

# FINAL SAMPLING AND ANALYSIS PLAN

## FORT RUCKER WASTE CHARACTERIZATION AND ANALYSIS OF VARIOUS ENVIRONMENTAL MEDIA



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## ACRONYMS AND ABBREVIATIONS

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ADEM	Alabama Department of Environmental Management
AMSS	Aviation Maintenance Support Shops
CARC	chemical agent resistant coating
EPA	Environmental Protection Agency
FOD	foreign object debris
HEPA	high efficiency particulate air
HMCC	Hazardous Materials Control Center
HWSAA	Hazardous Waste Satellite Accumulation Area
KGS	KOMAN Government Solutions, LLC
LBP	lead-based paint
LQAP	Laboratory Quality Assurance Plan
MDL	Method Detection Limit
MPN	most probable number
NDI	Non-Destructive Investigation
OWS	oil/water separator
PCB	polychlorinated biphenyl
POC	Point of Contact
POL	petroleum, oils, and lubricants
POV	privately owned vehicle
PPE	personal protective equipment
QA	Quality Assurance
RCRA	Resource Conservation and Recovery Act
SDS	safety data sheet
TSC	Training Support Center
TOX	total extractable organic halogen

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**1.1 PURPOSE**

All waste generators must determine whether their wastes are hazardous, per the requirements of Alabama Department of Environmental Management (ADEM) Administrative Code R. 335-14-3-.01(1)(c)1. Hazardous waste characteristics may be determined through the knowledge of the generator or may be measured by an available standardized test method. The purpose of this Sampling and Analysis Plan (SAP) is to describe the waste sampling and analyses that are required in support of the hazardous waste program and to delineate procedures to be used in support of the waste characterization activities at Fort Rucker, Alabama.

This Plan also lists other environmental media analyses required in support of the overall environmental program at Fort Rucker. The Plan describes the procedures for analysis of these various environmental media.

**1.2 OBJECTIVES**

The objectives of this SAP are to provide a list of wastes that need to be sampled in support of the installation hazardous waste management program, to provide a list of other environmental media that require sampling and describe a methodology for obtaining the required samples and analyses.

**1.3 SAMPLING FREQUENCY**

Sampling specified as part of the Analysis of Various Environmental Media project will continue to occur annually as part of maintaining compliance with federal, state, and Army regulations.

Fort Rucker completed an installation-wide sampling project in 2008 for all hazardous waste. Since the conclusion of that project, maintenance sampling continues to be performed, as specified in the Analysis of Various Environmental Media project. Maintenance sampling includes wastes that require sampling as determined by the Fort Rucker Hazardous Waste Program Manager. Examples of wastes that may be affected are those generated because of new or changed processes, wastes that have suspected cross-contamination, or wastes that result from an accidental release or spill.

**1.4 DOCUMENT CONTROL**

This document is a controlled document with the official version maintained on the Sustainable Fort Rucker website ([www.fortrucker-env.com](http://www.fortrucker-env.com)).

**2.1 GENERATION ACTIVITIES**

Waste is generated due to many types of installation activities, including vehicle, equipment, and aircraft maintenance; military training activities; fuel and hazardous material spills; medical operations; battery shops; and construction projects. Waste is generated by military, civilian, and contractor personnel working on Fort Rucker.

Fort Rucker is a large quantity generator. Fluctuations in the quantity of waste generated each year result from implementation of waste minimization initiatives, unit deployments and redeployments, and process changes at various activities on the installation. Although the quantity disposed each year may vary, the installation will remain a large quantity generator through the foreseeable future.

**2.2 WASTE CATEGORIES****2.2.1 Disposable Absorbents**

Disposable absorbents include cheesecloth, tech wipes, rags, socks, pads, paper towels, and any other cloth or paper item used during maintenance of vehicles, equipment, and aircraft. Disposable absorbents used throughout the maintenance facilities are collected in containers and are disposed of as Resource Conservation and Recovery Act (RCRA) regulated hazardous waste(s) or non-RCRA regulated waste(s). Disposable absorbents are also managed in interim hazardous waste satellite accumulation containers. These containers are to be consolidated in centralized Hazardous Waste Satellite Accumulation Areas (HWSAAs) located within the maintenance areas and disposed of as hazardous waste.

**2.2.2 Absorbents with Fuel**

Absorbents contaminated with fuel are generated due to normal maintenance activities and as part of spill cleanup activities. The absorbents consist of pads, socks, booms, pillows, and rags. The type of fuel that is on the absorbents will affect the waste management and disposal methods. These absorbents are generated on the stage fields, air fields, ground vehicle maintenance areas, fueling stations, oil/water separator (OWS) maintenance operations, and privately owned vehicle (POV) maintenance areas.

**2.2.3 Absorbents with Paint**

Absorbents contaminated with paint are generated in paint booths located at the Training Support Center (TSC), Support Services Contractor/Logistics Readiness Center maintenance, Auto Craft Shop, Aviation Maintenance Support Shops (AMSS), Knox Field, Lowe Field, Cairns Field, Hanchey Field, and Shell Field. These absorbents consist of rags, spill pads, paper towels, and other cloth or paper items used during the painting process. The type of paint that is collected on the absorbents depends on the painting process that has been implemented in that area. The paint booths that are

used for vehicles and aircraft generally apply Chemical Agent Resistant Coating (CARC). TSC uses paints that have a more general application, such as commercially available aerosol and latex paints. The Support Services Contractor uses both CARC and general application paint in a paint booth as well as brush application of primarily latex paint for general installation maintenance.

#### **2.2.4 Aerosol Cans**

Aerosol cans are generated in many areas across the installation. Organizations collect the aerosol cans in designated containers and take them to the Hazardous Materials Control Center (HMCC) for processing. HMCC personnel puncture the appropriate aerosol cans with separate containers used for different types of materials in the cans. Paint and petroleum, oil, and lubricant (POL) products are managed in a consolidated drum. The safety data sheets (SDSs) for each of the types of cans that are punctured are maintained for each drum that is turned in for disposal. Because the specific residue that is collected varies with each drum that is turned in, the SDSs are used to determine the waste codes that should be assigned to each drum. However, waste analysis may periodically be required for drums of waste that are turned in for disposal.

#### **2.2.5 Ballasts**

Ballasts are collected when light fixtures are removed from a building due to renovations or demolition. The ballasts are consolidated at the HMCC for waste disposal purposes. Ballasts generally do not require laboratory analysis prior to disposal. In general, most ballasts have a label indicating whether they contain polychlorinated biphenyl (PCB). Users are responsible for segregating ballasts based on the labels prior to turning them into the HMCC.

#### **2.2.6 Batteries**

Many types of batteries are generated from military exercises and civilian support activities. Batteries are generally managed as universal waste and are taken to the HMCC by units/activities for recycle. Sampling of batteries is not required for waste characterization. SDSs for each battery type will be used to complete the individual waste profiles prior to recycle and/or disposal.

#### **2.2.7 Blast Media**

Blast media is generated at AMSS (Building 1001), the Cairns Field Non-Destructive Investigation (NDI) shop, and other miscellaneous area(s) as part of the required maintenance of vehicles, aircraft, and equipment. The blast media is used prior to painting as well as to ensure complete cleaning of parts during specialized maintenance activities. The collected blast media in each area shall be sampled prior to updating the waste profile.

**2.2.8 Parts Washer Solvent and Filters**

Clarus® parts washers are used in maintenance operations for both ground and air vehicles on the installation. As a result of their widespread use, solvent wastes represent one of the largest wastes streams generated at Fort Rucker.

The filters on these parts washers are designed to remove contamination that results from regular use of the equipment. The primary contaminants that are removed are metals from the parts cleaning process. Solvent in the machines could also be contaminated with other types of solvent that may have been applied during the maintenance process.

For new processes, the filters and solvent from machines in each maintenance area shall be analyzed separately due to the multitude of different types and levels of contamination.

**2.2.9 Dry Sweep**

Dry sweep is used throughout the installation as an absorbent material to clean up spills and leaks that result from normal maintenance activities or from accidental releases. Because the materials that could contaminate the dry sweep vary between shops, the dry sweep should be characterized separately for each area or process. Most of the dry sweep contamination will likely be POL-products, F-24, or diesel.

Dry sweep that is generated as a result of a release of gasoline or non-POL based materials, such as battery acid or solvent, will require separate analysis on a case-by-case basis. These wastes will often be required to be disposed as hazardous waste and shall be analyzed to determine the proper waste characterization.

**2.2.10 Empty Containers**

Empty containers that hold pure commercial grade hazardous materials may require disposal as hazardous waste. However, the waste profiles for individual containers may be determined based on the SDS of the material. Laboratory analysis shall not be required for these items.

**2.2.11 Expired/Excess Hazardous Materials**

Hazardous materials are tracked through the HMCC, which determines the reuse potential of any excess items prior to disposal. However, unused hazardous materials are periodically disposed due to the inability to extend the shelf-life of the items or the inability to identify an alternate user. The waste profiles for individual hazardous materials shall be determined based on the SDS of the material. No laboratory analysis shall be required for these items.

**2.2.12 Fluorescent Lamps**

Fluorescent lamps are managed as universal waste through the HMCC. Units and activities collect these items and turn them in for proper disposal. These lamps shall be profiled through the SDS and do not require laboratory analysis.

**2.2.13 Miscellaneous Items**

Wastes are occasionally generated that do not fit into a broader category of waste, often because they are only generated at one location or as a result of an intermittent process. Wastes that fall into this category that require sampling include the pesticide rinsate collection (Building 1490), clean room filters, hanger debris/foreign object debris (FOD), flow bench fluid, flow bench tubing, and residue from various pieces of equipment such as the jet washer and hot water washer sludge. Periodically, other wastes may be generated that fit into this category. Other wastes that do not currently require sampling in this category are toner cartridges, broken thermometers, scrap metal, and radioactive wastes.

**2.2.14 Paint Solids**

Paint solids include filters generated at paint booths, plastic sheeting that catches overspray in the paint booths, dried paint scraped from surfaces, and any other items that contain dried paint. Separate laboratory analysis shall be performed on the filters, the plastic sheeting, and the miscellaneous items to ensure proper waste characterization.

Paint solids that may contain lead-based paint (LBP) may also be generated during renovation and demolition projects. Paint suspected to contain lead shall be analyzed prior to disposal of any waste to determine if it is LBP. This analysis may also be required to ensure appropriate personal protective equipment (PPE) is utilized when doing renovations on structures containing LBP.

**2.2.15 Paint and Thinner**

This waste stream consists of paint that remains in the paint containers after completion of the paint jobs for the day and the paint and thinner mixture that results from the cleanup process. The paint and thinner waste are consolidated in a drum in a satellite accumulation area prior to turn-in for disposal. The composition of this waste stream shall be relatively consistent in individual paint booths but may vary between booths at different facilities due to the processes that are employed. This waste stream should be sampled at each paint booth to ensure proper waste characterization.

**2.2.16 Paint Gun Cleaner**

Each paint booth utilizes a BECCA<sup>®</sup> paint gun cleaner that uses a filtration system to remove the contaminants from the solvent to allow the solvent to be reused many times

prior to disposal. The filters and solvent from each of these machines shall be analyzed separately.

**2.2.17 Plating Shop Wastes**

Plating solutions and solids contaminated with the plating solutions are generated at the Cadmium Plating Shop at AMSS (Building 1001). Both the liquids and solids shall be analyzed separately in order to accurately determine the waste profile.

**2.2.18 Process Particulates**

The aviation maintenance contractor uses Clayton tools for sanding and preparing various metal pieces as part of processes in multiple facilities, mainly in sheet metal and paint shops. The Clayton tools are equipped with high efficiency particulate air (HEPA) filters and a collection chamber for particulates that are removed during their processes. The dust and filters generated from these processes shall be analyzed to determine the proper waste characterization.

**2.2.19 Solder**

Lead and silver solder are used in electronics and avionics shops on the installation to properly maintain and repair this equipment. Solder is collected at each location and turned in for recycling at the Recycling Center, located at Building 9322.

**2.2.20 Tires**

Tires are generated as a result of vehicle and equipment maintenance and must be properly managed in compliance with ADEM Land Division Scrap Tire Program, ADEM Administrative Code Division 335-4.

**2.2.21 Used Antifreeze**

Used antifreeze that is generated in maintenance areas across the installation is consolidated for recycling through an installation-wide contract. The antifreeze does not require laboratory analysis prior to recycling under normal conditions. However, when known contamination of antifreeze has occurred that may prevent recycling, this waste stream shall require sampling to ensure that it is able to be recycled.

**2.2.22 Used Oil**

Used oil is generated in various maintenance areas as a result of vehicle, equipment, and aircraft maintenance activities. The used oil is consolidated prior to recycling. Because the used oil is consolidated prior to recycling, laboratory analysis of the used oil in individual maintenance areas is not required. The consolidated used oil requires sampling annually according to parameters specified in the used oil recycling contract.

**2.2.23 X-Ray Rinse Water**

Water that is generated as a result of the x-ray developing process is collected for disposal as non-RCRA. This waste stream shall be sampled periodically to ensure appropriate characterization.

**2.3 WASTE CLASSIFICATION**

Fort Rucker manages their hazardous waste streams with information based on SDS, user knowledge, and sampling data. Since many of the operations changed with the aircraft maintenance service contractor, Fort Rucker personnel believed that many of the waste streams had potentially changed. To assist the facility in managing these changes, a phased sampling program was implemented. The results from the three-phase, installation-wide sampling event were used to determine the appropriate waste characterization for each waste stream. Results from maintenance sampling events will be used to update existing profiles or create new disposal profiles based on operational changes on the installation.

Sampling conducted as part of a Pollution Prevention Program Assessment in 2019, see **Appendix B, Table B-35**, on the continued use/reconditioned absorbents program used by various organizations on the installation found that the products were contaminated with high levels of heavy metals, specifically cadmium. These levels were well above the regulatory limit for hazardous waste disposal. This was the case at most organizations whether the products were laundered or dirty. Due to the potential risks of these contaminants, Fort Rucker discontinued the use of reconditioned absorbents.

### 3.1 SAMPLES COMPLETED

(**Appendix A**), **Table A-1** shows the waste streams that have been sampled as part of Phase I of the waste analysis program. The table shows the Sample ID, waste generation location information, and specific information on the type of waste. The wastes are sorted according to waste categories, which are described in Section 2.2. **Table A-2** shows the waste streams that were sampled as part of Phase II of the waste analysis program. **Table A-3** shows all the samples completed as part of Phase III of the waste analysis program. **Table A-4** shows all the samples completed as part of the Analysis of Various Environmental Media project, including waste samples that were not part of the three-phase, installation-wide sampling. In order to better track the samples, a control number was added to each sample, which is combined with the building number and sample description to get the Sample ID. These tables also show the waste generation activity or shop, notes on the samples, and the analysis performed on each sample. The laboratory analysis results from Phase I and Phase II are included in (**Appendix B**), **Tables B-1** and **B-2**. **Tables B-3** through **B-39** are yearly laboratory analysis results for samples taken within that year; these tables are used as a “sample logbook” and updated as samples are collected, and results are received throughout the year. This is discussed further in Section 4.

While examining the laboratory results for the waste samples, the Method Detection Limit (MDL) for some of the samples exceeded the U.S. Environmental Protection Agency (EPA) regulatory limit for a parameter and the samples showed non-detect for the same parameter. When this occurred, determination of the waste code that should be assigned to the waste required further investigation. (**Appendix C**), **Table C-1** indicates the waste codes that were assigned to each waste stream from Phase I that exceeded the limits for hazardous waste. **Table C-1** also indicates samples that require further determination due to issues with the MDL.

**Table C-2** shows the waste codes that were assigned to the samples from Phase II. **Table C-3** shows the waste codes that were assigned to the samples from Phase III. **Table C-4** shows the waste codes that were assigned to waste samples under the Analysis of Various Environmental Media project. Waste codes indicated in red were assigned to the sample. Because of the MDL issues experienced during Phase I, a process change was implemented with Phase II and Analysis of Various Environmental Media. A total extractable organic halogen (TOX) analysis was performed on the samples for each waste stream that potentially had halogenated components, usually parts washer solvent and paint and thinner. The waste codes that required further investigation due to the MDL exceeding the U.S. Environmental Protection Agency (EPA) limit are indicated in black. Parameters that indicated non-detect when the MDL



exceeded the EPA limit that could not be eliminated based on the total extractable organic halogen (TOX) results are highlighted in purple. The purple highlighted parameters require further investigation.

### **3.2 WASTE SAMPLES NOT TAKEN**

In the development of the original scope of this project, the Fort Rucker Hazardous Waste Program Manager compiled a list of waste streams that would likely require laboratory analysis as part of this project. As the project proceeded, Fort Rucker refined the list of samples that should be taken. The list has been modified as a result of waste generation processes changing as well as the program manager reevaluating the original list of samples.

(**Appendix D**), **Table D-1** shows the waste streams that Fort Rucker has determined do not require laboratory analysis although they were included in the original scope of the three-phase sampling project. The table shows the Sample ID, waste generation location information, and specific information on the type of waste. The wastes are sorted according to waste categories, which are described in Section 2.2.

Some samples planned for Phase II and Phase III were not taken due to issues such as insufficient quantities of waste to take a sample, process changes that were being implemented, or relocation of facilities. These samples are shown in **Table D-2** for Phase II and **Table D-3** for Phase III. When appropriate, these samples from Phase II that were not sampled were included in the samples that were taken as part of Phase III. Any samples not taken in Phase III that were required at a later time were included as part of the Analysis of Various Environmental Media.

### **3.3 WASTE SAMPLES TO BE COMPLETED**

Additional sampling will be undertaken as necessary to properly characterize and dispose waste generated on Fort Rucker. Sampling of new waste streams, unidentified/found wastes, or wastes resulting from modified processes will be sampled on an as needed basis. (**Appendix E**), **Table E-1** shows the laboratory wastes analyses that are generally required for each category of waste that potentially would be sampled.

### **3.4 VARIOUS ENVIRONMENTAL MEDIA SAMPLING**

The Analysis of Various Environmental Media project includes samples for characterizing hazardous waste as part of the maintenance sampling, suspected asbestos containing material, samples of potential LBP, sulfur and ash, analysis of fuel, oil, radon, PCBs, metals and cyanide in water, and total toxic organics.

KOMAN Government Solutions, LLC (KGS) will perform laboratory analysis of environmental media in accordance with approved EPA and ADEM protocols and

guidelines for sampling and testing in support of projects as specified in the KGS scope of work. Fort Rucker personnel will take, prepare and ship the samples to a Department of Defense Environmental Laboratory Accreditation Program (ELAP) certified laboratory. Additional laboratories may be used for analysis of the samples depending on the sample.

KGS items to be sampled will be determined by Fort Rucker personnel. **Table E-2** shows the expected items that will be sampled, the quantity of samples that are estimated to be required of each, and the analysis method.

### **3.5 SAMPLING METHODS**

#### **3.5.1 Waste Samples**

Waste samples will be collected directly from waste containers or applicable equipment. The sample technician will not enter any waste area without permission from the Hazardous Waste Program Manager or the HWSAA supervisor or named designee. The sampling technician will collect any liquid samples at each of the proposed sample locations using a Coliwasa sampler or sterile scoop and laboratory-supplied sample containers.

For the solid samples at each of the proposed sample locations, the sampling technician will collect a representative sample of solids using new, nitrile sample gloves, and clean tools as necessary (razor, scissors, or utility knife).

Materials required for each waste sample will vary depending on the material being sampled and the test method. **Table E-4** references the required container size, preservatives, and holding times for analytes. This should be used only as a reference while sampling, any questions should be discussed with the laboratory.

#### **3.5.2 Various Environmental Media Samples**

Fort Rucker will determine the sampling methods for the various environmental media that require analysis. KGS personnel will provide technical guidance for determining the best sampling method upon request. Details regarding asbestos sampling methods are included in the Fort Rucker Asbestos Management Plan.

#### **3.5.3 Sample Submission Procedures**

Sample containers must be labeled with the following information: building number, sample description, date and time that the sample was collected, and the analysis to be performed. All sample containers must be securely sealed and in the proper sample container. Prior to shipment to the lab for analysis, all samples will be logged by a designated KGS employee. In the event that this employee is out of the office at the time of sample submission, the sample should be placed into the sample refrigerator or designated sample box and the appropriate internal chain of custody should be left in

the sample box describing the samples submitted. Because refrigeration is not necessary for LBP chip or asbestos samples, these samples may be left in the designated sample box. For the overall safety of all employees, asbestos samples must be double bagged prior to sample submission and placed in the appropriate designated location for processing.

### **3.6 CHAIN OF CUSTODY FORMS**

An internal Fort Rucker Chain of Custody must be used by the sampling technician to maintain sample integrity. A chain of custody record (provided by the laboratory) will be completed as samples are recorded by the designated KGS employee. Samples of these forms for each laboratory are contained in **Appendix F**. A chain of custody is required for each sample sent for analysis, including waste and various environmental media samples.

### **3.7 INVESTIGATION DERIVED WASTE**

Sample collection waste materials and PPE will be disposed in the satellite accumulation area where samples are collected in appropriate containers supplied by Fort Rucker or contained and disposed of upon waste characterization.

### **3.8 SAMPLE PACKAGING AND SHIPPING**

Most waste samples will be packed in coolers with double bagged ice to maintain sample temperature at the laboratory suggested temperature range during sample shipment. Samples of various environmental media may require different packing methods. Ice and various sized FedEx shipping supplies are available in the Fort Rucker environmental office. KGS personnel will coordinate with the applicable laboratory prior to shipment to ensure proper protocols are followed for each individual sample. If the sample is ignitable or suspected to be ignitable, FedEx Ground should be used for the shipping method. In instances where ignitability/flammability is not a concern, FedEx Express can be used for shipping.

The contact and shipping information for each laboratory is included in **Table E-3**. The personnel listed as a point of contact (POC) should be contacted to ensure shipment to the lab is done properly and that they are expecting the samples.

### **3.9 ANALYSIS METHODS**

**Table E-1** shows the analysis that should be requested of lab for each category of waste sample. All waste analysis will follow EPA SW846 methods. **Table E-2** contains the specific analytical methods that will be used by the laboratory for waste analysis.

### **3.10 QUALITY ASSURANCE**

KGS personnel will follow the KGS Quality Assurance (QA) manual for all processes related to this project. The KGS QA Program includes project management documents

and technical review of all deliverables. A project-specific filing system has been established to help maintain project documentation. Internal QA Audits will be conducted periodically by KGS QA staff. The Project Manager is responsible for the overall budget, schedule, quality, and client satisfaction for this project. Additional details on the KGS QA program may be obtained from the Project Manager.

Each laboratory that is used for analysis of samples for Fort Rucker will submit a Laboratory Quality Assurance Plan (LQAP) to KGS prior to analysis of any samples. The LQAP for each laboratory that is used is maintained in the project files.

**4.1 SAMPLE LOG BOOK**

The sample logbook is maintained in the Directorate of Public Works – Environmental and Natural Resources Division (DPW-ENRD) office. Each column in the logbook sheet must be completed for each sample that is submitted. The information included in the log book should be used to complete the chain of custody for the samples. Yearly log books are included as **Tables B-3** through **B-39**.

**4.1.1 Date**

The date should be the date the sample is taken and shown as: day – month – year format (i.e., 11 NOV 18).

**4.1.2 Personnel Submitting Sample**

The name of the person who collected the sample should be indicated in this field.

**4.1.3 Lab Name and Laboratory Sample Identification Number**

The lab name should be indicated in this field to ensure the correct chain of custody is completed as well as to assist with tracking of sample results. **Table E-3** has a list of each of the labs, their locations and the types of samples that should be sent to the labs. This column should also indicate the laboratory sample ID that is provided in the laboratory report.

**4.1.4 Control Number**

The control number can ensure that samples from the same location can be correctly identified. The control number should consist of the year, the next consecutive sample number, and the initial of the anticipated analysis i.e., 2018-001-W (year 2018, the first sample collected of the year, and (W) to represent Waste Sampling).

**4.1.5 Client Sample Identification**

The client identification number should contain the control number and a brief description of the sample. The sample description should describe the composition of the sample and type of material (i.e., used oil, absorbent material, cheesecloth, OWS effluent, etc.). This description should be five words or less.

**4.1.6 Building Number**

The building number where the sample was taken. If sample does not coincide with a specific building, the closest building to location of the sample should be notated.

**4.1.7 EPA Test Method**

The specific EPA method that will reference the analysis for the sample.

**4.1.8 Results**

The results should notate the specific parameter that was analyzed, with units, any qualifiers, and the reporting limit.

**4.2 SAMPLE SUBMITTAL****4.2.1 Chain of Custody**

The chain of custody must be completed for each sample to ensure accountability for the sample from the time the sample is taken until the laboratory analysis is completed. Each laboratory has its own chain of custody forms that must be used for all samples sent to their facility. The Sample ID on the chain of custody consists of the control number from the log book, the building number, the sample description, and a letter to represent what type of sample is being submitted (i.e., 18-001-W-1001-Used Clarus® Parts Washer Solvent). The sample types include W for waste, A for asbestos, DW for drinking water, P for PCB, and F for fuel oil.

**4.2.2 Shipment**

Samples should be shipped to the designated laboratory in a container appropriate for the type of sample. Most hazardous waste samples are shipped on ice in coolers provided by the laboratory. Prior to shipment, personnel should coordinate with the lab to ensure that the samples are packaged properly.

Samples should be shipped via FedEx using appropriate shipping labels. The samples will be picked up from the environmental office after notification to FedEx that a pickup is required. FedEx recommends providing at least four hours' notice to ensure an on-time pickup. FedEx Ground shipments require notification the day prior to the shipment.

Samples that are not flammable, such as items being samples for asbestos or lead-based paint, can usually be sent by FedEx Express using a drop box, i.e. the one located in the parking lot of the Army and Air Force Exchange Service (AAFES) Mini Mall (Building 6600).

**4.2.3 Notification of Shipment**

When a shipment is being made to a lab with requested "rush turnaround time" for the results, an email or phone call should be sent to the lab POC. The lab POCs are included in **Table E-3**. This communication will ensure that the lab has adequate staff to fulfill the request.

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**APPENDIX A**  
**SAMPLES COMPLETED**



**APPENDIX B**  
**ANALYSIS RESULTS**

**APPENDIX C**  
**WASTE CODES ASSIGNED**

**APPENDIX D**  
**SAMPLES NOT TAKEN OR REQUIRED**

**APPENDIX E**  
**LAB INFORMATION**

**APPENDIX F**  
**CHAIN OF CUSTODY FORMS**