence Door ☐ City Terminal ☐ Airport Terminal ☐ Carrier's Advance ☐ Other Carrier's Door	
ROY F. WESTON, INC. WESTON WAY WEST CHESTER, PA 19380		Time Date No Shipments This Stop By Advance at Origin \$	

Non-Negotiable Airbill
 Form OP-1 Rev. 7-82 Printed in U.S.A.

Executive Offices
 Willton, Connecticut 06897

1 - Consignee's Copy

TOP



FRONT

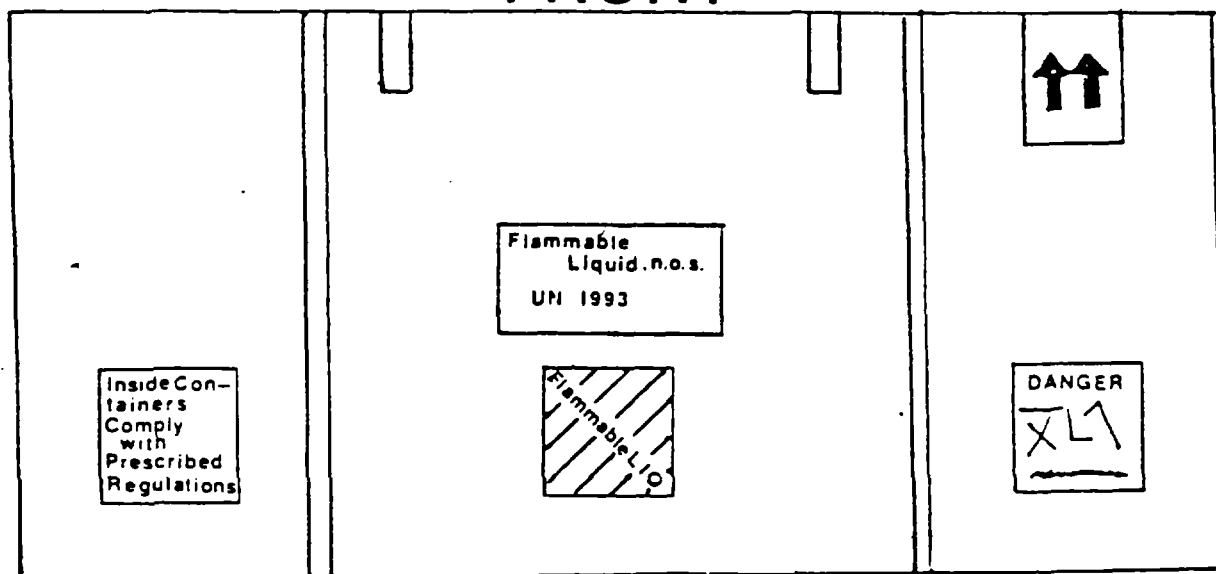


Figure 1

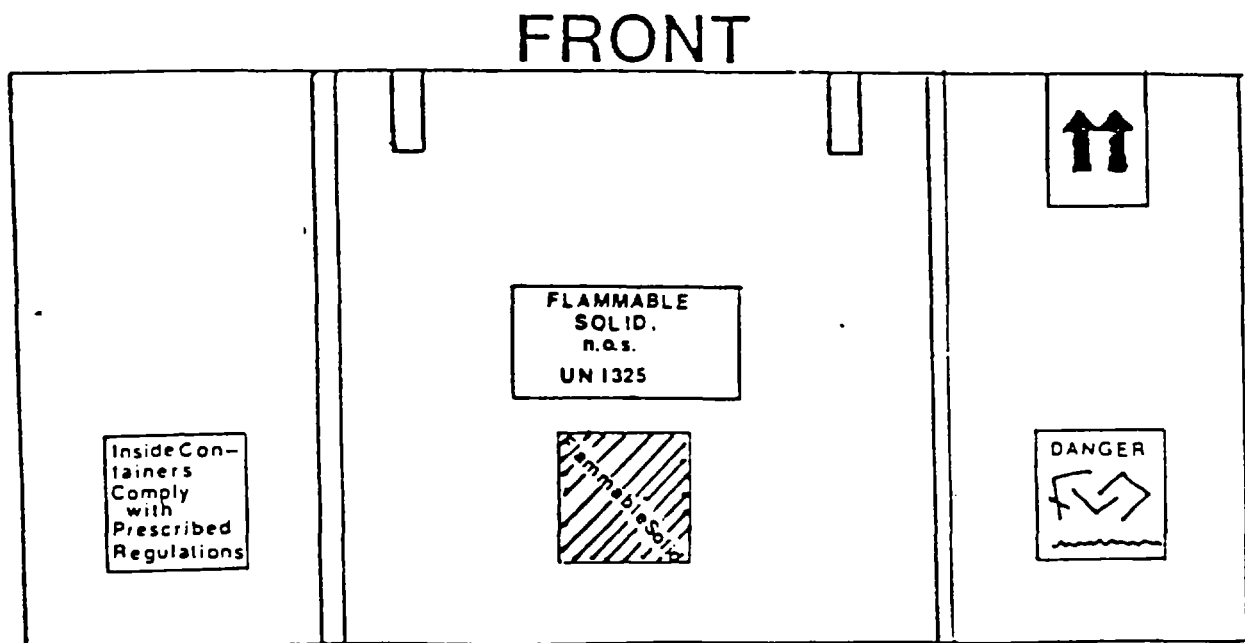
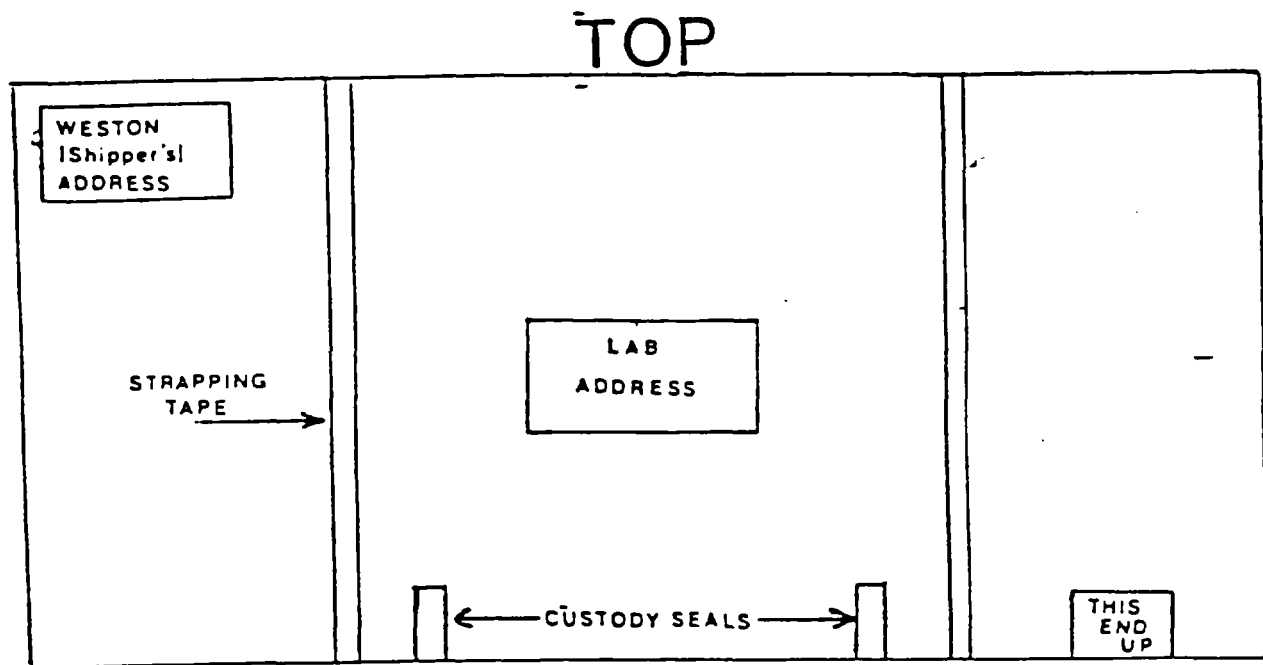


Figure 2

OSC -

[illegible]

U.S. ENVIRONMENTAL PROTECTION AGENCY
 CLP Sample Management Office
 P.O. Box 818 - Alexandria, Virginia 22313
 Phone: 703/557-2490 - FTS/557-2490

SAS Number

①

SPECIAL ANALYTICAL SERVICE
 PACKING LIST

Sampling Office: ②	Sampling Date(s): ③	Ship To: ⑥ Attn:	For Lab Use Only
Sampling Contact: ② (name)	Date Shipped: ④		Date Samples Rec'd:
② (phone)	Site Name/Code: ⑤		Received By:

Sample Numbers	Sample Description i.e., Analysis, Matrix, Concentration	Sample Condition on Receipt at Lab
1. ⑦	⑧	
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		
17.		
18.		
19.		

For Lab Use Only

White - SMO Copy, Yellow - Region Copy, Pink - Lab Copy for return to SMO, Gold - Lab Copy

ATTACH 10-1

THIS FORM IS TO BE USED FOR SAMPLES SENT TO CONTRACT ONLY

SUPERFUND DU NUMBER _____ EPA RPM or OSC (S M S)/(CES) _____ PAGE _____ OF _____

ACTIVITY NUMBER

[illegible]

ACTIVITY NUMBER	CH	CH	CH
-----------------	----	----	----

[illegible]

ATTACHMENT B

DUPLICATE LOG



SUMMIT EQUIPMENT AND SUPPLIES DUPLICATE LOG

87CY04

S-9 ND
S-10 ND

S-15 1260-1
S-16 1260-4

S-39 ND
S-40 ND

S-61 ND
S-62 ND

S-63 ND
S-64 ND

S-78 ND
S-79 ND

S-81 1260-1350
S-82 1260-1180

87CY05

S-3 1260-2
S-4 1260-2

S-21 ND
S-22 ND

S-26 1260-18
S-27 1260-38

S-37 ND
S-38 ND

S-49 1260-2
S-50 ND

87CY06

S-34 ND
S-47 ND

S-88 1260-22
S-89 1260-40

S-92 1260-900
S-93 1260-1800

87CY11

S-3 1260-4
S-4 1260-22

S-9 1260-13
S-10 1260-12

S-12 1260-23/1248-4
S-13 1260-18

S-23 1260-60
S-25 1260-50

S-38 1260-70
S-39 1260-70

S-48 1260-10
S-49 1260-15

S-59 1260-16
S-61 1260-15

S-71 1260-19
S-73 1260-28

S-82 1260-140
S-86 1260-120



SUMMIT EQUIPMENT AND SUPPLIES DUPLICATE LOG

87CY11

S-93	1260-2
S-96	1260-3

S-99	ND
------	----

87CY12

S-1	ND
-----	----

S-8	ND
-----	----

S-12	ND
------	----

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

April 29, 1987

Prototype QAPP for Summit Equipment Ambient Air Monitoring

Martin G. Trembly, Chief, Unit 2
THRU: A.R. Winkhofer, Chief, EDO

Robert M. Buckley, Chief, 5HEGI

On April 15 and 23, 1987, I traveled to the Summit equipment site in Akron, to discuss plans to sample ambient air for PCB, in conjunction with emergency removal work being done there. After determining the scope of work and an action level for PCB in air, I worked with Larry Mencin and Jerry Klein of the TAT, at the request of OSC Ralph Dollhopf, to develop background information for a Quality Assurance Project Plan (QAPP) with respect to the planned work. In short, I verified that NIOSH Method 5503 for PCB in air could be extended beyond its published limits for sampling time and flow rate, to reach the detection limit required to evaluate ambient air quality in comparison to the action level.

The attached QAPP is suggested as a prototype for future actions where ambient air monitoring may be involved. I recommend that you consider developing a QAPP and a methods manual for air sampling conducted around removal sites. Starting with an overall or blanket QAPP as a reference, site-specific plans could then be developed quickly to deal with individual studies as they occur. I offer my assistance to you in assembling such a document and working with your OSC's and the TAT as they may request help to conduct specific studies in the future.

I welcome your comments on the attached QAPP and look forward to working with you.

Attachment

cc: James Adams, 5SOA, ATTN: Richard Edmonds

RET/eh:4/23/87

CONCURRENCES							
SYMBOL	28	APW					
SURNAME							
DATE	4/29	4/29/87					

QUALITY ASSURANCE PROJECT PLAN

AMBIENT AIR MONITORING AROUND SUMMIT EQUIPMENT AND SUPPLY COMPANY AKRON, OHIO

1.0 BACKGROUND AND PROJECT DESCRIPTION

Emergency removal of PCB-contaminated electrical equipment has occurred on the property of the Summit Equipment and Supply Company in Akron, Ohio, between March 10, 1987, and continues as of this writing. Out of concern about local impacts of volatilized or particulate-bound PCB emissions to ambient air around this facility, EPA, through its Technical Assistance Team (TAT, Roy F. Weston, Inc.) is to conduct air monitoring for seven days at five sites near the Summit facility. The exact location of each sampling site is to be determined day by day depending upon local weather conditions and activities occurring within the facility.

2.0 PROJECT ORGANIZATION AND RESPONSIBILITY

Project Manager: Ralph Dollhopf, EPA Region V WMD, EERU

As On-Scene Coordinator, responsible for oversight or remedial activity at the Summit site, preparation of overall assessments of the effectiveness of cleanup, and evaluation of impacts of past and current activities on surrounding environmental features and population.

Field Sampling and Field Quality Assurance: Larry Mencin, Weston
Jerry Klein, Weston

Responsible for collection of environmental samples; developing and implementing a field quality assurance program; shipping samples from the field to the selected analytical laboratory; maintaining sampling and custody records; and preparing reports of field activities and quality assurance for the project manager.

Laboratory Analysis and Laboratory Quality Assurance: Sally Matz, Weston

Responsible for selection of suitable laboratory to conduct analyses according to established procedures and employing appropriate quality assurance checks; delineating conditions for precision, accuracy, blanks recovery efficiency, and other parameters necessary to evaluate data quality; oversight of contractor laboratory performance; and final evaluation of the analytical report provided by the selected contractor laboratory.

3.0 SAMPLE MATERIALS, LABORATORY METHODS, DATA QUALITY ASSURANCE OBJECTIVES

Parameter - PCB

Sample Container - 30-mm glass fiber filter (99.97% efficiency for 0.3 μ m DOP particles) followed by solid sorbent tube (Florisil, 100 mg/50 mg, separated by polyurethane foam plug).

Number of Samples - Five per sampling day, seven sampling days. In addition, one site per day is to be fitted with a field blank sample (Florisil tube with ends broken but no air drawn through sorbent), and one method blank tube per day will be provided.

Preservative - None; sample to be kept at room temperature during shipment.

Holding Time - 60 days.

Laboratory - To be selected by TAT.

Analytical Method - NIOSH Method 5503 (2/15/84), adapted as described below.

Quality Assurance Objectives - Precision - $\pm$ 50% RPD (10-20% duplicate analyses).

Accuracy - 80 to 120% (recovery of internal standards).

Completeness - 90%.

Discussion

The selected analytical method is an adaptation of NIOSH Method 5503. As published, this method does not reach a limit of detection sufficient to compare to an action level in ambient air, selected as 0.001 mg/m³, which is the NIOSH Permissible Exposure Limit. Therefore, modifications to the method were discussed on April 23, 1987, with John Kaminski of NIOSH staff in Cincinnati, Ohio. Following are recommended conditions of sampling based on that communication:

- Substitution of 13-mm glass fiber filter with 30-mm filter is acceptable; however, adjustment of the volume of hexane recovery solvent will be necessary.
- Sampling flow rate - 1 liter per minute.
- Sampling period - 8 hours; this yields a volume adjusted detection limit of 50 ng/0.48 m³ $\approx$ 100 ng/m³. This is approximately ten times the action level.

- Two or three blank samples per sample set (sampling day) are recommended.
- All sampling materials used on each sampling day should be from the same lot.
- Laboratory duplicate analyses should be provided at a 10 to 20% level.
- Laboratory spikes of known concentrations of PCB should be analyzed at a 10 to 20% frequency level.
- During sampling, filter cassettes and tubes should be maintained in a vertical position.

In summary, the NIOSH method is to be used beyond its published limit of applicability. However, subject to the conditions outlined above, it is expected that the method will be adapted to suit the sensitivity and accuracy needs of this investigation.

4.0 SAMPLING PROCEDURES

Sampling is to be performed consistent with the requirements of NIOSH Method 5503, modified as described above. Ambient air is to be drawn through the sampling assembly by Gilian Model (number) personal sampling pumps at all five sites; the assemblies are to be mounted to correspond with the human breathing zone, or two to three meters above ground.

Prior to sampling, glass fiber filter cassettes will be assembled using a stock of loose filters and cassettes; the filters are to be installed in the cassettes using hexane-reused tweezers. At all five sampling sites, pumps will be operated for eight hours at a flow rate of 1 Lpm. The duplicate site, paired with the site projected to have the highest PCB concentration based upon facility activities and wind direction, will be assembled in similar manner as the active sites, but the pump will not be operated.

Field observations of wind direction will be recorded using a (name) wind monitoring system in place at the command trailer near the entrance of the Summit Equipment facility. Prior to the start of sampling, the wind set will be calibrated for direction and, to the extent possible, wind speed. During sampling, the wind set will be operated with the accompanying chart recorder, which will be accurately labeled according to clock time. At the conclusion of sampling, average wind vectors will be determined using these data.

As each eight-hour sampling period concludes, the filter-tube assemblies will be removed and a post-test flow rate will be recorded, to pair with initial flow rate measurements. Using calibration curves derived for each pump, a total sampled air volume will be calculated. Sampling materials will be removed, clearly labeled according to site identity, and packed for shipment to the analytical laboratory such that the samples are stored as near to room temperature as possible.

5.0 SAMPLE CUSTODY

Environmental samples are to be maintained under custody (security) by the field sampling team at all times from collection through shipment to the laboratory. In the field, this will require frequent surveillance of each sampling site to guard against tampering by outside parties; where applicable, samples will be taken from areas in which the sampling assemblies can be maintained in a secure, locked area.

Shipping of samples will be accomplished using standard EPA custody documents, appropriately completed and signed, and shipping containers are to be secured with suitable locks or breakable seals.

6.0 CALIBRATION PROCEDURES AND FREQUENCY

Each sampling pump will be calibrated before and after each sampling day, and a log of daily calibration curves will be maintained by the field sampling team. The wind set will be calibrated for wind direction and speed before and after the study, or as necessary if apparent damage occurs to the shipment.

In the laboratory, calibration of analytical equipment is to follow the requirements of NIOSH Method 5503, appropriately modified in view of the altered sampling flow rate and time described above. Modification to Method 5503 shall be recommended by the laboratory quality assurance contact, and adopted after consultation with the EPA quality assurance coordinator.

7.0 ANALYTICAL PROCEDURES

The analytical laboratory will adapt NIOSH Method 5503 to the needs of this investigation, in consultation with the EPA quality assurance coordinator.

8.0 DATA REDUCTION, VALIDATION, AND REPORTING

Prior to the start of sampling, a set of data forms will be adopted to record the following:

- Sampling location, date, and time of start and end.
- Overall wind conditions, temperature, barometric pressure.
- Identity of sampling equipment - pump serial number, filter, and glass tube serial number.
- Sampling personnel identity.
- Miscellaneous observations such as unusual activities within the Summit facility.

The analytical laboratory will report each analyzed sample in terms of detected concentration of PCB and detection limit, and all pertinent quality assurance data including internal standard recovery efficiency, results of duplicate analyses, analyses of known spikes, and the like. Each analysis for which the established quality assurance criteria are not met will be clearly labeled by the laboratory.

9.0 INTERNAL QUALITY CONTROL CHECKS

As described above, the laboratory will follow prescribed procedures. Field audits are not anticipated owing to the brevity of the study, the provision of daily sampling pump calibrations, and the level of blank samples.

10.0 PERFORMANCE AND SYSTEM AUDITS

See 9.0 above.

11.0 PREVENTIVE MAINTENANCE

The condition of field sampling equipment will be checked and repaired as necessary before and after each sampling period. The laboratory will follow established preventive maintenance procedures, with deviations cleared through the EPA quality assurance coordinator prior to execution.

12.0 SPECIFIC ROUTINE PROCEDURES TO ASSESS DATA PRECISION, ACCURACY, AND COMPLETENESS

See Sections 3.0 and 8.0.

13.0 CORRECTIVE ACTION

The field and laboratory contacts will be responsible for identifying and communicating needs for corrective action to the project manager. The project manager will then execute the corrective actions in consultation with the EPA quality assurance coordinator.

14.0 QUALITY ASSURANCE REPORTS TO MANAGEMENT

The presentation of quality assurance-related data to the project manager shall be in a form sufficient to enable informed judgments as to the suitability of each data point in this investigation, including the completeness of the entire data set.

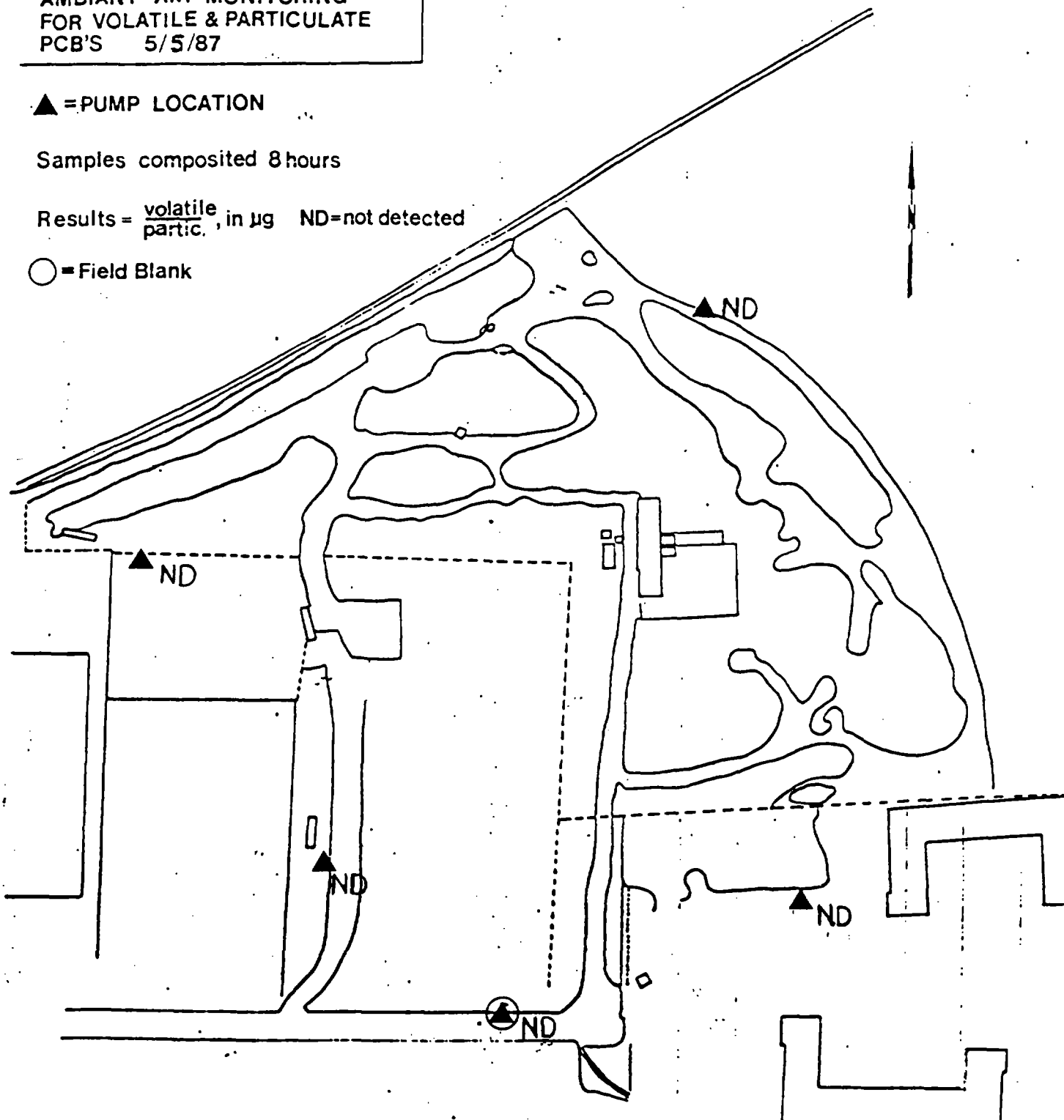
AMBIANT AIR MONITORING
FOR VOLATILE & PARTICULATE
PCB'S 5/5/87

▲ = PUMP LOCATION

Samples composited 8 hours

Results = $\frac{\text{volatile}}{\text{partic.}}$, in μg ND = not detected

○ = Field Blank



SUMMIT EQUIPMENT & SUPPLY
AKRON, OHIO

Prepared for U.S.EPA by **WISER**

AMBIANT AIR MONITORING
FOR VOLATILE & PARTICULATE
PCB'S 5/6/87

Action level $1 \mu\text{g}/\text{m}^3$

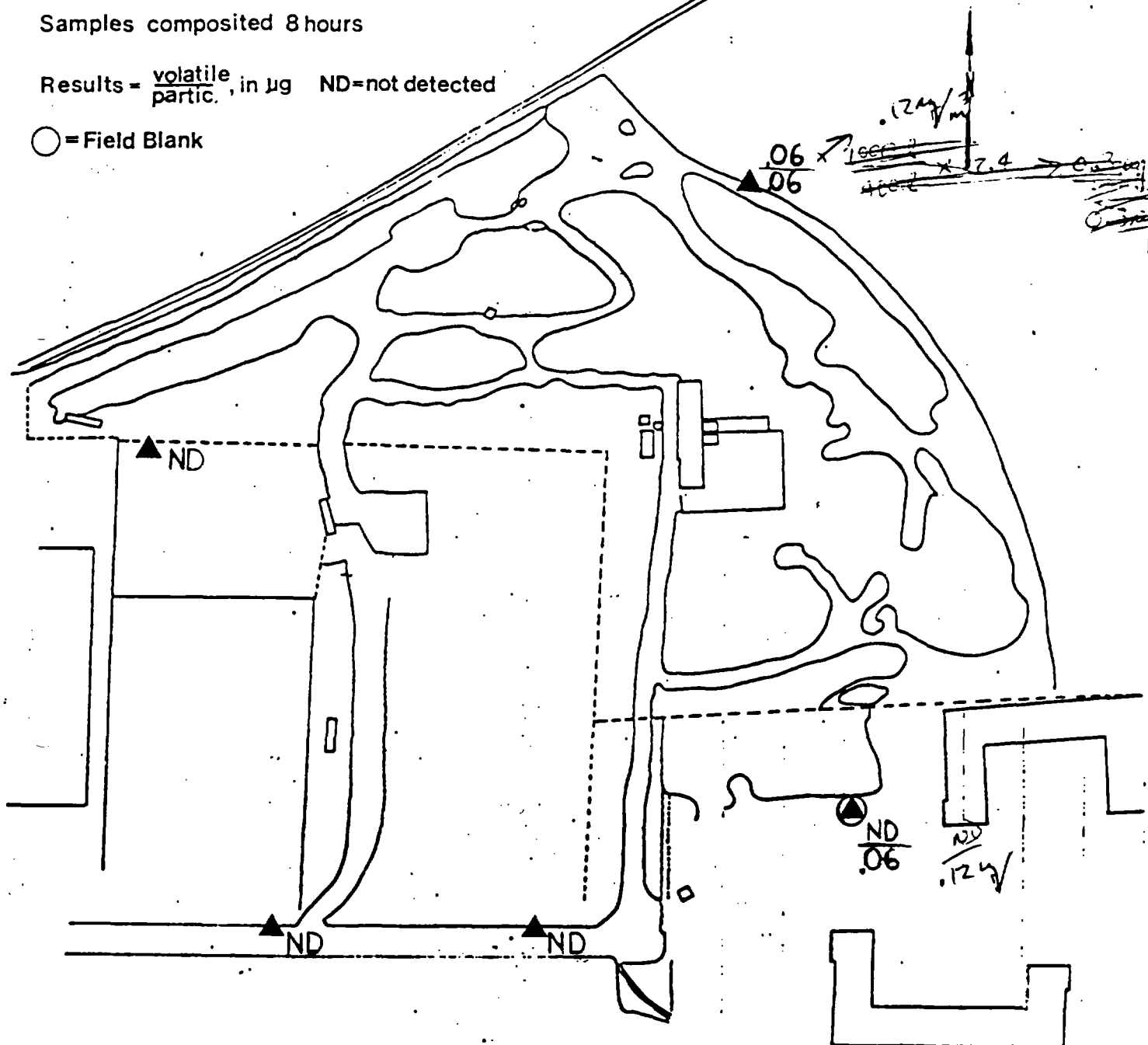
NIOSH PEL
(10hrs)

▲ = PUMP LOCATION

Samples composited 8 hours

Results = $\frac{\text{volatile}}{\text{partic.}}$, in μg ND = not detected

○ = Field Blank



SUMMIT EQUIPMENT & SUPPLY
AKRON, OHIO

Prepared for U.S.EPA by WSN

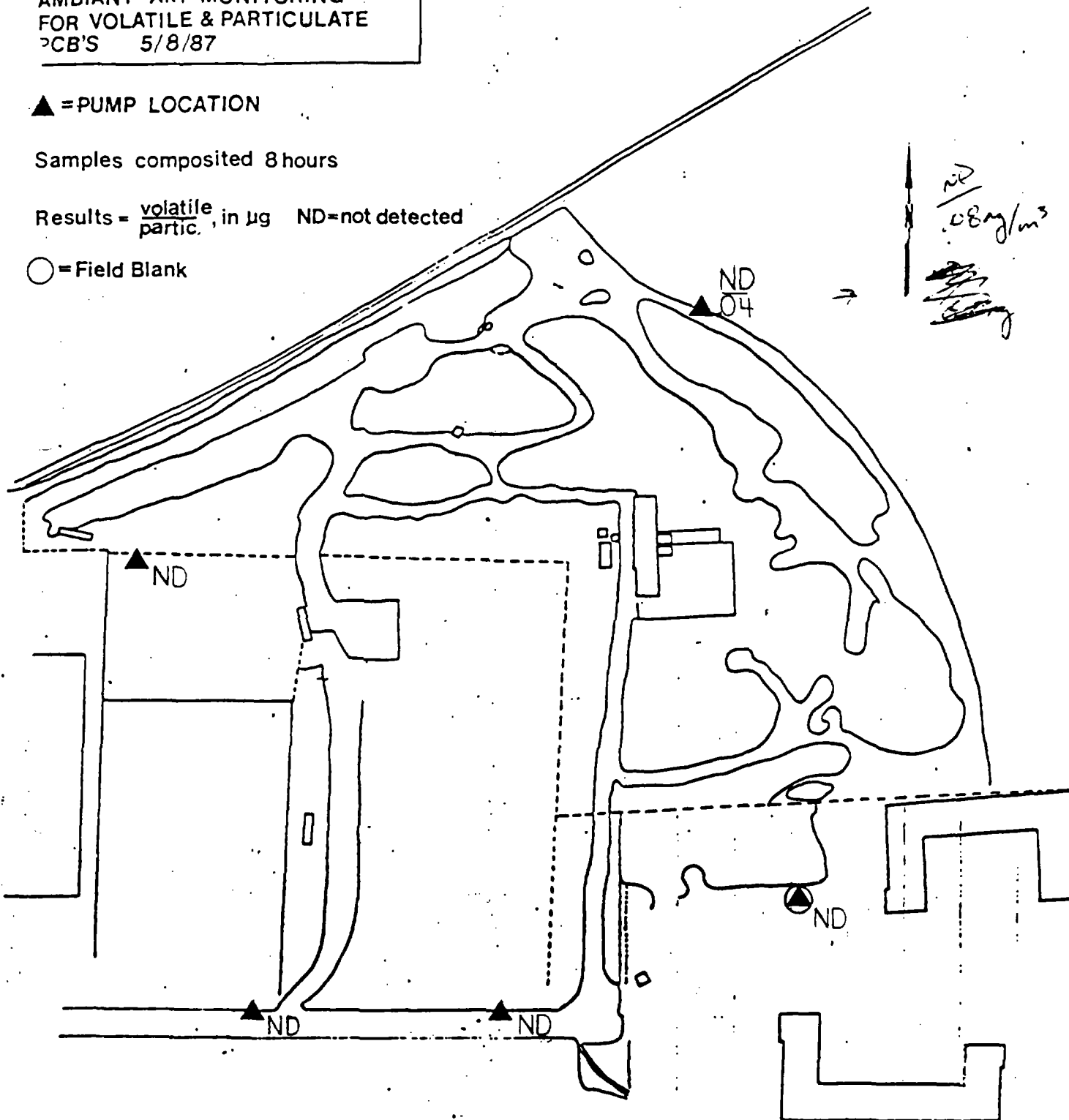
AMBIANT AIR MONITORING
FOR VOLATILE & PARTICULATE
PCB'S 5/8/87

▲ = PUMP LOCATION

Samples composited 8 hours

Results = $\frac{\text{volatile}}{\text{partic.}}$, in μg ND = not detected

○ = Field Blank



SUMMIT EQUIPMENT & SUPPLY
AKRON, OHIO

Prepared for U.S.EPA by **WISER**

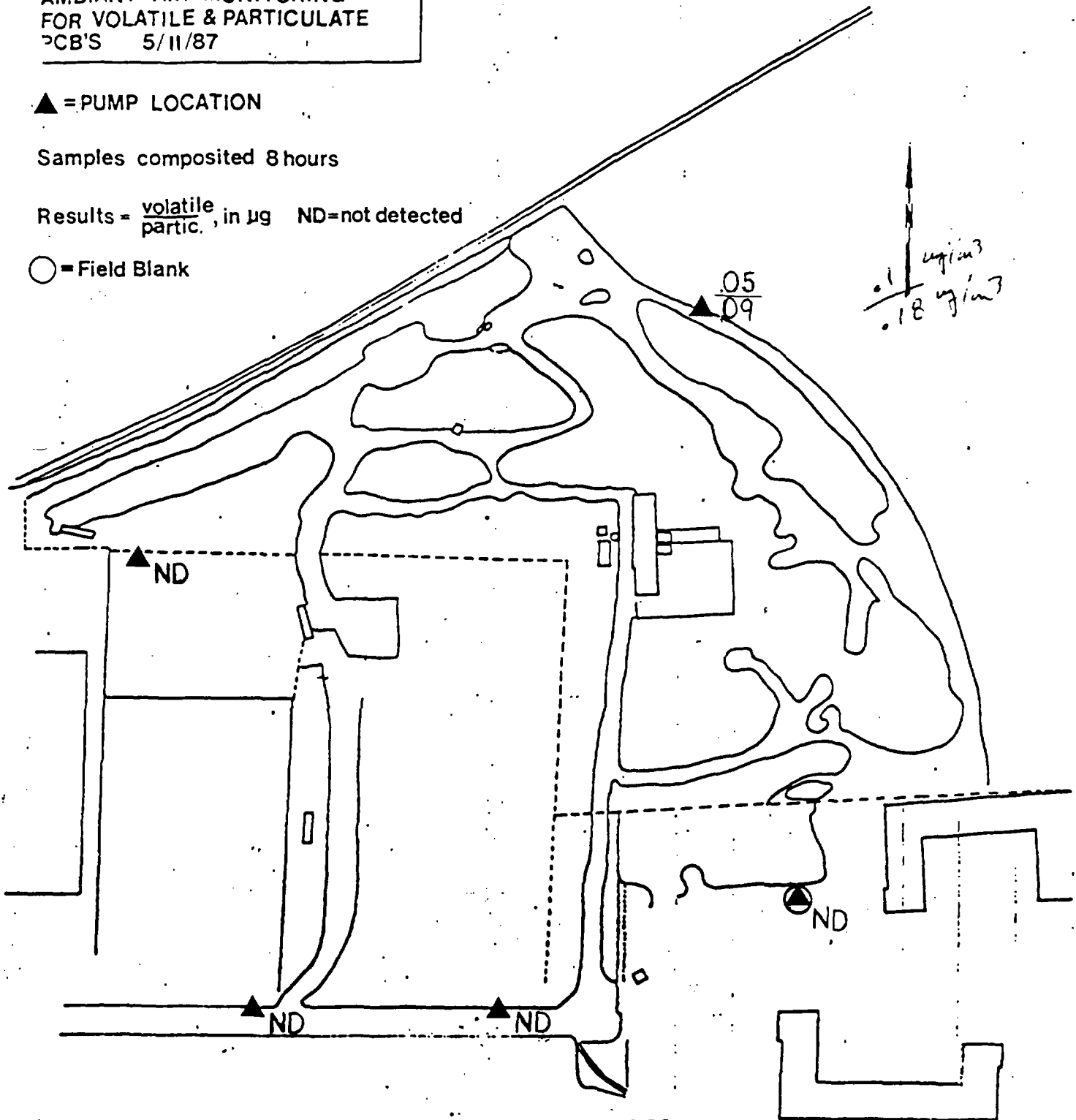
AMBIANT AIR MONITORING
FOR VOLATILE & PARTICULATE
PCB'S 5/11/87

▲ = PUMP LOCATION

Samples composited 8 hours

Results = $\frac{\text{volatile}}{\text{partic.}}$, in μg ND = not detected

○ = Field Blank



SUMMIT EQUIPMENT & SUPPLY
AKRON, OHIO

Prepared for U.S. EPA by **WGL**

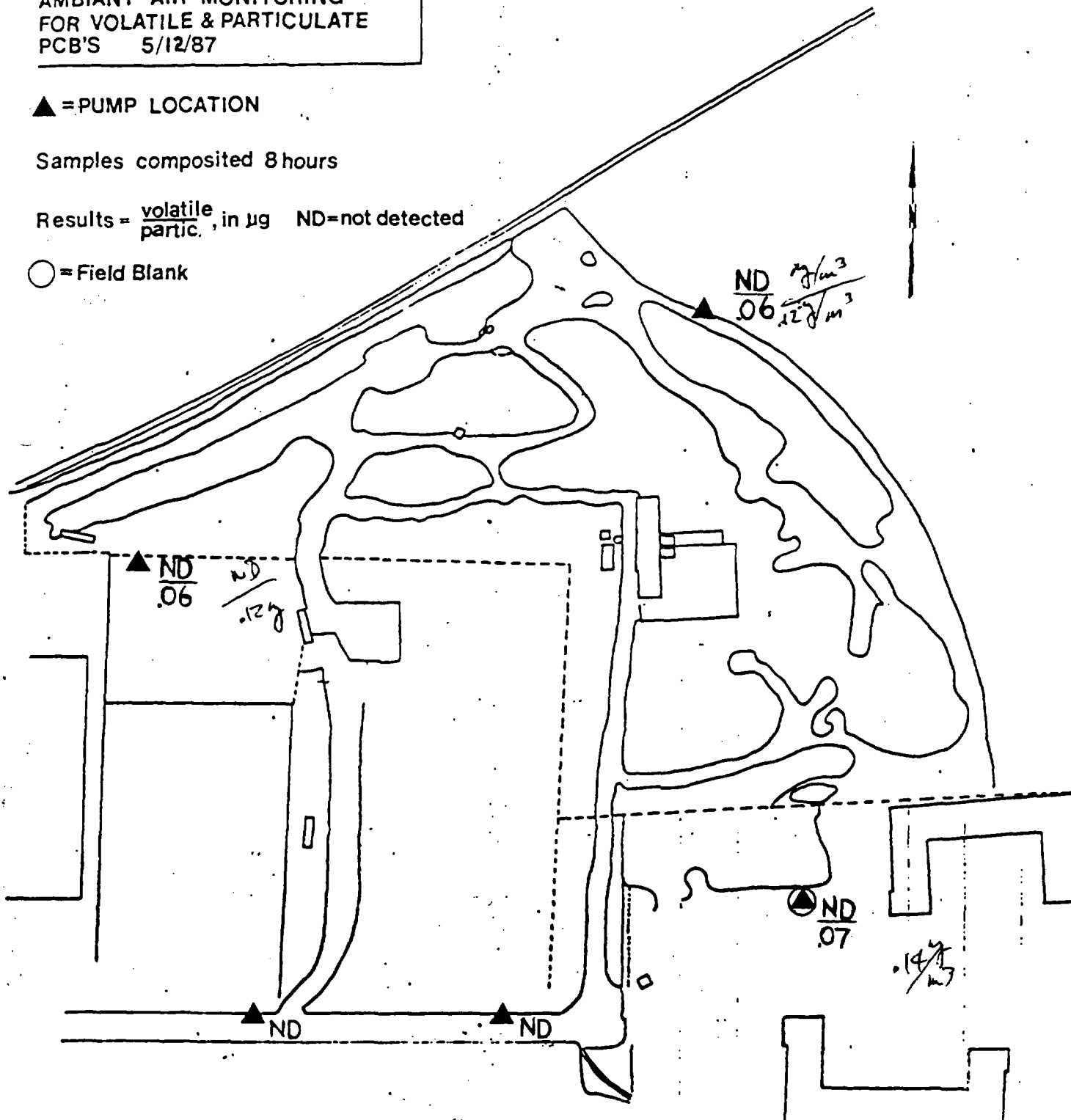
AMBIANT AIR MONITORING
FOR VOLATILE & PARTICULATE
PCB'S 5/12/87

▲ = PUMP LOCATION

Samples composited 8 hours

Results = $\frac{\text{volatile}}{\text{partic.}}$, in μg ND = not detected

○ = Field Blank



SUMMIT EQUIPMENT & SUPPLY
AKRON, OHIO

Prepared for U.S. EPA by **W&S**

Approx. scale 1 inch = 60 ft.

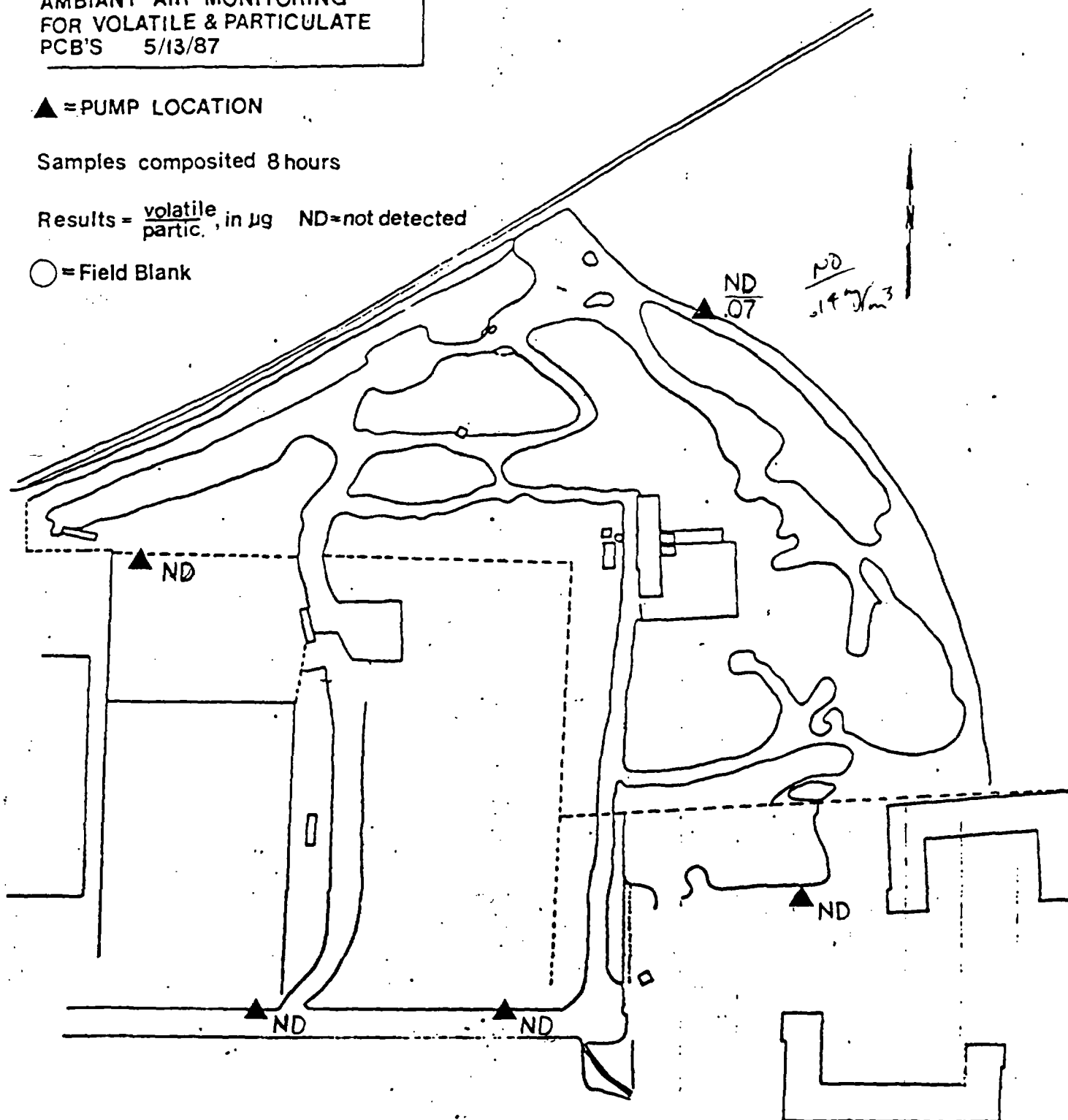
AMBIANT AIR MONITORING
FOR VOLATILE & PARTICULATE
PCB'S 5/13/87

▲ = PUMP LOCATION

Samples composited 8 hours

Results = $\frac{\text{volatile}}{\text{partic.}}$, in μg ND = not detected

○ = Field Blank



SUMMIT EQUIPMENT & SUPPLY
AKRON, OHIO

Prepared for U.S.EPA by **WUSEN**

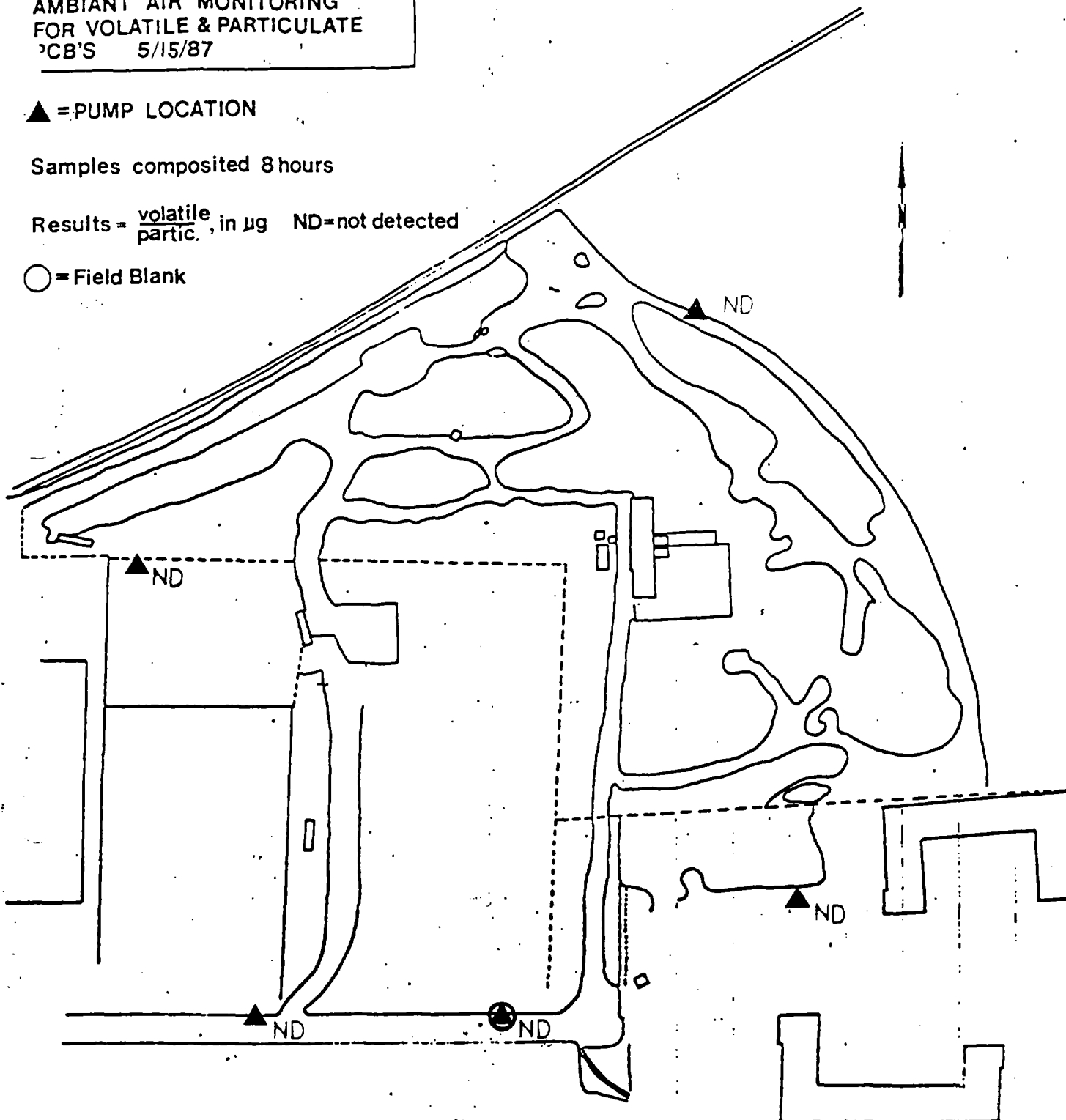
AMBIANT AIR MONITORING
FOR VOLATILE & PARTICULATE
PCB'S 5/15/87

▲ = PUMP LOCATION

Samples composited 8 hours

Results = $\frac{\text{volatile}}{\text{partic.}}$, in μg ND = not detected

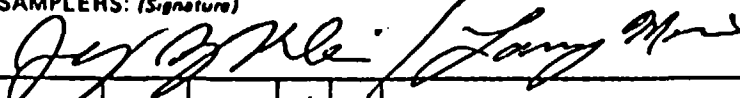
○ = Field Blank



SUMMIT EQUIPMENT & SUPPLY
AKRON, OHIO

Prepared for U.S.EPA by WISN

CHAIN OF CUSTODY RECORD

PROJ. NO.		PROJECT NAME				NO. OF CON- TAINERS	REMARKS										
87C406		Summit Equipment															
SAMPLERS: (Signature)						PCB	Tag #										
																	
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION												
S-20	4/7/87	1605		X	GE oil	1-802	X										5-47172
S-21	4/8/87	1400		X	200' from Apt 25' from fence	1-802	X										5- 47248
S-22	4/8/87	1405		X	175' from Apt 12' from fence	1-802	X										5- 87249
S-23	4/8/87	1410		X	50' from BK 25' from fence	1-802	X										5- 87250
S-24	4/8/87	1415		X	125' from Apt 7' from fence	1-802	X										5- 47151
S-25	4/8/87	1413		X	100' from Apt 25' from fence	1-802	X										5- 47260
S-26	4/8/87	1417		X	75' from Apt 25' from fence	1-802	X										5- 47046
S-27	4/8/87	1445		X	50' from Tie 50' from fence	1-802	X										5- 47048
S-28	4/8/87	1448		X	-18" 50'	1-802	X										5- 47049
S-29	4/8/87	1455		X	-24" 50'	1-802	X										5- 47050
S-30	4/8/87	1610	X		IVOR AVE - 875	1-802	X										5- 46623
S-31	4/8/87	1639		X	CRUDE from Grate	1-802	X										5- 47228
S-32	4/8/87	1654		X	Absorbent Soil	1-802	X										5- 47230
S-33	4/8/87	1647		X	SOIL SLUDGE	1-802	X										5- 47231
S-34	4/8/87	1705		X	H. STEEL OUT Fall Pipe	1-802	X										5-47232

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

CHAIN OF CUSTODY RECORD

PROJ. NO.		PROJECT NAME		NO. OF CONTAINERS		REMARKS										
87C406		Summit Equipment														
SAMPLERS: (Signature)						PCB										
[Signature]																
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	EPA tag #										
S-50	4/11/87	1030		X	P-5, 8-a	1-8 02	X									5-63372
S-51	4/11/87	1035		X	P-3, 8-i	1-8 02	X									5-72151
S-52	4/11/87	1040		X	P-2, 9-c	1-8 02	X									5-72152
S-53	4/11/87	1059		X	L-3, 11-c	1-8 02	X									5-72153
S-54	4/11/87	1105		X	L-8, 10-b	1-8 02	X									5-72154
S-55	4/11/87	1110		X	M-7, 11	1-8 02	✓									5-72155
S-56	4/11/87	1115		X	M-5, 10-i	1-8 02	X									5-72156
S-57	4/11/87	1120		X	N-6, 9-g	1-8 02	X									5-72157
S-58	4/11/87	1125		X	N-7, 9-c	1-8 02	X									5-72158
S-59	4/11/87	1130		X	O-3, 9-f	1-8 02	X									5-72159
S-60	4/11/87	1135		X	P-5, 10-f	1-8 02	Y									5-72160
S-61	4/11/87	1140		X	Q-7, 10-e	1-8 02	X									5-72161
S-62	4/11/87	1145		X	Q-8, 9-d	1-8 02	X									5-72162
S-63	4/11/87	1150		X	P-4, 7	1-8 02	X									5-72163
S-64	4/11/87	1155		X	P-5, 6-h	1-8 02	X									5-72164

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[Signature]	4/13/87 1455				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		[Signature]	4/13/87 1455		

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

Distribution: White -- Accompanies Shipment; Pink -- Coordinator Field Files; Yellow -- Laboratory File

5- 9823

CHAIN OF CUSTODY RECORD

PROJ. NO.		PROJECT NAME				NO. OF CON- TAINERS	REMARKS													
87X406		Summit Equipment																		
SAMPLERS: (Signature)							PCB													
<i>[Signature]</i>																				
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION															
S-65	4/11/87	1200		X	P-3, 7-d	1-8 02	X													5-72165
S-66	4/11/87	1205		X	P-2, 7-a	1-8 02	X													5-72166
S-67	4/11/87	1207		X	O-4, 7-b	1-8 02	X													5-72167
S-68	4/11/87	1210		X	O-7, 6-f	1-8 02	X													5-72168
S-69	4/11/87	1213		X	O-3, 6-h	1-8 02	X													5-72169
S-70	4/11/87	1218		X	O-2, 6-f	1-8 02	X													5-72170
S-71	4/11/87	1220		X	O-6, 0, 6-i	1-8 02	X													5-72171
S-72	4/11/87	1231		X	N, 9-a	1-8 02	X													5-72172
S-73	4/11/87	1235		X	N-7, 4-h	1-8 02	X													5-72173
S-74	4/11/87	1226		X	N-3, 7-i	1-8 02	X													5-72174
S-75	4/11/87	1222		X	N-2, 6-i	1-8 02	X													5-72175
S-76	4/11/87	1240		Y	M-8, 5-i	1-8 02	X													5-72176
S-77	4/11/87	1242		X	M-8, 5-g	1-8 02	Y													5-72177
S-78	4/11/87	1245		X	M-4, 5-h	1-8 02	Y													5-72178
S-79	4/11/87	1247		X	M-6, 5-d	1-8 02	X													5-72179

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
<i>[Signature]</i>	4/13/87 1455				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		<i>[Signature]</i>	4/13/87 1455		

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

CHAIN OF CUSTODY RECORD

5-1282

Distribution: White - Accompanies Shipment; Pink - Coordinator Field Files; Yellow - Laboratory Files

[illegible]

5

4-11 57

6

INC 1-10
EPC 5-198
5-19822

7

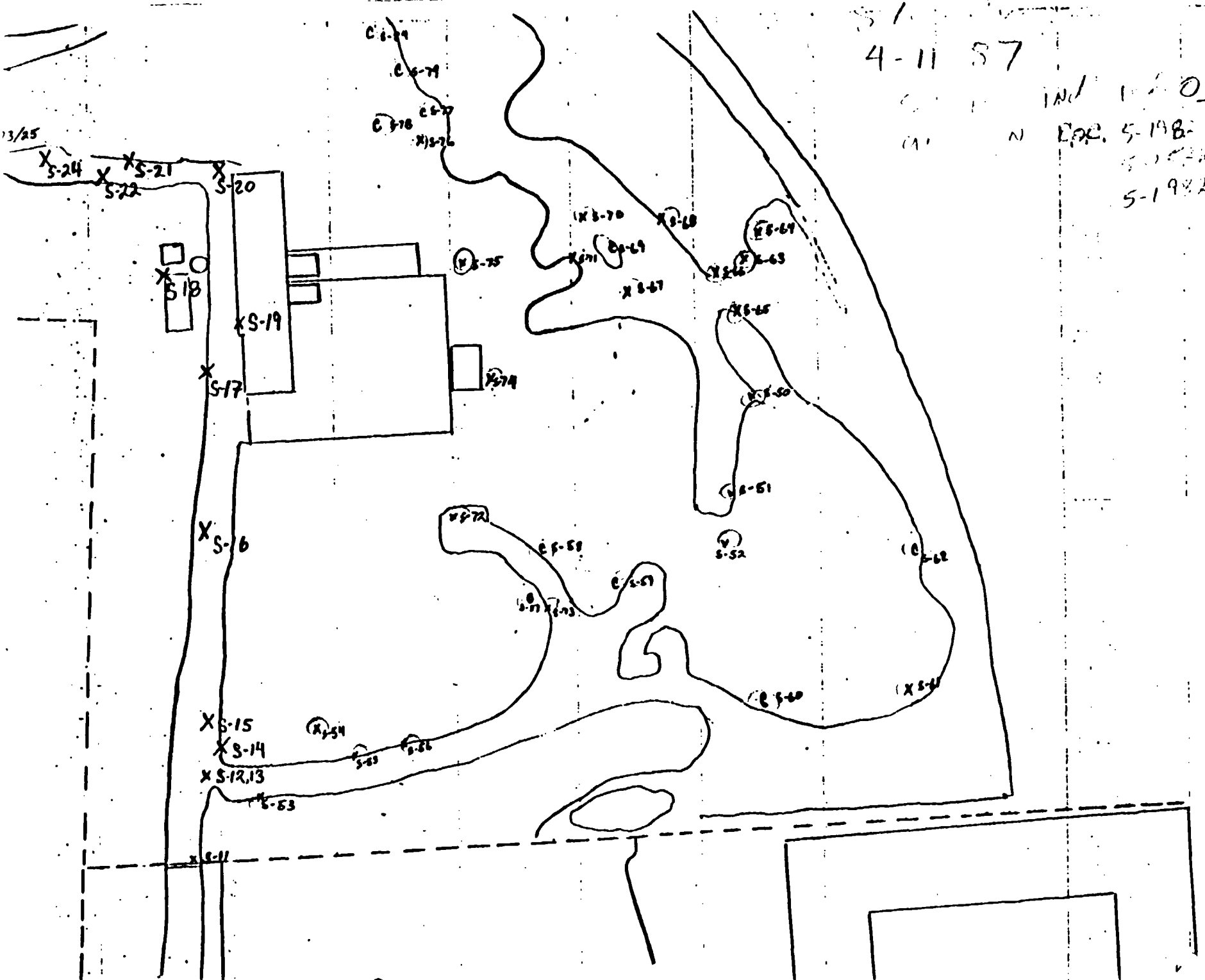
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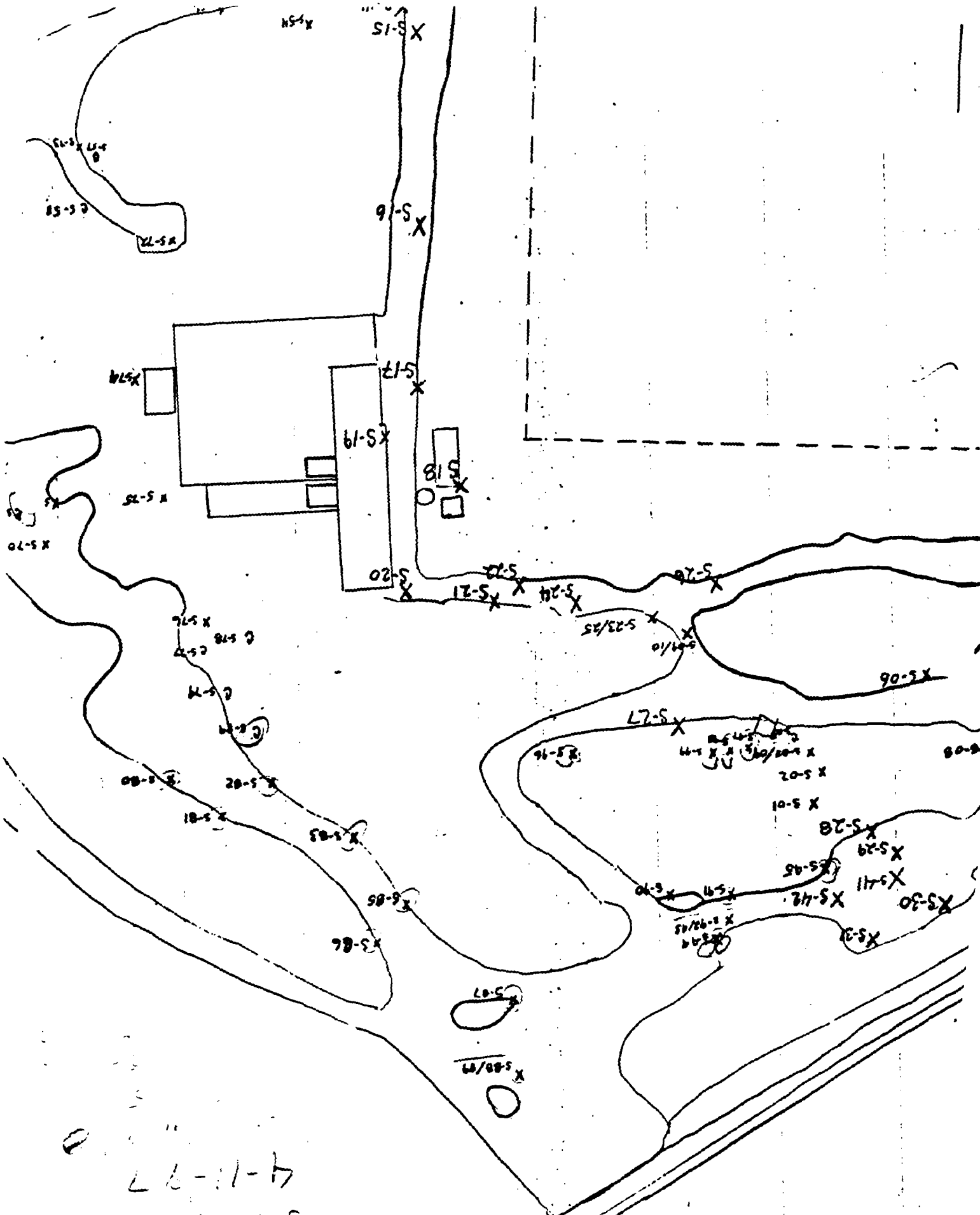
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12





4-11-77
87CY06

H
I
J
K
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CHAIN OF CUSTODY RECORD

Distribution: White - Accompanying Shipment; Pink - Coordinator Field Files; Yellow - Laboratory Files

5- 1 827

CHAIN OF CUSTODY RECORD

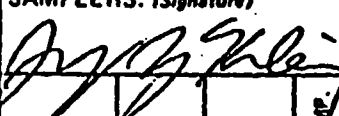
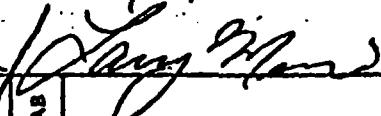
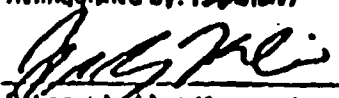
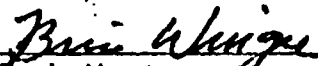
PROJ. NO.		PROJECT NAME		NO. OF CONTAINERS		REMARKS											
87CY11		Summit Equipment															
SAMPLERS: (Signature)																	
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	EPA tag #											
S-41	4/13/87	1548		X	H, 3-g E	1-802	X									5-72340	
S-42	4/13/87	1552		X	H-5, 3-e E	1-802	X									5-72341	
S-43	4/13/87	1557		X	E-8, 4-i E	1-802	X									5-72342	
S-44	4/13/87	1604		X	B-7, 6-b E	1-802	X									5-72343	
S-45	4/13/87	1610		X	C-5, 5-i E	1-802	X									5-72344	
S-46	4/13/87	1625		X	D-2, 5-i	1-802	X									5-72345	
S-47	4/13/87	1628		X	D-7, 5-g	1-802	X									5-72346	
S-48	4/13/87	1643		X	E-1, 5-c E	1-802	X									5-52347	
S-49	4/13/87	1643		X	C-5, 1-e E	1-802	X									5-72348	
S-50	4/13/87	1655		X	E-6, 5-a E	1-802	X									5-72349	
Relinquished by: (Signature)						Date / Time		Received by: (Signature)						Date / Time		Received by: (Signature)	
4/14/87						1436											
Relinquished by: (Signature)						Date / Time		Relinquished by: (Signature)						Date / Time		Received by: (Signature)	
Relinquished by: (Signature)						Date / Time		Received for Laboratory by: (Signature)				Date / Time		Remarks			
								4/14/87				1437					

PROJ. NO.		PROJECT NAME				NO. OF CON- TAINERS								REMARKS	
87CY11		Summit Equipment						PCB							
SAMPLERS: (Signature)															
[Signature]															
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION								EPA tag #		
S-51	4/13/87	1715	X		E-5, 5-d } only	1-802	X						S-72350		
S-52	4/13/87	1720	X		E-8, 5-b }	1-802	X						S-72401		
S-58	4/20/87	1330	X		O, 6-f	1-802	X						S-72407		
S-59	4/20/87	1335	X		D-7, 6-g	1-802	X						S-72408		
S-60	4/21/87	1340	X		E-3, 6-d	1-802	X						S-72409		
S-61	4/21/87	1335	X		O-7, 6-g	1-802	X						S-71647		
S-62	4/21/87	1343	X		F, 6-f	1-802	X						S-72101		
S-63	4/21/87	1346	X		F-a, 7-a	1-802	X						S-72102		
S-64	4/21/87	1350	X		E-2, 6-h	1-802	X						S-72103		
S-65	4/21/87	1353	X		E-5, 6-i	1-802	X						S-72104		
S-66	4/21/87	1355	X		G, 6-f	1-802	X						S-72105		
S-67	4/21/87	1400	X		F-4, 6-a	1-802	X						S-72106		
S-68	4/21/87	1403	X		G-3, 6-a	1-802	X						S-72107		
S-69	4/21/87	1409	X		H-9, 6-g	1-802	X						S-72108		
S-70	4/21/87	1412	X		H-6, 6-b	1-802	X						S-72109		
Relinquished by: (Signature)		Date / Time		Received by: (Signature)		Relinquished by: (Signature)		Date / Time		Received by: (Signature)					
[Signature]		4/21/87 1427		[Signature]											
Relinquished by: (Signature)		Date / Time		Received by: (Signature)		Relinquished by: (Signature)		Date / Time		Received by: (Signature)					
Relinquished by: (Signature)		Date / Time		Received for Laboratory by: (Signature)		Date / Time		Remarks							
								Wadsworth PO 55512							

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

5-19820

CHAIN OF CUSTODY RECORD

PROJ. NO.		PROJECT NAME		NO. OF CONTAINERS		REMARKS											
87C411		Summit Equipment															
SAMPLERS: (Signature)						EPA tag #											
 																	
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION												
S-51	11/13/82	1215		X	E-5, 5-d	1-802	X									5-72350	
S-52	11/13/82	1220		X	E-8, 5-b	1-802	X									5-72401	
S-58	11/20/82	1330		X	D, 6-f	1-802	X									5-72407	
S-54	11/20/82	1335		X	D-7, 6-g	1-802	X									5-72408	
S-60	11/20/82	1340		X	E-3, 6-d	1-802	X									5-72409	
S-61	11/20/82	1335		X	D-7, 6-g	1-802	X									5-721647	
S-62	11/20/82	1343		X	F, 6-f	1-802	X									5-72101	
S-63	11/20/82	1346		X	F-9, 7-a	1-802	X									5-72102	
S-64	11/20/82	1350		X	E-2, 6-h	1-802	X									5-72103	
S-65	11/20/82	1353		X	E-5, 6-i	1-802	X									5-72104	
S-66	11/20/82	1355		X	G, 6-f	1-802	X									5-72105	
S-67	11/20/82	1400		X	E-4, 6-a	1-802	X									5-72106	
S-68	11/20/82	1403		X	G-3, 6-a	1-802	X									5-72107	
S-69	11/20/82	1409		X	H-4, 6-g	1-802	X									5-72108	
S-70	11/20/82	1412		X	H-6, 6-b	1-802	X									5-72109	
Relinquished by: (Signature)		Date / Time		Received by: (Signature)		Relinquished by: (Signature)		Date / Time		Received by: (Signature)		Relinquished by: (Signature)		Date / Time		Received by: (Signature)	
		11/21/82 1427															
Relinquished by: (Signature)		Date / Time		Received by: (Signature)		Relinquished by: (Signature)		Date / Time		Received by: (Signature)		Relinquished by: (Signature)		Date / Time		Received by: (Signature)	
Relinquished by: (Signature)		Date / Time		Received for Laboratory by: (Signature)		Date / Time		Remarks Wadsworth PO 55512									

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

5-19830

CHAIN OF CUSTODY RECORD

PROJ. NO.		PROJECT NAME		NO. OF CONTAINERS		REMARKS												
87CY11		Summit Equipment																
SAMPLERS: (Signature)						PCB												
[Signature]																		
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	EPA tag #												
S-71	4/20/87	1415		X	6-8, 6-e	1-802	X											5-72110
S-72	4/20/87	1420		X	6, 6-b	1-802	X											5-72111
S-73	4/20/87	1418		X	6-8, 6-e	1-802	X											5-72112
S-74	4/20/87	1430		X	6-6, 5-e	1-802	X											5-72113
S-75	4/20/87	1433		X	4-2, 5-e	1-802	X											5-72114
S-76	4/20/87	1435		X	J-7, 5-c	1-802	X											5-72115
S-77	4/20/87	1437		X	K-4, 5-a	1-802	X											5-72116
S-78	4/20/87	1440		X	J-6, 3-h	1-802	X											5-72117
S-79	4/20/87	1445		X	J-3, 3-d	1-802	X											5-72118
S-80	4/20/87	1449		X	J-2, 1-g	1-802	X											5-72119
S-81	4/20/87	1452		X	K, 1-d	1-802	X											5-72120
S-53	4/20/87	1725		X	Secondary Drainage Way North	1-802	X											5-72402
S-54	4/20/87	1735		X	Secondary Drainage Way South	1-802	X											5-72403
S-55	4/21/87	1530		X	Roll off Box (water sample)	1-21tr	X											5-72404

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[Signature]	4/21/87 1427				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		[Signature]	2/27 4/6/87	Wadsworth RD 55512	

PROJ. NO.		PROJECT NAME				NO. OF CON- TAINERS	REMARKS									
SAMPLERS: (Signature)							EPA#									
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION											
S-01	4/24/87	1540		X	TP-4, m-2 ft	1-802	X									5-72436
S-02	4/24/87	1543		X	TP-4, m-3 ft	1-802	X									5-72437
S-03	4/24/87	1545		X	TP-4, m-5 ft	1-802	X									5-72439
S-04	4/24/87	1555		X	TP-5, m-1 ft	1-802	X									5-72441
S-05	4/24/87	1557		X	TP-5, m-2 ft	1-802	X									5-72433
S-06	4/24/87	1600		X	TP-5, m-3 ft	1-802	X									5-72442
S-07	4/24/87	1603		X	TP-5, m-4 ft	1-802	X									5-72440
S-08	4/24/87	1607		X	TP-6, m-ft	1-802	X									5-72429
S-09	4/24/87	1609		X	TP-6, m-2 ft	1-802	X									5-72430
S-10	4/24/87	1612		X	TP-6, m-2 ft	1-802	X									5-72428
S-11	4/24/87	1615		X	TP-6, m-4 ft	1-802	X									5-72443
S-12	4/24/87	1607		X	TP-6, m-1 ft	1-802	X									5-72431
S-13	4/24/87	1625		X	TP-7, m-1 ft	1-802	X									5-72432
S-14	4/24/87	1627		X	TP-7, m-2 ft	1-802	X									5-72445
S-15	4/24/87	1630		X	TP-7, m-3 ft	1-802	X									5-72444

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
<i>Larry Mancini</i>	4/27/87 0900				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		<i>al K...</i>	4-22-87 4:00	Wadsworth Alert P/L	

Distribution: White - Accompanies Shipment; Pink - Coordinator Field Files; Yellow - Laboratory File

CHAIN OF CUSTODY RECORD

5-0529

CHAIN OF CUSTODY RECORD

PROJ. NO.		PROJECT NAME					NO. OF CON- TAINERS	REMARKS									
SAMPLERS: (Signature)																	
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION												
24	50-20	5/27	1324		X	CAB-50-20	1-802	X									
	50-33	5/27	1357		X	CAB-50-33	1-802	X									
	50-27	5/27	1342		X	CAB-50-27	1-802	X									
20	50-29	5/27	1322		X	CAB-50-29	1-802	X									
	B-57	5/27	1137		X	CAB-57	1-802	X									
67	B-60	5/27	1143		X	CAB-60	1-802	X									
	B-63	5/27	1150		X	CAB-63	1-802	X									
60	B-67	5/27	1145		X	CAB-67	1-802	X									
	B-68	5/27	1158		X	CAB-68	1-802	X									
78	B-69	5/27	1206		X	CAB-69	1-802	X									
	B-70	5/27	1200		X	CAB-70	1-802	X									
	B-71	5/27	1208		X	CAB-71	1-802	X									
	B-72	5/27	1210		X	CAB-72	1-802	X									
	B-73	5/27	1215		X	CAB-73	1-802	X									
	B-74	5/27	1218		X	CAB-74	1-802	X									
Relinquished by: (Signature)			Date / Time		Received by: (Signature)			Relinquished by: (Signature)			Date / Time		Received by: (Signature)				
Lamy Men			5/27/87 1640														
Relinquished by: (Signature)			Date / Time		Received by: (Signature)			Relinquished by: (Signature)			Date / Time		Received by: (Signature)				
Relinquished by: (Signature)			Date / Time		Received for Laboratory by: (Signature)			Date / Time		Remarks							
					Daniel Smith					Marek P.O. Wadsworth lab							

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

5-14964

PROJ. NO.		PROJECT NAME		NO. OF CONTAINERS		REMARKS	
SAMPLERS: (Signature)		Summit Equip.		PCB's			
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION		
B-75	5/27	1221		X	CAB-75	1-8oz	X
B-76	5/27	1225		X	CAB-76	1-8oz	X
B-78	5/27	1205		X	CAB-78	1-8oz	X
LN-5	5/27	1400		X	CAB-LN-5	2-80ml	X
LN-3	5/27	1300		X	CAB-LN-3	2-80ml	X
LN-1	5/27	1200		X	CAB-LN-1	2-80ml	X
B-66	5/27	1155		X	CAB-66	1-8oz	X
Relinquished by: (Signature)		Date / Time		Received by: (Signature)		Relinquished by: (Signature)	
Yang P. Linn		1640 5/27/87					
Relinquished by: (Signature)		Date / Time		Received by: (Signature)		Relinquished by: (Signature)	
Relinquished by: (Signature)		Date / Time		Received for Laboratory by: (Signature)		Date / Time	
				L. Smith			
				Remarks		Muerp P.O. Wadsworth 145	

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

5- 1 '965