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DRAAFT FINAL RESOURCE CONSERVATION AND RECOVERY ACT FACILITY INVESTIGATION REPORT FOR SOLID WASTE MANAGEMENT UNIT 11 NAVAL ACTIVITY PUERTO RICO (DRAFT ACTING AS FINAL)

5/18/2004

CH2M HILL

Draft Final

RCRA Facility Investigation Report

SWMU 11

Naval Activity Puerto Rico
RCRA/HSWA Permit No. PR2170027203
Ceiba, Puerto Rico

Prepared For

Department of the Navy
Atlantic Division
Naval Facilities Engineering Command
Norfolk, Virginia

Contract No. N62470-95-D-6007
CTO-0269

May 18, 2004

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DRAFT FINAL

RCRA FACILITY INVESTIGATION REPORT

SWMU 11

NAVAL ACTIVITY PUERTO RICO
RCRA/HSWA PERMIT NO. PR2170027203
CEIBA, PUERTO RICO

CONTRACT TASK ORDER 0269

MAY 18, 2004

Prepared for:

DEPARTMENT OF THE NAVY
ATLANTIC DIVISION
NAVAL FACILITIES
ENGINEERING COMMAND
Norfolk, Virginia

Under the:

LANTDIV CLEAN Program
Contract N62470-95-D-6007

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LIST OF ACRONYMS AND ABBREVIATIONS

AAL	Asbestos Assessment Location
ACM	Asbestos-Containing Material
Baker	Baker Environmental, Inc.
CLP	Contract Laboratory Protocols
CRQL	Contract Required Quantitation Limits
CTO	Contract Task Order
EPA	United States Environmental Protection Agency
IDW	Investigative Derived Waste
LANTDIV	Atlantic Division, Naval Facilities Engineering Command
µg/100 cm^2	micrograms per 100 centimeters squared
µg/kg	micrograms per kilogram
NSRR	Naval Station Roosevelt Roads
PCBs	polychlorinated biphenyls
ppm	parts per million
PTSB	Pesticides and Toxic Substances Branch
PWD	Public Works Department
QA/QC	Quality Assurance/Quality Control
RBCs	Risk Based Concentrations
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
SOPs	Standard Operating Procedures
SOW	Statement of Work
SWMU	Solid Waste Management Unit
TSCA	Toxic Substance and Control Act
TSI	Thermal System Insulation

1.0 INTRODUCTION

This Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Report has been prepared by Baker Environmental, Inc. (Baker) under contract to the Atlantic Division, Naval Facilities Engineering Command (LANTDIV) Contract Number N62470-95-D-6007, Contract Task Order (CTO) 269 under the Corrective Action provisions of the Station's RCRA Part B Permit No. PR2170027203. This RFI report presents the findings of the original RFI sampling event conducted in 1996, along with the results from the Recharacterization Field Investigation conducted during September 2003 at Solid Waste Management Unit (SWMU) 11 – Building 38 Interior at Naval Station Roosevelt Roads (NSRR).

1.1 Site Description

SWMU 11 and SWMU 45 comprise the area of the "Old Power Plant." SWMU 11 consists of areas inside the old Power Plant (Building 38) while SWMU 45 consists of an area outside of Building 38, the old Power Plant (Building 38). These two sites are interrelated to one of another due to the historical operations in this area. However it should be noted that SWMU 11 and SWMU 45 are two distinct SWMUs and are being handled as such. This report focuses on SWMU 11. Section 1.2 provides a more detailed history of the two SWMUs and how they are associated with one another.

SWMU 11 at NSRR is the interior of Building 38 which is the "Old Power Plant." This building is located on the eastern side of the base just north of SWMU 30 as presented on Figure 1-1. Building 38 is a large, all concrete building broken up into two distinct sections (northern and southern). The northern section, which contains the condensor tanks and piping, is approximately 142 feet long by 54 feet wide. The southern section, containing the compressor area, the steam boilers, and the lavatory, is approximately 142 feet long by 48 feet wide. The entire building is constructed of concrete approximately two to three feet thick. Currently there are only two entryways into and out of Building 38, both of which are located along the northern wall of the building. The entryways consist of two sets of steel doors that are approximately six feet wide by twelve feet tall. The interior of Building 38 is comprised of multiple levels of piping and tanks that are accessible by steps and metal planking. Due to the fire that occurred within Building 38 as mentioned in the United States Environmental Protection Agency (EPA) approved Recharacterization Work Plan (Baker, 2003b), the planks covering the floor pits in the northern section of the building were burned and therefore collapsed into the floor pits in that area.

Engineering controls have been implemented to restrict access to the interior of the building as described in the Interim Measures Plan (Baker, 2003a). These controls consist of both sets of the steel doors being padlocked with signage on the doors indicating that the building is a contaminated site under environmental investigation and no one is to enter the building. A point of contact and phone number is also provided on the sign. These controls have been put in place to prevent access by workers and/or trespassers to the interior areas of the building. An additional engineering control in place at Building 38 consists of the staircase leading to the upper level of the building being removed from the ground area, thereby preventing access.

1.2 Site History

SWMU 11 (Building 38 interior) was a power generating facility that was in operation between the early 1940's through 1949. During the 1988 RCRA Facility Assessment a PCB Storage Compound consisting of a cyclone fence surrounding a curbed concrete pad inside the building was identified. PCB-contaminated items (e.g., old transformers and full 55-gallon drums) were

temporarily stored on the concrete pad inside the cyclone fence within the building. The DRMO contractor ultimately disposed of these items. During the mid 1950's through the mid 1960's, transformer maintenance was conducted at this building that consisted of draining the transformer oil on the ground in the vicinity of the building. This area outside of Building 38 has been designated as SWMU 45. A remedial action was identified with most of the impacted soil located to the south and east of the building, and extended to the road in both directions. Additional removal of sediment was proposed from the concrete-lined drainage swales on the northern and western sides of the concrete apron surrounding Building 38. In November 1993, a decision document was issued by NSRR for the remediation of surface soils contaminated with polychlorinated biphenyls (PCBs) at Sites 15 and 16 (OHM and Metcalf and Eddy, 1995). This remedial action was conducted prior to the initiation of the RCRA program in the area now designated as SWMU 45.

In order to address the historical operations from the Buildings interior a work plan was developed. The approved master RFI work plan (Baker, 1995) contained provisions for the original wipe sampling program for the building's interior floor and walls (SWMU 11). This resulted in 126 individual samples that were collected in 1996 and analyzed for PCBs. In addition to the wipe sampling program conducted during the original SWMU 11 RFI field investigation in 1996, a field-screening program was also performed for the samples collected in the pits/tunnels running under the floor of the building. This was done, although not required in the approved work plan, since the cooling water tunnels outside the building were known to have some sludge containing PCBs.

An Interim Corrective Measure (ICM) was performed for SWMU 45 to address the reported discharges of product from the cooling water tunnels. These actions included the breaching and sealing of the intake and discharge cooling water tunnels with cast-in-place concrete, removal of liquids and sludge from the underground storage tanks and tunnels, backfilling the storage tanks with concrete, and the sealing of man way entrances to the storage tanks and cooling water tunnels. The Remedial Action Contractor (RAC) OHM, Inc, performed remediation at the site. Work began in May 1996 and was completed in November 1996. The Final Closeout Report for Cooling Water Tunnels and Underground Storage Tanks at SWMU 45 was submitted to the EPA on 6/17/97 by OHM, Inc.

Prior to preparation of the original RFI report for this work, a fire occurred within the building in 1997. The fire was largely confined to debris and the planks that cover the floor pits in the northern portion of the building. No structural damage was done to the building and all firefighting water was contained within the pits. Because of the fire, the Navy considered the sampling data gathered to be unusable and, therefore, had not presented the results. In response to this incident, the Navy submitted a Recharacterization Work Plan (Baker, 1998) to recharacterize the building's interior and provide the new data to fulfill the requirements of the RFI. EPA commented on this work plan in March 2002, requesting the Navy to determine future disposition of the building in order for clean-up requirements to be developed, as well as address the EPA's other comments. The Navy responded to EPA comments on May 14, 2002, explaining in part that funding was not available at that time to modify the work plan. Once funding became available, the work plan would be modified and submitted to the EPA. The Draft Recharacterization Work Plan for SWMU 11 along with the Navy's response to EPA's March 8, 2002 comment letter were submitted to the EPA on march 18, 2003. EPA responded to the

Navy's response to comments on June 3, 2003, requesting additional information, such as an Interim Measures Plan, be included in the recharacterization work plan. Vivian Chin from the EPA Region II Pesticides and Toxic Substances Branch (PTSB) submitted additional comments to the Navy on the recharacterization work plan via e-mails on June 30, 2003, as well as on July 8, 2003. The Final Recharacterization Work Plan for SWMU 11 was submitted to the EPA on July 21 2003, and subsequently approved by the EPA via e-mail on August 14, 2003.

1.3 Objectives

The primary objective of the Recharacterization Field Investigation was to resample the interior of the building to recharacterize the contamination within Building 38 as a result of the fire which occurred following the initial sampling effort in November 1996. The other objective of this investigation was to perform an assessment of the pipe insulation throughout the building, as presented in the Final Recharacterization Work Plan (Baker, 2003b). These objectives were met with the performance of the field investigation conducted in September 2003.

The objectives of this report are as follows:

- Present the data collected during the Recharacterization Field Investigation.
- Make a determination of the corrective measure alternatives necessary to be protective of potential human health exposure.

1.4 Report Organization

Section 1.0 of this document includes the introduction, site description, site history, and the objectives of this report. Section 2.0 provides a description of the field investigation and sampling program conducted during September 2003. Section 2.0 also discusses the sampling procedures for the environmental samples (wipe and concrete chip samples), the quality assurance/quality control (QA/QC) samples, as well as the procedures for the Investigation Derived Waste (IDW) and the decontamination procedures. Section 3.0 discusses the analytical results for all samples collected during the Recharacterization Field Investigation. An assessment of the human health issues relating to this site will be discussed in Section 4.0. Section 5.0 provides a description of the corrective measure alternatives based on restricted and unrestricted facility usage. The conclusions and recommendations are provided in Section 6.0, while the references used in this report are provided in Section 7.0.

FIGURES

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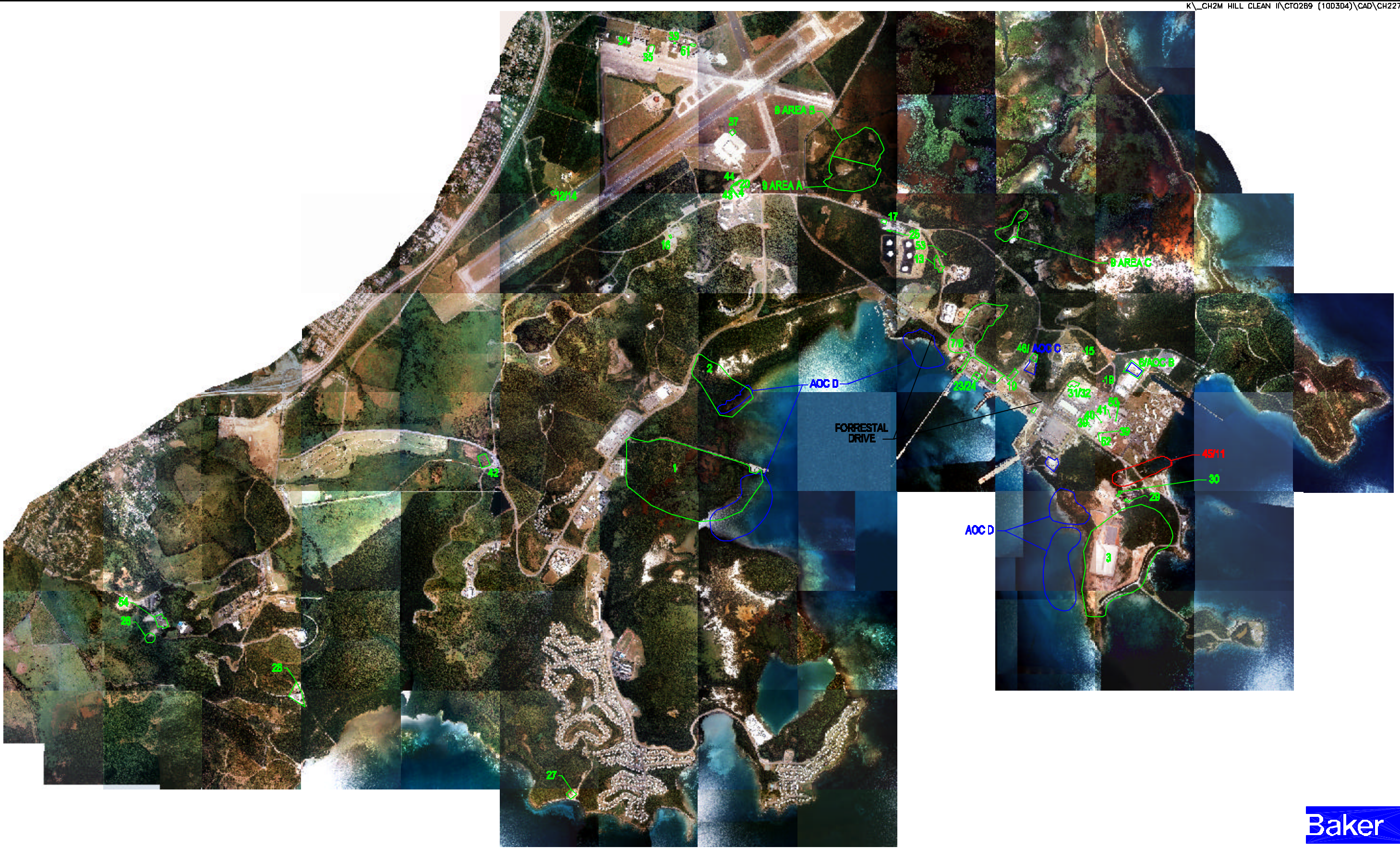


Baker

LEGEND

1 – SWMUs

45/11 – AREA OF WHICH THIS INVESTIGATION PERTAINS TO

AOC D – AOCs

SOURCE: GEO-MARINE, INC., SEPTEMBER 6, 2000.

2500 0 1250 2500

1 inch = 2500 ft.

FIGURE 1-1
SWMU/AOC LOCATION MAP

NAVAL STATION ROOSEVELT ROADS
PUERTO RICO

2.0 FIELD INVESTIGATION AND SAMPLING PROGRAM

This section describes the field investigation and sampling program conducted at SWMU 11 during the September 2003 field investigation based on the EPA approved Final Recharacterization Work Plan (Baker, 2003b). The procedures utilized in the field followed the information listed in the EPA approved RFI work plan (Baker 1995), as appropriate. Table 2-1 provides the sample matrix presenting the wipe samples and concrete chip samples, while Table 2-2 provides a sample matrix for the QA/QC samples from the 2003 field investigation. Both tables provide the sample identifications and corresponding laboratory analysis that was performed. Table 2-3 presents a listing of the method performance limits, compound list, and contract required quantitation limits (CRQL) used for the analysis listed in Tables 2-1 and 2-2.

2.1 Sampling Activities at SWMU 11

The recharacterization activities at SWMU 11 consisted of the following:

- Wipe samples at 15 locations along the interior walls of Building 38 (see Figure 2-1).
- Wipe samples at 20 locations along the interior floor of Building 38 (see Figure 2-2).
- Wipe samples at 10 locations located inside Building 38, located in the field after visible signs of residue from the fire were observed (see Figure 2-3).
- Concrete chip samples at 6 locations along the interior walls (see Figure 2-4).
- Concrete chip samples at 13 locations along the interior floors (see Figure 2-5).

Environmental sample locations utilized during the Recharacterization Investigation are presented on Figures 2-1 through 2-5, and described in the following subsections. A description of the procedures utilized for collecting the above mentioned samples are also included in the following subsections.

2.2 Wipe Sample Procedures

Based on the previous work performed at SWMU 11, and the possible effects of the fire in 1997, additional wipe samples were collected based on the EPA approved Recharacterization Work Plan (Baker, 2003b). A total of 35 wipe samples, of the original (126) samples collected during the November 1996 field investigation, were recollected during the September 2003 field investigation.

The exact numbers of wipe samples collected along the walls and floor during the Recharacterization Investigation were based on the result intervals observed during the Phase I RFI. The wipe sample results collected during the Phase I RFI represented six result intervals (non-detection, less than 1 µg/100 cm^2, 1 – 10 µg/100 cm^2, 10 – 100 µg/100 cm^2, 100 – 1,000 µg/100 cm^2, and greater than 1,000 µg/100 cm^2). Therefore the wipe and/or concrete chip sample locations chosen during the Recharacterization Investigation were based on areas within these six intervals as presented in the EPA approved Recharacterization Work Plan (Baker, 2003b). The locations, once established in the field by the baker field crew, were marked using orange paint for the wipe samples, and yellow paint for the concrete chip samples.

All of the samples were collected using a template 10 centimeters (cm) long by 10 cm wide. The samples were collected by wiping the laboratory-supplied material pre-soaked in hexane vertically from left to right, and horizontally from top to bottom within the template. Care was taken to minimize overlapping of the wipes during this process. Once the samples were collected, they were placed in an appropriate laboratory supplied container and stored in a cooler with ice pending transport to the laboratory.

2.2.1 Wall Sampling

A total of 15 wipe samples were collected along with two duplicate samples from areas on the interior walls of Building 38 as presented on Figure 2-1. The locations of all the wipe samples on the walls were established in the field based off of measurements presented along the walls as well as the markings from the existing sample locations on the walls from the November 1996 field investigation. All of the samples were collected at approximately five feet above the level of the floor.

All 17-wipe samples collected from the walls were analyzed for PCBs using Contract Laboratory Protocols (CLP) with a 28-day turnaround time. These analytes were selected based on the results of the previous investigation, along with the occurrence of the fire. The samples collected from locations 11WS32(W) and 11WS38(W) were also analyzed for dioxin/furans based on visual observations (i.e., smoke stains from the 1997 fire). The additional analysis requested was based on Section 3.1.2.3 of the EPA approved Recharacterization Work Plan (Baker, 2003b).

2.2.2 Floor Sampling

A total of 20 wipe samples were collected along with two duplicate samples from the floor of Building 38 as presented on Figure 2-2. The locations of all the wipe samples on the floor were established in the field based off of measurements presented along the walls as well as the markings from the existing sample locations on the floor from the November 1996 field investigation.

All 22-wipe samples from the floor were analyzed for PCBs using CLP with a 28-day turnaround time. These analytes were selected based on the results of the previous investigation, along with the occurrence of the fire. The sample collected from sample location 11WS32(F) was also analyzed for dioxin/furans based on visual observations (i.e., smoke stains from the 1997 fire). The additional analysis requested was based on Section 3.1.2.3 of the EPA approved Recharacterization Work Plan (Baker, 2003b).

2.2.3 Additional Sampling

A total of nine additional wipe samples were collected along with one duplicate sample from areas inside the building, which demonstrated visual signs (i.e., black residue) of smoke staining from the 1997 fire. The nine additional wipe samples were collected based on Section 3.1.2.3 of the EPA approved Recharacterization Work Plan (Baker, 2003b). The areas where these additional samples were collected included the sides of concrete support beams, a concrete doorframe, steel end cap, etc. These samples were collected and analyzed for dioxins/furans only to make a determination if dioxins/furans were generated from the presence of PCBs inside the building along with the fire. These 10 samples were not co-located with the PCB wipe samples mentioned in the above two sections. All nine-sample locations were approximated in the field and recorded. Due to the locations of these samples, photographs were taken in the field to document their locations. Figure 2-3 presents the approximate location in which the ten samples were collected, as well as presents the direction in which the photographs were taken of each location. Appendix A.1 provides photographs documenting the exact location that all ten samples were collected, as well as a detailed description of each location.

2.3 Concrete Chip Sample Procedures

Based on the previous work performed at SWMU 11, and the possible effects of the fire, bulk samples for the interior floors and walls were collected. The bulk samples were requested by the

EPA in their comment letter dated March 8, 2002 (EPA, 2002). The EPA stated that the wipe samples are no longer acceptable for establishing clean-up levels for surfaces such as concrete. Therefore, bulk samples were collected to evaluate the necessary clean up requirements for PCBs.

A total of 19 concrete chip samples along with two duplicate samples were collected from various areas (walls and floors) that were impacted by prior contamination based on visual observation (i.e. chemical and/or staining on walls/floor). The areas sampled were established in the EPA approved recharacterization work plan (Baker, 2003b), and are presented on Figures 2-4 and 2-5.

All concrete chip samples from the walls and floor were collected utilizing a hammer drill with a chisel bit that was decontaminated prior to each sample collection. The decontamination process in the EPA approved RFI work plan for NSRR (Baker, 1995) was followed during this investigation and is described in Section 2.7.

The concrete chip samples were collected to a depth of approximately ½ inch as requested by the EPA (EPA, 2002). There were no additional signs of contamination (i.e., oil staining) deeper than ½ inch, on any of the concrete chip samples collected. Therefore, no additional concrete chip samples were collected deeper than ½ inch. The samples collected were placed in the appropriate laboratory supplied containers and stored in a cooler pending transport to the laboratory. The locations were established in the field based off of measurements along the floors and walls.

The concrete chip samples were analyzed for PCBs using CLP with a 28-day turnaround time. These analytes were selected based on the results of the previous investigation.

2.3.1 Wall Sampling

A total of six concrete chip samples along with one duplicate sample were collected from the walls inside Building 38, as presented on Figure 2-4. The concrete chip samples along the walls were collected within two feet of the floor, to a depth of approximately ½ inch, as requested by the EPA (EPA, 2002).

2.3.2 Floor Sampling

A total of 13 concrete chip samples and one duplicate sample were collected from the floor inside Building 38, as presented on Figure 2-5.

2.4 Assessment of the Thermal System Insulation Inside the Building

As presented in the EPA approved recharacterization work plan (Baker, 2003b), there is extensive piping in the western portion of the building much of which is covered with suspected asbestos-containing insulation. A site condition assessment was performed during this field effort on the thermal system insulation (TSI) within Building 38 to assist in building management. Upon entering the building to perform the TSI assessment, the Baker field crew noticed yellow labels duct taped to the TSI to be assessed. This label contained the following information, “Do Not Remove This Tag – This material has been sampled by Westin Inc. to determine whether or not it contains asbestos. Before working with this material, contact the building manager and request the results for the referenced asbestos sample number AW171”. The sample number on the ticket was just one of many sample numbers which appeared on the tags observed throughout the entire southern portion of the building. A portion of this report (Building 38) is provided as Appendix C. The report indicated that 40 of the 43 samples of suspected material collected contained asbestos-containing material (ACM) (Weston, 1991). Appendix A.2 presents photographs from

the areas where the assessment of TSI was conducted within Building 38, along with a photograph of one of the tags mentioned above.

The condition assessment documented the current condition and integrity of the suspected asbestos-containing TSI in the building. The field crew followed detailed protocols mirroring accepted industry standard procedures and quality assurance procedures to ensure a complete and accurate survey. While no sample collection or analysis efforts occurred, the field crew characterized each type of TSI and documented data for each type of TSI, such as type of material, description, location, friability, and condition. All of this information was collected on standardized forms that are presented in Appendix B.

The standardized forms presented in Appendix B contain all the information applicable for the condition assessment performed at this site. A total of eight separate asbestos assessment locations were identified inside Building 38. Seven of the eight locations are found in the southern section of Building 38, with the eighth location found on the second floor of the northern section. The eight locations are summarized below:

- Asbestos Assessment Location (AAL) 1 is located in the southern section of the building in the southeast corner by the lavatory (see Appendix A.2). The pipe TSI at this area is approximately five inches in diameter. The actual insulation around the piping is approximately one inch thick, and is comprised of a white fibrous material that appeared to be friable. This insulation appeared to be undamaged at this location. No repair of the pipe insulation is required at this time.

- Asbestos Assessment Location 2 is located in the southern section of the building in the southeast corner by the lavatory (see Appendix A.2). The TSI at this area is encapsulating a tank that is believed to be Evaporator Tank Number 2. The actual TSI around this tank is approximately two inches thick, and is comprised of a white fibrous material that appeared to be friable. This insulation is significantly damaged and appears to have been stripped from the side of the tank and left on the floor. Repair of the TSI and clean up of the removed TSI is warranted at this location if the building is to be inhabited in the future. The current condition of the TSI at this location has the potential to pose a risk to human health. Section 6.0 of this document provides a recommendation for dealing with this issue.

- Asbestos Assessment Location 3 is located in the southern section of the building in the southeast corner by the lavatory (see Appendix A.2). The pipe TSI at this area is approximately 12 inches in diameter. The actual insulation around the piping is approximately two inches thick, and is comprised of a white fibrous material that appeared to be friable. This insulation is damaged in a localized area. Repair of the TSI is warranted at this location if the building is to be inhabited in the future. The current condition of the TSI at this location has the potential to pose a risk to human health. Section 6.0 of this document provides a recommendation for dealing with this issue.

- Asbestos Assessment Location 4 is located in the southern portion of the building in the southwest section (see Appendix A.2). The pipe TSI at this area is approximately eight inches in diameter. The actual TSI around the piping is approximately two inches thick, and is comprised of a white fibrous material that appears to be friable. This insulation is significantly damaged at the end of the pipe. Repair of the TSI is warranted at this location if the building is to be inhabited in the future. The current condition of the TSI at this location has the potential to pose a risk to human health. Section 6.0 of this document provides a recommendation for dealing with this issue.

- Asbestos Assessment Location 5 is located in the southern portion of the building along the northern wall separating the northern and southern sections of Building 38 (see Appendix A.2). This is a location where two small valves that once lead into a tank, were cut and exposed the interior portion of the TSI. The actual TSI around both pipes leading to the tank is approximately two inches thick, and is comprised of a white fibrous material that appeared to be friable. This insulation is significantly damaged in a distributed area. Repair of the TSI is warranted at this location if the building is to be inhabited in the future. The current condition of the TSI at this location has the potential to pose a risk to human health. Section 6.0 of this document provides a recommendation for dealing with this issue.

- Asbestos Assessment Location 6 is located in the southern portion of the building along the northern wall separating the northern and southern sections of Building 38 (see Appendix A.2). This is a location along the eastern side of the northern wall were a pipe and its TSI were cut, with the interior portion of the TSI exposed. The pipe and TSI at this area is approximately four inches in diameter. The actual TSI around both pipes leading to the tank is approximately one inch thick, and is comprised of a white fibrous material that appeared to be friable. This TSI is damaged in a distributed area. The coating of the insulation in this area appeared to be of a burlap-type of texture. Repair of the TSI is warranted at this location if the building is to be inhabited in the future. The current condition of the TSI at this location has the potential to pose a risk to human health. Section 6.0 of this document provides a recommendation for dealing with this issue.

- Asbestos Assessment Location 7 is located in the southern portion of the building along the southern wall on the second level of Building 38 (see Appendix A.2). The TSI in question covers a flash tank that contained a crack that ran vertically down the center of the tank. The actual TSI was comprised of a white fibrous material that appears to be friable. The TSI is damaged in a distributed area. Repair of the TSI is warranted at this location if the building is to be inhabited in the future. The current condition of the TSI at this location has the potential to pose a risk to human health. Section 6.0 of this document provides a recommendation for dealing with this issue.

- Asbestos Assessment Location 8 is located in the northern portion of the building on the second level of Building 38 (see Appendix A.2). The pipe and TSI at this area is approximately 12 inches in diameter. The actual TSI around the piping leading to one of the turbines is approximately two inches thick, and is comprised of a white fibrous material that appeared to be friable. This TSI is significantly damaged in a distributed area. There was also TSI around piping in the same general area that contained the same type of TSI. The TSI and piping is approximately two inches in diameter. Repair of the TSI is warranted at this location if the building is to be inhabited in the future. The current condition of the TSI at this location has the potential to pose a risk to human health. Section 6.0 of this document provides a recommendation for dealing with this issue.

2.5 Investigation Derived Waste

Only minimal IDW was generated during the September 2003 site investigation activities at SWMU 11. This IDW was associated with the decontamination fluids from the concrete chip equipment (chisel bits) decontamination procedures. All IDW was containerized in a fifty five-gallon drum and labeled stating contents, date of generation, and consultant. The IDW associated

with this investigation, as well as two investigations performed during the September 2003 field effort (TCE Investigation at the Tow Way Fuel Farm and the Semi-Annual Monitoring at the Landfill), was sampled following completion of work. The removal of the IDW is currently being arranged in accordance with local and federal regulations.

2.6 Quality Assurance/Quality Control Procedures

One equipment rinsate sample (11ER01) was collected during this investigation by running lab grade deionized water over a chisel bit used in the concrete chip collection process. This sample was analyzed for PCBs as presented in Table 2-2.

Two field blank samples were collected and analyzed for PCBs as presented in Table 2-2. Field blank sample (11FB01), consisted of lab grade deionized water supplied by the analytical laboratory and used in the collection of 11ER01, where as 11FB02, consisted of store bought deionized water used in the deconning of sampling equipment (i.e., chisel bit).

2.7 Decontamination Procedures

Decontamination procedures performed in the field were conducted in accordance with EPA Region II guidelines. For routine sample collection equipment (chisel bit for hammer drill), the following steps were implemented:

- Clean with potable water and low-phosphate detergent
- Tap water rinse
- 10 percent nitric acid solution rinse
- Tap water rinse
- Methanol followed by a hexane or an acetone rinse
- Analyte-free deionized water rinse
- Air dry
- Wrap in aluminum foil, shiny side out, for storage or transport

This decontamination procedure followed the Standard Operating Procedures (SOPs) outlined in the EPA approved RFI work plan (Baker, 1995).

TABLES

TABLE 2-1

SUMMARY OF SAMPLING AND ANALYTICAL PROGRAM
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

		Fixed Base Analytical Lab Analysis Requested		
Sample Designation	Date Sampled	PCBs	Dioxins/ Furans	Comments
Wipe Samples - Walls				
11WS05R(W)	09/09/03	X		
11WS16R(W)	09/09/03	X		
11WS18R(W)	09/09/03	X		
11WS22R(W)	09/09/03	X		
11WS27R(W)	09/09/03	X		
11WS32R(W)	09/09/03	X	X	
11WS32RD(W)	09/09/03	X	X	Duplicate
11WS32RMS(W)	09/09/03	X	X	Matrix Spike
11WS32RMSD(W)	09/09/03	X	X	Matrix Spike Duplicate
11WS38R(W)	09/10/03	X	X	
11WS56(W)	09/10/03	X		
11WS64R(W)	09/09/03	X		
11WS70R(W)	09/09/03	X		
11WS77R(W)	09/09/03	X		
11WS77RD(W)	09/09/03	X		Duplicate
11WS82R(W)	09/10/03	X		
11WS84R(W)	09/10/03	X		
11WS91R(W)	09/10/03	X		
11WS110R(W)	09/10/03	X		
Wipe Samples - Floor				
11WS13R	09/09/03	X		
11WS15R	09/09/03	X		
11WS17R(F)	09/09/03	X		
11WS21R	09/09/03	X		
11WS21RD	09/09/03	X		Duplicate
11WS22R(F)	09/09/03	X		
11WS23R	09/09/03	X		
11WS24R	09/09/03	X		
11WS28R(F)	09/09/03	X		
11WS32R(F)	09/09/03	X	X	
11WS34R	09/10/03	X		
11WS39R(F)	09/10/03	X		
11WS65R(F)	09/09/03	X		
11WS65RD(F)	09/09/03	X		Duplicate
11WS65RMS(F)	09/09/03	X		Matrix Spike
11WS65RMSD(F)	09/09/03	X		Matrix Spike Duplicate
11WS73R	09/09/03	X		
11WS78R(F)	09/09/03	X		

Note:
PCBs - Polychlorinated biphenyls

TABLE 2-1

SUMMARY OF SAMPLING AND ANALYTICAL PROGRAM
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

		Fixed Base Analytical Lab Analysis Requested		
Sample Designation	Date Sampled	PCBs	Dioxins/ Furans	Comments
Wipe Samples - Floor (Continued)				
11WS79R	09/09/03	X		
11WS85R(F)	09/10/03	X		
11WS86R	09/10/03	X		
11WS87R	09/10/03	X		
11WS92R(F)	09/10/03	X		
11WS115R	09/10/03	X		
Additional Wipe Sample Locations				
11WS127	09/10/03		X	
11WS127D	09/10/03		X	Duplicate
11WS128	09/10/03		X	
11WS129	09/10/03		X	
11WS130	09/10/03		X	
11WS131	09/10/03		X	
11WS132	09/10/03		X	
11WS133	09/10/03		X	
11WS134	09/10/03		X	
11WS135	09/10/03		X	
Concrete Chip Samples				
11CC01(W)	09/10/03	X		Wall
11CC02(W)	09/10/03	X		Wall
11CC03(W)	09/10/03	X		Wall
11CC04(W)	09/10/03	X		Wall
11CC05(W)	09/10/03	X		Wall
11CC05D(W)	09/10/03	X		Duplicate
11CC05MS/MSD(W)	09/10/03	X		Matrix Spike/Matrix Spike Duplicate
11CC06(W)	09/11/03	X		Wall
11CC07(F)	09/11/03	X		Floor
11CC08	09/11/03	X		Floor
11CC09	09/10/03	X		Floor
11CC10	09/10/03	X		Floor
11CC11(F)	09/10/03	X		Floor
11CC12(F)	09/10/03	X		Floor
11CC13(F)	09/10/03	X		Floor
11CC14(F)	09/10/03	X		Floor
11CC14D(F)	09/10/03	X		Duplicate
11CC15	09/10/03	X		Floor
11CC16(F)	09/10/03	X		Floor
11CC17(F)	09/10/03	X		Floor
11CC18(F)	09/11/03	X		Floor
11CC19(F)	09/11/03	X		Floor

Note:
PCBs - Polychlorinated biphenyls

TABLE 2-2

SUMMARY OF SAMPLING AND ANALYTICAL PROGRAM - QA/QC
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

		Fixed Base Analytical Lab Analysis	
Sample ID	Sample Date	PCBs	Comments
FIELD BLANKS			
11FB01	09/11/03	X	Lab Grade DI Water
11FB02	09/11/03	X	Store Bought DI Water
EQUIPMENT RINSATE			
11ER01	09/11/03	X	Concrete Chip Equipment (Chisel Bit)

Note:
PCBs - Polychlorinated biphenyls

TABLE 2-3

METHOD PERFORMANCE LIMITS
COMPOUND LIST AND CONTRACT
REQUIRED QUANTITATION LIMITS (CRQL)

PCBs	Quantitation Limits		Method Number
	Wipe Sample (µg/wipe)	Concrete Chip Sample (µg/kg)	
Aroclor 1016	1.0	33	8082(3550)
Aroclor 1221	2.0	67	8082(3550)
Aroclor 1232	1.0	33	8082(3550)
Aroclor 1242	1.0	33	8082(3550)
Aroclor 1248	1.0	33	8082(3550)
Aroclor 1254	1.0	33	8082(3550)
Aroclor 1260	1.0	33	8082(3550)
Aroclor 1268	1.0	33	8082(3550)

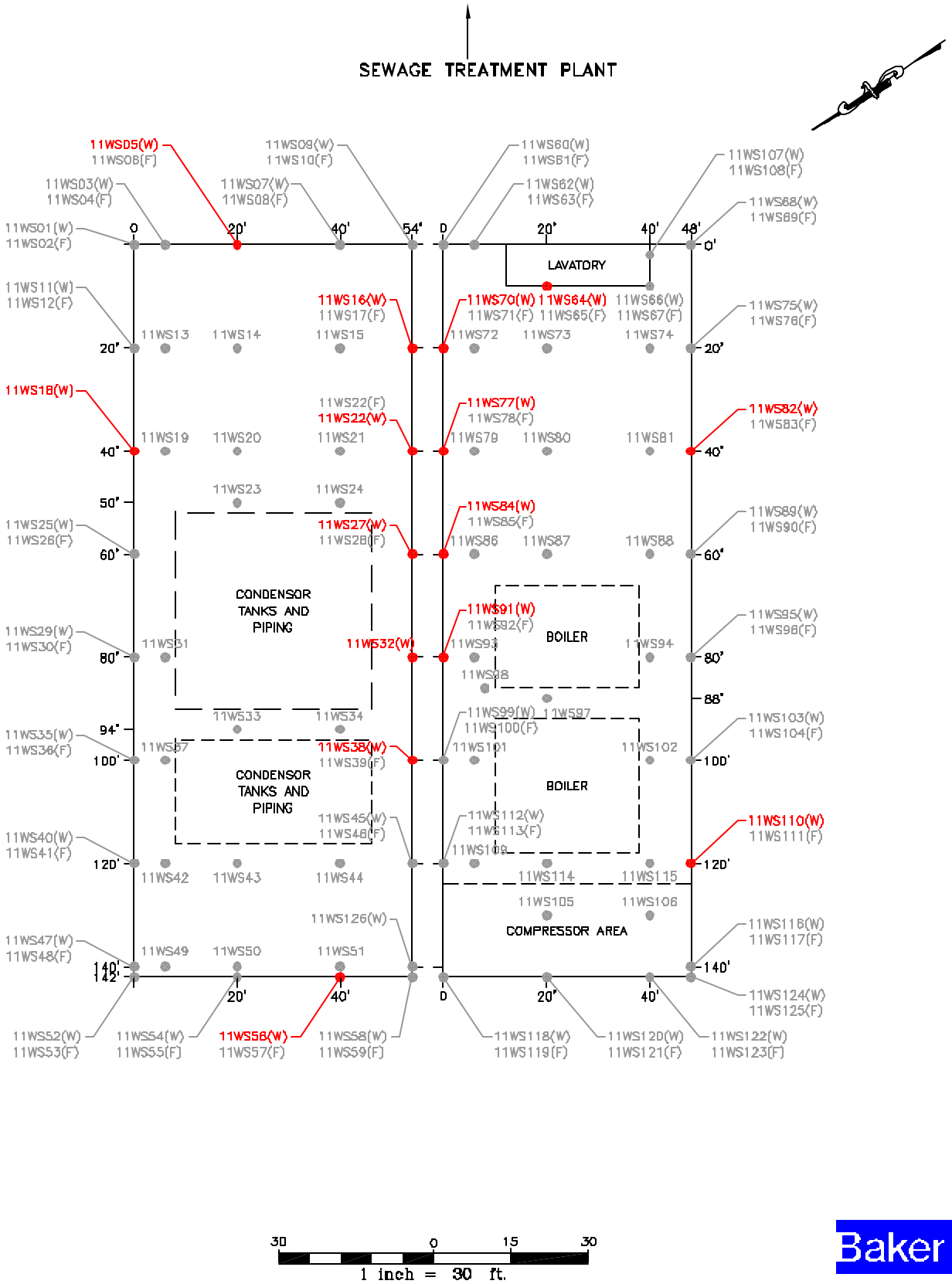
Dioxins/Furans (Low Resolution)	Quantitation Limits		Method Number
	Wipe Sample (µg/wipe)	Concrete Chip Sample (µg/kg)	
2,3,7,8-TCDD	0.005	0.5	8280
2,3,7,8-TCDF	0.005	0.5	8280
2,3,7,8-PCDD	0.005	0.5	8280
2,3,7,8-PCDF	0.005	0.5	8280
2,3,7,8-HCDD (Hexa)	0.005	0.5	8280
2,3,7,8-HCDF (Hexa)	0.005	0.5	8280
2,3,7,8-HCDD (Hepta)	0.005	0.5	8280
2,3,7,8-HCDF (Hepta)	0.010	1.0	8280
2,3,7,8-OCDD	0.010	1.0	8280
2,3,7,8-OCDF	0.010	1.0	8280

Notes:
µg/wipe - micrograms per wipe.
µg/kg - micrograms per kilogram.

The data for the wipe and concrete chip samples have been extrapolated from soil values, the actual quantitaiton limits were not determined in wipe or concrete chip samples. The reporting limits for dioxins/furans are based on a sample weight of 10 grams.

FIGURES

K\CH2N HILL CLEAN II\CTO269 (100304)\CAD\20289RFID1



30 0 15 30

1 inch = 30 ft.

Baker

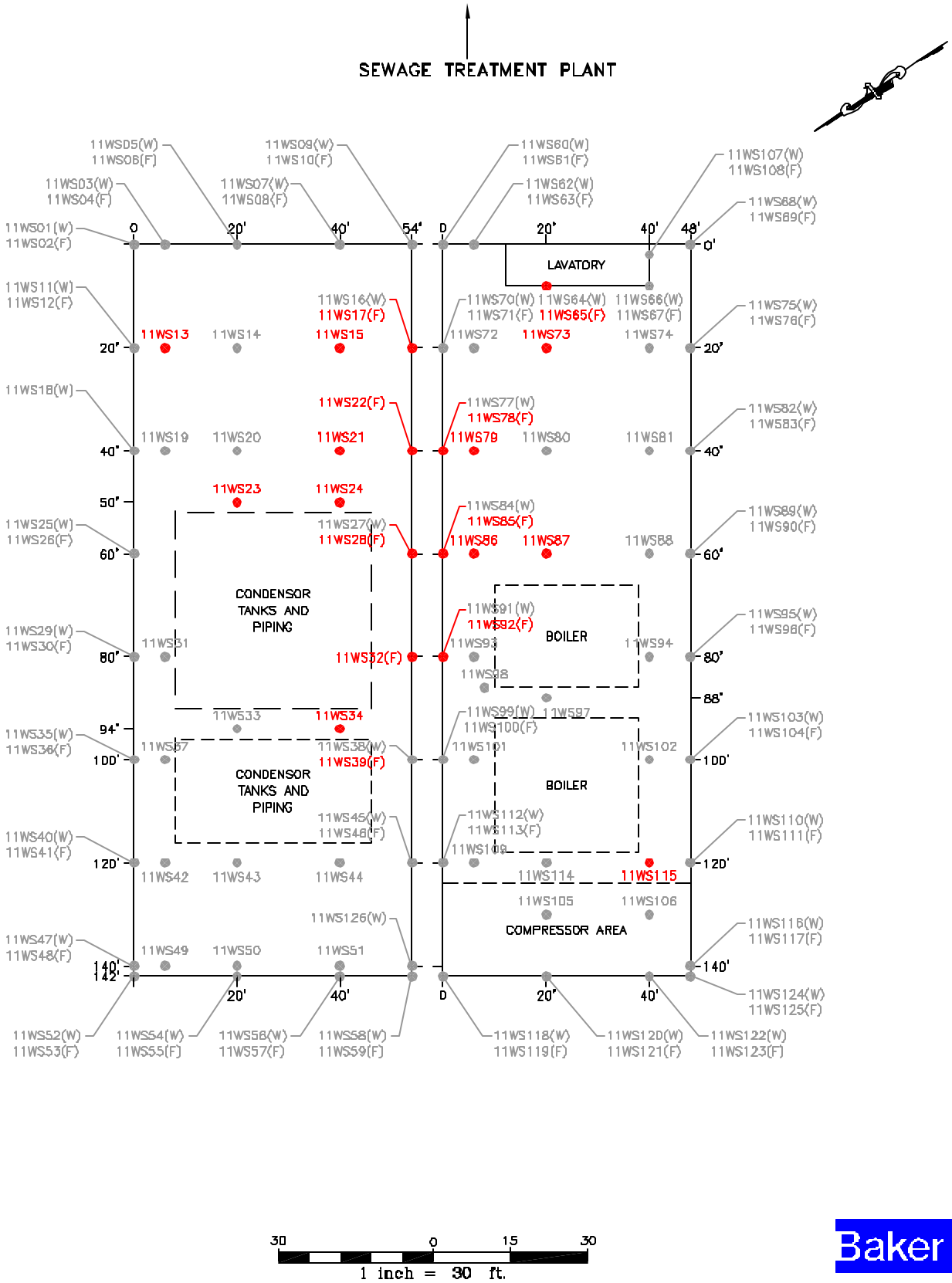
LEGEND

- ● – WIPE SAMPLE (NOV 1996)
- ● – WIPE SAMPLE ON WALL (SEPT 2003)
- 11WS54(W) – WIPE SAMPLE FROM WALL (NOV 96)
- 11WS55(F) – WIPE SAMPLE FROM FLOOR (NOV 96)
- 11WS56(W) – WIPE SAMPLE FROM WALL (SEPT 03)

FIGURE 2-1

WIPE SAMPLING LOCATIONS FOR WALLS SWMU 11 – BUILDING 38 INTERIOR

NAVAL STATION ROOSEVELT ROADS
PUERTO RICO



Baker

LEGEND

- ● – WIPE SAMPLE (NOV 1996)
- ● – WIPE SAMPLE ON FLOOR (SEPT 2003)
- 11WS54(W) – WIPE SAMPLE FROM WALL (NOV 96)
- 11WS55(F) – WIPE SAMPLE FROM FLOOR (NOV 96)
- 11WS39(F) – WIPE SAMPLE FROM FLOOR (SEPT 03)

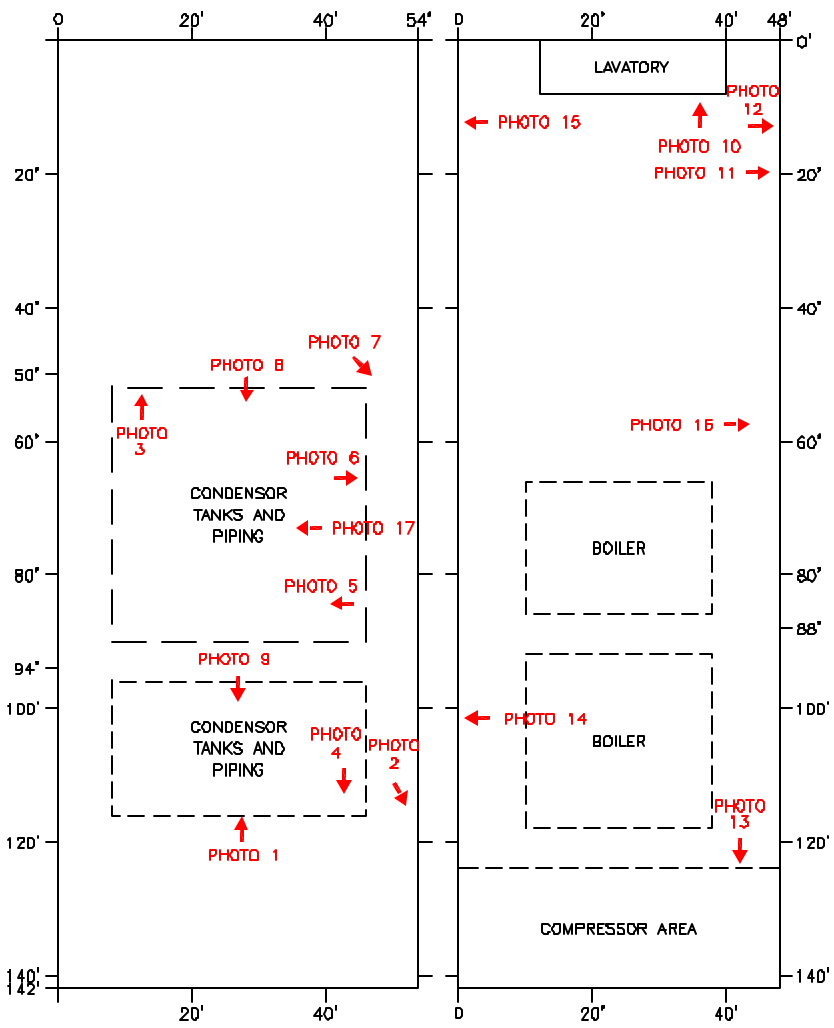
FIGURE 2-2

WIPE SAMPLING LOCATIONS FOR FLOOR SWMU 11 – BUILDING 38 INTERIOR

NAVAL STATION ROOSEVELT ROADS
PUERTO RICO

K\CH2N HII CLEAN II\CTO280 [100304]\CAD\20269RF03

SEWAGE TREATMENT PLANT



30 0 15 30

1 inch = 30 ft.

Baker

LEGEND

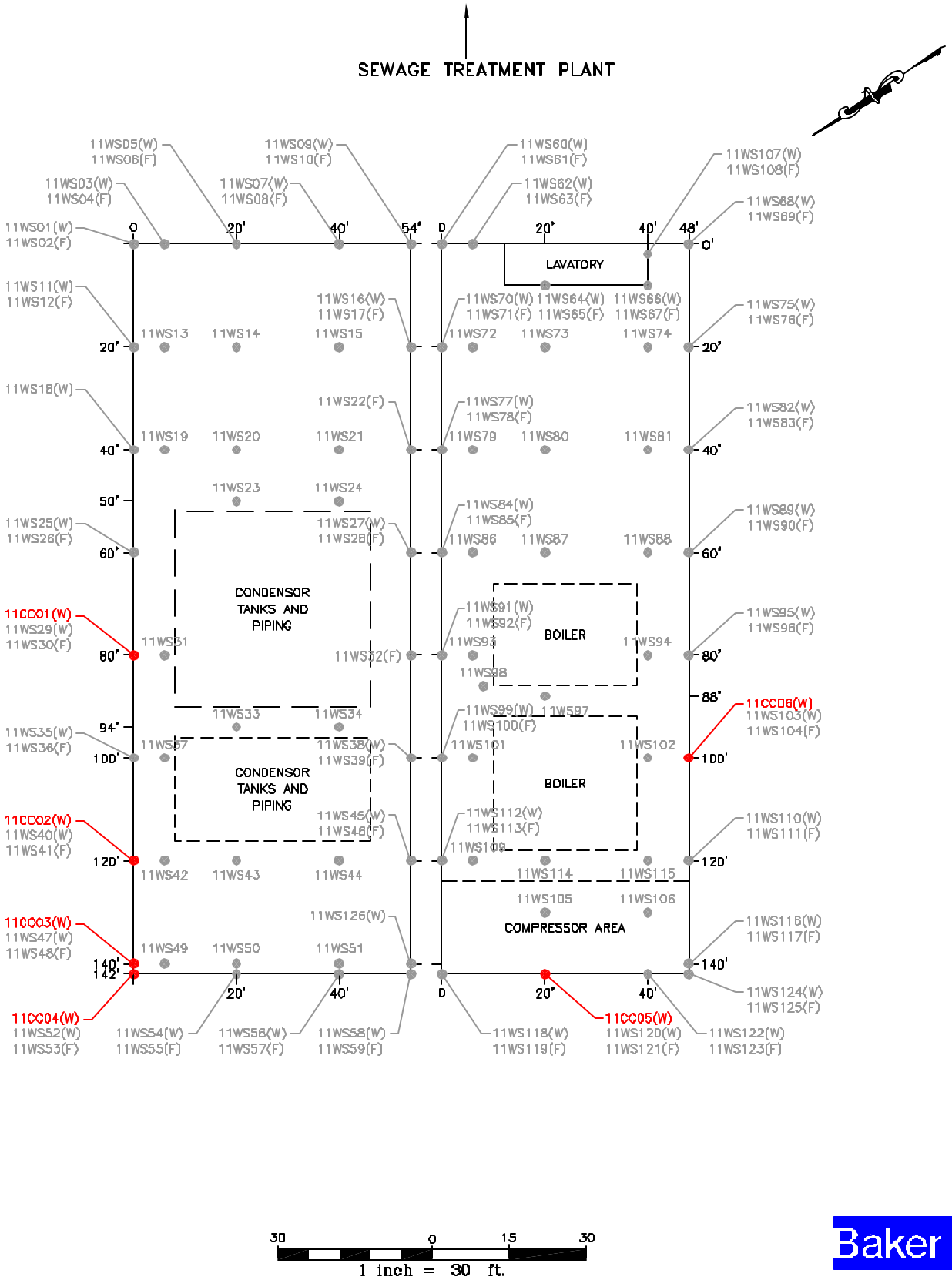
PHOTO 1 – APPROXIMATE PHOTOGRAPH LOCATION

FIGURE 2-3

PHOTO LOCATION MAP
SWMU 11 – BUILDING 38 INTERIOR

NAVAL STATION ROOSEVELT ROADS
PUERTO RICO

K:\CH2M HILL CLEAN II\CTO288 [100304]\CAD\20288RF104



Baker

LEGEND

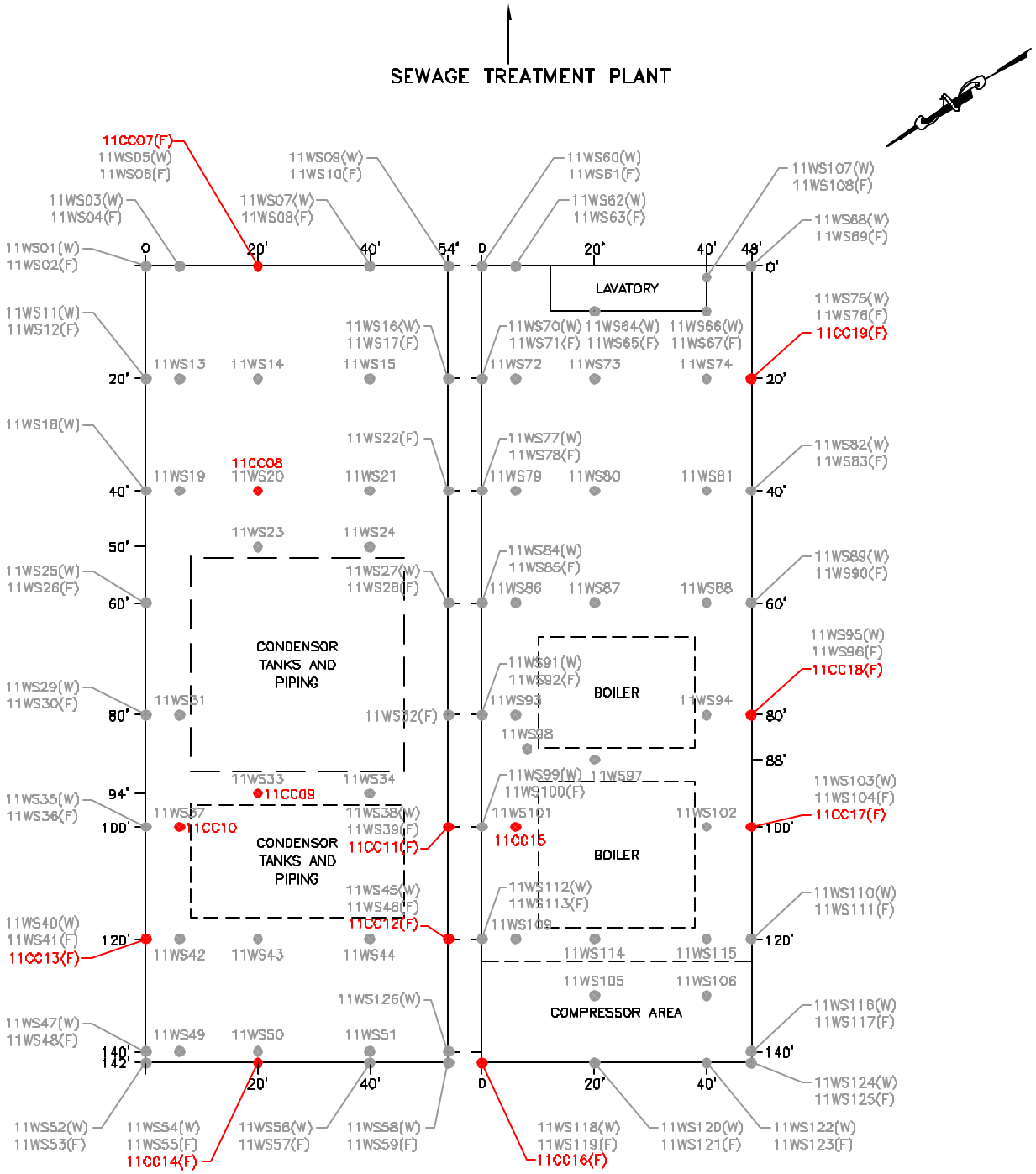
- ● – SAMPLE LOCATION (NOVEMBER 1996)
- ● – SAMPLE LOCATION (SEPTEMBER 2003)
- 11WS52(W) – WIPE SAMPLE FROM WALL (NOV 96)
- 11WS53(F) – WIPE SAMPLE FROM FLOOR (NOV 96)
- 11CC04(W) – CONCRETE CHIP SAMPLE FROM WALL (SEPT 03)

FIGURE 2-4

CONCRETE CHIP SAMPLING LOCATIONS FOR WALLS SWMU 11 – BUILDING 38 INTERIOR

NAVAL STATION ROOSEVELT ROADS
PUERTO RICO

K\CH2N HILL CLEAN II\CTO280 [100304]\CAD\20269RF05



30 0 15 30

1 inch = 30 ft.

Baker

LEGEND

- ● – SAMPLE LOCATION (NOVEMBER 1996)
- ● – SAMPLE LOCATION (SEPTEMBER 2003)
- 11WS54(W) – WIPE SAMPLE FROM WALL (NOV 96)
- 11WS55(F) – WIPE SAMPLE FROM FLOOR (NOV 96)
- 11CC14(F) – CONCRETE CHIP SAMPLE FROM FLOOR (SEPT 03)

FIGURE 2-5

CONCRETE CHIP SAMPLING LOCATIONS FOR FLOOR SWMU 11 – BUILDING 38 INTERIOR

NAVAL STATION ROOSEVELT ROADS
PUERTO RICO

3.0 ANALYTICAL RESULTS

This section presents an overview of chemical analytical results obtained from samples taken during the original RFI, as well as results from the recharacterization investigation. The SWMU 11 data was obtained through sample collection and analysis of the wipe and concrete chip samples, as well as floor pit solid samples. The analytical results for environmental and QA/QC samples also are included in this section. Appendix D presents the field notes for each member of the Baker field crew that worked at SWMU 11 during the recharacterization field investigation, where as Appendix E provides the chain of custody records for the sample collected during the September 2003 field investigation. Appendix F contains the complete set of analytical results obtained from this investigation, while Appendix G provides the data validation report narratives for the analytical results provided in this section.

The data reported for the SWMU 11 recharacterization investigation are presented on tables and figures within this section of the RFI report. As per the EPA approved Recharacterization Work Plan (Baker, 2003b), the dioxin/furan data was to be compared to the EPA Region III Industrial and Residential Risk Based Concentrations (RBCs). However, as described in Section 3.2.1, there were no detections of dioxins/furans present within the wipe samples collected during this investigation. Therefore this comparison was not required.

3.1 Original RFI Results

The following subsections provide a discussion of the results from the November 1996 field investigation at this site, along with the corresponding conclusions and recommendations.

3.1.1 Wipe Sampling Program

A total of 126 wipe samples were taken in the building during the original RFI in November 1996. The locations of the original samples are shown on Figure 3-1. Each of the samples was analyzed for PCBs, the results of which are shown on Table 3-1.

A total of 122 of the 126 samples collected contained detections of PCBs, specifically Aroclor-1260, at concentrations ranging from 0.22 micrograms per 100 centimeters squared ($\mu g/100\ cm^2$) in wipe sample 11WS091, to 330,000 $\mu g/100\ cm^2$ in sample 11WS041. An analysis of the wipe sample results was conducted by comparing the results to the decontamination standard for concrete (10 $\mu g/100\ cm^2$) as outlined in 40CFR761.79(b)(4). Fifty-three of the original 126 wipe samples collected during 1996 are greater than the decontamination standard for concrete.

Figure 3-1 is color coded to illustrate the pattern of contamination seen. As would be intuitively expected, the walls were generally much less contaminated than the floors. The northern half of the building contained generally higher concentrations than the southern half, which again makes intuitive sense in that the TSCA regulated PCB storage area was in this half of the building.

3.1.2 Sludge Sampling in Floor Pits

There are a number of interconnected pits and tunnels that are located beneath the floor generally covered with wooden planking. The collected flow from these features is eventually directed to the cooling water discharge tunnel. A schematic of the tunnels/pits is shown on Figure 3-2 as developed from the original field observation.

A total of 17 sludge grab samples and two duplicate samples were obtained from the floor pits at the locations shown on Figure 3-2. These samples were analyzed for PCBs in the field using

Ensys® PCB Soil Test kits calibrated to yield results of < 1 part per million (ppm), ≥ 1 ppm < 10 ppm, ≥ 10 ppm < 50 ppm, ≥ 50 ppm, as presented in Table 3-2. Sixteen of the samples collected showed detections of PCBs greater than 50 ppm, while three samples (1, 10, and 14) indicated PCBs present at levels between 10 and 50 ppm.

As described in the June 15, 1998 letter from David Eric Greenlaw, PCB Program Coordinator Pesticide and Toxic Substances Branch comments on PCB Contamination in interior of Building 38 (SWMU11) to Tim Gordon, Corrective Action Manager RCRA Programs Branch (see Appendix H) there is limited value to resampling this material as most of this material would probably be removed and disposed based on the PCB concentration exceeding 50 ppm. Therefore all sludge's contained within the tunnels and pits will have to be remediated prior to occupancy of the structure as explained in Section 6.0 of this document.

3.2 September 2003 Recharacterization Results

The following subsections provide a discussion of the wipe and concrete chip sample results obtained from the September 2003 recharacterization field investigation performed at this site.

3.2.1 Wipe Sampling

Wipe samples were collected along the walls and floor inside Building 38 during the September 2003 field investigation. In addition to the samples collected along the walls and floor, additional samples were collected in areas where visible signs (i.e., black residue) of smoke staining were observed in the field. The wipe sample results for the areas in question are discussed in the subsections that follow.

3.2.1.1 Walls

A total of 17 wipe samples, including two duplicate samples, were collected along the walls at SWMU 11 and analyzed for PCBs. Wipe samples 11WS32R(W) it's duplicate 11WS32RD(W) and 11WS38R(W) were additionally analyzed for dioxin/furans as mentioned in Section 2.2.1. Of the analysis requested, Aroclor-1260 was detected with concentrations ranging from 0.15J µg/100 cm^2 (11WS22R(W)), to 0.45J µg/100 cm^2 (11WS18R(W)), as presented in Table 3-3. Figure 2-1 presents the wipe sample locations for the walls. An analysis of the wipe sample results was conducted by comparing the results to the decontamination standard for concrete (10 µg/100 cm^2) as outlined in 40CFR761.79(b)(4). None of the wipe samples from the walls collected during the recharacterization investigation were greater than the decontamination standard for concrete.

There were no detections of any dioxin/furans in the three wipe samples mentioned above that were collected along the walls during this investigation.

3.2.1.2 Floor

A total of 22 wipe samples, including two duplicate samples, were collected along the floor at SWMU 11 and analyzed for PCBs. Wipe sample 11WS32R(F) was additionally analyzed for dioxin/furans as mentioned in Section 2.2.2. All 22 wipe samples contained low-level positive detections of Aroclor-1260 with concentrations ranging from 0.43J µg/100 cm^2 in sample 11WS15R, to 22 µg/100 cm^2 in sample 11WS13R, as presented in Table 3-4. Figure 2-2 presents the wipe sample locations for the floors. An analysis of the wipe sample results was conducted by comparing the results to the decontamination standard for concrete (10 µg/100 cm^2) as outlined in 40CFR761.79(b)(4). Three of the 22 wipe samples from the floor collected during the

recharacterization investigation were greater than the decontamination standard for concrete at concentrations ranging from 11 to 22 µg/100 cm^2.

There were no detections of any dioxin/furans from the one wipe sample mentioned above that was collected from the floor during this investigation.

3.2.1.3 Additional Locations

A total of ten wipe samples, including one duplicate sample, were collected in areas in which visible signs of staining (i.e., black residue) from the fire were observed (i.e., concrete door frame, side of concrete floor joists, etc) as explained in Section 2.2.3. These samples were analyzed for dioxin/furans. There were no detections of any dioxin/furans in any of the samples collected as presented in Appendix F.3.

3.2.2 Concrete Chip Sampling

Concrete chip samples were collected along the walls and floor inside Building 38 during the September 2003 field investigation. The concrete chip samples were collected to a depth of approximately ½ inch as requested by the EPA (EPA, 2002). There were no additional signs of contamination (i.e., oil staining) deeper than ½ inch, on any of the concrete chip samples collected. All of the staining observed during the sampling was superficial. Therefore, no additional concrete chip samples were collected deeper than ½ inch. The concrete chip sample results for the walls and floor are discussed in the subsections that follow. Also included in the following subsections is a comparison of the concrete chip samples to the wipe sample data collected during the September 1996 investigation.

3.2.2.1 Walls

A total of seven concrete chip samples, including one duplicate sample, were collected along the walls at SWMU 11 and analyzed for PCBs. Aroclor-1260 was the only PCB detected in each of the seven samples collected, with concentrations ranging from 180 micrograms per kilogram (µg/kg) in sample 11CC05(W) and it's duplicate 11CC05D(W), to 1,800 µg/kg in sample 11CC02(W), as presented in Table 3-5. Figure 2-4 presents the concrete chip sample locations on the walls. An analysis of the concrete chip sample results was conducted by comparing the results to High Occupancy Area Cleanup Level (1,000 µg/kg) and the Low Occupancy Area Cleanup Level (25,000 µg/kg) as outlined in 40CFR761.61(a)(4)(i). Two of the 7 concrete chip samples from the walls collected during the recharacterization investigation were greater than the High Occupancy Area Cleanup Level at concentrations ranging from 180 to 1,800 µg/kg but below the Low Occupancy Area Cleanup Level.

3.2.2.2 Floor

A total of 14 concrete chip samples, including one duplicate sample, were collected along the floor at SWMU 11 and analyzed for PCBs. All 14 samples contained detections of Aroclor-1260 with concentrations ranging from 150 µg/kg in sample 11CC09, to 430,000 µg/kg in sample 11CC13(F), as presented in Table 3-6. Figure 2-5 presents the concrete chip sample locations from the floor. An analysis of the concrete chip sample results was conducted by comparing the results to High Occupancy Area Cleanup Level (1,000 µg/kg) and the Low Occupancy Area Cleanup Level (25,000 µg/kg) as outlined in 40CFR761.61(a)(4)(i). Five of the 14 concrete chip samples from the floor collected during the recharacterization investigation were greater than the High Occupancy Area Cleanup Level at concentrations ranging from 1,500 to 430,000 µg/kg one

of the samples was also above the Low Occupancy Area Cleanup Level at a concentration of 430,000 µg/kg.

3.2.3 Quality Assurance/Quality Control Sampling

A total of three QA/QC samples were collected during the Recharacterization Investigation consisting of 11FB01, 11FB02, and 11ER01. 11FB01 was a field blank sample of lab grade deionized water, while 11FB02 was a field blank sample of store bought distilled water. 11ER01 was an equipment rinsate sample of a chisel bit used in the collection of the concrete chip samples. The laboratory analyzed each of these three samples for PCBs.
There were no positive detections of PCBs in any of the three QA/QC samples collected during this investigation, as presented in Appendix F.

3.3 Comparison of Wipe Sample Results from Both Investigations

The data from the Phase I Investigation was compared to the data collected during the Recharacterization Investigation as presented in the EPA approved Recharacterization Work Plan (Baker, 2003b). Tables 3-8 and 3-9 provide the comparison of wipe sample data for the walls and floor, respectively for the two investigations.

As mentioned in Section 2.2 of this report, the sample locations resampled during the Recharacterization Investigation were based on the EPA approved Recharacterization Work Plan (Baker, 2003b). A representative sample from each of the five result intervals (i.e., less than 1, 1 – 10, 10 – 100, 100 – 1,000, and over 1,000 µg/100 cm^2) observed from the Phase I RFI data, were sampled during the Recharacterization Investigation.

The wipe sample results from the walls collected during the Phase I RFI represented four result intervals, not detected, less than 1, 1 – 10, and 10 – 100 µg/100 cm^2. The sample locations resampled during the Recharacterization Investigation were taken from areas within three intervals. As presented in Table 3-7, the range of wipe sample results for the locations collected during the Recharacterization Investigation (0.15J – 0.45J µg/100 cm^2) were slightly lower than the range for the same sample locations collected during the Phase I RFI (0.22 – 3.2 µg/100 cm^2). There were several differences in the two data sets worth noting. Several sample locations where samples were collected during the Phase I RFI [11WS38(W), 11WS77(W), 11WS84(W), 11WS91(W), and 11WS110(W)] contained positive detections of Aroclor-1260, whereas the samples collected at these same sample locations during the Recharacterization Investigation contained non-detections for Aroclor-1260 as presented in Table 3-7. Sample locations 11WS05(W), 11WS56(W), and 11WS64(W) contained sample results from the Phase I RFI that were from the interval 1 – 10 µg/100 cm^2. The samples collected at these same locations during the Recharacterization Investigation were from the interval less than 1 µg/100 cm^2. For the remaining samples collected during the Recharacterization Investigation, their results were all lower than the corresponding sample results collected at the same sample locations during the Phase I RFI.

The wipe sample results from the floor collected during the Phase I RFI were found in all six of the result intervals. The above paragraph mentioned the first four while the fifth interval is 100 - 1,000 µg/100 cm^2 and the sixth interval is over 1,000 µg/100 cm^2. A representative sample was collected during the Recharacterization Investigation from areas within four result intervals.

As presented in Table 3-8, the range of detections for the locations collected during the Recharacterization Investigation (0.43J – 22 µg/100 cm^2) were lower than the range for the same sample locations collected during the Phase I RFI (0.37 – 160 µg/100 cm^2). There were several

differences in the two data sets worth noting. Unlike the wipe samples collected from the wall during the Recharacterization Investigation that were all below the corresponding samples collected during the Phase I RFI, wipe samples collected from 11WS21, 11WS23, 11WS28(F), and 11WS73, contained results that were actually higher than their corresponding samples collected during the Phase I RFI. Two samples collected from sample locations 11WS13 and 11WS39(F) during the Recharacterization Investigation were significantly less than the samples collected from the same location from the Phase I RFI. For the remaining samples collected during the Recharacterization Investigation, their results were all lower than the corresponding sample results collected at the same sample locations during the Phase I RFI as presented in Table 3-8.

Therefore, in most cases with a few exceptions mentioned above, the samples collected during the Recharacterization Investigation contained Aroclor-1260 results that were less than their corresponding samples collected during the Phase I RFI. As far as the comparison of result intervals between the two investigations, the two wipe sample results along the walls [11WS32(W) and 11WS82(W)] that contained non-detections during the Phase I RFI, also contained non-detections during the most recent investigation. The sample locations that contained results less than 1 µg/100 cm^2 during the Phase I RFI also were less than 1 µg/100 cm^2 or non-detect during the Recharacterization Investigation. The sample locations that contained results between 1 and 10 µg/100 cm^2 during the Phase I RFI, are all either less than 1 µg/100 cm^2 or non-detect during the Recharacterization Investigation.

As far as the comparison of result intervals between the two investigations for wipe samples collected along the floor, the interval less than 1 µg/100 cm^2 collected during the Phase I RFI at location 11WS28(F) now contains a result of 2.7J µg/100 cm^2 from the next higher interval. All of the samples collected from the interval 1 to 10 µg/100 cm^2 during the Phase I RFI were in the same interval during the Recharacterization Investigation, with the exception of sample 11WS15R (0.43J µg/100 cm^2), sample 11WS23R (16 µg/100 cm^2), and sample 11WS34R (0.59J µg/100 cm^2). Of the wipe samples in the range of 10 to 100 µg/100 cm^2 collected during the Phase I RFI, all but one sample (11WS24R – 11 µg/100 cm^2) contained results from a lower interval than during the Phase I. Of the wipe samples in the range of 100 to 1,000 µg/100 cm^2 collected during the Phase I RFI, both samples contained results from a lower interval than during the Phase I.

3.4 Data Validation

A detailed and independent data validation was performed by Heartland Environmental Services, Inc. to verify the qualitative and quantitative reliability of the data presented and adherence to stated analytical protocols. This review included a detailed review and interpretation of all the data generated by the laboratory for data quality Level D deliverables. The primary tools that were utilized by the experienced data validation personnel included analytical method operating procedures, Statement of Work (SOW) for CLP guidance documents, EPA Region II guidelines for data validation, established criteria, and professional judgment.

Data validation reports were prepared by the data validator, which provided the back-up information accompanying the qualifying statements, presented in the QA/QC review. Copies of the narratives from the data validation reports associated with this investigation are provided as Appendix G.

TABLES

TABLE 3-1

Revised: May 18, 2004

SUMMARY OF WIPE SAMPLE POSITIVE DETECTIONS - PHASE I
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Sample ID	Decon Standard for Concrete[1] (ug/100 cm^2)	11WS001	11WS002	11WS003	11WS004	11WS005	11WS006	11WS007	11WS008	11WS009	11WS010	11WS011
Sample Date		11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996
PCBs (ug/100 cm^2)												
Aroclor 1260	10	1.7	4.3	2	2.1	1.5	63	2.5	42	0.99	34	0.77

Sample ID	Decon Standard for Concrete[1] (ug/100 cm^2)	11WS012	11WS013	11WS014	11WS015	11WS016	11WS017	11WS018	11WS019	11WS020	11WS021	11WS022
Sample Date		11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996
PCBs (ug/100 cm^2)												
Aroclor 1260	10	51	120	9.8	4.7	0.88	20	0.7	36	27	7.1	17

Sample ID	Decon Standard for Concrete[1] (ug/100 cm^2)	11WS023	11WS024	11WS025	11WS026	11WS027	11WS028	11WS029	11WS030	11WS031	11WS032	11WS033
Sample Date		11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996
PCBs (ug/100 cm^2)												
Aroclor 1260	10	7.9	11	0.66	1.3	0.63	0.37	15	12	120	2.4 U	140

Sample ID	Decon Standard for Concrete[1] (ug/100 cm^2)	11WS034	11WS035	11WS036	11WS037	11WS038	11WS039	11WS040	11WS041	11WS042	11WS043	11WS044
Sample Date		11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996
PCBs (ug/100 cm^2)												
Aroclor 1260	10	7.7	0.31	150	74	0.87	160	73	330,000	180	990	550

Notes:

[1] - In accordance with 40CFR761.125(c)(4)(ii)

TABLE 3-1

Revised: May 18, 2004

SUMMARY OF WIPE SAMPLE POSITIVE DETECTIONS - PHASE I
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Sample ID	Decon Standard for Concrete[1]	11WS045	11WS046	11WS047	11WS048	11WS049	11WS050	11WS051	11WS052	11WS053	11WS054	11WS055
Sample Date	(ug/100 cm^2)	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996
PCBs (ug/100 cm^2)												
Aroclor 1260	10	2	1,200	17	280	360	1,200	59	14	4,700	7.7	2,700

Sample ID	Decon Standard for Concrete[1]	11WS056	11WS057	11WS058	11WS059	11WS060	11WS061	11WS062	11WS063	11WS064	11WS065	11WS066
Sample Date	(ug/100 cm^2)	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996
PCBs (ug/100 cm^2)												
Aroclor 1260	10	3.2	15	1.3	57	2.1	51	3.6	17	1.4	12	0.41

Sample ID	Decon Standard for Concrete[1]	11WS067	11WS068	11WS069	11WS070	11WS071	11WS072	11WS073	11WS074	11WS075	11WS076	11WS077
Sample Date	(ug/100 cm^2)	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996
PCBs (ug/100 cm^2)												
Aroclor 1260	10	23	1.4	35	0.98	18	10	7	16	0.3	41	0.58

Sample ID	Decon Standard for Concrete[1]	11WS078	11WS079	11WS080	11WS081	11WS082	11WS083	11WS084	11WS085	11WS086	11WS087	11WS088
Sample Date	(ug/100 cm^2)	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996
PCBs (ug/100 cm^2)												
Aroclor 1260	10	24	9.6	4.6	8.6	2.4 U	3.7	2.4 U	2.9	5	6.4	7.9

Notes:

[1] - In accordance with 40CFR761.125(c)(4)(ii)

TABLE 3-1

Revised: May 18, 2004

SUMMARY OF WIPE SAMPLE POSITIVE DETECTIONS - PHASE I
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Sample ID Sample Date	Decon Standard for Concrete[1] (ug/100 cm^2)	11WS089 11/23/1996	11WS090 11/23/1996	11WS091 11/23/1996	11WS092 11/23/1996	11WS093 11/23/1996	11WS094 11/23/1996	11WS095 11/23/1996	11WS096 11/23/1996	11WS097 11/23/1996	11WS098 11/23/1996	11WS099 11/23/1996
PCBs (ug/100 cm^2)												
Aroclor 1260	10	0.98	16	0.22	7.6	5.1	1.5	0.38	15	1.1	44	0.72

Sample ID Sample Date	Decon Standard for Concrete[1] (ug/100 cm^2)	11WS100 11/23/1996	11WS101 11/23/1996	11WS102 11/23/1996	11WS103 11/23/1996	11WS104 11/23/1996	11WS105 11/23/1996	11WS106 11/23/1996	11WS107 11/23/1996	11WS108 11/23/1996	11WS109 11/23/1996	11WS110 11/23/1996
PCBs (ug/100 cm^2)												
Aroclor 1260	10	9.1	35	2.1	21	3	52	3.8	2.5	8.2	6.5	0.92

Sample ID Sample Date	Decon Standard for Concrete[1] (ug/100 cm^2)	11WS111 11/23/1996	11WS112 11/23/1996	11WS113 11/23/1996	11WS114 11/23/1996	11WS115 11/23/1996	11WS116 11/23/1996	11WS117 11/23/1996	11WS118 11/23/1996	11WS119 11/23/1996	11WS120 11/23/1996	11WS121 11/23/1996
PCBs (ug/100 cm^2)												
Aroclor 1260	10	12	4.9	8.3	4.6	21	0.56	18	7.2	96	20	1.4

Sample ID Sample Date	Decon Standard for Concrete[1] (ug/100 cm^2)	11WS122 11/23/1996	11WS123 11/23/1996	11WS124 11/23/1996	11WS125 11/23/1996	11WS126 11/23/1996		Number Exceeding Concrete Decon Standard	Range Exceeding Concrete Decon Standard	Number of Positive Dections	Range of Positive Detection	Location of Maximum Detection
PCBs (ug/100 cm^2)												
Aroclor 1260	10	0.46	1.2	5	2.4 U	4.1		53/126	11-330,000	122/126	0.22-330,000	11WS041

Notes:

[1] - In accordance with 40CFR761.125(c)(4)(ii)

TABLE 3-2

SWMU 11 FLOOR PIT SOLID SAMPLES
ENSYS® PCB SCREENING SAMPLING RESULTS
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Sample ID	Standard	1 ppm	10 ppm	50 ppm	Results
1	-0.12	-0.77	-0.62	0.01	≥10 <50
2	-0.12	-0.76	-0.77	-0.65	≥50 ppm
3	-0.12	-0.77	-0.77	-0.76	≥50
4	-0.53	-0.77	-0.77	-0.76	≥50
5	-0.16	-0.77	-0.65	-0.23	≥50
6	-0.16	-0.77	-0.62	-0.77	≥50
7	-0.05	-0.76	-0.76	-0.77	≥50
7D	-0.05	-0.77	-0.76	-0.77	≥50
8	-0.32	-0.77	-0.77	-0.77	≥50
9	-0.16	-0.68	-0.67	-0.63	≥50
10	-0.05	-0.2	-0.76	0.12	≥10 <50
11	-0.32	-0.76	-0.77	-0.77	≥50
11D	-0.32	-0.77	-0.76	-0.77	≥50
12	-0.16	-0.34	-0.77	-0.77	≥50
13	-0.16	-0.67	-0.67	-0.59	≥50
14	-0.05	-0.21	-0.75	0.17	≥10 <50
15	-0.05	-0.17	-0.76	-0.12	≥50
16	-0.16	-0.62	-0.51	-0.42	≥50
17	-0.53	-0.77	-0.76	-0.58	≥50

TABLE 3-3

SUMMARY OF WIPE SAMPLE RESULTS FOR THE WALLS
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
RECHARACTERIZATION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID Sample ID Sample Date	Decon Standard for Concrete[(1)] (ug/100 cm^2)	11WS05(W) 11WS05R(W) 09/09/03	11WS16(W) 11WS16R(W) 09/09/03	11WS18(W) 11WS18R(W) 09/09/03	11WS22(W) 11WS22R(W) 09/09/03	11WS27(W) 11WS27R(W) 09/09/03	11WS32(W) 11WS32R(W) 09/09/03	11WS32(W) 11WS32RD(W) 09/09/03
PCBs (ug/100 cm^2)								
Aroclor-1260	10	0.42 J	0.44 J	0.45 J	0.15 J	0.41 J	1 U	1 U
Dioxin/Furans (ug/100 cm^2)								
Not Detected		NA	NA	NA	NA	NA	ND	ND

Notes:

ug/100 cm^2 - micrograms per 100 centimeters squared.
J - Estimated value.
NA - Not Analyzed.
ND - Not Detected.
[(1)] - In accordance with 40CFR761.79(6)(4)

TABLE 3-3

SUMMARY OF WIPE SAMPLE RESULTS FOR THE WALLS
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
RECHARACTERIZATION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID Sample ID Sample Date	Decon Standard for Concrete[(1)] (ug/100 cm^2)	11WS38(W) 11WS38R(W) 09/10/03	11WS56(W) 11WS56(W) 09/10/03	11WS64(W) 11WS64R(W) 09/09/03	11WS70(W) 11WS70R(W) 09/09/03	11WS77(W) 11WS77R(W) 09/09/03	11WS77(W) 11WS77RD(W) 09/09/03	11WS82(W) 11WS82R(W) 09/10/03
PCBs (ug/100 cm^2)								
Aroclor-1260	10	1 U	0.24 J	0.26 J	0.21 J	1 U	1 U	1 U
Dioxin/Furans (ug/100 cm^2)								
Not Detected		ND	NA	NA	NA	NA	NA	NA

Notes:

ug/100 cm^2 - micrograms per 100 centimeters squared.
J - Estimated value.
NA - Not Analyzed.
ND - Not Detected.
(1) - In accordance with 40CFR761.79(6)(4)

TABLE 3-3

SUMMARY OF WIPE SAMPLE RESULTS FOR THE WALLS
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
RECHARACTERIZATION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID Sample ID Sample Date	Decon Standard for Concrete[(1)] (ug/100 cm^2)	11WS84(W) 11WS84R(W) 09/10/03	11WS91(W) 11WS91R(W) 09/10/03	11WS110(W) 11WS110R(W) 09/10/03	Number Exceeding Concrete Decon Standard	Range Exceeding Concrete Decon Standard	Number of Positive Detections	Range of Positive Detections	Location of Maximum Detection
PCBs (ug/100 cm^2)									
Aroclor-1260	10	1 U	1 U	1 U	0/17	-	8/17	0.15J - 0.45J	11WS18R(W)
Dioxin/Furans (ug/100 cm^2)									
Not Detected		NA	NA	NA					

Notes:

ug/100 cm^2 - micrograms per 100 centimeters squared.
J - Estimated value.
NA - Not Analyzed.
ND - Not Detected.
(1) - In accordance with 40CFR761.79(6)(4)

TABLE 3-4

SUMMARY OF WIPE SAMPLE RESULTS FOR THE FLOOR
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
RECHARACTERIZATION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	Decon Standard for Concrete[1] (ug/100 cm^2)	11WS13	11WS15	11WS17(F)	11WS21	11WS21	11WS22(F)	11WS23	11WS24	11WS28(F)
Sample ID		11WS13R	11WS15R	11WS17R(F)	11WS21R	11WS21RD	11WS22R(F)	11WS23R	11WS24R	11WS28R(F)
Sample Date		09/09/03	09/09/03	09/09/03	09/09/03	09/09/03	09/09/03	09/09/03	09/09/03	09/09/03
PCBs (ug/100 cm ^{2})										
Aroclor-1260	10	22	0.43 J	3.4	7.7	5.9	1.2 J	16	11	2.7 J
Dioxin/Furans (ug/100 cm ^{2})										
Not Detected		NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

ug/100 cm^2 - micrograms per 100 centimeters squared.
J - Estimated value.
NA - Not Analyzed.
ND - Not Detected.
[1] - In accordance with 40CFR761.125(c)(4)(ii)

TABLE 3-4

SUMMARY OF WIPE SAMPLE RESULTS FOR THE FLOOR
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
RECHARACTERIZATION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID Sample ID Sample Date	Decon Standard for Concrete[(1)] (ug/100 cm^2)	11WS32(F) 11WS32R(F) 09/09/03	11WS34 11WS34R 09/10/03	11WS39(F) 11WS39R(F) 09/10/03	11WS65(F) 11WS65R(F) 09/09/03	11WS65(F) 11WS65RD(F) 09/09/03	11WS73 11WS73R 09/09/03	11WS78(F) 11WS78R(F) 09/09/03	11WS79 11WS79R 09/09/03
PCBs (ug/100 cm^2)									
Aroclor-1260	10	2.8	0.59 J	2.4	0.54 J	1.1	1.1	0.5 J	5.1
Dioxin/Furans (ug/100 cm^2)									
Not Detected		ND	NA	NA	NA	NA	NA	NA	NA

Notes:

ug/100 cm^2 - micrograms per 100 centimeters squared.
J - Estimated value.
NA - Not Analyzed.
ND - Not Detected.
(1) - In accordance with 40CFR761.125(c)(4)(ii)

TABLE 3-4

SUMMARY OF WIPE SAMPLE RESULTS FOR THE FLOOR
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
RECHARACTERIZATION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID Sample ID Sample Date	Decon Standard for Concrete[(1)] (ug/100 cm^2)	11WS85(F) 11WS85R(F) 09/10/03	11WS86 11WS86R 09/10/03	11WS87 11WS87R 09/10/03	11WS92(F) 11WS92R(F) 09/10/03	11WS115 11WS115R 09/10/03	Number Exceeding Concrete Decon Standard	Range Exceeding Concrete Decon Standard	Number of Positive Detections	Range of Positive Detections	Location of Maximum Detection
PCBs (ug/100 cm^2)											
Aroclor-1260	10	1.5	1.6	1.6	6.2	2.6	3/22	11 - 22	22/22	0.43J - 22	11WS13R
Dioxin/Furans (ug/100 cm^2)											
Not Detected		NA	NA	NA	NA	NA					

Notes:

ug/100 cm^2 - micrograms per 100 centimeters squared.
J - Estimated value.
NA - Not Analyzed.
ND - Not Detected.
(1) - In accordance with 40CFR761.125(c)(4)(ii)

TABLE 3-5

SUMMARY OF CONCRETE CHIP SAMPLE RESULTS FOR THE WALLS
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
RECHARACTERIZATION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	**High Occupancy Area Cleanup Level[(1)] (ug/kg)**	Low Occupancy Area Cleanup Level[(1)] (ug/kg)	11CC01(W)	11CC02(W)	11CC03(W)	11CC04(W)	11CC05(W)	11CC05(W)	11CC06(W)
Sample ID			11CC01(W)	11CC02(W)	11CC03(W)	11CC04(W)	11CC05(W)	11CC05D(W)	11CC06(W)
Sample Date			09/10/03	09/10/03	09/10/03	09/10/03	09/10/03	09/10/03	09/11/03
PCBs (ug/kg)									
Aroclor-1260	1,000	25,000	230	**1,800**	990	**1,400**	180	180	880

Notes:

ug/kg - micrograms per kilogram.

(1) - In accordance with 40CFR761.61(a)(4)(i)

TABLE 3-5

SUMMARY OF CONCRETE CHIP SAMPLE RESULTS FOR THE WALLS
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
RECHARACTERIZATION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID Sample ID Sample Date	**Number Exceeding High Occupancy Area Cleanup Level**	**Range Exceeding High Occupancy Area Cleanup Level**	Number Exceeding Low Occupancy Area Cleanup Level	Range Exceeding Low Occupancy Area Cleanup Level	Number of Positive Detections	Range of Positive Detections	Location of Maximum Detection
PCBs (ug/kg)							
Aroclor-1260	2/7	1,400 - 1,800	0/7	-	7/7	180 - 1,800	11CC02(W)

Notes:

ug/kg - micrograms per kilogram.

(1) - In accordance with 40CFR761.61(a)(4)(i)

TABLE 3-6

SUMMARY OF CONCRETE CHIP SAMPLE RESULTS FOR THE FLOOR
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
RECHARACTERIZATION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	**High Occupancy Area Cleanup Level[(1)] (ug/kg)**	Low Occupancy Area Cleanup Level[(1)] (ug/kg)	11CC07(F)	11CC08	11CC09	11CC10	11CC11(F)	11CC12(F)	11CC13(F)
Sample ID			11CC07(F)	11CC08	11CC09	11CC10	11CC11(F)	11CC12(F)	11CC13(F)
Sample Date			09/11/03	09/11/03	09/10/03	09/10/03	09/10/03	09/10/03	09/10/03
PCBs (ug/kg dw)									
Aroclor-1260	1,000	25,000	880	**6,500**	150	**2,600**	560	**1,900**	**430,000**

Notes:

ug/kg - micrograms per kilogram.

[(1)] - In accordance with 40CFR761.61(a)(4)(i)

TABLE 3-6

SUMMARY OF CONCRETE CHIP SAMPLE RESULTS FOR THE FLOOR
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
RECHARACTERIZATION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	**High Occupancy Area Cleanup Level[(1)] (ug/kg)**	Low Occupancy Area Cleanup Level[(1)] (ug/kg)	11CC14(F)	11CC14(F)	11CC15	11CC16(F)	11CC17(F)	11CC18(F)	11CC19(F)
Sample ID			11CC14(F)	11CC14D(F)	11CC15	11CC16(F)	11CC17(F)	11CC18(F)	11CC19(F)
Sample Date			09/10/03	09/10/03	09/10/03	09/10/03	09/10/03	09/11/03	09/11/03
PCBs (ug/kg dw)									
Aroclor-1260	1,000	25,000	**1,500**	690	930	1,000	370	330	260

Notes:

ug/kg - micrograms per kilogram.

(1) - In accordance with 40CFR761.61(a)(4)(i)

TABLE 3-6

SUMMARY OF CONCRETE CHIP SAMPLE RESULTS FOR THE FLOOR
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
RECHARACTERIZATION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID Sample ID Sample Date	**High Occupancy Area Cleanup Level[(1)] (ug/kg)**	Low Occupancy Area Cleanup Level[(1)] (ug/kg)	**Number Exceeding High Occupancy Area Cleanup Level**	**Range Exceeding High Occupancy Area Cleanup Level**	Number Exceeding Low Occupancy Area Cleanup Level	Range Exceeding Low Occupancy Area Cleanup Level	Number of Positive Detections	Range of Positive Detections	Location of Maximum Detection
PCBs (ug/kg dw)									
Aroclor-1260	1,000	25,000	5/14	1,500 - 430,000	1/14	430,000	14/14	150 - 430,000	11CC13(F)

Notes:

ug/kg - micrograms per kilogram.

[(1)] - In accordance with 40CFR761.61(a)(4)(i)

TABLE 3-1

Revised: May 18, 2004

SUMMARY OF WIPE SAMPLE POSITIVE DETECTIONS - PHASE I
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Sample ID	Decon Standard for Concrete[1] (ug/100 cm^2)	11WS001	11WS002	11WS003	11WS004	11WS005	11WS006	11WS007	11WS008	11WS009	11WS010	11WS011
Sample Date		11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996
PCBs (ug/100 cm^2)												
Aroclor 1260	10	1.7	4.3	2	2.1	1.5	63	2.5	42	0.99	34	0.77

Sample ID	Decon Standard for Concrete[1] (ug/100 cm^2)	11WS012	11WS013	11WS014	11WS015	11WS016	11WS017	11WS018	11WS019	11WS020	11WS021	11WS022
Sample Date		11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996
PCBs (ug/100 cm^2)												
Aroclor 1260	10	51	120	9.8	4.7	0.88	20	0.7	36	27	7.1	17

Sample ID	Decon Standard for Concrete[1] (ug/100 cm^2)	11WS023	11WS024	11WS025	11WS026	11WS027	11WS028	11WS029	11WS030	11WS031	11WS032	11WS033
Sample Date		11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996
PCBs (ug/100 cm^2)												
Aroclor 1260	10	7.9	11	0.66	1.3	0.63	0.37	15	12	120	2.4 U	140

Sample ID	Decon Standard for Concrete[1] (ug/100 cm^2)	11WS034	11WS035	11WS036	11WS037	11WS038	11WS039	11WS040	11WS041	11WS042	11WS043	11WS044
Sample Date		11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996
PCBs (ug/100 cm^2)												
Aroclor 1260	10	7.7	0.31	150	74	0.87	160	73	330,000	180	990	550

Notes:

[1] - In accordance with 40CFR761.125(c)(4)(ii)

TABLE 3-1

Revised: May 18, 2004

SUMMARY OF WIPE SAMPLE POSITIVE DETECTIONS - PHASE I
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Sample ID	Decon Standard for Concrete[1]	11WS045	11WS046	11WS047	11WS048	11WS049	11WS050	11WS051	11WS052	11WS053	11WS054	11WS055
Sample Date	(ug/100 cm^2)	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996
PCBs (ug/100 cm^2)												
Aroclor 1260	10	2	1,200	17	280	360	1,200	59	14	4,700	7.7	2,700

Sample ID	Decon Standard for Concrete[1]	11WS056	11WS057	11WS058	11WS059	11WS060	11WS061	11WS062	11WS063	11WS064	11WS065	11WS066
Sample Date	(ug/100 cm^2)	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996
PCBs (ug/100 cm^2)												
Aroclor 1260	10	3.2	15	1.3	57	2.1	51	3.6	17	1.4	12	0.41

Sample ID	Decon Standard for Concrete[1]	11WS067	11WS068	11WS069	11WS070	11WS071	11WS072	11WS073	11WS074	11WS075	11WS076	11WS077
Sample Date	(ug/100 cm^2)	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996
PCBs (ug/100 cm^2)												
Aroclor 1260	10	23	1.4	35	0.98	18	10	7	16	0.3	41	0.58

Sample ID	Decon Standard for Concrete[1]	11WS078	11WS079	11WS080	11WS081	11WS082	11WS083	11WS084	11WS085	11WS086	11WS087	11WS088
Sample Date	(ug/100 cm^2)	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996	11/23/1996
PCBs (ug/100 cm^2)												
Aroclor 1260	10	24	9.6	4.6	8.6	2.4 U	3.7	2.4 U	2.9	5	6.4	7.9

Notes:

[1] - In accordance with 40CFR761.125(c)(4)(ii)

TABLE 3-1

Revised: May 18, 2004

SUMMARY OF WIPE SAMPLE POSITIVE DETECTIONS - PHASE I
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Sample ID Sample Date	Decon Standard for Concrete[1] (ug/100 cm^2)	11WS089 11/23/1996	11WS090 11/23/1996	11WS091 11/23/1996	11WS092 11/23/1996	11WS093 11/23/1996	11WS094 11/23/1996	11WS095 11/23/1996	11WS096 11/23/1996	11WS097 11/23/1996	11WS098 11/23/1996	11WS099 11/23/1996
PCBs (ug/100 cm^2)												
Aroclor 1260	10	0.98	16	0.22	7.6	5.1	1.5	0.38	15	1.1	44	0.72

Sample ID Sample Date	Decon Standard for Concrete[1] (ug/100 cm^2)	11WS100 11/23/1996	11WS101 11/23/1996	11WS102 11/23/1996	11WS103 11/23/1996	11WS104 11/23/1996	11WS105 11/23/1996	11WS106 11/23/1996	11WS107 11/23/1996	11WS108 11/23/1996	11WS109 11/23/1996	11WS110 11/23/1996
PCBs (ug/100 cm^2)												
Aroclor 1260	10	9.1	35	2.1	21	3	52	3.8	2.5	8.2	6.5	0.92

Sample ID Sample Date	Decon Standard for Concrete[1] (ug/100 cm^2)	11WS111 11/23/1996	11WS112 11/23/1996	11WS113 11/23/1996	11WS114 11/23/1996	11WS115 11/23/1996	11WS116 11/23/1996	11WS117 11/23/1996	11WS118 11/23/1996	11WS119 11/23/1996	11WS120 11/23/1996	11WS121 11/23/1996
PCBs (ug/100 cm^2)												
Aroclor 1260	10	12	4.9	8.3	4.6	21	0.56	18	7.2	96	20	1.4

Sample ID Sample Date	Decon Standard for Concrete[1] (ug/100 cm^2)	11WS122 11/23/1996	11WS123 11/23/1996	11WS124 11/23/1996	11WS125 11/23/1996	11WS126 11/23/1996		Number Exceeding Concrete Decon Standard	Range Exceeding Concrete Decon Standard	Number of Positive Dections	Range of Positive Detection	Location of Maximum Detection
PCBs (ug/100 cm^2)												
Aroclor 1260	10	0.46	1.2	5	2.4 U	4.1		53/126	11-330,000	122/126	0.22-330,000	11WS041

Notes:

[1] - In accordance with 40CFR761.125(c)(4)(ii)

TABLE 3-3

SUMMARY OF WIPE SAMPLE RESULTS FOR THE WALLS
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
RECHARACTERIZATION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID Sample ID Sample Date	Decon Standard for Concrete[(1)] (ug/100 cm^2)	11WS05(W) 11WS05R(W) 09/09/03	11WS16(W) 11WS16R(W) 09/09/03	11WS18(W) 11WS18R(W) 09/09/03	11WS22(W) 11WS22R(W) 09/09/03	11WS27(W) 11WS27R(W) 09/09/03	11WS32(W) 11WS32R(W) 09/09/03	11WS32(W) 11WS32RD(W) 09/09/03
PCBs (ug/100 cm^2)								
Aroclor-1260	10	0.42 J	0.44 J	0.45 J	0.15 J	0.41 J	1 U	1 U
Dioxin/Furans (ug/100 cm^2)								
Not Detected		NA	NA	NA	NA	NA	ND	ND

Notes:

ug/100 cm^2 - micrograms per 100 centimeters squared.
J - Estimated value.
NA - Not Analyzed.
ND - Not Detected.
[(1)] - In accordance with 40CFR761.79(6)(4)

TABLE 3-3

SUMMARY OF WIPE SAMPLE RESULTS FOR THE WALLS
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
RECHARACTERIZATION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID Sample ID Sample Date	Decon Standard for Concrete[(1)] (ug/100 cm^2)	11WS38(W) 11WS38R(W) 09/10/03	11WS56(W) 11WS56(W) 09/10/03	11WS64(W) 11WS64R(W) 09/09/03	11WS70(W) 11WS70R(W) 09/09/03	11WS77(W) 11WS77R(W) 09/09/03	11WS77(W) 11WS77RD(W) 09/09/03	11WS82(W) 11WS82R(W) 09/10/03
PCBs (ug/100 cm^2)								
Aroclor-1260	10	1 U	0.24 J	0.26 J	0.21 J	1 U	1 U	1 U
Dioxin/Furans (ug/100 cm^2)								
Not Detected		ND	NA	NA	NA	NA	NA	NA

Notes:

ug/100 cm^2 - micrograms per 100 centimeters squared.
J - Estimated value.
NA - Not Analyzed.
ND - Not Detected.
(1) - In accordance with 40CFR761.79(6)(4)

TABLE 3-3

SUMMARY OF WIPE SAMPLE RESULTS FOR THE WALLS
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
RECHARACTERIZATION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID Sample ID Sample Date	Decon Standard for Concrete[(1)] (ug/100 cm^2)	11WS84(W) 11WS84R(W) 09/10/03	11WS91(W) 11WS91R(W) 09/10/03	11WS110(W) 11WS110R(W) 09/10/03	Number Exceeding Concrete Decon Standard	Range Exceeding Concrete Decon Standard	Number of Positive Detections	Range of Positive Detections	Location of Maximum Detection
PCBs (ug/100 cm^2)									
Aroclor-1260	10	1 U	1 U	1 U	0/17	-	8/17	0.15J - 0.45J	11WS18R(W)
Dioxin/Furans (ug/100 cm^2)									
Not Detected		NA	NA	NA					

Notes:

ug/100 cm^2 - micrograms per 100 centimeters squared.
J - Estimated value.
NA - Not Analyzed.
ND - Not Detected.
(1) - In accordance with 40CFR761.79(6)(4)

TABLE 3-4

SUMMARY OF WIPE SAMPLE RESULTS FOR THE FLOOR
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
RECHARACTERIZATION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	Decon Standard for Concrete[1] (ug/100 cm^2)	11WS13	11WS15	11WS17(F)	11WS21	11WS21	11WS22(F)	11WS23	11WS24	11WS28(F)
Sample ID		11WS13R	11WS15R	11WS17R(F)	11WS21R	11WS21RD	11WS22R(F)	11WS23R	11WS24R	11WS28R(F)
Sample Date		09/09/03	09/09/03	09/09/03	09/09/03	09/09/03	09/09/03	09/09/03	09/09/03	09/09/03
PCBs (ug/100 cm ^{2})										
Aroclor-1260	10	22	0.43 J	3.4	7.7	5.9	1.2 J	16	11	2.7 J
Dioxin/Furans (ug/100 cm ^{2})										
Not Detected		NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

ug/100 cm^2 - micrograms per 100 centimeters squared.
J - Estimated value.
NA - Not Analyzed.
ND - Not Detected.
[1] - In accordance with 40CFR761.125(c)(4)(ii)

TABLE 3-4

SUMMARY OF WIPE SAMPLE RESULTS FOR THE FLOOR
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
RECHARACTERIZATION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID Sample ID Sample Date	Decon Standard for Concrete[(1)] (ug/100 cm^2)	11WS32(F) 11WS32R(F) 09/09/03	11WS34 11WS34R 09/10/03	11WS39(F) 11WS39R(F) 09/10/03	11WS65(F) 11WS65R(F) 09/09/03	11WS65(F) 11WS65RD(F) 09/09/03	11WS73 11WS73R 09/09/03	11WS78(F) 11WS78R(F) 09/09/03	11WS79 11WS79R 09/09/03
PCBs (ug/100 cm^2)									
Aroclor-1260	10	2.8	0.59 J	2.4	0.54 J	1.1	1.1	0.5 J	5.1
Dioxin/Furans (ug/100 cm^2)									
Not Detected		ND	NA	NA	NA	NA	NA	NA	NA

Notes:

ug/100 cm^2 - micrograms per 100 centimeters squared.
J - Estimated value.
NA - Not Analyzed.
ND - Not Detected.
(1) - In accordance with 40CFR761.125(c)(4)(ii)

TABLE 3-4

SUMMARY OF WIPE SAMPLE RESULTS FOR THE FLOOR
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
RECHARACTERIZATION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID Sample ID Sample Date	Decon Standard for Concrete[(1)] (ug/100 cm^2)	11WS85(F) 11WS85R(F) 09/10/03	11WS86 11WS86R 09/10/03	11WS87 11WS87R 09/10/03	11WS92(F) 11WS92R(F) 09/10/03	11WS115 11WS115R 09/10/03	Number Exceeding Concrete Decon Standard	Range Exceeding Concrete Decon Standard	Number of Positive Detections	Range of Positive Detections	Location of Maximum Detection
PCBs (ug/100 cm^2)											
Aroclor-1260	10	1.5	1.6	1.6	6.2	2.6	3/22	11 - 22	22/22	0.43J - 22	11WS13R
Dioxin/Furans (ug/100 cm^2)											
Not Detected		NA	NA	NA	NA	NA					

Notes:

ug/100 cm^2 - micrograms per 100 centimeters squared.
J - Estimated value.
NA - Not Analyzed.
ND - Not Detected.
(1) - In accordance with 40CFR761.125(c)(4)(ii)

TABLE 3-5

SUMMARY OF CONCRETE CHIP SAMPLE RESULTS FOR THE WALLS
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
RECHARACTERIZATION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	**High Occupancy Area Cleanup Level[(1)] (ug/kg)**	Low Occupancy Area Cleanup Level[(1)] (ug/kg)	11CC01(W)	11CC02(W)	11CC03(W)	11CC04(W)	11CC05(W)	11CC05(W)	11CC06(W)
Sample ID			11CC01(W)	11CC02(W)	11CC03(W)	11CC04(W)	11CC05(W)	11CC05D(W)	11CC06(W)
Sample Date			09/10/03	09/10/03	09/10/03	09/10/03	09/10/03	09/10/03	09/11/03
PCBs (ug/kg)									
Aroclor-1260	1,000	25,000	230	**1,800**	990	**1,400**	180	180	880

Notes:

ug/kg - micrograms per kilogram.

(1) - In accordance with 40CFR761.61(a)(4)(i)

TABLE 3-5

SUMMARY OF CONCRETE CHIP SAMPLE RESULTS FOR THE WALLS
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
RECHARACTERIZATION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID Sample ID Sample Date	**Number Exceeding High Occupancy Area Cleanup Level**	**Range Exceeding High Occupancy Area Cleanup Level**	Number Exceeding Low Occupancy Area Cleanup Level	Range Exceeding Low Occupancy Area Cleanup Level	Number of Positive Detections	Range of Positive Detections	Location of Maximum Detection
PCBs (ug/kg)							
Aroclor-1260	2/7	1,400 - 1,800	0/7	-	7/7	180 - 1,800	11CC02(W)

Notes:

ug/kg - micrograms per kilogram.

(1) - In accordance with 40CFR761.61(a)(4)(i)

TABLE 3-6

SUMMARY OF CONCRETE CHIP SAMPLE RESULTS FOR THE FLOOR
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
RECHARACTERIZATION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	**High Occupancy Area Cleanup Level[(1)] (ug/kg)**	Low Occupancy Area Cleanup Level[(1)] (ug/kg)	11CC07(F)	11CC08	11CC09	11CC10	11CC11(F)	11CC12(F)	11CC13(F)
Sample ID			11CC07(F)	11CC08	11CC09	11CC10	11CC11(F)	11CC12(F)	11CC13(F)
Sample Date			09/11/03	09/11/03	09/10/03	09/10/03	09/10/03	09/10/03	09/10/03
PCBs (ug/kg dw)									
Aroclor-1260	1,000	25,000	880	**6,500**	150	**2,600**	560	**1,900**	**430,000**

Notes:

ug/kg - micrograms per kilogram.

[(1)] - In accordance with 40CFR761.61(a)(4)(i)

TABLE 3-6

SUMMARY OF CONCRETE CHIP SAMPLE RESULTS FOR THE FLOOR
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
RECHARACTERIZATION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	**High Occupancy Area Cleanup Level[(1)] (ug/kg)**	Low Occupancy Area Cleanup Level[(1)] (ug/kg)	11CC14(F)	11CC14(F)	11CC15	11CC16(F)	11CC17(F)	11CC18(F)	11CC19(F)
Sample ID			11CC14(F)	11CC14D(F)	11CC15	11CC16(F)	11CC17(F)	11CC18(F)	11CC19(F)
Sample Date			09/10/03	09/10/03	09/10/03	09/10/03	09/10/03	09/11/03	09/11/03
PCBs (ug/kg dw)									
Aroclor-1260	1,000	25,000	**1,500**	690	930	1,000	370	330	260

Notes:

ug/kg - micrograms per kilogram.

(1) - In accordance with 40CFR761.61(a)(4)(i)

TABLE 3-6

SUMMARY OF CONCRETE CHIP SAMPLE RESULTS FOR THE FLOOR
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
RECHARACTERIZATION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID Sample ID Sample Date	**High Occupancy Area Cleanup Level[(1)] (ug/kg)**	Low Occupancy Area Cleanup Level[(1)] (ug/kg)	**Number Exceeding High Occupancy Area Cleanup Level**	**Range Exceeding High Occupancy Area Cleanup Level**	Number Exceeding Low Occupancy Area Cleanup Level	Range Exceeding Low Occupancy Area Cleanup Level	Number of Positive Detections	Range of Positive Detections	Location of Maximum Detection
PCBs (ug/kg dw)									
Aroclor-1260	1,000	25,000	5/14	1,500 - 430,000	1/14	430,000	14/14	150 - 430,000	11CC13(F)

Notes:

ug/kg - micrograms per kilogram.

[(1)] - In accordance with 40CFR761.61(a)(4)(i)

TABLE 3-7

SUMMARY OF WIPE SAMPLE RESULTS FOR THE WALLS
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
PHASE I RFI AND RECHARACTERIZATION INVESTIGATIONS
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11WS05(W)	11WS16(W)	11WS18(W)	11WS27(W)	11WS32(W)	11WS38(W)	11WS56(W)	11WS64(W)
Sample ID	11WS05R(W)	11WS16R(W)	11WS18R(W)	11WS27R(W)	11WS32R(W)	11WS38R(W)	11WS56(W)	11WS64R(W)
Sample Date	09/09/03	09/09/03	09/09/03	09/09/03	09/09/03	09/10/03	09/10/03	09/09/03
PCBs (ug/100 cm^2)								
Aroclor-1260 (Sept 03)	0.42 J	0.44 J	0.45 J	0.41 J	1 U	1 U	0.24 J	0.26 J
Aroclor-1260 (Nov 96)	1.5	0.88	0.7	0.63	2.4 U	0.87	3.2	1.4

Notes:

ug/100 cm^2 - micrograms per 100 centimeters squared.
J - Estimated value.
U - Not Detected.
NA - Not Applicable.

TABLE 3-7

SUMMARY OF WIPE SAMPLE RESULTS FOR THE WALLS
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
PHASE I RFI AND RECHARACTERIZATION INVESTIGATIONS
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11WS05(W)	11WS16(W)	11WS18(W)	11WS27(W)	11WS32(W)	11WS38(W)	11WS56(W)	11WS64(W)
Sample ID	11WS05R(W)	11WS16R(W)	11WS18R(W)	11WS27R(W)	11WS32R(W)	11WS38R(W)	11WS56(W)	11WS64R(W)
Sample Date	09/09/03	09/09/03	09/09/03	09/09/03	09/09/03	09/10/03	09/10/03	09/09/03
PCBs (ug/100 cm^2)								
Aroclor-1260 (Sept 03)	0.42 J	0.44 J	0.45 J	0.41 J	1 U	1 U	0.24 J	0.26 J
Aroclor-1260 (Nov 96)	1.5	0.88	0.7	0.63	2.4 U	0.87	3.2	1.4

Notes:

ug/100 cm^2 - micrograms per 100 centimeters squared.
J - Estimated value.
U - Not Detected.
NA - Not Applicable.

TABLE 3-7

SUMMARY OF WIPE SAMPLE RESULTS FOR THE WALLS
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
PHASE I RFI AND RECHARACTERIZATION INVESTIGATIONS
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11WS70(W)	11WS77(W)	11WS82(W)	11WS84(W)	11WS91(W)	11WS110(W)	Number of	Range of	Location of
Sample ID	11WS70R(W)	11WS77R(W)	11WS82R(W)	11WS84R(W)	11WS91R(W)	11WS110R(W)	Positive	Positive	Maximum
Sample Date	09/09/03	09/09/03	09/10/03	09/10/03	09/10/03	09/10/03	Detections	Detections	Detection
PCBs (ug/100 cm ^{2})									
Aroclor-1260 (Sept 03)	0.21 J	1 U	1 U	1 U	1 U	1 U	7/14	0.15J - 0.45J	11WS18R(W)
Aroclor-1260 (Nov 96)	0.98	0.58	2.4 U	2.4 U	0.22	0.92	11/14	0.22 - 3.2	11WS022

Notes:

ug/100 cm^2 - micrograms per 100 centimeters squared.
J - Estimated value.
U - Not Detected.
NA - Not Applicable.

TABLE 3-8

SUMMARY OF WIPE SAMPLE RESULTS FOR THE FLOOR
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
PHASE I RFI AND RECHARACTERIZATION INVESTIGATIONS
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11WS13	11WS15	11WS17(F)	11WS21	11WS22(F)	11WS23	11WS24	11WS28(F)	11WS34	11WS39(F)	11WS65(F)
Sample ID	11WS13R	11WS15R	11WS17R(F)	11WS21R	11WS22R(F)	11WS23R	11WS24R	11WS28R(F)	11WS34R	11WS39R(F)	11WS65RD(F)
Sample Date	09/09/03	09/09/03	09/09/03	09/09/03	09/09/03	09/09/03	09/09/03	09/09/03	09/10/03	09/10/03	09/09/03
PCBs (ug/100 cm ^{2})											
Aroclor-1260 (Sept 03)	22	0.43 J	3.4	7.7	1.2 J	16	11	2.7 J	0.59 J	2.4	1.1
Aroclor-1260 (Nov 96)	120	4.7	20	7.1	17	7.9	11	0.37	7.7	160	12

Notes:

ug/100 cm^2 - micrograms per 100 centimeters squared.
J - Estimated value.
NA - Not Applicable.

TABLE 3-8

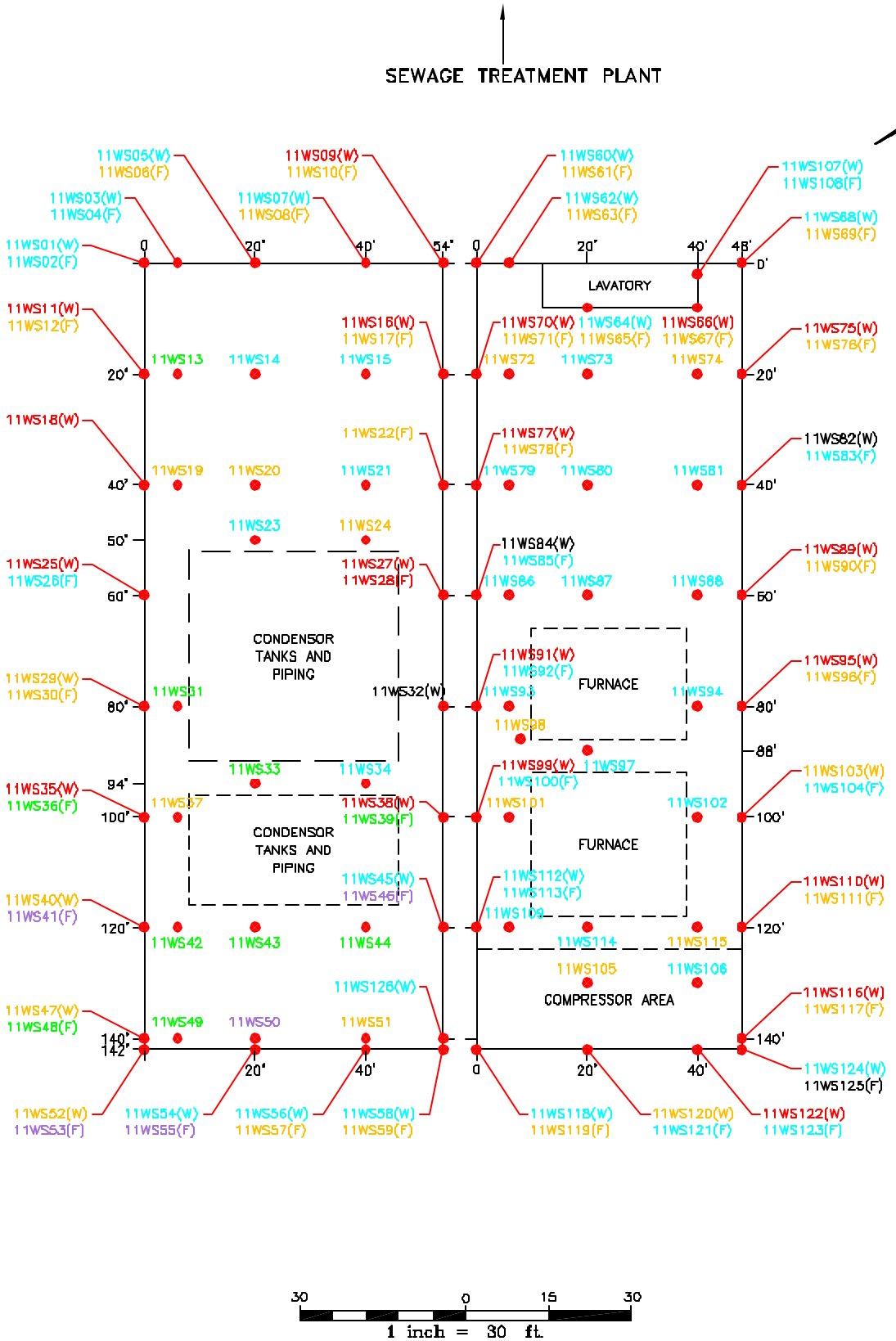
SUMMARY OF WIPE SAMPLE RESULTS FOR THE FLOOR
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
PHASE I RFI AND RECHARACTERIZATION INVESTIGATIONS
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11WS73	11WS78(F)	11WS79	11WS85(F)	11WS86	11WS87	11WS92(F)	11WS115	Number of	Range of	Location of
Sample ID	11WS73R	11WS78R(F)	11WS79R	11WS85R(F)	11WS86R	11WS87R	11WS92R(F)	11WS115R	Positive	Positive	Maximum
Sample Date	09/09/03	09/09/03	09/09/03	09/10/03	09/10/03	09/10/03	09/10/03	09/10/03	Detections	Detections	Detection
PCBs (ug/100 cm ^{2})											
Aroclor-1260 (Sept 03)	1.1	0.5 J	5.1	1.5	1.6	1.6	6.2	2.6	19/19	0.43J - 22	11WS13R(F)
Aroclor-1260 (Nov 96)	7	24	9.6	2.9	5	6.4	7.6	21	19/19	0.37 - 160	11WS039

Notes:

ug/100 cm^2 - micrograms per 100 centimeters squared.
J - Estimated value.
NA - Not Applicable.

FIGURES



LEGEND

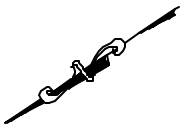
- ● – WIPE SAMPLE (NOVEMBER 1996)
- (W) – SAMPLE COLLECTED FROM WALL
- (F) – SAMPLE COLLECTED FROM FLOOR
- 11WS32 – NOT DETECTED
- 11WS25(W) – LESS THAN 1 ug/100 cm²
- 11WS14 – 1–10 ug/100 cm²
- 11WS29(W) – 10–100 ug/100 cm²
- 11SW33 – 100–1,000 ug/cm²
- 11WS50 – OVER 1,000 ug/cm²

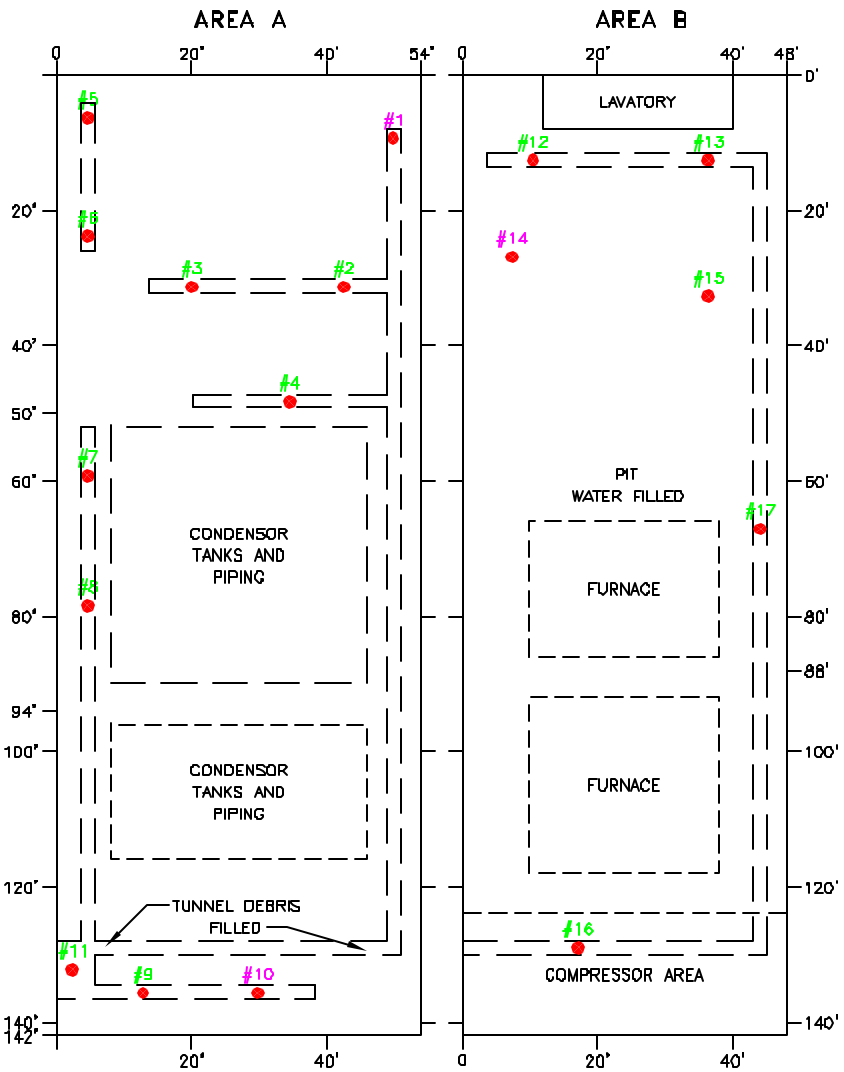
FIGURE 3–1

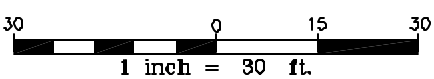
PREVIOUS WIPE SAMPLING LOCATIONS SWMU 11 – BUILDING 38 INTERIOR

NAVAL STATION ROOSEVELT ROADS
PUERTO RICO

SEWAGE TREATMENT PLANT







Baker

LEGEND

- SCREENING SAMPLE LOCATION (NOVEMBER 1996)
- #10 10-50 ppm
- #6 OVER 50 ppm
- ===TUNNELS/PITS

FIGURE 3-2

PREVIOUS PIT SCREENING SAMPLING LOCATIONS
SWMU 11 - BUILDING 38 INTERIOR

NAVAL STATION ROOSEVELT ROADS
PUERTO RICO

4.0 HUMAN HEALTH RISK ASSESSMENT

The EPA approved RFI work plan for this work identified the performance of a human health risk to be performed based on the results of the dioxin/furan analytical results. As provided in Section 3.0 there were no positive detections for dioxin/furans in any of the wipe samples or concrete chip samples. Therefore, there is no unacceptable human health risk for dioxin/furtans.

An attempt was made to evaluate the PCB results for human health risk. The Navy contacted the USEPA Region II concerning available criteria to compare wipe sample results against for human health exposure. The EPA does not have any criteria for performing a human health risk assessment from wipe sample results analyzed for PCBs.

Due to a lack of information for conducting a human health risk analysis the wipe samples analyzed for PCBs were compared to the requirements for PCB spill cleanup as outlined in 40CFR761.125(c)(4)(ii) as detailed in Section 3.0 of this report. The concrete chip samples analyzed for PCBs were evaluated against the high and low occupancy area cleanup levels outlined in accordance with 40CFR761.61(a)(4)(i) as detailed in Section 3.0 of this report.

It should be noted that an interim measure has been put in place at the building preventing access to the building therefore eliminating the exposure pathway. Remediation of the structure will be a requirement of the transferee and the contract of sale as outlined in Section 6.0 of this document.

5.0 CORRECTIVE MEASURES ALTERNATIVES

As outlined in the Interim Measures Plan (Baker, 2003a) engineering controls have been put in place at SWMU 11 to prevent site access by workers and/or trespassers to the interior of Building 38. These measures effectively prevent the exposure of PCB contamination. It is the intent that these measures remain in place through the closure of NSRR. As stated in the August 14, 2003 USEPA Memorandum Subject: Interpretive Statement on Change in Ownership of Real Property Contaminated with PCBs the Agency is adopting the interpretation of TSCA that the prohibition contained in section 6(e)(3)(A)(ii) banning the "distribution in commerce" of PCBs, does not prohibit the transfer of ownership of real property that may be contaminated with PCBs. It is the intent that these measures remain in place until the time that an entity outside of the Navy decides to utilize the facility. It would be at this time that this entity would be required to manage the PCB contamination within the building.

It is the purpose of this section to provide various alternatives that may be utilized to deal with PCB contamination within the structure for the future owner to assist in developing a strategy to deal with the structure if so warranted. The following subsections provide a description of various alternatives to deal with the PCB contamination and an estimated range of costs for implementation of these options. The alternatives meet the requirements of 40CFR 761.61(a)(4) *Cleanup Levels* and the requirement 40CFR 761.30(p) *Continued use of porous surfaces contaminated with PCBs regulated for disposal by spills of liquid PCBs*.

A description of the various alternatives is provided in the following subsections. Table 5-1 provides a matrix listing the alternatives, description, advantages, disadvantages and limitations, and cost range for each of the alternatives discussed in the following subsections.

5.1 No Further Action

No further action in the sense of this site would be to keep the existing engineering controls in place to continue to prevent site access by workers and/or trespassers to the interior areas of Building 38 as described in detail in the Interim Measures Plan (Baker, 2003a). There are no costs associated with this option since the engineering controls restricting site access are already in place. This is the current measure in place at SWMU 11. This option provides for restricted usage of the building.

5.2 Decontaminate Contaminated Surfaces

This alternative decontaminates the PCB contaminated surfaces with proven PCB extraction chemicals such as Integrated Chemistries CAPSUR® solution. This is a proven technology that is easy to implement. This is effective for cleaning most surfaces especially when the contamination is limited to the near surface (less than ½ inch). The potential for residual "hot spots" exists if residual contamination is deep which restricts the cleaning by this method.

The following paragraphs provide a brief description of CAPSUR as provided by EnviroSource.com Technology Listing http://d.dominohosting.biz/cairo/Envirosource/envrsrc.nsf/0/0B31E9CD3158410B862564DE007EFFC1?OpenDocument.

CAPSUR® is a foam-applied, aqueous based solvent system with emulsifiers developed for the cleanup of polychlorinated biphenyl (PCB) spills on solid surfaces. CAPSUR has a high PCB affinity and emulsification properties, which suspend PCBs, allowing easy cleanup in water with

vacuum equipment. Chemically, CAPSUR interacts with the PCB molecule allowing extraction of PCBs from surfaces, and then suspends the PCBs in water allowing easy removal.

CAPSUR can be used for most PCB cleanup applications in the industrial workplace. It is effective for all viscosity levels and forms of PCBs and can be used on any solid surfaces such as concrete, asphalt, metals, glass and pre-tested painted surfaces.

The contaminated area is foamed, brushed onto the surface with a stiff broom and left for a five-minute dwell time. The residues are vacuumed up, the surface lightly rinsed with water and then revacuumed. The first step is repeated, omitting the agitation step.

The majority of the data on extraction efficiencies have shown typical values of 80 to 95 percent extraction rates per application.

Approximately 0.07 gallons of waste per square foot area cleaned is generated with each cleanup application. The residue will be 75 percent water and should contain, as an average, 300 to 400 ppm PCB.

CAPSUR can effectively remediate to a depth of one-half inch in porous surfaces such as concrete.

Limitations: Previous unsuccessful solvent-based attempts at removing the PCBs may interact with the substrate and cause the PCBs to migrate further into the surface. This will make removal-using CAPSUR more difficult. Surface temperatures below 40 degrees Fahrenheit and above 100 degrees Fahrenheit can reduce extraction efficiency.

The cost for implementing this alternative ranges from $2.5 to $4/SF for cleaning and disposal of wash solutions.

This option may provide for unrestricted or limited restrictions on the use of the building pending the outcome of the decontamination process.

5.3 Decontaminate Contaminated Surfaces and Encapsulation

This alternative consists of decontaminating the surface as described in the previous section with an additional step of encapsulating any residual contamination not removed from the decontamination process. Two different encapsulation methods are described in the following subsections. The first utilizes epoxy paint while the other uses a specialty floor coating.

5.3.1 Decontamination and Encapsulation with Epoxy Paint

This alternative consists of decontaminating the contaminated surface as described in Section 5.2 and encapsulate any residual “hot spots” with epoxy paint. The encapsulation limits the potential for future dermal contact. Epoxy paint encapsulants are cost effective to apply but require long-term maintenance to remain effective.

The cost for implementing this alternative ranges from $2.50 to $4.00/SF for cleaning and disposal of wash solutions and $1.00 to $1.50/SF for encapsulation application.

These options may provide for unrestricted use of the building pending the outcome of the decontamination process and installation of the encapsulant.

5.3.2 Decontamination and Encapsulation with Specialty Floor Coatings

This alternative consists of decontaminating the contaminated surface as described in Section 5.2 and encapsulate any residual "hot spots" with specialty floor coatings such as Silical® floor coatings. This floor coating is a durable low maintenance chemically impermeable floor coating. The coating is virtually indestructible and resistant to PCB leaching with little or no long-term maintenance. The encapsulation limits the potential for future dermal contact. This floor coating encapsulant is expensive to apply.

The cost for implementing this alternative ranges from $2.50 to $4.00/SF for cleaning and disposal of wash solutions and $30.00 to $40.00/SF for encapsulation application.

These options may provide for unrestricted use of the building pending the outcome of the decontamination process and installation of the encapsulant.

5.4 PCB Destruction

This is a relatively new technology that destructs the residual PCB contamination. This technology has limited experience and predictability of results since it is a new technology. However over time this technology may prove itself. This technology involves the application of a proprietary solution that strips chlorine atoms and reduces toxicity of remaining residue to acceptable concentrations.

The cost for implementing this alternative includes a $20,000 to $40,000 mobilization cost plus $10 to $20/SF application cost.

This option may provide for unrestricted use of the building pending the outcome of the implementation of the technology.

5.5 Surface Scarification

This technology removes the affected surface concrete with scarification equipment. It is limited to near surface contamination (less than ¼ to ½ inch max). Vertical and irregular horizontal surfaces are difficult and costly to scarify.

The cost for implementing this alternative ranges from $10 to $15/SF for scarification with equipment utilizing HEPA filtration equipment.

This option may provide for unrestricted use of the building pending the outcome of the implementation of the technology.

TABLES

TABLE 5-1

CORRECTIVE MEASURE MATRIX
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
RECHARACTERIZATION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

CORRECRTIVE MEASURE ALTERNATIVES	OPTION	SUB-OPTION	DESCRIPTION	ADVANTAGES	DISADVANTAGES AND LIMITATIONS	COST RANGE
No Further Action	Apply engineering controls to building shell limit exposure	Leave in present condition	Do nothing scenario	cost effective	Does not limit exposure potential to contaminated surfaces, or releases to sewers, drains, or soils	negligible initial costs
Decontaminate Contaminated Surfaces	Decontaminate Contaminated Surfaces	Decontaminate with Proven PCB extraction	Decontaminate with Proven PCB extraction Chemicals (Integrated Chemistries Capsur solution)	Proven technology for cleaning most surface (concrete) contamination, especially when contamination is limited to the near surface (less than 1/2 inch).	Long term leaching of deep residual contamination may restrict cleaning from obtaining clean (unrestricted) standards and leave residual "hot spots".	$2.5-$4.0/SF for cleaning and disposal of wash solutions.
Decontaminate Contaminated Surfaces and Encapsulation	Decontaminate Contaminated Surfaces and Encapsulate with Epoxy Paint	Decontaminate with Proven PCB extraction and encapsulate residual "hotspots" with epoxy paint	Decontaminate with Proven PCB extraction Chemicals (Integrated Chemistries Capsur solution). Paint residual "hotspots" to limit potential for future dermal contact potential	Proven technologies for cleaning most surface (concrete) contamination, and encapsulating residual "hotspots" not amenable to decontamination.	Epoxy paints encapsulants are cost effective to apply but require long term maintenance to remain effective	$2.5-$4.0/SF for cleaning and disposal of wash solutions, and $1/SF to $1.5/SF for encapsulation application
	Decontaminate Contaminated Surfaces and Encapsulate with Speciality Floor Coatings	Decontaminate with Proven PCB extraction and encapsulate residual "hotspots" with specialty floor coatings (Silical floor coatings)	Same as above, but seal concrete with a durable low maintenance chemically impermeable floor coating	Floor coating is virtually indestructible and resistant to PCB leaching with little or no long term maintenance.	floor coating are expensive to apply	$2.5-$4.0/SF for cleaning and disposal of wash solutions, and $30/SF to $40/SF for encapsulation application
PCB Destruction	Destruct residual PCB contamination with emerging PCB destruction techology	Destruct residual PCB contamination with emerging PCB destruction techology	Application of proprietary solution which strips chlorine atoms and reduces toxicity of remaining residual to acceptable concentrations	Limited experience and predictability of results. Also, Costly up front costs as compared to proven decontamination methods	May require "hot spot" encapsulation if ineffective on difficult contamination	$20,000 to $40,000 mobilization costs plus $10/SF to $20/SF application costs
Surface Scarification	Surface Scarification	Surface Scarification	Remove affected surface concrete with scarification equipment		Limited to near surface contamination (less than 1/4 to 1/2 inch max). Vertical and irregular horizontial surfaces difficult and costly to scarify.	$10/SF to $15/SF for scarification with equipment utilizing HEPA filtration equipment

6.0 CONCLUSIONS AND RECOMMENDATIONS

This section of the report provides overall conclusions and recommendations regarding SWMU 11 based on results of this recharacterization field investigation. As mentioned in Section 1.3, the primary objective of this report was to determine if the contamination within Building 38 has been adequately characterized as required under the RFI program due to the occurrence of the fire.

Based on the results of the 2003 Recharacterization Investigation and comparing these results to the 1996 RFI results it is clear that the delineation of PCBs within Building 38 have been adequately characterized. The overall results from the 2003 investigation indicate that the levels of contamination have decreased over time. The highest levels of PCB contamination within the structure appear to be isolated to the northwest portion of the building.

The current Interim Measure in place at this SWMU is protective of potential human health exposure by eliminating the exposure pathway to the PCB contamination and the friable asbestos inside the building. This current Interim Measure will remain in effect at NAPR until the time of sale and/or transfer of Building 38. It should be noted that staff is still in place at NAPR. The mission of NAPR is to protect the physical assets remaining, comply with environmental regulations, and sustain the value of the property until final disposal of the property. Therefore the measures in place at Building 38 as outlined will remain in place as outlined in the Interim Measures Plan for SWMU 11 – Building 38 (Baker 2003a).

It is recommended that a deed restriction be placed on the building at the time of sale and/or transfer restricting usage of the building until the structure is remediated in accordance with 40CFR761 for the PCB contaminated sludge within the tunnels/pits and PCB contaminated flooring and walls. This remediation will be a part of the transferee responsibility as a requirement of the condition for sale and/or transfer of property. The Deed restriction will specify that the buyer will need to determine the anticipated usage of the building in order to determine to which level remediation needs to occur. This transfer and/or selling of the property is in accordance with the USEPA Interpretive Statement on Change in Ownership of Real Property Contaminated with PCBs dated August 14, 2003 and with the October 31, 1994 Memorandum from the Office of the Under Secretary of Defense, the asbestos policy for facilities undergoing Base Realignment and Closure (BRAC).

It is also recommend that the deed restriction contain requirements that the issues identified in Section 2.0 of this document with respect to the TSI need to be corrected in accordance with applicable laws, regulations, and standards as a requirement of the condition for sale and/or transfer of property. This action is in accordance with the October 31, 1994 Memorandum from the Office of the Under Secretary of Defense, DOD Policy on Asbestos at Base Realignment and Closure Properties. It should also be noted that a facility wide asbestos containing material (ACM) assessment is planned for NAPR prior to transfer and/or sale.

7.0 REFERENCES

Baker Environmental, Inc., (Baker) 1995. Final RCRA Facility Investigation, Naval Station Roosevelt Roads, Puerto Rico. September 14, 1995.

Baker, 1998. Draft Recharacterization Work Plan for SWMU 11, Naval Station Roosevelt Roads, Puerto Rico. March 31, 1998.

Baker, 2003a. Interim Measures Plan for SWMU 11 – Building 38, Naval Station Roosevelt Roads, Puerto Rico. July 21, 2003.

Baker, 2003b. Final Recharacterization Work Plan for SWMU 11, Naval Station Roosevelt Roads, Puerto Rico. July 21, 2003.

United States Environmental Protection Agency (USEPA), 2002. EPA comment letter dated March 8, 2002 dealing with the Draft Re-characterization Sampling Work Plan for SWMU 11 (Interior Areas of Building 38 – Old Power Plant), and the Draft RFI Work Plan for SWMU 3 (Currently Operating Solid-Waste Landfill), EPA Region II. New York, New York.

OHM Remediation Services Corp. and Metcalf & Eddy, Inc., 1995. Final Contract N47408-92-D-3042 Delivery Order No. 0031 Closeout Report for Interim Remedial Action of PCB Contaminated Soils Sites 15 & 16 at the Naval Station, Roosevelt Roads, Puerto Rico Volume I. May 1995.

Roy F. Weston, Inc., 1991. Asbestos Survey Report of 113 Miscellaneous Buildings at Roosevelt Roads Naval Station, Ceiba, Puerto Rico. Volume 1 of 6 Executive Summary through Building 296. April 1991.

APPENDIX A
PHOTOGRAPHS OF SWMU 11

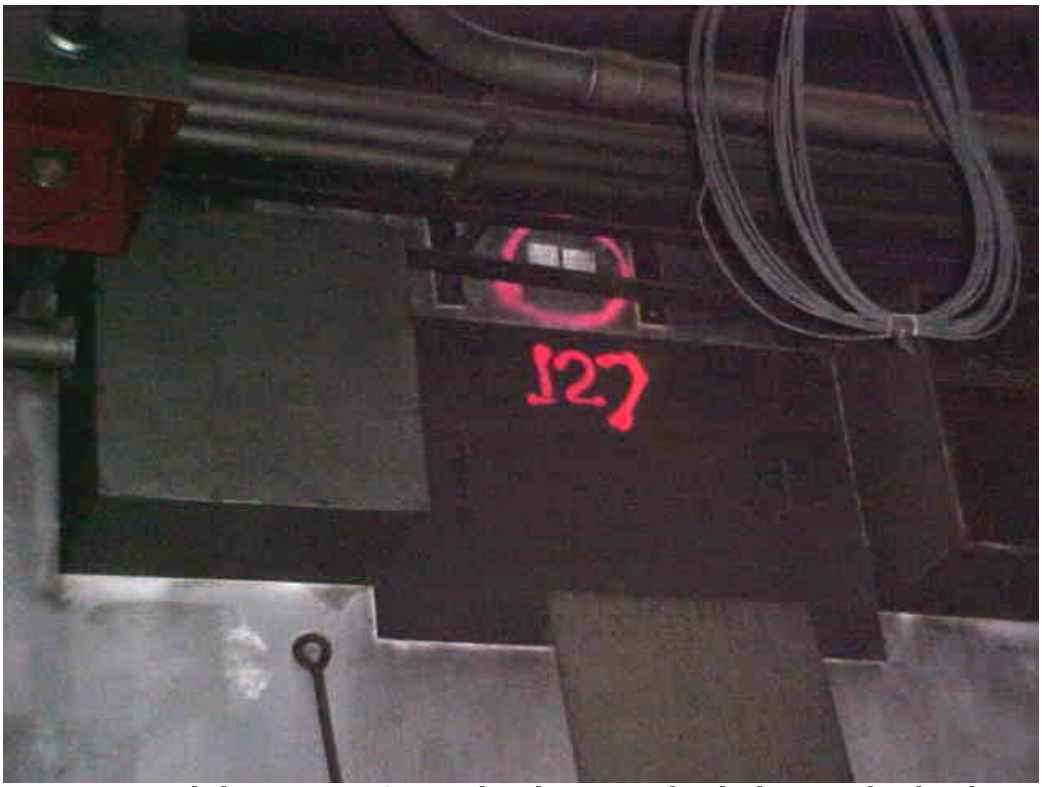


Photo 1: Wipe sample location 11WS127. This photo was taken looking overhead to the southeast. This sample was taken from the concrete wall in an area of smoke damage located under the walkway of the second level.

Photo 2: Wipe sample location 11WS128. This photo was taken looking west. This sample was taken from the concrete wall inside the doorway between the northern and southern portions of Building 38.

Photo 3: Wipe sample location 11WS129. This photo was taken looking to the southeast. This sample was taken from the side of the concrete walkway of the second level in an area of smoke damage.

Photo 4: Wipe sample location 11WS130. This photo was taken looking downward to the northwest. This sample was taken from the side of the concrete walkway of the second level in an area of smoke damage.

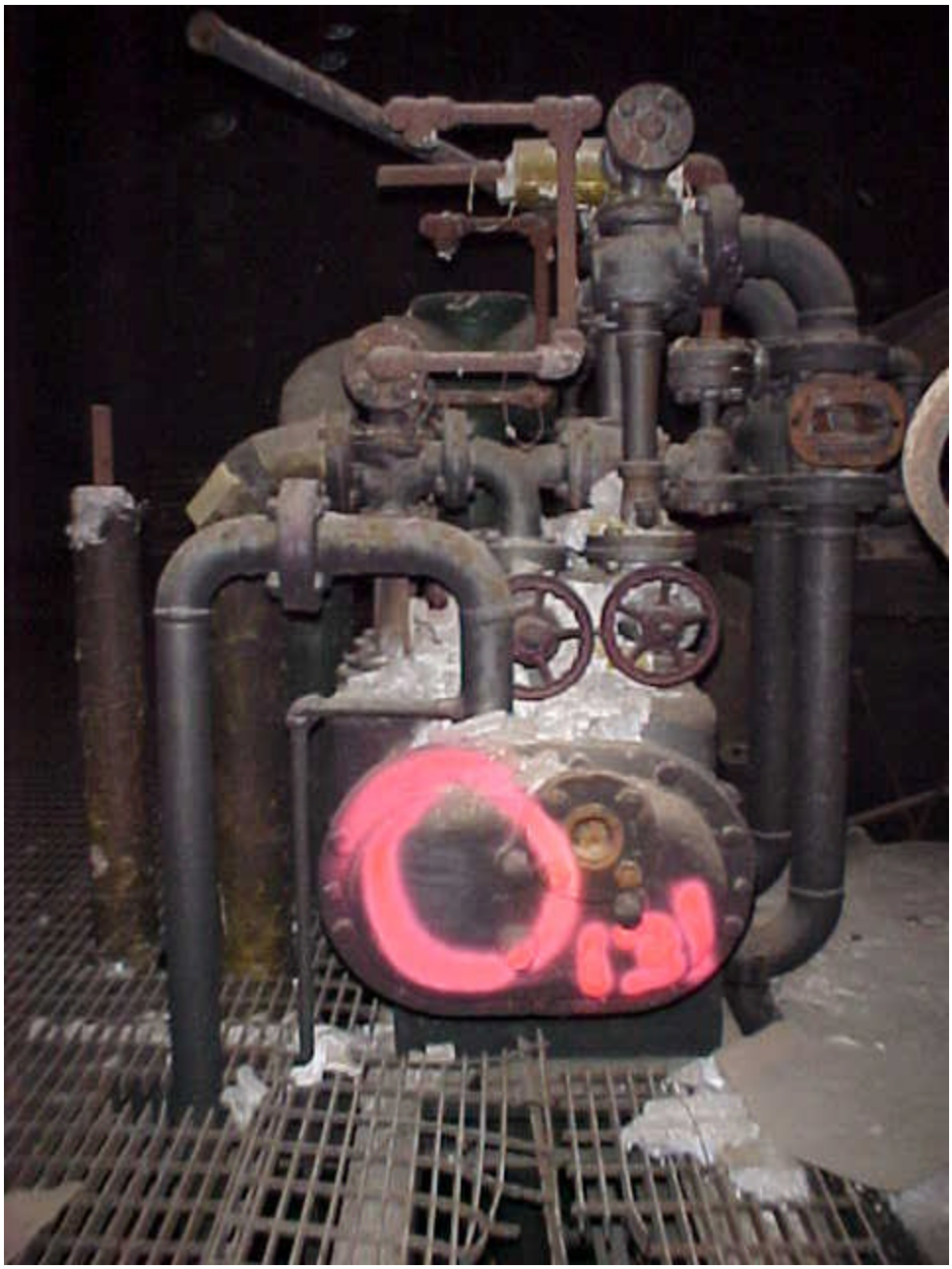


Photo 5: Wipe sample location 11WS131. This photo was taken looking to the northeast on the second level. This sample was taken from the steel end cap.

Photo 6: Wipe sample location 11WS132. This photo was taken looking downward to the southwest. This sample was taken from the side of the concrete walkway of the second level in an area of smoke damage.

Photo 7: Wipe sample location 11WS133. This photo was taken looking downward to the west. This sample was taken from the side of the concrete walkway of the second level in an area of smoke damage.

Photo 8: Wipe sample location 11WS134. This photo was taken looking downward to the northwest. This sample was taken from the side of the concrete walkway of the second level in an area of smoke damage.

Photo 9: Wipe sample location 11WS135. This photo was taken looking downward to the northwest. This sample was taken from the side of the concrete walkway of the second level in an area of smoke damage.

Photo 10: Asbestos Assessment Location 1. This photo was taken looking to the southeast. The assessment was performed on the TSI pipe insulation located in the southeast corner of Building 38 by the lavatory.

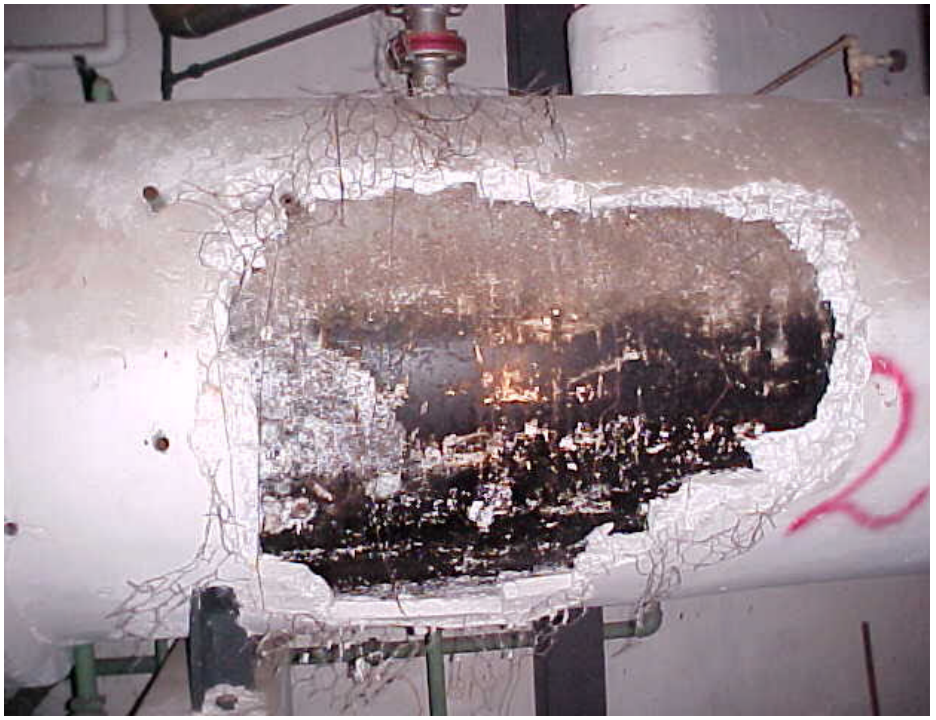


Photo 11: Asbestos Assessment Location 2. This photo was taken looking to the southwest. The assessment was performed of the TSI covering the AST located in the southeast corner of Building 38 by the lavatory.

Photo 12: Asbestos Assessment Location 3. This photo was taken looking to the southwest. The assessment was performed on the TSI pipe insulation located in the southeast corner of Building 38 by the lavatory.

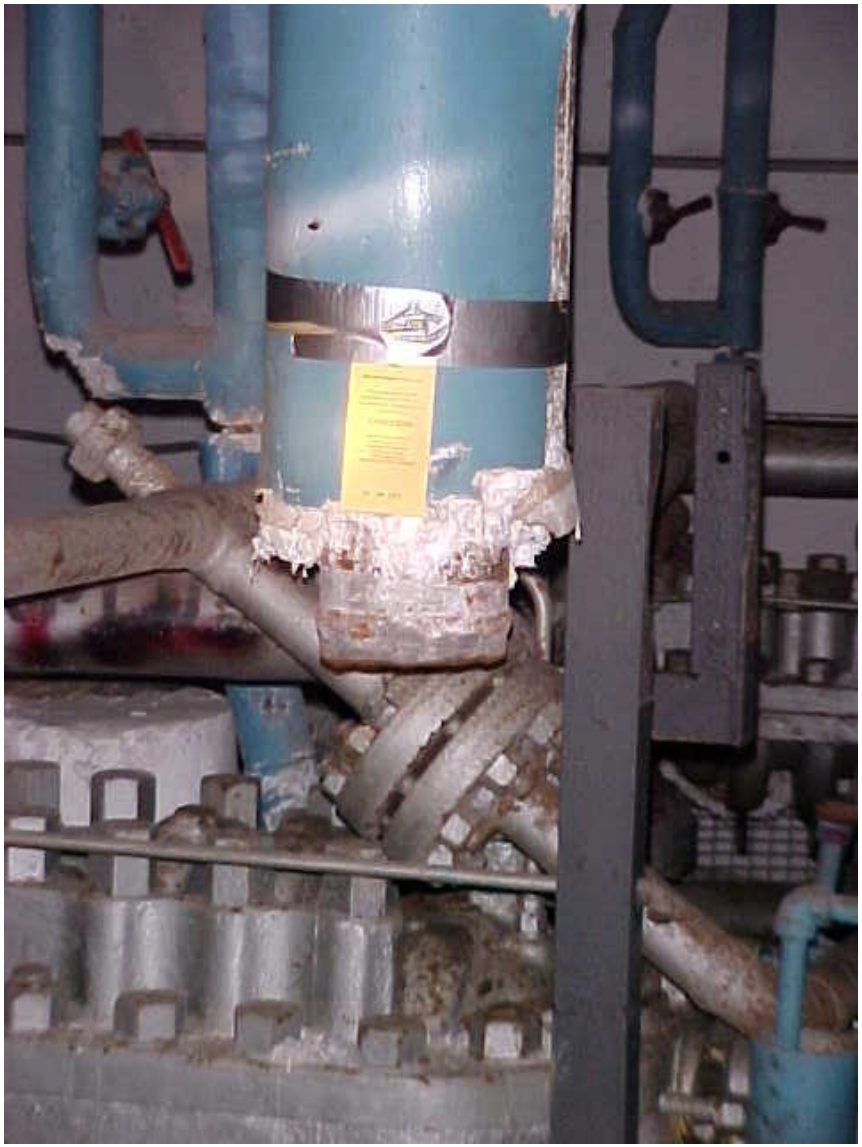


Photo 13: Asbestos Assessment Location 4. This photo was taken looking to the northwest. The assessment was performed on the TSI pipe insulation located in the southwest section of Building 38 in the compressor area.

Photo 14: Asbestos Assessment Location 5. This photo was taken looking to the northeast. The assessment was performed on the TSI pipe insulation located in the southern section of Building 38 along the northern wall by the two boilers.

Photo 15: Asbestos Assessment Location 6. This photo was taken looking to the northeast. The assessment was performed on the TSI pipe insulation located in the southern section of Building 38 along the northern wall on the eastern side.

Photo 16: Asbestos Assessment Location 7. This photo was taken looking to the southwest. The assessment was performed of the TSI on the flash tank located in the southern section of Building 38 along the southern wall on level 2.

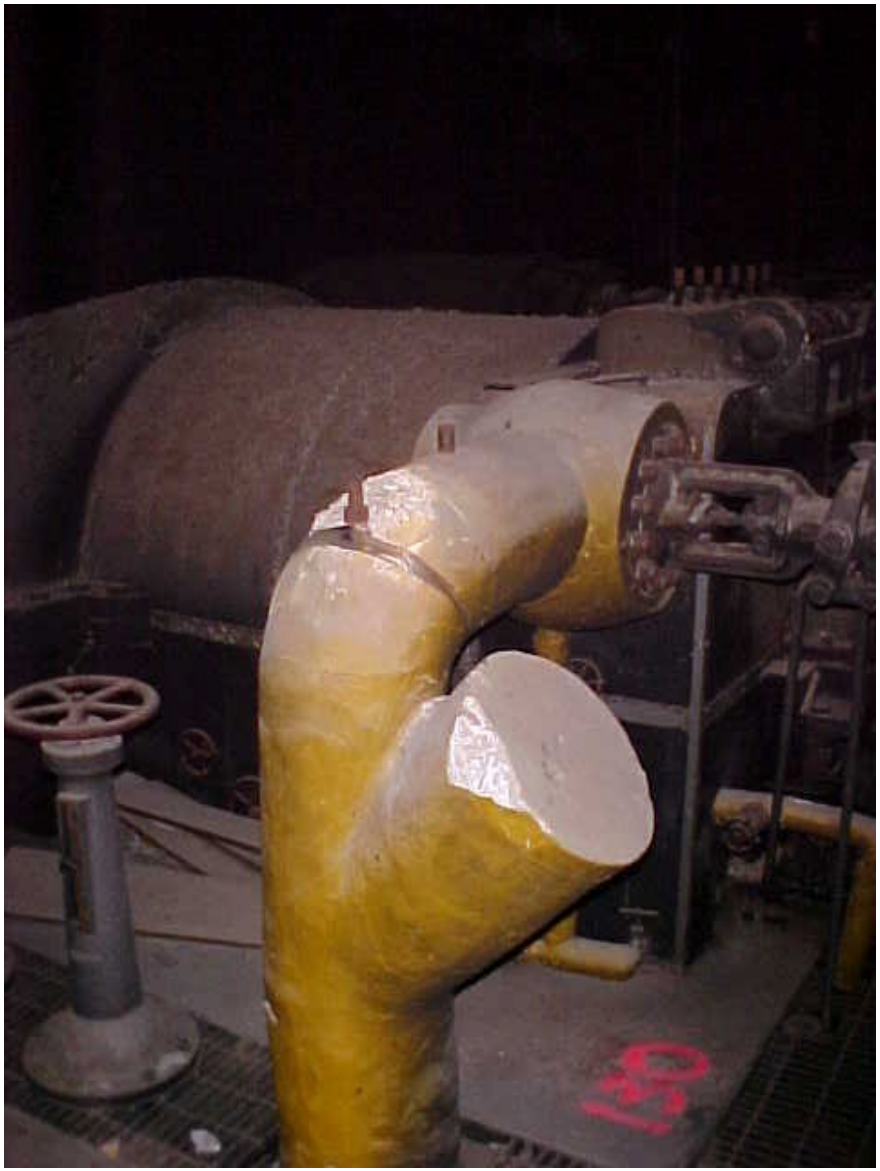


Photo 17: Asbestos Assessment Location 8. This photo was taken looking to the northeast. The assessment was performed on the TSI pipe insulation located in the northern section of Building 38 in the center portion of second level. This is insulation around a steam line running to a turbine.

APPENDIX B
ASBESTOS ASSESSMENT STANDARDIZED FORMS

Baker

ASBESTOS SURVEY NEW MATERIAL FORM

SCHOOL NAME: Asbestos Assessment Location (AAL) 1 BUILDING: Bldg. 38 MATERIAL NO: _____

~~DODAAC NUMBER~~ Location: Back Portion - Southeast Corner by Lavatory DATE: 9/11/03

Material Identification Code Description	AHERA Material Category	Material Location List all room numbers where material is located	Quantity	Sample Numbers	Friable	Type Damage	Damage Severity and Distrib.	Access	Inf. of Vibration	Inf. of Air Erosion	Overall Pot. for Damage	Recommended Action	Action Priority Number	Portion Related to Action
Pipe Insulation	SACM	Southern Section of building			(YES)	DETER	(UNDAM)	(LOW)	(LOW)	(LOW)	(LOW. POT)	Q&M	1 2 3	ALL
* white, fiberous material	(TSIACM)				NO	WATER	DAM.	MED.	MED.	MED.	POT.	REMOVE	1 2 3	PARTIAL ALL
* Approx. 1" thick	MACM					PHYS.	SIG. DAM.	HIGH	HIGH	HIGH	SIG. POT	REPAIR	1 2 3	PARTIAL ALL
						(NONE)						ENCAPS	1 2 3	PARTIAL ALL
												ENCLOSE	1 2 3	PARTIAL ALL
							LOCAL							
							DIST.							
			SF LF EA											

INITIAL CLEANING: YES NO O&M HOURS _____ REPAIR HOURS: _____ REMOVAL QUANTITY:

COMMENTS: The adhesive for this material is material # _____. This is the adhesive for material # _____.

The joint compound for this material is material # _____. This is the joint compound for material # _____.

~~Comments~~: ~~INSPECTORS~~: The pipe insulation is approximately 5" in diameter (outside to outside edge).

Baker

ASBESTOS SURVEY NEW MATERIAL FORM

SCHOOL NAME: AAL 2 BUILDING: Bldg. 38 MATERIAL NO:

Location: ~~DODAAC NUMBER~~: Back portion - Southeast Corner by Lavatory DATE: 9/4/03

Material Identification Code Description	AHERA Material Category	Material Location List all room numbers where material is located	Quantity	Sample Numbers	Friable	Type Damage	Damage Severity and Distrib.	Access	Inf. of Vibration	Inf. of Air Erosion	Overall Pot. for Damage	Recommended Action	Action Priority Number	Portion Related to Action
Tank Insulation * White, fiberous material * Approx. 2" thick * Chicken wire holding insulation in was exposed and torn back.	SACM	Southern Section of building			(YES) NO	DETER	UNDAM	(LOW)	(LOW)	(LOW)	(LOW. POT.)	Q&M	1 2 3	ALL
	(TSIACM) MACM					WATER	DAM.	MED.	MED.	MED.	POT.	REMOVE	1 2 3	PARTIAL ALL
						(PHYS)	(SIG. DAM.)	HIGH	HIGH	HIGH	SIG. POT	REPAIR	1 2 3	PARTIAL ALL
						NONE						ENCAPS	1 2 3	PARTIAL ALL
												ENCLOSE	1 2 3	PARTIAL ALL
							LOCAL							
							(DIST.)							
			SF LF EA											

INITIAL CLEANING: YES NO O&M HOURS _____ REPAIR HOURS: _____ REMOVAL QUANTITY:

COMMENTS: The adhesive for this material is material # . This is the adhesive for material # .

The joint compound for this material is material # .. This is the joint compound for material # .

~~Comments~~ ~~INSPECTORS~~: Insulation around flange on eastern end of tank was also disturbed. This tank could possibly be Evaporator #2.

Baker

ASBESTOS SURVEY NEW MATERIAL FORM

SCHOOL NAME: AAL 3 BUILDING: Bldg. 38 MATERIAL NO:

Location; ~~DODAAC NUMBER~~: Back Portion - Southeast Corner by Lavatory DATE: 9/11/03

Material Identification Code Description	AHERA Material Category	Material Location List all room numbers where material is located	Quantity	Sample Numbers	Friable	Type Damage	Damage Severity and Distrib.	Access	Inf. of Vibration	Inf. of Air Erosion	Overall Pot. for Damage	Recommended Action	Action Priority Number	Portion Related to Action
Pipe Insulation * white, fiberous material * Approx. 2" thick	SACM TSIACM MACM	Southern Section of building	SF LF EA		YES NO	DETER WATER PHYS NONE	UNDAM DAM. SIG. DAM. LOCAL DIST.	LOW MED. HIGH	LOW MED. HIGH	LOW MED. HIGH	LOW. POT POT. SIG. POT	Q&M REMOVE REPAIR ENCAPS ENCLOSE	1 2 3	ALL PARTIAL ALL

INITIAL CLEANING: YES NO O&M HOURS _____ REPAIR HOURS: _____ REMOVAL QUANTITY:

COMMENTS: The adhesive for this material is material # . This is the adhesive for material # .

The joint compound for this material is material # . This is the joint compound for material # .

Comments: ~~INSPECTORS~~: The pipe insulation is approximately 12" in diameter. (outside to outside edge).

Baker

ASBESTOS SURVEY NEW MATERIAL FORM

SCHOOL NAME: AAL 4 BUILDING: BLDG. 38 MATERIAL NO:

Location: ~~DODAAC NUMBER~~: Back portion - Southwest section DATE: 9/11/03

Material Identification Code Description	AHERA Material Category	Material Location List all room numbers where material is located	Quantity	Sample Numbers	Friable	Type Damage	Damage Severity and Distrib.	Access	Inf. of Vibration	Inf. of Air Erosion	Overall Pot. for Damage	Recommended Action	Action Priority Number	Portion Related to Action
Pipe Insulation * white, fiberous material * Approx. 2" thick	SACM TSIACM MACM	Southern Section of building	SF LF EA		YES NO	DETER WATER PHYS. NONE	UNDAM DAM. SIG. DAM. LOCAL DIST.	LOW MED. HIGH	LOW MED. HIGH	LOW MED. HIGH	LOW. POT POT. SIG. POT	Q&M REMOVE REPAIR ENCAPS ENCLOSE	1 2 3 1 2 3 1 2 3 1 2 3 1 2 3	ALL PARTIAL ALL PARTIAL ALL PARTIAL ALL PARTIAL ALL

INITIAL CLEANING: YES NO O&M HOURS _____ REPAIR HOURS: _____ REMOVAL QUANTITY:

COMMENTS: The adhesive for this material is material # . This is the adhesive for material # .

The joint compound for this material is material # .. This is the joint compound for material # .

Comments:
~~INSPECTORS~~: The pipe insulation is approximately 8" in diameter (outside to outside edge). This section of the building contained significantly damaged pipe insulation all over.

Baker

ASBESTOS SURVEY NEW MATERIAL FORM

SCHOOL NAME: AAL 5 BUILDING: Bldg 38 MATERIAL NO:

Location: Back portion - along northern wall by the two furnaces

~~DODAAC NUMBER~~: DATE: 9/11/03

Material Identification Code Description	AHERA Material Category	Material Location List all room numbers where material is located	Quantity	Sample Numbers	Friable	Type Damage	Damage Severity and Distrib.	Access	Inf. of Vibration	Inf. of Air Erosion	Overall Pot. for Damage	Recommended Action	Action Priority Number	Portion Related to Action
Steam Junction * white, fiberous Material * Approx. 2" thick	SACM TSIACM MACM	Southern Section of building	SF LF EA		YES NO	DETER WATER PHYS NONE	UNDAM DAM. SIG. DAM. LOCAL DIST.	LOW MED. HIGH	LOW MED. HIGH	LOW MED. HIGH	LOW. POT POT. SIG. POT	Q&M REMOVE REPAIR ENCAPS ENCLOSE	1 2 3 1 2 3 1 2 3 1 2 3 1 2 3	ALL PARTIAL ALL PARTIAL ALL PARTIAL ALL PARTIAL ALL

INITIAL CLEANING: YES NO O&M HOURS _____ REPAIR HOURS: _____ REMOVAL QUANTITY:

COMMENTS: The adhesive for this material is material # . This is the adhesive for material # .

The joint compound for this material is material # .. This is the joint compound for material # .

~~INSPECTORS~~ Comments: Two small valves leading into this Section (Junction) have been cut off.

Baker

ASBESTOS SURVEY NEW MATERIAL FORM

SCHOOL NAME: AAL 6 BUILDING: Bldg 38 MATERIAL NO:

Location :
~~DODAAC NUMBER~~: Back portion - along northern wall on eastern side DATE: 9/11/03

Material Identification Code Description	AHERA Material Category	Material Location List all room numbers where material is located	Quantity	Sample Numbers	Friable	Type Damage	Damage Severity and Distrib.	Access	Inf. of Vibration	Inf. of Air Erosion	Overall Pot. for Damage	Recommended Action	Action Priority Number	Portion Related to Action
Pipe Insulation	SACM	Southern Section of building			(YES)	DETER	UNDAM	(LOW)	(LOW)	(LOW)	(LOW POT)	Q&M	1 2 3	ALL
* white, fiberous Material	(TSIACM)				NO	WATER	(DAM.)	MED.	MED.	MED.	POT.	REMOVE	1 2 3	PARTIAL ALL
* Approx. 1" thick	MACM					(PHYS.)	SIG. DAM.	HIGH	HIGH	HIGH	SIG. POT	REPAIR	1 2 3	PARTIAL ALL
						NONE						ENCAPS	1 2 3	PARTIAL ALL
							LOCAL					ENCLOSE	1 2 3	PARTIAL ALL
							(DIST.)							
			SF LF EA											

INITIAL CLEANING: YES NO O&M HOURS _____ REPAIR HOURS: _____ REMOVAL QUANTITY:

COMMENTS: The adhesive for this material is material # _____. This is the adhesive for material # _____.

The joint compound for this material is material # _____. This is the joint compound for material # _____.

Comments:
~~INSPECTORS~~: The pipe insulation is approximately 4" in diameter (outside to outside edge). It appears that the insulation is coated with a burlap-type texture.

Baker

ASBESTOS SURVEY NEW MATERIAL FORM

SCHOOL NAME: AAL 7 BUILDING: B106.38 MATERIAL NO:

Location:
~~DODAAC NUMBER~~: Back portion - along Southern wall DATE: 9/11/03
on level 2.

Material Identification: Code / Description	AHERA Material Category	Material Location: List all room numbers where material is located	Quantity	Sample Numbers	Friable	Type Damage	Damage Severity and Distrib.	Access	Inf. of Vibration	Inf. of Air Erosion	Overall Pot. for Damage	Recommended Action	Action Priority Number	Portion Related to Action
Flash Tank * white, fiberous material	SACM (TSIACM) MACM	Southern section of building	SF LF EA		(YES) NO	DETER WATER (PHYS) NONE	UNDAM (DAM) SIG. DAM. LOCAL (DIST)	(LOW) MED. HIGH	(LOW) MED. HIGH	(LOW) MED. HIGH	(LOW. POT) POT. SIG. POT	Q&M REMOVE REPAIR ENCAPS ENCLOSE	1 2 3 1 2 3 1 2 3 1 2 3 1 2 3	ALL PARTIAL ALL PARTIAL ALL PARTIAL ALL PARTIAL ALL

INITIAL CLEANING: YES NO O&M HOURS _____ REPAIR HOURS: _____ REMOVAL QUANTITY:

COMMENTS: The adhesive for this material is material # . This is the adhesive for material # .

The joint compound for this material is material # .. This is the joint compound for material # .

~~Comments~~:
INSPECTORS: A crack in the insulation goes down vertically the front of the tank. This tank is on level 2 of the four levels in the back portion. The tank is labeled as a flash tank.

Baker

ASBESTOS SURVEY NEW MATERIAL FORM

SCHOOL NAME: AAL 8 BUILDING: Bldg. 38 MATERIAL NO:

Location:
~~DODAAC NUMBER~~: Front Section - Second level DATE: 9/11/03

Material Identification Code Description	AHERA Material Category	Material Location List all room numbers where material is located	Quantity	Sample Numbers	Friable	Type Damage	Damage Severity and Distrib.	Access	Inf. of Vibration	Inf. of Air Erosion	Overall Pot. for Damage	Recommended Action	Action Priority Number	Portion Related to Action
Pipe Insulation * white, fiberous material * Approx. 2" thick	SACM TSIACM MACM	Northern Section of building	SF LF EA		YES NO	DETER WATER PHYS. NONE	UNDAM DAM. SIG. DAM. LOCAL DIST	LOW MED. HIGH	LOW MED. HIGH	LOW MED. HIGH	LOW POT POT. SIG. POT	Q&M REMOVE REPAIR ENCAPS ENCLOSE	1 2 3	ALL PARTIAL ALL PARTIAL ALL PARTIAL ALL PARTIAL ALL

INITIAL CLEANING: YES NO O&M HOURS _____ REPAIR HOURS: _____ REMOVAL QUANTITY:

COMMENTS: The adhesive for this material is material # . This is the adhesive for material # .

The joint compound for this material is material # .. This is the joint compound for material # .

Comments:
~~INSPECTORS~~: Insulation in question is on piping that goes into the two turbines. The pipe insulation is approximately 12" in diameter (outside to outside edge). There is also damage to pipe insulation approximately 2" in diameter (outside to outside) in same general area.

APPENDIX C
ASBESTOS SURVEY REPORT

5090-15-F.5

WESTON Work Order No. 5622-01-03

Bldg 38

ASBESTOS SURVEY REPORT OF 113 MISCELLANEOUS BUILDINGS AT ROOSEVELT ROADS NAVAL STATION CEIBA, PUERTO RICO

CONTRACT NO. N62470-78-D-8962
DELIVERY ORDER NO. 0003

VOLUME 1 OF 6
EXECUTIVE SUMMARY THROUGH BUILDING 296

Prepared For:

ATLANTIC DIVISION NAVAL FACILITIES ENGINEERING COMMAND
Norfolk, Virginia 23511-6287

APPROVED FOR TRANSMITTAL
OCTOBER 1990

RESUBMITTED APRIL 1991

Prepared By:

Roy F. Weston, Inc.
287 Independence Boulevard
Pembroke Two, Suite 113
Virginia Beach, Virginia 23462

BUILDING 38

HAZ WAST STGE

38.1. GENERAL

Building 38 was surveyed by WESTON technicians on 05 April 1990. The first three portions of this facility report summarize the results of this inspection. If available, a photograph of each sample location is provided in Section 38.4. Section 38.5 consists of a copy of all the original data forms (NAVFAC Forms 5100/31 and 5100/32 and NAVOSH DAP/MIS) for Building 38.

Forty-three samples of suspect material were collected from the building and analyzed by polarizing light microscopy with dispersion staining. Analyses indicated 40 of the samples to be asbestos-containing material (ACM). Table 38.1 lists the analytical results for the bulk samples. It should be noted that for the purpose of this report all floor tile samples, even those found to be negative by PLM, will be assumed to be positive.

38.2. ACM AND EXPOSURE ASSESSMENT

The location, description, and analytical results for each bulk sample from Building 38 are presented in Table 38.1. The quantity, location, and estimated removal/replacement cost for each type of ACM ("homogeneous area") are provided in Table 38.2. The method by which removal/replacement costs are calculated is described in the GENERAL Section of this report. Building floor plans (see attachment) indicate sample location(s) and building area name(s) as they are listed in Table 38.2.

The relative potential risk of exposure to airborne asbestos was evaluated by the ASBESTOS FACILITY RATING/RANKING SYSTEM. This system evaluates seven characteristics to generate a relative value (SCORE). Only the most damaged instance of each homogeneous area was assessed to generate the SCORE listed for that homogeneous area in Table 38.2. The value of SCORE may range from 102, for the greatest relative potential risk, to 0 representing the least relative potential risk according to; Material Condition, Material Quantity, Material Friability, Percent Content of Asbestos, Exposure Potential, Number of Personnel Exposed, and Facility Criticality. A detailed discussion of this assessment method is presented in the GENERAL Section (ISSUES COMMON TO ALL BUILDINGS) of this report. Table 3.1 presents a ranking of all buildings according to the worst (maximum) SCORE for each building at Roosevelt Roads NAVSTA.

38.3. RECOMMENDATIONS

WESTON recommends that all ACM be removed prior to major renovation or demolition of any building. Pending removal of ACM, Building 38 should be included in a base-wide O&M Program. (Note that because an O&M Program is base-wide, its costs are not calculated for each individual building.) Any

ACM that cannot be effectively managed under an O&M Program should be removed immediately. All ACM-related maintenance activities should be performed by properly trained and equipped personnel who will avoid all unnecessary disturbance of ACM. Scheduled removal of ACM should be prioritized according to the present risk SCORE and in consideration of changes in SCORE over time.

TABLE 38.1

BULK SAMPLE ANALYTICAL RESULTS

HAZ WAST STGE.

Building, HA	Sample	Material Description Color[1], System[2], Type	Results[3] (%) CH	AM	CR	OT	TL	Friable
00000038, HA-001	AW157	WH, STM, TANK INS.	15	35	-	-	50	Yes
00000038, HA-001	AW158	WH, STM, TANK INS.	15	35	-	-	50	Yes
00000038, HA-001	AW159	WH, STM, TANK INS.	15	35	-	-	50	Yes
00000038, HA-001	AW161	WH, STM, TANK INS.	15	35	-	-	50	Yes
00000038, HA-001	AW162	WH, STM, RUN INS.	35	20	-	-	55	Yes
00000038, HA-003	AW163	WH, STM, RUN INS.	35	15	-	-	50	Yes
00000038, HA-003	AW164	WH, STM, RUN INS.	10	55	-	-	65	Yes
00000038, HA-003	AW165	WH, STM, RUN INS.	15	15	-	-	30	Yes
00000038, HA-003	AW166	WH, STM, RUN INS.	35	15	-	-	50	Yes
00000038, HA-016	AW167	WH, STM, <4" FITTING INS.	60	07	-	-	67	Yes
00000038, HA-016	AW168	WH, STM, <4" FITTING INS.	25	15	-	-	40	Yes
00000038, HA-016	AW169	WH, STM, <4" FITTING INS.	45	07	-	-	52	Yes
00000038, HA-014	AW171	WH, STM, 4-8" STM HEADR	25	25	-	-	50	Yes
00000038, HA-010	AW172	WH, STM, 4-8" STM HEADR	10	40	-	-	50	Yes
00000038, HA-004	AW173	BK, BOILER WALL	45	-	-	-	45	Yes
00000038, HA-004	AW174	BK, BOILER WALL	45	10	-	-	55	Yes
00000038, HA-004	AW175	BK, BOILER WALL	40	15	-	-	55	Yes
00000038, HA-012	AW176	WH, STM, RUN INS.	10	40	-	-	50	Yes
00000038, HA-012	AW177	WH, STM, RUN INS.	07	35	-	-	42	Yes
00000038, HA-012	AW178	WH, STM, RUN INS.	15	35	-	-	50	Yes
00000038, HA-012	AW179	WH, STM, RUN INS.	10	35	-	-	45	Yes
00000038, HA-012	AW181	WH, STM, RUN INS.	50	-	-	-	50	Yes
00000038, HA-017	AW182	WH, STM, RUN INS.	15	40	-	-	55	Yes
00000038, HA-017	AW183	WH, STM, RUN INS.	15	35	-	-	50	Yes
00000038, HA-017	AW184	WH, STM, RUN INS.	15	25	-	-	40	Yes
00000038, HA-014	AW185	WH, STM, 4-8" FITTING INS.	50	-	-	-	50	Yes

Color[1] (Optional)

BK = Black
BL = Blue
BR = Brown
GR = Green
GY = Gray
RD = Red
TN = Tan
WH = White
YL = Yellow

System[2] (Optional)

CHW = Chilled Water
DOM = Domestic Water
HHW = Heating Hot Water
STM = Steam
UNK = Unknown

Results[3]

- = Asbestos Not Detected

TABLE 38.1
(Continued)

BULK SAMPLE ANALYTICAL RESULTS

HAZ WAST STGE.

Building, HA	Sample	Material Description Color[1], System[2], Type	Results[3] (%) CH	AM	CR	OT	TL	Friable
00000038, HA-014	AW186	WH, STM, 4-8" FITTING INS.	30	-	-	-	30	Yes
00000038, HA-014	AW187	WH, STM, 4-8" FITTING INS.	15	30	-	-	45	Yes
00000038, HA-015	AW188	WH, STM, 9-14" FITTING INS	05	20	-	-	25	Yes
00000038, HA-015	AW189	WH, STM, 9-14" FITTING INS	15	15	-	-	30	Yes
00000038, HA-013	AW191	WH, STM, >14" FITTING INS.	30	-	-	-	30	Yes
00000038, HA-002	AW192	GY, STM, TANK INS.	15	15	-	-	30	Yes
00000038, HA-002	AW193	GY, STM, TANK INS.	10	15	-	-	25	Yes
00000038, HA-002	AW194	GY, STM, TANK INS.	10	20	-	-	30	Yes
00000038, HA-005	AW195	WH, DEBRIS	10	25	-	-	35	Yes
00000038, HA-005	AW196	WH, DEBRIS	05	25	-	-	30	Yes
00000038, HA-005	AW197	WH, DEBRIS	15	15	-	-	30	Yes
00000038, HA-008	AW462	GY, GASKET/SEAL	-	-	-	-	-	No
00000038, HA-006	AW463	WH, STM, TANK INS.	15	20	-	-	35	Yes
00000038, HA-006	AW464	WH, STM, TANK INS.	10	20	-	-	30	Yes
00000038, HA-006	AW465	WH, STM, TANK INS.	25	15	-	-	40	Yes
00000038, HA-009	AW466	WH, CEILING TILE	-	-	-	-	-	Yes
00000038, HA-009	AW467	WH, CEILING TILE	-	-	-	-	-	Yes

Color[1] (Optional)
BK = Black
BL = Blue
BR = Brown
GR = Green
GY = Gray
RD = Red
TN = Tan
WH = White
YL = Yellow

System[2] (Optional)
CHW = Chilled Water
DOM = Domestic Water
HHW = Heating Hot Water
STM = Steam
UNK = Unknown

Results[3]
- = Asbestos Not Detected

TABLE 38.2

ASBESTOS CONTAINING MATERIALS

HAZ WAST STGE.

Description[1]			Quantity[2]	Cost	SCORE
BOILER HA-001			1,530 SF	89,735	SD16
Location:	ROOM 2 1ST FLOOR T1 ROOM 2 1ST FLOOR T2	ROOM 2 1ST FLOOR T1	ROOM 2 1ST FLOOR T2	ROOM 2 1ST FLOOR T2	
SILVER HOT WATER TANK HA-002			9,610 SF	563,627	D11
Location:	ROOM 2 1ST FLOOR T3 ROOM 2 1ST FLOOR T5 ROOM 2 3RD FLOOR T7	ROOM 2 1ST FLOOR T3 ROOM 2 1ST FLOOR T6 ROOM 2 3RD FLOOR T8	ROOM 2 1ST FLOOR T3 ROOM 2 2ND FLOOR T3 ROOM 2 3RD FLOOR T9	ROOM 2 1ST FLOOR T4 ROOM 2 3RD FLOOR T10	
ASBESTOS-CEMENT PIPE HA-003			573 LF	56,526	SD15
Location:	ROOM 1 2ND FLOOR ROOM 2 1ST FLOOR	ROOM 2 1ST FLOOR ROOM 2 2ND FLOOR	ROOM 2 1ST FLOOR ROOM 2 3RD FLOOR	ROOM 2 1ST FLOOR ROOM2 1ST FLOOR	
WALL INSULATION HA-004			500 SF	9,250	D12
Location:	ROOM 2	ROOM 2	ROOM 2		
DEBRIS HA-005			225 SF	2,599	SD12
Location:	ROOM 1 1ST FLOOR ROOM 2 2ND FLOOR	ROOM 1 2ND FLOOR ROOM 2 3RD FLOOR	ROOM 2 1ST FLOOR	ROOM 2 1ST FLOOR	
BOILER HA-006			4,920 SF	288,558	D10
Location:	ROOM 2 3RD FLOOR T11	ROOM 2 3RD FLOOR T11	ROOM 2 3RD FLOOR T11	ROOM 2 3RD FLOOR T12	
4-8" STEAM PIPE HA-010			300 LF	15,480	D11
Location:	ROOM 2 1ST FLOOR SM1	ROOM 2 1ST FLOOR SM2	ROOM 2 1ST FLOOR SM2		
STEAM PIPE HA-011			30 LF	1,548	SD15
Location:	ROOM 2 1ST FLOOR SM4				
ASBESTOS-CEMENT PIPE HA-012			402 LF	39,657	D11
Location:	ROOM 1 1ST FLOOR ROOM 2 1ST FLOOR ROOM 2 2ND FLOOR	ROOM 1 2ND FLOOR ROOM 2 1ST FLOOR ROOM 2 3RD FLOOR	ROOM 2 1ST FLOOR ROOM 2 1ST FLOOR	ROOM 2 1ST FLOOR ROOM 2 1ST FLOOR	
>14" FITTING HA-013			27 EA	3,391	D9
Location:	ROOM 2 1ST FLOOR	ROOM 2 2ND FLOOR	ROOM 2 3RD FLOOR		

[1] HA - Homogeneous Area

Units[2]
EA - Each
LF - Linear Feet

TABLE 38.2
(Continued)

ASBESTOS CONTAINING MATERIALS

HAZ WAST STGE.

Description[1]			Quantity[2]	Cost	SCORE
4-8" FITTING HA-014			390 EA	18,720	SD15
Location:	ROOM 1 1ST FLOOR ROOM 2 2ND FLOOR	ROOM 1 2ND FLOOR ROOM 2 3RD FLOOR	ROOM 2 1ST FLOOR	ROOM 2 1ST FLOOR	
9-14" FITTING HA-015			200 EA	14,080	SD12
Location:	ROOM 1 1ST FLOOR ROOM 2 1ST FLOOR	ROOM 1 2ND FLOOR ROOM 2 2ND FLOOR	ROOM 1 2ND FLOOR ROOM 2 3RD FLOOR	ROOM 1 2ND FLOOR	
<4" FITTING HA-016			137 EA	3,911	SD15
Location:	ROOM 2 1ST FLOOR ROOM 2 2ND FLOOR	ROOM 2 1ST FLOOR ROOM 2 3RD FLOOR	ROOM 2 1ST FLOOR	ROOM 2 1ST FLOOR	
ASBESTOS-CEMENT PIPE HA-017			1,820 LF	179,543	SD12
Location:	ROOM 1 1ST FLOOR ROOM 2 1ST FLOOR	ROOM 1 2ND FLOOR ROOM 2 2ND FLOOR	ROOM 2 1ST FLOOR ROOM 2 3RD FLOOR	ROOM 2 1ST FLOOR	

Total Estimated Cost for building 38:

Cost Type	Friable	Non-Friable
Removal and Replacement	$ 1,286,625	$ 0
Contingency[3] (15%)	192,994	0
Design Fee[3] (6%)	88,777	0
Project Monitoring[4]	156,840	0
Total	$ 1,725,236	$ 0

[1] HA - Homogeneous Area

Units[2]
EA - Each
LF - Linear Feet
SF - Square Feet

[3] Refer to Section 3 for Design Cost Development Strategy.

[4] Refer to Section 3 for Project Monitoring Cost Development Strategy.

APPENDIX D
FIELD NOTES FROM THE RECHARACTERIZATION FIELD INVESTIGATION

APPENDIX D.1
FIELD NOTES FROM JON EDEL - SITE MANAGER

Projects (continued) .....

Sunday — September 7, 2003

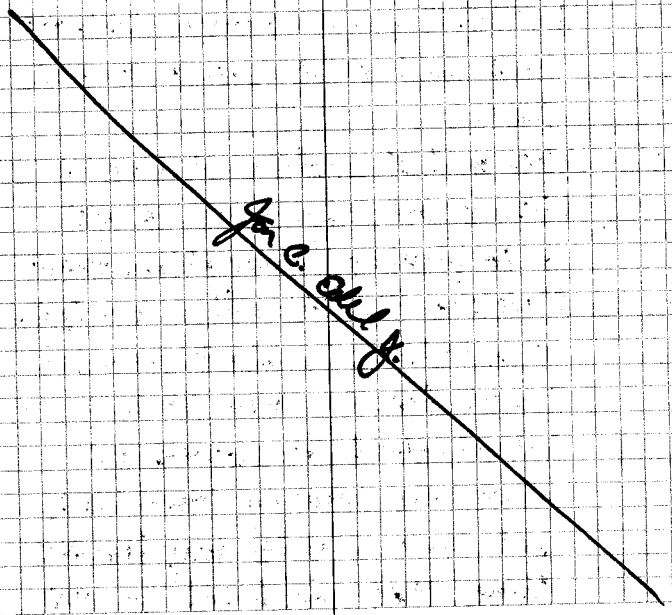
1000 Arrived at Pittsburgh Int'l' Airport.

1200 Left Pittsburgh to fly to SJU duam direct.

1540 Arrive in San Juam, PR.

1615 MSD and I are leaving Avis after picking up our rental car. Heading towards Fajardo to pick up supplies.

1720 stores are closed for the day. will pick up some dinner and head to Palmas.



Monday — September 8, 2003

0630 Left condo to go to Fajardo to get supplies and a generator.

0700 Arrived at CGS Rental for generator. None available. Try back later.

0720 Stopped for breakfast.

0800 Arrive at WalMARS to get supplies for the field investigation

0830 Arrive at Leaseway to pick up box truck. Mark will drive that to base.

0905 Arrive at front gate to get passes. I got an annual contractors pass and MKD got a temporary pass.

0945 MKD and I arrived at PWD to pick up our equipment as well as to pick up information from Madeline Rivera's office. We spoke with Pedro Ruiz about records search for the area to be investigated. He showed us where the drawing room was, but there wasn't any figures there that could aid in our

investigation. We were able to get the dig permit for the drilling that will take place at the TWFF.

1145 I called CGS Rental to see if any generators had come in, and there was one.

1200 MKD and I are heading back to Fajardo to pick up generator and lights for work to be conducted at SWMU 11.

1315 Arrive back on base through Gate 1. We have been experiencing torential down pours of rain today. Lots of flooding around storm drains and roadways, etc.

1420 MKD and I arrived back at PWD to unpack equipment, etc. to get ready to sample.

1715 MKD and I have unpacked equipment and got sample containers ready for tomorrow for SWMU 11.

1720 MKD and I are leaving site for the day.

Jan C. Eckelberg

Tuesday September 9, 2003

0714 Mark Kimes called to say that the hold time for the SWMU 11 samples will allow for us to ship them out Thursday for lab receipt Friday.

0730 MKD and I arrive on base through GATE 3. Proceeding to PWD.

0742 Arrive at PWD to pick key up for SWMU 11 and to get supplies.

0814 We are leaving PWD to go get ice for the samples to be collected. We spoke with both Madeline and Pedro about SWMU 11 and the TWFF investigations.

0836 MKD and I arrive at SWMU 11 to set up to collect samples.

0911 MKD and I are leaving site to go get some more needed supplies. Leaving box truck at site.

1000 MKD and I arrived back at SWMU 11 to continue on.

Tuesday September 9, 2003

1036 MKD and I back on initial walk over of Building 38 interior. We found alot of labels duct taped to the different pipe insulation saying that samples were collected of the insulation by Weston Inc. They had on there reference numbers to call to get results. We are proceeding to mark locations inside the building.

1145 Mark Kimes called and I mentioned to him about the labels taped to the insulation.

1200 MKD and I are going back in to identify the locations of the dioxins/furan samples.

1240 MKD and I are back out of building

1260 MKD and I are proceeding to lunch.

1330 MKD and I arrived back at SWMU 11.

1335 Mark Kimes called about the 40 mL containers marked blanks for wipe samples. They are to be included in coolers only for SWMU 11. Don't place labels on COCs.

1345 MKD and I are getting ready to go back in.

1430 MKD and I are sampling 11WS13R on floor.

1433 Sampling 11WS05(W) on wall.

Tuesday JCE
~~Wednesday~~ September 9, 2003

1441 Sampling 11WS17R(F) on floor.
1443 Sampling 11WS16R(W) on wall.
1445 Sampling 11WS22R(F) on floor.
1447 Sampling 11WS22R(W) on wall.
1460 Sampling 11WS18R(W) on wall.
1526 Sampling 11WS27R(W) on wall.
1529 Sampling 11WS28R(F) on floor.
1535 Sampling 11WS32R(F) on floor for PCBs and dioxins/furans.
1539 Sampling 11WS32R(W) w/ the duplicate, MS, MSD for dioxins/furans and PCBs.
1552 Sampling 11WS21R with it's duplicate sample on floor. (pcb) All samples unless otherwise noted will be analyzed for PCBs only.
1556 Sampling 11WS24R on floor
1600 Sampling 11WS15R on floor.
1627 Sampling 11WS23R on floor.
1632 Sampling 11WS20R(W) on wall.
1635 Sampling 11WS65R(F) on floor with its duplicate, MS, and MSD.
1641 Sampling 11WS64R(W) on wall.
1643 Sampling 11WS73R on floor.
1646 Sampling 11WS77R(W) on wall with

Tuesday JCE
~~Wednesday~~ September 9, 2003

its corresponding duplicate sample.
1650 Sampling 11WS78R(F) on floor.
1652 Sampling 11WS79R on floor.
1730 Leaving Swmu 11 with MKD. We are moving box truck over to concrete pad at PWD for the night. Everything at Swmu 11 is secured offsite.
1732 Arrive at PWD to drop off truck. MKD and I are leaving PWD. Finished for the day. The weather today hot and humid and partly cloudy and sun for most of the day. MKD and I went over the health and safety issues of Swmu 11 during our initial walk thru this morning. The building was secure when we left for Swmu today.

Jon C. Ecall Jr.

0620 MKD and I arrive on base through Gate 3, proceeding to PWD to pick up truck.

0640 Arrive at PWD to get truck.

0647 Arrive at SWMU 11 to start sampling for the day.

0710 MKD and I are sampling 11WS82R(W).

0715 MKD and I are sampling 11WS89R(W).

0717 Sampling 11WS85R(F) on floor.

0719 Sampling 11WS86R on floor.

0722 Sampling 11WS87R on floor.

0724 Sampling 11WS91R(W) on wall.

0726 Sampling 11WS92R(F) on floor.

0752 Sampling 11WS38R(W) for PCBs and dioxin/furans on wall.

0757 Sampling 11WS39R(F) on floor for dioxin/furans only.

0803 Sampling 11WS34R on floor.

0806 Sampling 11WS56(W) on wall.

0813 Sampling 11WS110R(W) on wall.

0815 Sampling 11WS115R on floor.

0830 Mark Kimes called to discuss status of SWMU 11.

0845 Called to speak to Roland Martinez about sampling at the landfill. He

said he is no longer in charge of landfill. He said to call 787-865-0155 and speak w/Eric.

0847 Called Eric at landfill to say that we will be sampling probably starting Friday. He said that's fine.

0904 Sampling 11WS127 and its duplicate sample. Stopped before sampling because generator ran out of gas.

0930 MKD and I are leaving to go get a gas can and gas since the siphon we bought isn't working. Building secure.

1030 We stopped to pick up lunch so we would not have to break again.

1045 Stopped to talk to Carlos Brown at Fuels about getting our lock on the gate. He wasn't there.

1056 MKD and I arrived back at SWMU 11 to start up sampling again.

1118 Sampling 11WS127 and its duplicate sample.

1126 Sampling 11WS128 and its duplicate sample. (sample was in door frame)

1137 Sampling 11WS129 from catwalk - front section.

1145 Sampling 11WS130 from top floor - front section.

Wednesday September 10, 2003

1155 Sampling 11WS131 on second floor from section (machine).

1202 Sampling 11WS132 on second floor from section (wet location) (side of floor).

1210 Sampling 11WS133 on second floor from section (side of floor).

1216 Sampling 11WS134 on second floor from section (side of floor).

1221 Sampling 11WS135 on second floor from section (side of floor).

1300 MKA and I are going through the interior of BIDG. 38 marking locations for the concrete chip samples.

1315 Walked out of BIDG. and Omar Negron from Geoworks was there mobilizing more equipment for the TCE investigation. He said he is done drilling on his other side but can't demob yet. It doesn't look like he will be able to start drilling till Saturday morning. He is planning on making a decon pad for the TCE investigation over here

Wednesday September 10, 2003

at the fenced area outside of Summit where drums are stored.

1330 Collecting 11CC14(F) from floor with its duplicate sample.

1405 Collecting 11CC04(W) from wall.

1410 Collecting 11CC03(W) from wall.

1419 Collecting 11CC13(F) from floor.

1430 Collecting 11CC05(W) from wall.

1438 Collecting 11CC10 from floor.

1448 MKA and I are stopping to decon the bits that we have used already.

1510 Sampling 11CC09 from floor.

1516 Sampling 11CC01(W) from wall.

1536 Sampling 11CC12(F) from floor.

1534 Sampling 11CC11(F) from floor.

1547 Sampling 11CC15 from floor.

1560 MKA and I are decon'ing the chisel bits that we are using.

1608 Sampling 11CC16F on floor.

1625 Sampling 11CC05(W) on wall along with its duplicate, MS/MSD.

1647 Sampling 11CC17(F) on floor.

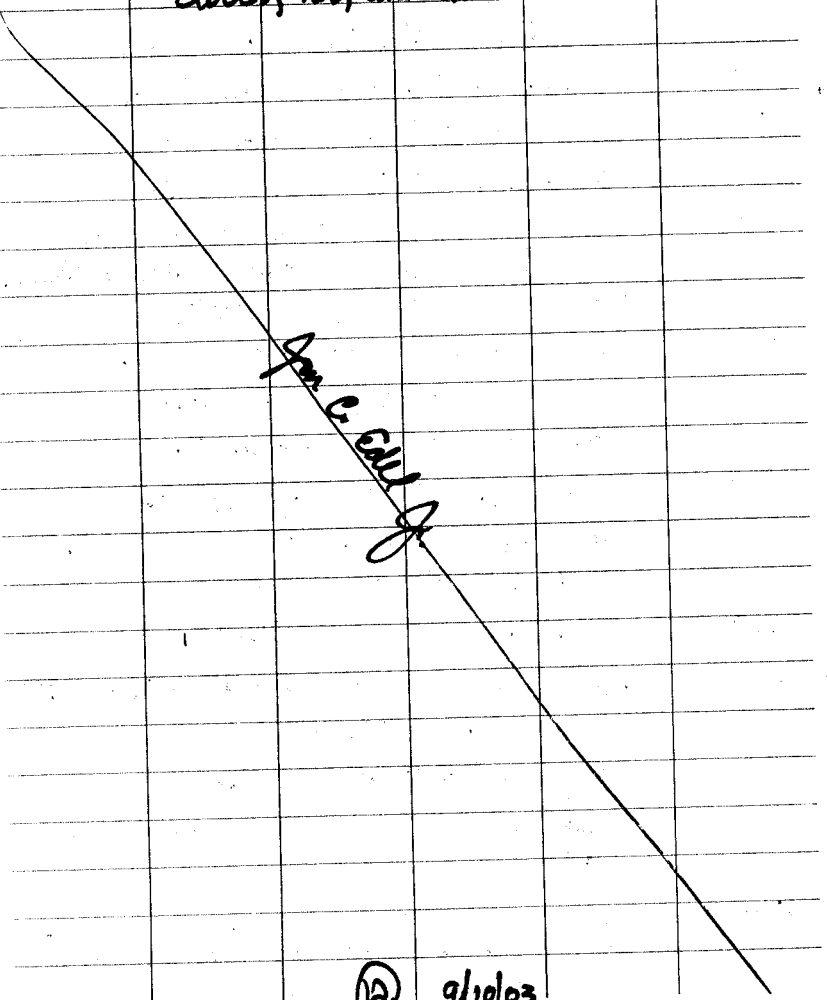
1700 MKA and I decided to call it a day.

1740 MKA and I secured the building, and heading back to PWA to park

Wednesday September 10, 2003

truck.

1744 MKD and I are leaving PWD. Finished for the day - offsite. The weather today was partly sunny with some clouds, hot, and humid.



Thursday September 11, 2003

0603 MKD and I arrived at Gate 3 at NSRR

0640 Arrived at PWD to pick up box truck.

0643 Arrived at Sump 11 to finish sampling the concrete chip samples.

0713 Sampling 11CC06(W) On wall.

0725 Sampling 11CC18(F) on floor.

0800 Mark Kimes called when we were relocating our equipment to the other side of the building. We talked about collecting two field blanks at Sump 11 and one equipment rinsate. We also talked about ONMR and the TEF investigation. Mark also had me remove 11WS128D from the samples to be shipped because we don't need another duplicate.

0816 Sampling 11CC19(F) on floor.

0827 Sampling 11CC08 on floor.

0845 Sampling 11CC07(F) on floor.

0910 Collecting 11ER01 of one of the chisel bits that we used for the concrete chip collection process.

0911 Collecting 11FB01 at lab grade DI water.

0918 Collecting 11FB02 at store bought DI used in the decon process. We are using Zephyrhills brand

Thursday September 11, 2003

Store bought DI.

1030 Mark Kimes just called to talk some more about the TCE investigation on the TWFF. He wants us to collect three additional surface soil samples downgradient from >MW17 inside the TWFF.

1124 MKD and I are heading to lunch after packing up sample containers. Bldg secure.

1213 Arrive back at SWMU 11 with more ice.

1224 Called FedEx to arrange a pickup here on Bldg. 38. Our pick up number is NBR-165.

1239 MKD and I are going in to do the asbestos assessment.

1300 Called Danny from FedEx to get an idea of when he will be here. He said 30 Minutes.

1346 FedEx arrived to pick up containers.

1350 Going back in to continue asbestos assessment.

1610 MKD and I are back out of the building. Asbestos assessment is finished. See MKD's notes for

Thursday September 11, 2003

picture information.

1620 We are proceeding back in to get additional locations of dioxin on photograph.

1623 MKD is taking picture of 11WS109. It is 2-16. Location is 60' from eastern wall and 18' from northern wall on second floor.

1625 MKD is taking picture of 11WS135. It is 2-17 (disk 2-17). Location approx. 80' from eastern wall and 20' from northern wall, second floor.

1628 MKD is taking picture of 11WS134. It is 2-18 on disk 2. Location approx. 80' from eastern wall and 35' from northern wall, second floor.

SEE eastern

1630 MKD is taking picture of 11WS133. It is 2-19 on disk 2. Location approx. 80' from eastern wall and 70' from northern wall, second floor.

1632 MKD is taking picture of 11WS131. It is 2-20 on disk 2. Location approx. 90' from eastern wall and 65' from northern wall, second floor.

1635 MKD is taking picture of 11WS132. It is 2-21 on disk 2. Location approx. 100' from eastern wall and 70' from northern wall, second floor.

sday

September 11, 2003

8 MKD is taking picture of NWS130. It is 2-20 on disk 2. It is located approx. 110' from eastern wall and 20' from northern wall, second floor.

44 MKD is taking picture of NWS127. It is 2-25 on disk 2. It is located approx. 86' from western wall and 24' from northern wall, approx. 18' off the ground.

649 MKD is taking picture of NWS128. It is 2-26 on disk 2. It is located approx. 42' from western wall and 51' from northern wall.

50 writing verbage of ticket taped on some of the insulation:

" Do not Remove this Tag - This material has been sampled by Weston Inc. to determine whether or not it contains asbestos. Before working with this material, contact the building manager and request the results for the referenced

Thursday

September 11, 2003

asbestos sample number AWI21. Many tickets were observed throughout the southern portion of the building. (Back half).

1200 MKD and I are packing up site and securing building. We are finished with the field investigation at Survey 11. We dumped the IDW in one of the drums Omar brought for the TCE investigation. It is located in the fenced in area at Survey 11. The drum is labeled to identify contents.

1727 Proceeding to PWD to drop off box truck. Weather today was mostly sunny with a few clouds, hot and humid.

1735 Leaving PWD for the day - offsite.

Jon C. Edell Jr.

APPENDIX D.2
FIELD NOTES FROM MARK DEJOHN - GEOLOGIST

Projects (continued)

SWMU 3,7,&11

1

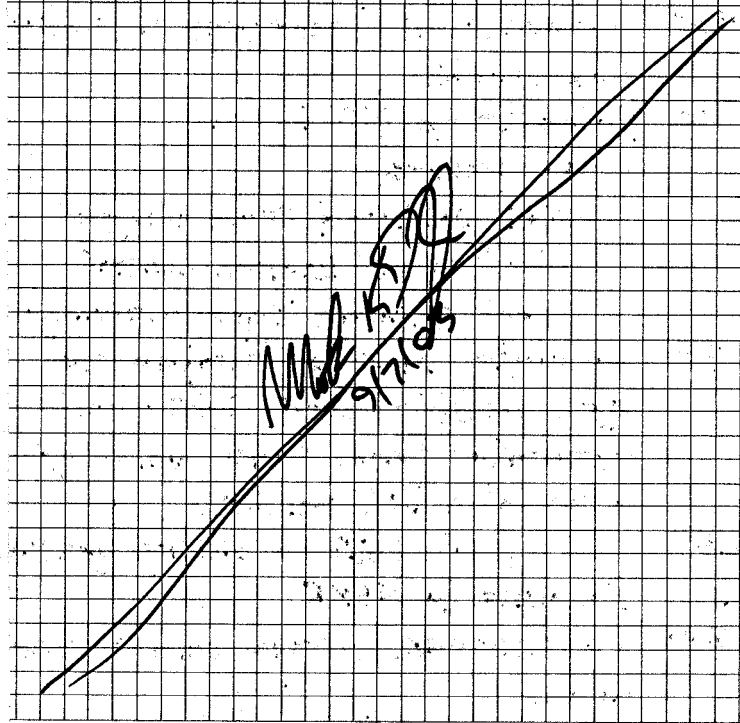
Sun. Sept. 7, 2005. Today's Tasks -
Mobilize to NSRR.

1015 Arrive at P.I.T.

1540 Arrive at SJU. Pickup luggage and rental car

1600 Relocate to Palmas Del Mar via Walmart/Walgreens in Farajdo for supplies.

1740 Done for the day



9/7

MKD

SWMU-3;11

Mon. Sept. 8, 2003 Todays Tasks-
Mobilize for sampling

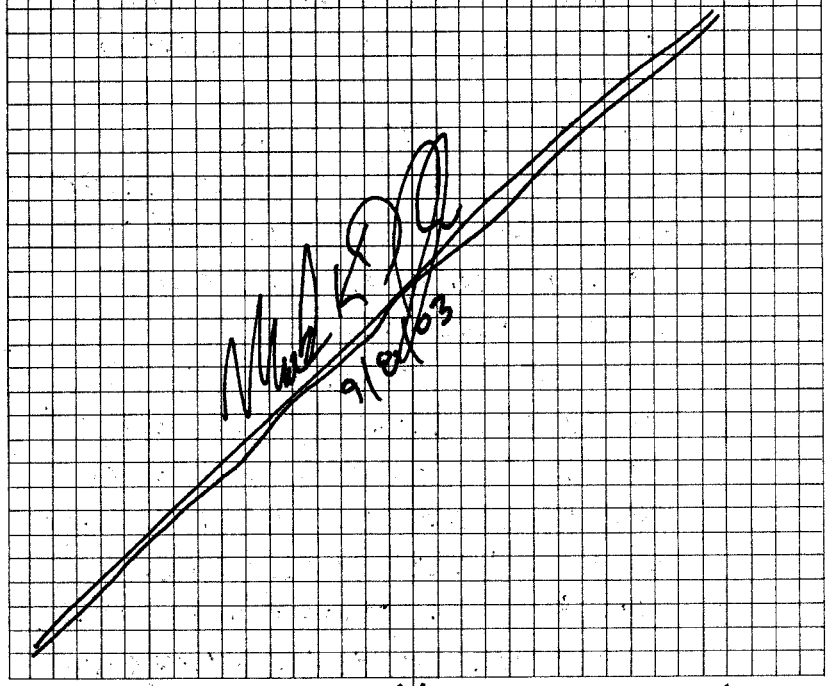
Weather Conditions-
AM: occ. heavy rain, lt SW wind 80's
PM: Heavy rain, lt SW winds, mid 80's

0701	Arrive at CGS rentals to check on generator for SWMU 11 rwork
0715	No generator. Relocate to Walmart for supplies
0830	Relocate to Leaseway to pickup box truck.
0900	Relocate to NSRR to: -Get passes -Get bottles & equip. shipped - Check in w/ Environmental - Look through Base drawings
1130	Relocate back to Farajdo to get portable work lights and generator from CGS (which got a rental a bit earlier.
1253	Arrive at CGS to pickup generator
1312	Relocate to NSRR
1330	Lunchbreak. Heavy rain in the area.

MKD 9/8

SWMU 3, 7, ;11

1406	Heavy rain continues. JCE & I relocate to Box truck & SWMU 11.
1433	JCE & I will organize equipment and bottles.
1708	SWMU 11 bottle sets organized & equipment prepared. Also organized SWMU 3 and 7/8 bottles. Cleanup time
1714	Depart PWP bldg - Done for the day



9/8 MKD

SWMU 11

Tues. Sept 9, 2003. Today's Tasks -
Begin sampling SWMU 11
Weather Conditions -
AM: P. Sunny, lt NE winds, low 80's
PM: M. Sunny, lt NE winds, high 80's

0740 Arrive at PWD & box truck.
0745 Visit Madeline
0811 Prepare for SWMU 11 sampling.
0833 Relocate box truck to outside of SWMU 11.
0909 Flash lights not sent. Must go get two, plus addt'l extention cords
0958 Return to SWMU 11.
1034 JCE & I scoped out Bldg interior and looked for evidence of fire. Now we will mark out new sample locations.
1230 Located all wall and floor PCB wipe locations. Dioxin/Furan samples are to be collected in areas of fire soot/residue. The Fire evidence area is limited to the southwest wall of north portion of bldg (38W). Heavy soot buildup on ceilings and

MKD 9/9

SWMU 11

(cont.) hanging pipe. Not easily accessible
1244 Break for lunch.
1329 Return to SWMU 11. Prep to collect PCB wipe samples
1340 The NTR asked MEK how were MKD were going to collect ceiling samples. JCE & I will have to explore upstairs.
1504 Collected 14 PCB wipe samples so far. JCE keeping track of numbers and times. Used a same templete for each sample (cleaned if dirty). Wipe 3x horizontal, then 3x vertical over 10 cm x 10 cm area.
1705 Complete sampling for the day - Cleanup time.
1726 Relocate box truck to PWD.
1730 Depart PWD area - Done for the day.

9/9/03

9/9 MKD

SWMU 11

Wed. Sept. 10, 2003. Today's Tasks - Contine SWMU 11 sampling

Weather Conditions -
AM: M. Sunny, lt. var winds, mid 80's
PM: M. Sunny, lt. SE wind, high 80's

0640 Arrive at PWD. Move box truck to SWMU 11.

0646 Prep. to complete PCB & dioxin/furan sampling this morning.

0820 complete PCB wipe sampling. Process these samples & prep. for singleton dioxin/furan samples.

0930 Generator out of gas. siphon did not work for getting gas from SUV. JCE off site to get gascan & gas.

1038 Pickup lunch on the way back to the site.

1044 Stop by fuels office

1052 Back at SWMU 11.

1228 Complete dioxin/furan wipe sampling. Process samples.

1236 Prep. for PCB chip sampling.

1316 Marked out PCB chip sample locations w/ JCE. Omar (GeoWorks) on site w/ compressor and steam cleaner.

MAD 9/10

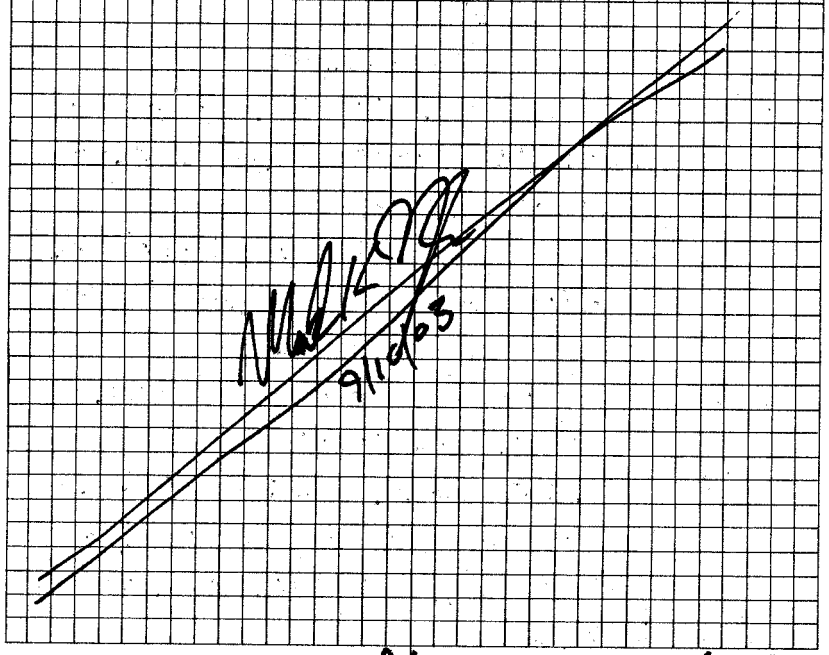
SWMU 11

(cont.) He will try to mob B-90 rig tomorrow or Friday. He is not available to drill on Friday due to meeting w/ GE/ P.R. people. He is available to start drilling Saturday.

1705 Complete PCB chip sampling for today (5 left for tomorrow). Clean-up time

1737 Relocate to PWD to park box truck.

1742 Depart PWD - Done for the day.



9/10 MAD

SWMU 11

Thurs. Sept. 11, 2003. Today's Tasks
Complete SWMU 11 work.
Weather Conditions -
AM: M. Sunny, lt. var. breeze, low 80's
PM: M. Sunny, lt, SE wind, high 80's

0640 Arrive at PWD. Pickup box truck and relocate to SWMU 11.

0852 Complete PCB chip sampling. Time for sample processing & packing. Also collect equipment rinsate and field blacks (see JCE notebook).

1118 Lunchbreak

1200 Get ice For samples

1208 Return to SWMU 11. Prep. for Asbestos "survey" and photo-documentation.

1244 Disk 1/Photo Asbestos Assessment Location (AAL) 1 Weston SACM sample tag. SE corner

1245 1/2 AAL 1 insulation & debris on Floor (SE corner)

1252 1/3: Bad photo. 1/4: 2 ASTs in SE corner. 1/5 Piping to ASTs (SE corner). 1/6 Furnace in south central.

1256

MKO 9/11

1258 1/7 southern passage beside Furnace.

1259 1/8 Lavatory & AST.

1301 Time out to pack sample coolers (samples to STL Savannah).

1321 SW corner (near 115) Pump area (1/9) w/ pipes; deteriorated insulation.

1324 1/10: same area w/ another pump and pipe with deteriorated insulation.

1328 1/11: South central (north side of Furnace). Steam "junction" area with insulation.

1332 Fire area (1/12 & 1/13) northwest side, center wall area.

1336 1/14 & 1/15 Fire damaged/destroyed Floor & wall; north bldg south central (W334 & 32).

1352 AAL 2: damaged insulation on AST (1/16)

1356 AAL 2: " " " flange (1/17)

1359 AAL 3: Bare pipe (1/18)

1401 1/19 & 20: surge tank NA 1

1402 1/20: Bats

1414 1/21: AAL 4 SW pump area.

1418 1/22: AAL 4: Broken ins. insul on flange

9/11 MKO

1423	1/23: 0:1 staining south bldg NW corner.
1425	1/24; 1/25: oil stain, Chip sample w/oil stain, respectively.
1433	1/26; 1/27: AAL 5 & damaged insulation.
1435	1/28: Above AAL5, bats on pipe
1439	1/29: damage valve insul.; pipe from AAL5 12-ft east.
1446	1/30: AAL 6 pipe insulation (with damage). South bldg North center wall.
1505	1/31 another view of bats (1/28)
1511	1/32: AAL 7: Flash tabk mid deck, south central (near furnace)
1528	2/1: NW corner, upper dock; electrical equip.
1529	control panel (2/2): NW corner, upper deck
1538	2/3: AAL8, NW corner upper dock- steam line leading to turbine.
1531	2/4: AALB, piping w/ damaged insul.
1534	2/5 · AAL8, second turbine (E of 1st) steam line to turbine.
1541	2/6: Fire damage (near WS134)
1542	2/7: Pipe (N bldg south central wall)

MKD 9/11

(cont.)	Similar as AAL 5.
1544	2/8: Fire damaged piping, N Bldg, south central wall.
1545	Debris in basement of N Bldg.
1551	2/10: Piping w/ damaged insul. below turbines (similar to AAL4).
1553	2/11: Pip. As above (below turbine) Similar to AAL 5 & 6.
1556	2/12: Fire damaged piping (north bldg) south central area (below turbines)
1559	2/13: Piping similar to AA4 (SW corner of northern bldg.
1600	Photo log error 2/9 basement debris (northern bldg, center).
1604	2/14: Piping on south wall near SW corner of norther Bldg (similar to AAL 6).
1606	2/15: General western end of northern bldg.
1615	Photograph; measure diox.n/furnan samples
1650	Cleanup time.
1724	Relocate to PWD

MKD 9/11/03

9/11 MKD

APPENDIX E
CHAIN OF CUSTODY RECORDS

Serial Number 06697

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

SEVERN TRENT **STL**

Master Air Waybill # 8392 8423 1932

STL Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Website: www.stl-inc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

11-1

Alternate Laboratory Name/Location
Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
SWMU 11	CTO-269	PR
STL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Angie Weimerskirk		CLEAN II
CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Jon Edel	(787) 485-1097	(412) 375-3995
CLIENT NAME	CLIENT E-MAIL	
Baker	mkimes@mbakercorp.com	
CLIENT ADDRESS		
100 Airside Drive, Moon Twp., PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable)		
CH2M Hill		

PAGE 1 OF 4 2nd

STANDARD REPORT DELIVERY ●
DATE DUE ~~28 Day TAT~~
EXPEDITED REPORT DELIVERY (SURCHARGE) ○
DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT,...)	NUMBER OF CONTAINERS SUBMITTED	REMARKS
9/11/03	0816	11CC19(F)	G		X			1	
9/11/03	0725	11CC18(F)	G		X			1	
9/11/03	0827	11CC08	G		X			1	
9/11/03	0713	11CC06(W)	G		X			1	
9/11/03	0845	11CC07(F)	G		X			1	
9/10/03	1647	11CC17(F)	G		X			1	
9/10/03	1608	11CC16(F)	G		X			1	
9/10/03	1547	11CC15	G		X			1	
9/10/03	1350	11CC14(F)	G		X			1	
9/10/03	1350	11CC14D(F)	G		X			1	
9/10/03	1419	11CC13(F)	G		X			1	
9/10/03	1538	11CC12(F)	G		X			1	

REQUIRED ANALYSIS

PCBs 8082 (3550)	Dioxins/Furans 8280	PCBs 8082A (3550)										
1	Hexane	Hexane	PRESERVATIVE									

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
EMPTY CONTAINERS			Jon C. Edel Jr.	9/11/03	1400			
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
EMPTY CONTAINERS Jon C. Edel Jr.	9/8/03	1000						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT? YES ○ NO ○	CUSTODY SEAL NO.	STL SAVANNAH LOG NO.	LABORATORY REMARKS
	09/12/03	0900				338113

STL8240-680 (12/02)

Serial Number 06688

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

SEVERN TRENT **STL**

Master Air Waybill # 8392 8423 1932

STL Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.stl-inc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

11-1

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
SWMU 11	CTO-269	PR
STL (LAB) PROJECT MANAGER	**P.O. NUMBER**	**CONTRACT NO.**
Angie Weimerskirk		CLEAN II
CLIENT (SITE) PM	**CLIENT PHONE**	**CLIENT FAX**
Jon Edel	(787) 485-1097	(412) 375-3995
CLIENT NAME	**CLIENT E-MAIL**	
Baker	mkimes@mbakercorp.com	

CLIENT ADDRESS: 100 Airside Drive, Moon Twp., PA 15108

COMPANY CONTRACTING THIS WORK (if applicable): CH2M Hill

PAGE 2 OF 5 SDG

STANDARD REPORT DELIVERY (●)

DATE DUE 28 Day TAT

EXPEDITED REPORT DELIVERY (SURCHARGE) (○)

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	MATRIX: COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT,...)	REQUIRED ANALYSIS: PCBs 8082 (3550)	Dioxins/Furans 8280	PCBs 8082 (3540)	NUMBER OF CONTAINERS SUBMITTED	REMARKS
		PRESERVATIVE						1	Hexane	Hexane		
9/10/03	1534	11CC11(F)	G		X			1			1	
9/10/03	1438	11CC10	G		X			1			1	
9/10/03	1510	11CC09	G		X			1			1	
9/10/03	1625	11CC05(W)	G		X			1			1	
9/10/03	1625	11CC05D(W)	G		X			1			1	
9/10/03	1625	11CC05MS/MSD(W)	G		X			1			1	
9/10/03	1405	11CC04(W)	G		X			1			1	
9/10/03	1410	11CC03(W)	G		X			1			1	
9/10/03	1430	11CC02(W)	G		X			1			1	
9/10/03	1516	11CC01(W)	G		X			1			1	
9/10/03	1126	11WS128	G		X				1		1	
9/10/03	1137	11WS129	G		X				1		1	

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
EMPTY CONTAINERS			Jon C. Edel Jr.	9/11/03	1400			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
EMPTY CONTAINERS Jon C. Edel Jr.	9/8/03	1000		/				

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT YES ○ NO ○	CUSTODY SEAL NO.	STL SAVANNAH LOG NO.	LABORATORY REMARKS
	09/12/03	0900			S38113	

STL8240-680 (12/02)

Serial Number 06689

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

SEVERN TRENT **STL**

STL Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Website: www.stl-inc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

11-1

Alternate Laboratory Name/Location
Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
SWMU 11	CTO-269	PR
STL (LAB) PROJECT MANAGER	**P.O. NUMBER**	**CONTRACT NO.**
Angie Weimerskirk		CLEAN II
CLIENT (SITE) PM	**CLIENT PHONE**	**CLIENT FAX**
Jon Edel	(787) 485-1097	(412) 375-3995
CLIENT NAME	**CLIENT E-MAIL**	
Baker	mkimes@mbakercorp.com	

CLIENT ADDRESS: 100 Airside Drive, Moon Twp., PA 15108

COMPANY CONTRACTING THIS WORK (if applicable): CH2M Hill

PAGE 3 OF 4 RE

STANDARD REPORT DELIVERY ●
DATE DUE 28 Day TAT
EXPEDITED REPORT DELIVERY (SURCHARGE) ○
DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	MATRIX: COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT,...)	REQUIRED ANALYSIS: PCBs 8082 (3550)	Dioxins/Furans 8280 Reserve	PUBS 8082a (3550) Reserve	PRESERVATIVE	NUMBER OF CONTAINERS SUBMITTED	REMARKS
9/10/03	1148	11WS130	6		X							1	
9/10/03	1155	11WS131	6		X							1	
9/10/03	1202	11WS132	6		X							1	
9/10/03	1210	11WS133	6		X							1	
9/10/03	1216	11WS134	6		X							1	
9/10/03	1221	11WS135	6		X							1	
9/10/03	1118	11WS127	6		X							1	
9/10/03	1118	11WS127D	6		X							1	
9/10/03	0752	11WS38R(W)	6		X							1	
9/9/03	1535	11WS32R(F)	6		X							1	
9/9/03	1539	11WS32R(W)	6		X							1	
9/9/03	1539	11WS32RD(W)	6		X							1	

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
EMPTY CONTAINERS			Jon C. Edel Jr.	9/11/03	1400			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
EMPTY CONTAINERS Jon C. Edel Jr.	9/8/03	1000						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT: YES ● NO ○	CUSTODY SEAL NO.	STL SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	091203	0905				S38-1113

STL8240-680 (12/02)

Serial Number 06690

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

SEVERN TRENT **STL**

STL Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Website: www.stl-inc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

11-1

Alternate Laboratory Name/Location
Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
SWMU 11	CTO-269	PR
STL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Angie Weimerskirk		CLEAN II
CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Jon Edel	(787) 485-1097	(412) 375-3995
CLIENT NAME	CLIENT E-MAIL	
Baker	mkimes@mbakercorp.com	
CLIENT ADDRESS		
100 Airside Drive, Moon Twp., PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable)		
CH2M Hill		

PAGE 4 OF 4

STANDARD REPORT DELIVERY (●)
DATE DUE ~~28 Day TAT~~
EXPEDITED REPORT DELIVERY (SURCHARGE) ( )
DATE DUE _____
NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	MATRIX: COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT,...)	REQUIRED ANALYSIS: PCBs 8082 (3550)	Dioxins/Furans 8280 (3550)	PCBs 8082 (3550)	PRESERVATIVE	REMARKS
		NUMBER OF CONTAINERS SUBMITTED						1	Hexane	Hexane		
9/9/03	1539	11WS32RMS(W)	G		X			1				
9/9/03	1539	11WS32RMSD(W)	G		X			1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
EMPTY CONTAINERS			Jon C. Edel Jr.	9/11/03	1400			
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
EMPTY CONTAINERS Jon C. Edel Jr.	9/8/03	1000						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	STL SAVANNAH LOG NO.	LABORATORY REMARKS
	09/10/03	0900	YES ( ) NO ( )			338113

STL8240-680 (12/02)

Serial Number 06691

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

SEVERN TRENT **STL**

IMPS# 8404 5678 0911

STL Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Website: www.stl-inc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

11-2

Alternate Laboratory Name/Location
Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
SWMU 11	CTO-269	PR
STL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Angie Weimerskirk		CLEAN II
CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Jon Edel	(787) 485-1097	(412) 375-3995
CLIENT NAME	CLIENT E-MAIL	
Baker	mkimes@mbakercorp.com	
CLIENT ADDRESS		
100 Airside Drive, Moon Twp., PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable)		
CH2M Hill		

PAGE 1 OF 4

STANDARD REPORT DELIVERY ●
DATE DUE 28 Day TAT
EXPEDITED REPORT DELIVERY (SURCHARGE) ○
DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	MATRIX: AQUEOUS (WATER)	MATRIX: SOLID OR SEMISOLID	MATRIX: AIR	MATRIX: NONAQUEOUS LIQUID (OIL, SOLVENT,...)	REQUIRED ANALYSIS: PCBs 8082 (3550)	REQUIRED ANALYSIS: Dioxins/Furans 8280	REQUIRED ANALYSIS: PCBs 8082 (3550)	REMARKS
								NUMBER OF CONTAINERS SUBMITTED			
9/11/03	0910	11ER01	G	X				2			
9/11/03	0911	11FB01	G	X				2			
9/11/03	0913	11FB02	G	X				2			
9/9/03	1437	11WS05R(W)	G		X					1	
9/9/03	1430	11WS13R	G		X					1	
9/9/03	1443	11WS16R(W)	G		X					1	
9/9/03	1441	11WS17R(F)	G		X					1	
9/9/03	1450	11WS18R(W)	G		X					1	
9/9/03	1600	11WS15R	G		X					1	
9/9/03	1447	11WS22R(W)	G		X					1	
9/9/03	1445	11WS22R(F)	G		X					1	
9/9/03	1627	11WS23R	G		X					1	

PRESERVATIVE

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
EMPTY CONTAINERS			Jon C. Edel Jr.	9/11/03	1400			
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
EMPTY CONTAINERS Jon C. Edel Jr.	9/8/03	1000						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT YES ○ NO ○	CUSTODY SEAL NO.	STL SAVANNAH LOG NO.	LABORATORY REMARKS
	09/12/03	0900				3328113

STL8240-680 (12/02)

Serial Number 06692

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

SEVERN TRENT **STL**

IMPS# 8404 5678 0911

STL Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Website: www.stl-inc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

11-2

Alternate Laboratory Name/Location
Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
SWMU 11	CTO-269	PR
STL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Angie Weimerskirk		CLEAN II
CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX (412)
Jon Edel	(787) 485-1097	375-3995
CLIENT NAME	CLIENT E-MAIL	
Baker	mkimes@mbakercorp.com	
CLIENT ADDRESS		
100 Airside Drive, Moon Twp., PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable)		
CH2M Hill		

PAGE 2 OF 4

STANDARD REPORT DELIVERY ●
DATE DUE 28 Day TAT
EXPEDITED REPORT DELIVERY (SURCHARGE) ○
DATE DUE

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	MATRIX: COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT,...)	REQUIRED ANALYSIS: PCBs 8082 (3550)	Dioxins/Furans Method 8280	PCBs 8082 (3550)	PRESERVATIVE	NUMBER OF CONTAINERS SUBMITTED	REMARKS
9/9/03	1552	11WS21R	G		X			1				1	
9/9/03	1552	11WS21RD	G		X			1				1	
9/9/03	1556	11WS24R	G		X			1				1	
9/9/03	1526	11WS27R(W)	G		X			1				1	
9/9/03	1529	11WS28R(F)	G		X			1				1	
9/9/03	1535	11WS32R(F)	G		X			1				1	
9/9/03	1539	11WS32R(W)	G		X			1				1	
9/9/03	1539	11WS32RD(W)	G		X			1				1	
9/9/03	1539	11WS32RMS(W)	G		X			1				1	
9/9/03	1539	11WS32RMSD(W)	G		X			1				1	
9/10/03	0752	11WS38R(W)	G		X			1				1	
9/10/03	0803	11WS34R	G		X			1				1	

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
EMPTY CONTAINERS			Jon C. Edel Jr.	9/11/03	1400			
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
EMPTY CONTAINERS Jon C. Edel Jr.	9/8/03	1000						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	STL SAVANNAH LOG NO.	LABORATORY REMARKS
	9/12/03	0745	YES ○ NO ○		33857	1113

STL8240-680 (12/02)

Serial Number 06693

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

SEVERN TRENT **STL**

IMPS # 8404 5578 0911

STL Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Website: www.stl-inc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

11-2

○ Alternate Laboratory Name/Location
Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
SWMU 11	CTO-269	PR
STL (LAB) PROJECT MANAGER	**P.O. NUMBER**	**CONTRACT NO.**
Angie Weimerskirk		CLEAN II
CLIENT (SITE) PM	**CLIENT PHONE**	**CLIENT FAX**
Jon Edel	(787) 485-1097	(412) 375-3995
CLIENT NAME	**CLIENT E-MAIL**	
Baker	mkimes@mbakercorp.com	

CLIENT ADDRESS: 100 Airside Drive, Moon Twp., PA 15108

COMPANY CONTRACTING THIS WORK (if applicable): CH2M Hill

PAGE 3 OF 4

STANDARD REPORT DELIVERY ●
DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ○
DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	MATRIX: COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT,...)	REQUIRED ANALYSIS: PCBs 8082 (3550)	Dioxins/Furans 8280	PCBs 8082 (3550)	REMARKS
			NUMBER OF CONTAINERS SUBMITTED					1	Hexane	Hexane	PRESERVATIVE
9/10/03	0757	11WS39R(F)	6		X					1	
9/10/03	0806	11WS56(W)	6		X					1	
9/9/03	1635	11WS65R(F)	6		X					1	
9/9/03	1635	11WS65RD(F)	6		X					1	
9/9/03	1635	11WS65RMS(F)	6		X					1	
9/9/03	1635	11WS65RMSD(F)	6		X					1	
9/9/03	1632	11WS70R(W)	6		X					1	
9/9/03	1641	11WS64R(W)	6		X					1	
9/9/03	1643	11WS73R	6		X					1	
9/9/03	1646	11WS77R(W)	6		X					1	
9/9/03	1646	11WS77RD(W)	6		X					1	
9/9/03	1650	11WS78R(F)	6		X					1	

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
EMPTY CONTAINERS			Jon C. Edel Jr.	9/11/03	1400			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
EMPTY CONTAINERS Jon C. Edel Jr.	9/8/03	1000						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT YES ○ NO ○	CUSTODY SEAL NO.	STL SAVANNAH LOG NO.	LABORATORY REMARKS:
	09/20					338173

STL8240-680 (12/02)

Serial Number 06696

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

SEVERN TRENT **STL** IMPS # 8404 5638 0911

STL Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Website: www.stl-inc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

11-2

Alternate Laboratory Name/Location
Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
SWMU 11	CTO-269	PR
STL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Angie Weimerskirk		CLEAN II
CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Jon Edel	(787) 485-1097	(412) 375-3995
CLIENT NAME	CLIENT E-MAIL	
Baker	mkimes@mbakercorp.com	
CLIENT ADDRESS		
100 Airside Drive, Moon Twp., PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable)		
CH2M Hill		

PAGE 4 OF 4

STANDARD REPORT DELIVERY ●
DATE DUE 28 Day TAT
EXPEDITED REPORT DELIVERY (SURCHARGE) ○
DATE DUE _____
NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT,...)	REQUIRED ANALYSIS: 1 PCBs 8082 (3550) Hexane	1 Dioxins/Furans 8280 Hexane	1 PAHs 8082 (3550)	PRESERVATIVE	REMARKS
9/9/03	1652	11WS79R	6		X					1		
9/10/03	0710	11WS82R(W)	6		X					1		
9/10/03	0715	11WS84R(W)	6		X					1		
9/10/03	0717	11WS85R(F)	6		X					1		
9/10/03	0719	11WS86R	6		X					1		
9/10/03	0722	11WS87R	6		X					1		
9/10/03	0724	11WS91R(W)	6		X					1		
9/10/03	0726	11WS92R(F)	6		X					1		
9/10/03	0813	11WS110R(W)	6		X					1		
9/10/03	0815	11WS115R	6		X					1		

NUMBER OF CONTAINERS SUBMITTED

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
EMPTY CONTAINERS			Jon C. Edel Jr.	9/11/03	1400			
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
EMPTY CONTAINERS Jon C. Edel Jr.	9/8/03	1000						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	STL SAVANNAH LOG NO.	LABORATORY REMARKS
	091205	0800	YES ○ NO ○			S3871T3

STL8240-680 (12/02)

APPENDIX F
ANALYTICAL LABORATORY RESULTS

APPENDIX F.1

WIPE SAMPLE RESULTS FOR THE WALLS
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
RECHARACTERIZATION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11WS05(W)	11WS16(W)	11WS18(W)	11WS22(W)	11WS27(W)	11WS32(W)	11WS32(W)	11WS38(W)
Sample ID	11WS05R(W)	11WS16R(W)	11WS18R(W)	11WS22R(W)	11WS27R(W)	11WS32R(W)	11WS32RD(W)	11WS38R(W)
Sample Date	09/09/03	09/09/03	09/09/03	09/09/03	09/09/03	09/09/03	09/09/03	09/10/03
PCB's (ug/100cm^2)								
Aroclor-1016	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1221	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Aroclor-1232	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1242	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1248	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1254	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1260	0.42 J	0.44 J	0.45 J	0.15 J	0.41 J	1 U	1 U	1 U
Dioxin/Furans (ug/100cm^2)								
Hepta CDD	NA	NA	NA	NA	NA	1 U	1 U	1 U
Hepta CDF	NA	NA	NA	NA	NA	1 U	1 U	1 U
Hexa CDD	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U
Hexa CDF	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U
Octa CDD	NA	NA	NA	NA	NA	1 U	1 U	1 U
1,2,3,4,5,6,7,8-Octa-CDF	NA	NA	NA	NA	NA	1 U	1 U	1 U
Penta CDD	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U
Penta CDF	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U
Tetra CDD	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U
Tetra CDF	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U

APPENDIX F.1

WIPE SAMPLE RESULTS FOR THE WALLS
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
RECHARACTERIZATION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11WS56(W)	11WS64(W)	11WS70(W)	11WS77(W)	11WS77(W)	11WS82(W)	11WS84(W)	11WS91(W)	11WS110(W)
Sample ID	11WS56(W)	11WS64R(W)	11WS70R(W)	11WS77R(W)	11WS77RD(W)	11WS82R(W)	11WS84R(W)	11WS91R(W)	11WS110R(W)
Sample Date	09/10/03	09/09/03	09/09/03	09/09/03	09/09/03	09/10/03	09/10/03	09/10/03	09/10/03
PCB's (ug/100cm^2)									
Aroclor-1016	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1221	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Aroclor-1232	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1242	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1248	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1254	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1260	0.24 J	0.26 J	0.21 J	1 U	1 U	1 U	1 U	1 U	1 U
Dioxin/Furans (ug/100cm^2)									
Hepta CDD	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hepta CDF	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexa CDD	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexa CDF	NA	NA	NA	NA	NA	NA	NA	NA	NA
Octa CDD	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,5,6,7,8-Octa-CDF	NA	NA	NA	NA	NA	NA	NA	NA	NA
Penta CDD	NA	NA	NA	NA	NA	NA	NA	NA	NA
Penta CDF	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetra CDD	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetra CDF	NA	NA	NA	NA	NA	NA	NA	NA	NA

APPENDIX F.2

WIPE SAMPLE RESULTS FOR THE FLOOR
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
RECHARACTERIZATION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11WS13	11WS15	11WS17(F)	11WS21	11WS21	11WS22(F)	11WS23	11WS24
Sample ID	11WS13R	11WS15R	11WS17R(F)	11WS21R	11WS21RD	11WS22R(F)	11WS23R	11WS24R
Sample Date	09/09/03	09/09/03	09/09/03	09/09/03	09/09/03	09/09/03	09/09/03	09/09/03
PCB's (ug/100cm^2)								
Aroclor-1016	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
Aroclor-1221	2 U	2 U	2 U	2 U	2 U	2 U	4 U	2 U
Aroclor-1232	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
Aroclor-1242	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
Aroclor-1248	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
Aroclor-1254	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
Aroclor-1260	22	0.43 J	3.4	7.7	5.9	1.2 J	16	11
Dioxin/Furans (ug/100cm^2)								
Hepta CDD	NA	NA	NA	NA	NA	NA	NA	NA
Hepta CDF	NA	NA	NA	NA	NA	NA	NA	NA
Hexa CDD	NA	NA	NA	NA	NA	NA	NA	NA
Hexa CDF	NA	NA	NA	NA	NA	NA	NA	NA
Octa CDD	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,5,6,7,8-Octa-CDF	NA	NA	NA	NA	NA	NA	NA	NA
Penta CDD	NA	NA	NA	NA	NA	NA	NA	NA
Penta CDF	NA	NA	NA	NA	NA	NA	NA	NA
Tetra CDD	NA	NA	NA	NA	NA	NA	NA	NA
Tetra CDF	NA	NA	NA	NA	NA	NA	NA	NA

APPENDIX F.2

WIPE SAMPLE RESULTS FOR THE FLOOR
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
RECHARACTERIZATION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11WS28(F)	11WS32(F)	11WS34	11WS39(F)	11WS65(F)	11WS65(F)	11WS73
Sample ID	11WS28R(F)	11WS32R(F)	11WS34R	11WS39R(F)	11WS65R(F)	11WS65RD(F)	11WS73R
Sample Date	09/09/03	09/09/03	09/10/03	09/10/03	09/09/03	09/09/03	09/09/03
PCB's (ug/100cm^2)							
Aroclor-1016	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1221	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Aroclor-1232	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1242	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1248	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1254	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1260	2.7 J	2.8	0.59 J	2.4	0.54 J	1.1	1.1
Dioxin/Furans (ug/100cm^2)							
Hepta CDD	NA	1 U	NA	NA	NA	NA	NA
Hepta CDF	NA	1 U	NA	NA	NA	NA	NA
Hexa CDD	NA	0.5 U	NA	NA	NA	NA	NA
Hexa CDF	NA	0.5 U	NA	NA	NA	NA	NA
Octa CDD	NA	1 U	NA	NA	NA	NA	NA
1,2,3,4,5,6,7,8-Octa-CDF	NA	1 U	NA	NA	NA	NA	NA
Penta CDD	NA	0.5 U	NA	NA	NA	NA	NA
Penta CDF	NA	0.5 U	NA	NA	NA	NA	NA
Tetra CDD	NA	0.5 U	NA	NA	NA	NA	NA
Tetra CDF	NA	0.5 U	NA	NA	NA	NA	NA

APPENDIX F.2

WIPE SAMPLE RESULTS FOR THE FLOOR
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
RECHARACTERIZATION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11WS78(F)	11WS79	11WS85(F)	11WS86	11WS87	11WS92(F)	11WS115
Sample ID	11WS78R(F)	11WS79R	11WS85R(F)	11WS86R	11WS87R	11WS92R(F)	11WS115R
Sample Date	09/09/03	09/09/03	09/10/03	09/10/03	09/10/03	09/10/03	09/10/03
PCB's (ug/100cm^2)							
Aroclor-1016	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1221	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Aroclor-1232	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1242	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1248	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1254	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1260	0.5 J	5.1	1.5	1.6	1.6	6.2	2.6
Dioxin/Furans (ug/100cm^2)							
Hepta CDD	NA	NA	NA	NA	NA	NA	NA
Hepta CDF	NA	NA	NA	NA	NA	NA	NA
Hexa CDD	NA	NA	NA	NA	NA	NA	NA
Hexa CDF	NA	NA	NA	NA	NA	NA	NA
Octa CDD	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,5,6,7,8-Octa-CDF	NA	NA	NA	NA	NA	NA	NA
Penta CDD	NA	NA	NA	NA	NA	NA	NA
Penta CDF	NA	NA	NA	NA	NA	NA	NA
Tetra CDD	NA	NA	NA	NA	NA	NA	NA
Tetra CDF	NA	NA	NA	NA	NA	NA	NA

APPENDIX F.3

SUMMARY OF ADDITIONAL WIPE SAMPLE RESULTS
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
RECHARACTERIZATION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11WS127	11WS127	11WS128	11WS129	11WS130	11WS131	11WS132	11WS133	11WS134	11WS135
Sample ID	11WS127	11WS127D	11WS128	11WS129	11WS130	11WS131	11WS132	11WS133	11WS134	11WS135
Sample Date	09/10/03	09/10/03	09/10/03	09/10/03	09/10/03	09/10/03	09/10/03	09/10/03	09/10/03	09/10/03
Dioxin/Furans (ug/100cm^2)										
Hepta CDD	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Hepta CDF	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Hexa CDD	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexa CDF	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Octa CDD	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3,4,5,6,7,8-Octa-CDF	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Penta CDD	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Penta CDF	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetra CDD	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetra CDF	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

APPENDIX F.4

CONCRETE CHIP SAMPLE RESULTS FOR THE WALLS
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
RECHARACTERIZATION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11CC01	11CC02	11CC03	11CC04	11CC05	11CC05D	11CC06
Sample ID	11CC01(W)	11CC02(W)	11CC03(W)	11CC04(W)	11CC05(W)	11CC05D(W)	11CC06(W)
Sample Date	09/10/03	09/10/03	09/10/03	09/10/03	09/10/03	09/10/03	09/11/03
PCB's (ug/kg)							
Aroclor-1016	34 U	130 U	34 U	130 U	34 U	33 U	66 U
Aroclor-1221	69 U	270 U	69 U	270 U	68 U	67 U	130 U
Aroclor-1232	34 U	130 U	34 U	130 U	34 U	33 U	66 U
Aroclor-1242	34 U	130 U	34 U	130 U	34 U	33 U	66 U
Aroclor-1248	34 U	130 U	34 U	130 U	34 U	33 U	66 U
Aroclor-1254	34 U	130 U	34 U	130 U	34 U	33 U	66 U
Aroclor-1260	230	1,800	990	1,400	180	180	880

APPENDIX F.5

CONCRETE CHIP SAMPLE RESULTS FOR THE FLOOR
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
RECHARACTERIZATION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11CC07	11CC08	11CC09	11CC10	11CC11	11CC12	11CC13	11CC14	11CC14	11CC15	11CC16	11CC17	11CC18	11CC19
Sample ID	11CC07(F)	11CC08	11CC09	11CC10	11CC11(F)	11CC12(F)	11CC13(F)	11CC14(F)	11CC14D(F)	11CC15	11CC16(F)	11CC17(F)	11CC18(F)	11CC19(F)
Sample Date	09/11/03	09/11/03	09/10/03	09/10/03	09/10/03	09/10/03	09/10/03	09/10/03	09/10/03	09/10/03	09/10/03	09/10/03	09/11/03	09/11/03
PCB's (ug/kg)														
Aroclor-1016	69 U	660 U	35 U	160 U	33 U	170 U	33,000 U	33 U	33 U	130 U	130 U	33 U	34 U	33 U
Aroclor-1221	140 U	1,300 U	70 U	340 U	67 U	350 U	67,000 U	67 U	67 U	270 U	270 U	67 U	70 U	67 U
Aroclor-1232	69 U	660 U	35 U	160 U	33 U	170 U	33,000 U	33 U	33 U	130 U	130 U	33 U	34 U	33 U
Aroclor-1242	69 U	660 U	35 U	160 U	33 U	170 U	33,000 U	33 U	33 U	130 U	130 U	33 U	34 U	33 U
Aroclor-1248	69 U	660 U	35 U	160 U	33 U	170 U	33,000 U	33 U	33 U	130 U	130 U	33 U	34 U	33 U
Aroclor-1254	69 U	660 U	35 U	160 U	33 U	170 U	33,000 U	33 U	33 U	130 U	130 U	33 U	34 U	33 U
Aroclor-1260	880	6,500	150	2,600	560	1,900	430,000	1,500	690	930	1,000	370	330	260

APPENDIX F.6

QUALITY ASSURANCE/QUALITY CONTROL RESULTS
SWMU 11 - INSIDE BUILDING 38 (OLD POWER PLANT)
RECHARACTERIZATION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Sample ID	11ER01	11FB01	11FB02
Sample Date	09/11/03	09/11/03	09/11/03
PCBs (ug/L)			
Aroclor-1016	1 UJ	1 UJ	1 UJ
Aroclor-1221	2 UJ	2 UJ	2 UJ
Aroclor-1232	1 UJ	1 UJ	1 UJ
Aroclor-1242	1 UJ	1 UJ	1 UJ
Aroclor-1248	1 UJ	1 UJ	1 UJ
Aroclor-1254	1 UJ	1 UJ	1 UJ
Aroclor-1260	1 UJ	1 UJ	1 UJ

APPENDIX G
DATA VALIDATION REPORT NARRATIVES

HEARTLAND
ENVIRONMENTAL SERVICES, INC.

Data Validation Report

SDG#:	PRNS73
Date:	Nov. 3, 2003
Client Name:	Michael Baker Jr., Inc..
Project/Site Name:	Puerto Rico CTO-271
Date Sampled:	Sept.11, 2003
Number of Samples:	25 Non- Aqueous Sample(s) with 1 MS(s)/MSD(s)
Laboratory:	STL Savannah
Validation Guidance:	National Functional Guidelines for Inorganic Data Review, Region II
QA/QC Level:	DQO Level IV
Method(s) Utilized:	SW846 Third Edition
Analytical Fractions:	PCBs Only

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user is urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

Paul B. Humburg, President

11/03/03
Date

39 Windcastle Dr. • St. Charles, MO 63304
(636) 936-1332 • Fax (636) 936-1335

SDG# PRNS73

Samples and Fractions Reviewed

Sample Identifications

Analytical Fractions

BAKER ID	MATRIX	ARO		D/F	
WIPE BLANK	WIPE	X			
WIPE BLANK 2	WIPE	X			
WIPE BLANK 3	WIPE	X			
11CC19(F)	SOIL	X			
11CC18(F)	SOIL	X			
11CC08	SOIL	X			
11CC06(W)	SOIL	X			
11CC17(F)	SOIL	X			
11CC16(F)	SOIL	X			
11CC15	SOIL	X			
11CC14(F)	SOIL	X			
11CC14D(F)	SOIL	X			
11CC13(F)	SOIL	X			
11CC12(F)	SOIL	X			
11CC11(F)	SOIL	X			
11CC10	SOIL	X			
11CC09	SOIL	X			
11CC05(W)	SOIL	X			
11CC05(W)MS	SOIL	X			
11CC05(W)MSD	SOIL	X			
11CC05D(W)	SOIL	X			
11CC04(W)	SOIL	X			
11CC03(W)	SOIL	X			
11CC02(W)	SOIL	X			
11CC01(W)	SOIL	X			
Total Billable Samples (Water/Soil)		25	0	0	0

DATA ASSESSMENT NARRATIVE
AROCLORS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW 846 methods; the Region II Functional Guidelines for Organic Data Review, 9/94, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # PRNS73

A validation was performed on the aroclors Data from SDG PRNS73. The data was evaluated based on the following parameters:

*	•	Data Completeness
*	•	Holding Times
*	•	Calibration
*	•	Blanks
*	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicates
*	•	Field Duplicates
*	•	Laboratory Control Standard
*	•	Compound Identification
*	•	Compound Quantitation

* - All criteria were met for this parameter.

System Performance and Overall Assessment

The data, as reported, required no qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported Quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

U = The sample result for the blank contaminant is less than the sample CRQL and is less than 5X (10X for common laboratory contaminants) the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 5X (10X for common laboratory contaminants) the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 5X (10X for common laboratory contaminants) the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL

Data stands as reported without qualification.

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

HEARTLAND
ENVIRONMENTAL SERVICES, INC.

Data Validation Report

SDG#:	PRNS74
Date:	Nov. 3, 2003
Client Name:	Michael Baker Jr., Inc..
Project/Site Name:	Puerto Rico CTO-271
Date Sampled:	Sept.9, 2003
Number of Samples:	16 Non- Aqueous Sample(s) with 0 MS(s)/MSD(s)
Laboratory:	STL Savannah
Validation Guidance:	National Functional Guidelines for Inorganic Data Review, Region II
QA/QC Level:	DQO Level IV
Method(s) Utilized:	SW846 Third Edition
Analytical Fractions:	Dioxins/Furans Only

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user is urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

Paul B. Humburg, President

11/03/03
Date

39 Windcastle Dr. • St. Charles, MO 63304
(636) 936-1332 • Fax (636) 936-1335

SDG# PRNS74

Samples and Fractions Reviewed

Sample Identifications

Analytical Fractions

BAKER ID	MATRIX	ARO		D/F	
11WS128	WIPE			X	
11WS129	WIPE			X	
11WS130	WIPE			X	
11WS131	WIPE			X	
11WS132	WIPE			X	
11WS133	WIPE			X	
11WS134	WIPE			X	
11WS135	WIPE			X	
11WS127	WIPE			X	
11WS127D	WIPE			X	
11WS38R(W)	WIPE			X	
11WS32R(F)	WIPE			X	
11WS32R(W)	WIPE			X	
11WS32RD(W)	WIPE			X	
WIPE BLANK 4	WIPE			X	
WIPE BLANK 5	WIPE			X	
Total Billable Samples (Water/Soil)		0	0	16	0

DATA ASSESSMENT NARRATIVE
DIOXIN/FURANs

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW 846 methods; the Region II Functional Guidelines for Organic Data Review, 9/94, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # PRNS74

A validation was performed on the dioxin/furans Data from SDG PRNS74. The data was evaluated based on the following parameters:

*	• Data Completeness
*	• Holding Times
*	• Calibration
*	• Blanks
	• Surrogate Recoveries
*	• Matrix Spike/Matrix Spike Duplicates
*	• Field Duplicates
*	• Laboratory Control Standard
*	• Compound Identification
*	• Compound Quantitation

* - All criteria were met for this parameter.

Surrogate Recovery results

The surrogate recovery for several samples was above the upper control limits. All data for these samples were non-detect therefore no qualification is required.

System Performance and Overall Assessment

The data, as reported, required no qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported Quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

U = The sample result for the blank contaminant is less than the sample CRQL and is less than 5X (10X for common laboratory contaminants) the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 5X (10X for common laboratory contaminants) the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 5X (10X for common laboratory contaminants) the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL

Data stands as reported without qualification.

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

HEARTLAND
ENVIRONMENTAL SERVICES, INC.

Data Validation Report

SDG#:	PRNS75
Date:	Nov. 3, 2003
Client Name:	Michael Baker Jr., Inc..
Project/Site Name:	Puerto Rico CTO-271
Date Sampled:	Sept.9, 2003
Number of Samples:	20 Non- Aqueous Sample(s) with 1 MS(s)/MSD(s)
Laboratory:	STL Savannah
Validation Guidance:	National Functional Guidelines for Inorganic Data Review, Region II
QA/QC Level:	DQO Level IV
Method(s) Utilized:	SW846 Third Edition
Analytical Fractions:	PCBs Only

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user is urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

Paul B. Humburg, President

11/03/03
Date

39 Windcastle Dr. • St. Charles, MO 63304
(636) 936-1332 • Fax (636) 936-1335

SDG# PRNS75

Samples and Fractions Reviewed

Sample Identifications

Analytical Fractions

BAKER ID	MATRIX	ARO		D/F	
11ER01	WATER	X			
11FB01	WATER	X			
11FB02	WATER	X			
11WS05R(W)	WIPE	X			
11WS13R	WIPE	X			
11WS16R(W)	WIPE	X			
11WS17R(F)	WIPE	X			
11WS18R(W)	WIPE	X			
11WS15R	WIPE	X			
11WS22R(W)	WIPE	X			
11WS22R(F)	WIPE	X			
11WS23R	WIPE	X			
11WS21R	WIPE	X			
11WS21RD	WIPE	X			
11WS24R	WIPE	X			
11WS27R(W)	WIPE	X			
11WS28R(F)	WIPE	X			
11WS32R(F)	WIPE	X			
11WS32R(W)	WIPE	X			
11WS32R(W)MS	WIPE	X			
11WS32R(W)MSD	WIPE	X			
11WS32RD(W)	WIPE	X			
Total Billable Samples (Water/Soil)		22	0	0	0

DATA ASSESSMENT NARRATIVE
AROCLORS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW 846 methods; the Region II Functional Guidelines for Organic Data Review, 9/94, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # PRNS75

A validation was performed on the aroclors Data from SDG PRNS75. The data was evaluated based on the following parameters:

*	•	Data Completeness
	•	Holding Times
*	•	Calibration
*	•	Blanks
*	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicates
*	•	Field Duplicates
*	•	Laboratory Control Standard
*	•	Compound Identification
*	•	Compound Quantitation

* - All criteria were met for this parameter.

Holding Time results

The holding time was not met for samples 11ER01, 11FB01 and 11FB02. Since these were QC samples no impact was given to the data and the QC samples were qualified as estimated, "UJ"..

System Performance and Overall Assessment

The data, as reported, required no qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported Quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

U = The sample result for the blank contaminant is less than the sample CRQL and is less than 5X (10X for common laboratory contaminants) the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 5X (10X for common laboratory contaminants) the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 5X (10X for common laboratory contaminants) the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL
11ER01, 11FB01 and 11FB02.	all compounds	U	UJ

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE
AROCLORS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW 846 methods; the Region II Functional Guidelines for Organic Data Review, 9/94, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # PRNS75

A validation was performed on the aroclors Data from SDG PRNS75. The data was evaluated based on the following parameters:

*	• Data Completeness
*	• Holding Times
*	• Calibration
*	• Blanks
*	• Surrogate Recoveries
*	• Matrix Spike/Matrix Spike Duplicates
*	• Field Duplicates
*	• Laboratory Control Standard
*	• Compound Identification
	• Compound Quantitation

* - All criteria were met for this parameter.

Compound Quantitation results

The percent differences between columns for Aroclor 1260 for several samples were greater than 25%. All "P" flagged data will be qualified as estimated, "J".

System Performance and Overall Assessment

The data, as reported, required qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported Quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

U = The sample result for the blank contaminant is less than the sample CRQL and is less than 5X (10X for common laboratory contaminants) the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 5X (10X for common laboratory contaminants) the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 5X (10X for common laboratory contaminants) the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL
all "P" flagged samples	aroclor 1260	P	J

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

HEARTLAND
ENVIRONMENTAL SERVICES, INC.

Data Validation Report

SDG#:	PRNS76
Date:	Nov. 3, 2003
Client Name:	Michael Baker Jr., Inc..
Project/Site Name:	Puerto Rico CTO-271
Date Sampled:	Sept.10, 2003
Number of Samples:	22 Non- Aqueous Sample(s) with 1 MS(s)/MSD(s)
Laboratory:	STL Savannah
Validation Guidance:	National Functional Guidelines for Inorganic Data Review, Region II
QA/QC Level:	DQO Level IV
Method(s) Utilized:	SW846 Third Edition
Analytical Fractions:	PCBs Only

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user is urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

Paul B. Humburg, President

11/2/03
Date

39 Windcastle Dr. • St. Charles, MO 63304
(636) 936-1332 • Fax (636) 936-1335

SDG# PRNS76

Samples and Fractions Reviewed

Sample Identifications

Analytical Fractions

BAKER ID	MATRIX	ARO		D/F	
11WS38R(W)	WIPE	X			
11WS34R	WIPE	X			
11WS39R(W)	WIPE	X			
11WS56(W)	WIPE	X			
11WS65R(F)	WIPE	X			
11WS65R(F)MS	WIPE	X			
11WS65R(F)MSD	WIPE	X			
11WS65RD(F)	WIPE	X			
11WS70R(W)	WIPE	X			
11WS64R(W)	WIPE	X			
11WS73R	WIPE	X			
11WS77R(W)	WIPE	X			
11WS77RD(W)	WIPE	X			
11WS78R(F)	WIPE	X			
11WS79R	WIPE	X			
11WS82R(W)	WIPE	X			
11WS84R(W)	WIPE	X			
11WS85R(F)	WIPE	X			
11WS86R	WIPE	X			
11WS87R	WIPE	X			
11WS91R(W)	WIPE	X			
11WS92R(F)	WIPE	X			
11WS110R(W)	WIPE	X			
11WS115R	WIPE	X			
Total Billable Samples (Water/Soil)		24	0	0	0

DATA ASSESSMENT NARRATIVE
AROCLORS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW 846 methods; the Region II Functional Guidelines for Organic Data Review, 9/94, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # PRNS76

A validation was performed on the aroclors Data from SDG PRNS76. The data was evaluated based on the following parameters:

*	•	Data Completeness
*	•	Holding Times
*	•	Calibration
*	•	Blanks
*	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicates
*	•	Field Duplicates
*	•	Laboratory Control Standard
*	•	Compound Identification
*	•	Compound Quantitation

* - All criteria were met for this parameter.

System Performance and Overall Assessment

The data, as reported, required no qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported Quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

U = The sample result for the blank contaminant is less than the sample CRQL and is less than 5X (10X for common laboratory contaminants) the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 5X (10X for common laboratory contaminants) the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 5X (10X for common laboratory contaminants) the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL

Data stands as reported without qualification.

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

APPENDIX H
DAVID ERIC GREENLAW COMMENTS TO TIM GORDON

June 15, 1998

Naval Station Roosevelt Roads/Ceiba, Puerto Rico - PCB Contamination in Interior of Building 38 (SWMU #11)

David Eric Greenlaw, PCB Program Coordinator
Pesticides and Toxic Substances Branch

Tim Gordon, Corrective Action Manager
RCRA Programs Branch

I have revicwed the march 35, 1998 Recharacterization Work Plan. In general the information in the plan for wipe samples is not is a usable format. The sampling to be done may be adequate, depending on the range of contamination discovered. If highly contaminated areas adjoin cleaner areas, additional sampling may be necessary to delineate the areas.

In general the approach should be to usc wipe samples, as proposed, to delineate the extent of surface contamination. If the surface contamination is high, well above 100 micrograms per 100 square centimeters, then some core samples should be collected at depths of 0-1 inch, 1-3 inches and 3-5 inches to determine the extent of contamination into the surface at concentrations above 50 parts per million (ppm). Such destructive samplcs would be taken in the most highly contaminated areas for the purpose of evaluating clean up alternatives.

The reported wipe sampling is given in micrograms per liter. Wipe samples are contamination per unit area, not per unit volume. The data is therefore not rcported in a useful format. Wipe sample data should always be rcported in terms of PCBs per 100 square centimeters for easy comparison to EPA standards expressed in 40 C.F.R. Part 761.

If the reported amounts reprcsent all the PCBs in a wipe of 100 square centimeters in each case, the PCB contamination level would appear to be low and only surface cleaning would be needed.

Where samples in the tanks and tunnels have indicated PCBs at 50 ppm or greater there is a limited value to resampling as most of this material would probably be removed and disposed based on the PCB concentration exceeding 50 ppm. Additional sampling would only be useful if the materials were going to be segregated in the rcmoval operations.

The main question that needs to be resolved before considering additional sampling of the building interior is the true values for the wipe samples. If they are very low, cleanup would be simple and additional sampling prior to clean up would bc minimal. If they are very high, core samples are needed and dioxin is more likely an issue.

Finally, any resampling for wipe samples should not be on the exact same locations of previous samples as the previous application of a hexane saturated wipe sample will have substantially cleaned the surface.

I hope this is helpful. Please call if you need additional information and I would be happy to discuss this with any of the parties if you wish to arrange a conference call.

Also note that pending changes in the PCB regulations may have some impact or requirements for final clean up. These issues should be clearer in the next month or so.