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# POLYCHLORINATED BIPHENYLS REMEDIATION WASTE REMOVAL SUMMARY REPORT

**Former Peregrine (US) Inc. Coldwater Road Facility**
**Genesee Township, Michigan**



**OCTOBER 2000**
**REF. NO. 12636 (16)**

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| | |
|---|---|
| CAFO | Consent Agreement and Final Order |
| CFR | Code of Federal Regulations |
| CRA | Conestoga-Rovers & Associates |
| DOT | Department of Transportation |
| HDPE | High Density Polyethylene |
| IWPC | Inland Waters Pollution Control |
| LDR | Land Disposal Restriction |
| MDEQ | Michigan Department of Environmental Quality |
| PCBs | polychlorinated biphenyls |
| PPE | Personal Protective Equipment |
| ppm | parts per million |
| psi | pounds per square inch |
| RCRA | Resource Conservation and Recovery Act |
| REALM | Remediation and Environmental Liability and Management, Inc. |
| Report | Certification Report |
| Site | Former Peregrine Facility, Coldwater Road, Genesee Township, Michigan |
| SOW | Scope of Work |
| TSCA | Toxic Substances Control Act |
| U.S. EPA | United States Environmental Protection Agency |
| Work Plan | Removal, Disposal, and Decommissioning Work Plan |





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# 1.0 INTRODUCTION

## 1.1 GENERAL

This document presents the Certification Report (Report) which describes the Self-Implementing Voluntary Removal of Polychlorinated Biphenyl (PCB) items from the Former Peregrine facility located at 1245 East Coldwater Road, Genesee Township, Michigan (Site) and certifies the completion of such activities in accordance with the Work Plan. The Work Plan implementation was conducted during the period from February 12, 2000 to October **, 2000 with final shipment of material for disposal continuing until (XXXX), 2000. The Work Plan implementation involved the removal of PCB-containing material from light ballasts, transformers, capacitors, oil blast breakers, impacted concrete, impacted sand, and impacted limestone.

The Site location is presented on Figure 1.1. The general layout of the Site is presented on Figure 1.2.



## 1.2 PROJECT BACKGROUND

The Former Peregrine site is located at 1245 East Coldwater Road in Genesee Township, Michigan. Historically, the plant produced interior components for cars and light trucks. Major historical operations included stamping, welding, and miscellaneous assembly of automotive components. The Facility began operations in 1953 and ceased operation late spring 1998.

The facility consists of a manufacturing complex of four main structures. The structures include: a 1.97 million square foot machining and assembling building (Building 44); a storage building (Building 63); a powerhouse, and an administrative building.

The main manufacturing building is a two-story steel-framed structure. Just to the south, connected by a common wall, stands the Administrative Building. The combined floor space of these buildings is 1.9 million square feet.

Building 63 is a steel frame, warehouse-type structure that was once used for storage of spare chemicals, waste drums, and scrap metal parts.

The Powerhouse consists of several coal and natural gas boilers. The Powerhouse is a steel and brick framed structure with a brick stack for coal combustion exhaust.

## 1.3 BASIS FOR WORK PLAN

The Work Plan implementation has been conducted under the Voluntary action for Remediation Environmental and Liability Management, Inc. (REALM) on behalf of General Motors Corporation (GM). In 1998, the property owner (Peregrine Incorporated), indicated that Facility Management and all operations would be terminated due to financial difficulties. Peregrine then filed for bankruptcy. GM transferred all liens and property ownership to REALM. In the best interests of GM, REALM evaluated several options including redevelopment, sale of the property, and decommissioning and demolition of the structures. REALM's final recommendation was to proceed with the decommissioning and demolition option.

In July of 1999, Conestoga-Rovers and Associates was retained as the Engineering Consultant to proceed with building decommissioning assessment activities, which included the assessment of PCB items listed in this report. This assessment recommended the removal of several PCB-containing light ballasts, transformers, and breakers, and any PCB-impacted matrix associated with the operation of this equipment (i.e. spills onto concrete, soil). This report is limited to items associated with PCBs. It should be noted that several other decommissioning activities took place as described in the Building Decommissioning/Demolition Activities Report dated September 2001. The Work Plan for the PCB removal activities was developed based on the Toxic Substances Control Act (TSCA) regulations as presented in 40 Code of Federal Regulations (CFR) Part 761 (PCB Rules).



## 1.4 REPORT ORGANIZATION

This Report is organized into the following sections:

i) Section 1.0 presents the Site location and background, the basis for the Work Plan, and the organization of the Report;

ii) Section 2.0 presents a summary of the Scope of Work (SOW) for the Work Plan implementation;

iii) Section 3.0 presents details of on-Site project management including implementation personnel, contractor and subcontractors, and Site security;

iv) Section 4.0 presents details of the removal of PCB-containing transformers, oil-breakers, potheads, bushings, potential transformers, and capacitors;

v) Section 5.0 presents details of the removal of PCB-impacted concrete from the Basement Fan Room;

vi) Section 6.0 presents details of the removal of PCB-containing light ballasts;

vii) Section 7.0 presents details of the removal of PCB-impacted concrete from Fan Room 3;

viii) Section 8.0 presents details of the removal of PCB-impacted concrete from Fan Room 13;

ix) Section 9.0 presents details of the removal of PCB-impacted wood block flooring, concrete, and sand;

x) Section 10.0 presents details of the removal of PCB-impacted limestone from the Master Switch Yard;

xi) Section 11.0 presents details of the removal of PCB-impacted concrete from Substation 1 (1A);

xii) Section 12.0 describes the sampling of the Natural Gas Lines for PCBs;

xiii) Section 13.0 describes the sampling of miscellaneous suspect items for PCBs;

xiv) Section 14.0 describes the procedures for equipment decontamination;

xv) Section 15.0 describes work to be completed in the Administrative Building;

xvi) Section 16.0 describes the final summary, and conclusions;



This Report includes the following appendices:

| | |
|---|---|
| Appendix A | Specialized Shipping Permits |
| Appendix B | Photographic Documentation of Work Plan Implementation |
| Appendix C | Decontamination Solvent Analytical Results |
| Appendix D | Waste Disposal Approval/Characterization |
| Appendix E | Waste Disposal Manifests and Certifications |
| Appendix F | CRA Data Quality Assessment and Validation Memoranda |
| Appendix G | Confirmatory Sampling Analytical Data |

The Text, Figures, Tables, and Appendices A through F are included in Volume I of this Report. Volume II contains Appendix G (Confirmatory Sampling Analytical Data).

## 2.0 SCOPE OF WORK PLAN

This Section provides a summary of the removal, decontamination, and disposal activities that were conducted at the Site consistent with the Work Plan. The material removed from the plant was placed in roll-off boxes and 55-gallon drums for temporary storage pending off-Site disposal, or placed in DOT Approved Vehicles and transported directly off-Site for disposal. Following removal of PCB items, any associated equipment was decontaminated in accordance with the Work Plan. After the removal of the impacted material, verification samples were collected. Specific activities conducted to complete the Work Plan included the following:

- mobilization of contractor and setup of equipment;
- delineation of work zones and decontamination areas;
- removal of PCB oils from transformers, capacitors, and switchgear items;
- removal of PCB light ballasts;
- removal of impacted concrete;
- removal of impacted soil media;
- transportation of material in roll-off boxes, tankers, and 55-gallon drums for disposal at TSCA and, in certain cases, RCRA permitted landfills or incinerators;
- transportation of material via DOT Approved Vehicles to TSCA permitted landfills;
- decontamination of other PCB containers, transportation units, and associated equipment;
- verification sampling of concrete in Sub-Station 1A, Fan Room 3, and Fan Room 13;
- verification sampling of concrete and soil in the Basement Fan Room, and Bay P16;
- verification sampling of the soil in the Master Switchyard; and
- demobilization of equipment, materials, facilities, and personnel.



The specific Work Plan implementation activities are discussed in Section 4.0(***) through Section 9.0(***).

All work activities completed during the Work Plan implementation were conducted at the Site in a manner designed to maintain the integrity of existing structures and equipment, while minimizing the risk of potential impact to human health, welfare, and the environment.

# 3.0 PROJECT MANAGEMENT

## 3.1 GENERAL

Table 3.1 summarizes project personnel on Site during implementation of the Work Plan. Additionally, Figure 3.1 presents the generalized project organization chart.

## 3.2 WORK PLAN CERTIFICATION AND OVERSIGHT

Conestoga-Rovers & Associates (CRA) of Romulus, Michigan was retained by REALM to provide oversight and third party certification that the PCB removal activities conducted at the Site were in accordance with the Work Plan. CRA's responsibilities included liaison with REALM management personnel, and contractors and subcontractors. As well, CRA inspected contractor and subcontractor activities to ensure that the Work Plan was properly implemented. Representatives from CRA were on Site during all critical Work Plan implementation activities ranging from personnel mobilization through demobilization.



## 3.3 CONTRACTORS/SUBCONTRACTORS

The contractor retained by REALM to implement the removal of the PCB-containing transformers, capacitors, and oil-breakers was SunOhio of Canton, Ohio. Trans-Cycle Incorporated (TCI) of Pell City, Alabama was subcontracted and limited by contract to transport bulk PCB liquids and electrical equipment to an approved facility. The contractor retained by REALM to implement the Cleaning Work Plan was Inland Waters Pollution Control (IWPC) of Detroit, Michigan. IWPC retained National Abatement (Flint, Michigan) as a general subcontractor to help complete the Work Plan activities for removal of the light ballasts. National Abatement's contract was limited to the removal of light ballasts from the second floor of Building 44. Entech Services was also hired as a subcontractor for IWPC to work jointly on the PCB cleaning/decommissioning portion of the contract. A portion of the work was also performed by CRA personnel including:

- overall project management and coordination of contractors;
- coordination of all transportation vehicles;
- waste characterization based upon Site records and sampling;
- daily inspections of roll-off boxes, tankers, and 55-gallon drums before transportation off-Site.

In addition, CRA retained the following subcontractors during the implementation of the Work Plan;

- CT&E Environmental Testing Services from Ludington, Michigan, who provided laboratory analysis of characterization and confirmatory samples;
- Safety-Kleen from Burton, Michigan, who provided approved DOT containers for temporary storage and transportation of hazardous solid wastes. Safety Kleen also transported this material to an approved landfill.

## 3.4 PROJECT DOCUMENTATION AND MONITORING

CRA maintained a daily Site logbook for documentation of all activities that occurred at the Site. Other records which were maintained on Site on a daily basis included weather conditions, on-Site personnel, visitors, work activities conducted, air monitoring, disposal details, and disposal manifests.



## 3.5 SITE SECURITY

Site security was maintained throughout the duration of the Work Plan implementation by CRA. As part of CRA's operating practices, security guards were posted at the main security gate 24 hours per day, 7 days per week. The security guards maintained a Site visitor log. The Site was surrounded by a 6-foot high chain link fence, which was inspected periodically by CRA's security personnel to determine if the fence had been breached. No security issues occurred during the implementation of the Work Plan.

## 4.0 TASK 1: REMOVAL OF PCB TRANSFORMERS, BREAKERS, CAPACITORS, AND ELECTRICAL SWITCHGEAR EQUIPMENT

This section includes the removal of PCB liquids in electrical equipment such as transformers, oil-breakers, capacitors, and switchgear reservoirs. This work was sub-contracted to SunOhio. During implementation of this task, a daily safety tailgate meeting was held to identify possible hazards and key points. Daily assignments were also delegated to working individuals. This portion of the PCB removal began on November 8, 1999 and extended until January 3, 2000. The work was then started again on September **, 2000 through October **, 2000. TCI, who worked closely with SunOhio, transported and disposed the bulk liquid and solid electrical equipment. Drawing No. 2 identifies the locations of the removed items. The following sections describe the Work Plan implemented on-Site for the removal of these items.

### 4.1 REMOVAL OF PCB TRANSFORMERS

A total of 35 roof top transformers on Building 44, 5 platform transformers inside Building 44, and 8 outside transformers adjacent to the Main Switchyard (4 of the 8 were regulating transformers) were removed. As summarized in Table 4.1, the serial number, location, weight, and total amount of liquids from each transformer is presented. A total of ******* gallons of oil and ****** pounds of equipment were disposed.



SunOhio worked on the roof top transformers first, and then moved to the platform transformers in Building 44. All transformers were de-energized, grounded, and locked out. From the rooftop, hatchways were opened in each substation. TCI and SunOhio constructed secondary spill containment in the roof top substations and directly below the hatchways in order to contain potential releases while removing liquids. After CRA field staff confirmed that the tanker truck was properly labeled, it was driven above of the secondary containment and below the hatchway. Personnel wearing the appropriate PPE confirmed that the hoses were placed in plastic sleeves that ran from the transformer spigots to the tanker truck and that valves were connected and secured. Valve operation was confirmed, and liquids were drained from the unit into the tanker. A two-way radio was used to communicate with personnel on the roof and the main floor at all times. After draining of the unit was complete, the coils and the hoses were capped and relocated to the next transformer for use.

After it was verified that all fluid was removed from the transformers, SunOhio prepared for the dismantling of the electrical equipment. Beneath each substation, a receiving area was prepared by erecting a secondary containment area with a perimeter

fence. All lifting equipment attached to the transformer was confirmed to be secure. Above each substation a lifting device was attached to the overhead rails. Each transformer was jacked up, placed on a skid, and rolled to the vicinity of the rails adjacent to the hatchway. Several slings, straps, and harnesses were attached to the transformer. Each transformer was lowered to the floor onto 4 x 4 inch beams above the secondary containment. During lowering, radio contact was maintained between the technician on the floor and the technician in the substation. Access routes were confirmed clear and no personnel were allowed within 20-feet of the drop zone. After each transformer was confirmed secure, all slings, straps, and harnesses were removed. An inspection of the transformer was performed by CRA for any leaks, fluid spots, and proper labeling.

TCI mobilized flat bed tractor-trailers ("Low-Boys") to the Site in order to transport the drained equipment. SunOhio lifted each transformer with an appropriately rated skidster (fork lift) and loaded them onto the trailer. The units were properly secured with straps and shipped to Pell City, Alabama for proper disposal.

The transformers in the Main Switchyard and inside Substation 14 needed to be removed with a crane. Flint Rigging was subcontracted by SunOhio to lift and place the transformers onto the tractor-trailers. Four of the transformers from the Master Switchyard weighed over 40,000 pounds and had dimensions of 17 x 16 x 20-feet. With these specifications, a special trucking permit was required to allow the shipment of these units. A copy of these permits are included in Appendix A. The transportation and disposal of this material is described in Section ****.



## 4.2 REMOVAL OF PCB CAPACITORS

A total of 319 individual PCB capacitors were removed from the facility. Banks of these capacitors were found in several of the fan rooms, substations, next to air-units, and in the basement of the Powerhouse.

Before the removal of each capacitor, the location was set-up with secondary containment and the appropriate equipment. Each unit was de-energized, and electrical contacts were disconnected. The oil from the capacitors was drained into 55-gallon drums and the housing for each unit was placed into another 55-gallon drum. Once each drum was sealed and labeled, it was transported to the temporary staging area. Once CRA field personnel arranged for transportation, the loading of the drained electrical equipment was approved and carried out.

The quantities and locations of the PCB capacitors that were removed are summarized in Table 4.3. The transportation and disposal of this material is described in Section ****.

## 4.3 REMOVAL OF PCB BREAKERS AND RELATED SWITCHGEAR ITEMS

Each substation housed several pieces of electrical equipment that used oil for cooling, insulating, and surge protecting purposes. A total of twenty-four potential transformers, forty-eight potheads, twenty-eight bushings, and fifteen oil-breakers were drained, removed, and disposed.

Two potential transformers were enclosed in each of the switchgears in the substations, inside the switchgear at the Master Switchyard (inside building), and at the switchgear in the basement of the Powerhouse. Each potential transformer contained approximately two quarts of oil, and was drained into 55-gallon drums.

Also, six potheads were removed from each of these locations. These units were oil-filled switches that allowed current to pass into each of the switchgear. Each pothead contained approximately three quarts of oil. All of the liquids were drained into 55-gallon drums.



Several bushings from the outside area of the roof top substations and the Master Switchyard were drained and removed. Each bushing contained about 2 quarts of oil, which was drained into 55-gallon drums.

A total of fifteen oil-filled circuit breakers were drained and removed from the Master Switchyard. Each breaker was drained into the tanker truck. A total of thirty gallons was stored in each breaker.

After each item was drained, it was dismantled, labeled, and packaged for disposal. The smaller units, such as the potential transformers, were placed into 55-gallon drums, while the larger units were placed into a containment box. Descriptions of the potential transformers, potheads, bushings, and oil-breakers that were removed are summarized in Table 4.2. The transportation and disposal of this material is described in Section ****.

## 4.4 VERIFICATION SAMPLING

Verification sampling was conducted in accordance with 40 CFR Part 761.61(b) in order to demonstrate the effectiveness of performance based disposal of PCB remediation

waste activities. The verification sampling was performed after the removal of the transformers, capacitors, bushings, potential transformers, potheads, and oil circuit breakers. These samples were collected to indicate if any historical spills had occurred at these individual locations.

A sampling grid was established over the 40 x 15-foot area in each outdoor substation. The grid consisted of 5 x 5 foot squares. Wipe and concrete core samples at depths of 3, 6, and 9-inches were collected from each of the 5 x 5-foot squares. The laboratory will be instructed to hold the 6 and 9 inch cores pending the analytical results of the 3-inch cores. A total of ____ samples were chosen at these locations. The sample locations and analytical results are summarized in Table 4.4.

According to the results, wipe and concrete samples indicated that removal of concrete will be necessary in the Basement Fan Room, Fan Room 3, Fan Room 13, and in Substation 1(1A). Sections 5.0, 7.0, 8.0, and 11.0 describe the detailed verification sampling, the removal of the concrete, and the confirmation sampling that was implemented. Analytical results and locations of all the verification samples are shown in Table 4.4.

# 5.0 TASK 2: SAMPLING AND REMOVAL OF PCB-IMPACTED CONCRETE IN THE BASEMENT FAN ROOM

The Basement Fan Room is located underneath Building 44. A total of six capacitors that were hanging on the southern cinder-block wall were removed from this location. After removal of these units, concrete samples were collected to identify if there were any historical spills. It was identified that PCBs had impacted an area on the concrete floor. The concrete was removed, and verification sampling indicated that the removal of PCB-impacted concrete was a success. Analytical results and locations of samples are summarized in Table 5.0. Figure 5.0 displays the location of these samples.

## 5.1 CONFIRMATION SAMPLING

On December 12, 1999, six concrete core samples were collected directly beneath each capacitor on the concrete floor. The samples were designated as sample numbers 214 through 219.

The concrete verification samples consisted of 1-inch diameter cores drilled to a depth of approximately 1-inch below the surface using a hammer drill and a 1-inch drill bit. The drill bits were decontaminated between each sample. Concrete samples were collected, placed in pre-cleaned sample jars, labeled, and submitted to CT&E for PCB analysis.



Sample C-12636-121799-MM-219 had an analytical result of 2.8 parts per million (ppm). This exceeded the 1.0 ppm criteria for the PCB removal standard for the site. According to this data, it was required that the concrete floor within the Basement Fan Room be removed.

## 5.2 REMOVAL OF CONCRETE IN THE BASEMENT FAN ROOM

IWPC sub-contracted this portion of the work to Entech Services. The work was completed on March 1, 2000. Entech Services built an encapsulating secondary containment for dust control. The encapsulation was built with plastic tarps and a wooden frame.

Several technicians cut out a 5 x 10-foot section of concrete flooring using a concrete-saw. A vacuum with a HEPA filter was attached to the front end of the saw in order to minimize dust. All associated PPE, secondary containment materials, and concrete dust

collected was placed inside a USPCI roll-off box (#######). All equipment was decontaminated as described in Section ##.

## 5.3 VERIFICATION SAMPLING

Several confirmation samples were collected after the removal of the PCB-impacted concrete in the Basement Fan Room. Four samples were collected along the concrete that remained in place adjacent to the removed concrete. A total of 4 concrete core samples were collected here on March 2, 2000. Samples were collected to the west (1 sample), east (1 sample), and north (2 samples) of the removed concrete. The concrete verification samples consisted of 1-inch diameter cores drilled to a depth of approximately 1-inch below surface using a hammer drill and a 1-inch drill bit. The drill bits were decontaminated between each sample. Concrete samples were collected, placed in pre-cleaned sample jars, labeled, and submitted to CT&E for PCB analysis.

In addition to the concrete sampling, three sand samples were collected from beneath the concrete flooring to identify if any penetration of PCB oils had impacted the underlying subsurface. According to the analytical results, both the sand and concrete cores were less than the PCB removal standard of ≤1 mg/kg. This indicated that the removal of the PCB-impacted concrete had been successfully completed. Information on transportation and disposal of the concrete is described in Section ##.

# 6.0 TASK 3: REMOVAL OF PCB LIGHT BALLASTS

A contract was awarded to IWPC for the removal of PCB light ballasts from Building 44, Building 63, and the Powerhouse. IWPC sub-contracted the second story of Building 44 to National Abatement. The work began on February 11, 2000, and ended on April 23, 2000. A total of 8,461 individual light ballasts were removed, packaged, temporarily stored, and transported and disposed by Safety-Kleen to an approved facility. Appendix C contains copies of the fully executed waste manifests. The unique IDs, total shipping weights, and out of service dates for the 55-gallon drums are summarized in Table 6.0.

## 6.1 REMOVAL, STORAGE, TRANSPORTATION, AND DISPOSAL

To complete the work, IWPC mobilized six man-lifts to reach the light fixtures. Every light fixture was manually removed from the ceiling and moved down to ground level. On the ground floor, the fixtures were collected and loaded onto a state truck. Once the truck was full, it was relocated to a designated area with secondary containment where the ballasts could be manually separated from the fixtures.



Each 55-gallon drum was prepared by lining the bottom with approximately 2 lbs. of absorbent material. Ballasts were then placed into the drum, not to exceed 500-lbs. total weight for each drum. If a leaky ballast was found, it was placed into two polyethylene bags, then placed into a separate drum marked "leakers". No leakers were found. More absorbent material was sprinkled on top of the contents of the drum, after which the drum was sealed and labeled.

A unique identification was given to every drum that was sealed and labeled. Also, the drum was given an "out of service" date for the ballasts that were placed inside that drum. On average, approximately 16 drums were completed per day. A total of 370 drums were filled with PCB light ballasts.

When a total of 40 drums were completed and logged in, CRA contacted Safety-Kleen in order to load, transport, and dispose of them at an approved landfill. Safety-Kleen made various trips to the site during this portion of the project. The fully executed waste manifests for the PCB light ballast removal may be found in Appendix D. The detailed transportation and disposal of the ballasts is described in Section ****.

## 7.0 TASK 4: SAMPLING AND REMOVAL OF IMPACTED CONCRETE IN FAN ROOM 3

Fan Room 3 is located on the second story of Building 44. This fan room housed one capacitor which was mounted to beams secured in the concrete adjacent to the fan ductwork. After removal of this unit, concrete samples were collected to identify if there were any historical spills. According to verification sampling, it was identified that an area on the concrete floor had been impacted by PCBs. The concrete was removed, and verification sampling indicated that the removal of the PCB-impacted concrete was a success. Analytical results and locations of samples are summarized in Table 7.0. Figure 7.0 displays the location of these samples.

### 7.1 CONFIRMATION SAMPLING

Originally, wipe samples were collected on September 28, 2000. One wipe sample (W-12636-092800-MM-053) indicated that additional concrete core sampling would be necessary to quantify the contamination.

On November 30, 1999, six concrete core samples were collected directly beneath a large capacitor on the concrete floor. The samples were designated as sample numbers 187 through 192. In addition to these samples, two other samples were collected to delineate the extent of impacted concrete. These samples (223 and 224) were collected on January 27, 2000.



The concrete verification samples consisted of 1-inch diameter cores drilled to a depth of approximately 1-inch below the surface using a hammer drill and a 1-inch drill bit. The drill bits were decontaminated between each sample. Concrete samples were collected, placed in pre-cleaned sample jars, labeled, and submitted to CT&E for PCB analysis.

Sample C-12636-113099-MM-187 had an analytical result of 2.6 ppm. This exceeded the 1.0 ppm criteria for the PCB removal standard for the site. According to this data, it was required that the concrete floor of Fan Room 3 be removed.

### 7.2 REMOVAL OF CONCRETE IN THE BASEMENT FAN ROOM

IWPC sub-contracted this portion of the work to Entech Services. The work began on February 27, 2000 and ended on March 1, 2000. Entech Services built an encapsulating secondary containment for dust control. The encapsulation was built with plastic tarps

that were draped around a USPCI roll-off box and extended to the floor of the second story beneath Fan Room 3.

Several technicians cut out a 10 x 8.5-foot section of concrete flooring using a concrete-saw. A vacuum with a HEPA filter was attached to the front end of the saw in order to minimize dust. The concrete was allowed to free fall to the roll-off box within the encapsulation that was constructed. All associated PPE and dust collected from the sawing activities was placed into the roll-off box as well. Finally, the encapsulating material (polyethylene) was placed in the roll-off box. All equipment was decontaminated as described in Section ##.

## 7.3 VERIFICATION SAMPLING

Several confirmation samples were collected after the removal of the PCB-impacted concrete in Fan Room 3. Three samples were collected along the concrete that remained in place adjacent to the removed concrete. A total of four concrete core samples were collected here on March 2, 2000. Samples were collected to the south (Sample 236), east (Samples 237 & 238), and north (Sample 239) of the removed concrete.



The concrete verification samples consisted of 1-inch diameter cores drilled to a depth of approximately 1-inch below surface using a hammer drill and a 1-inch drill bit. The drill bits were decontaminated between each sample. Concrete samples were collected, placed in pre-cleaned sample jars, labeled, and submitted to CT&E for PCB analysis.

According to the analytical results, the concrete cores were less than the PCB removal standard of ≤1 mg/kg. This indicated that the removal of the PCB-impacted concrete had been successfully completed. Information on transportation and disposal of the concrete is described in Section ##.

# 8.0 TASK 5: SAMPLING AND REMOVAL OF IMPACTED CONCRETE IN FAN ROOM 13

Fan Room 13 is located on the second story of Building 44. This fan room housed two capacitors which were mounted to beams secured in the concrete adjacent to the fan ductwork. After removal of these units, concrete samples were collected to identify if there were any historical spills. According to verification sampling, it was identified that an area on the concrete floor had been impacted by PCBs. The concrete was removed, and verification sampling indicated that the removal of the PCB-impacted concrete was a success. Analytical results and locations of samples are summarized in Table 8.0. Figure 8.0 displays the location of these samples.

## 8.1 CONFIRMATION SAMPLING

Originally, wipe samples were collected on September 28, 2000. One wipe sample (W-12636-092800-MM-063B) indicated that additional concrete core sampling would be necessary to quantify the contamination.

On November 30, 1999, six concrete core samples were collected directly beneath a large capacitor on the concrete floor. The samples were designated as sample numbers 193 through 198.



The concrete verification samples consisted of 1-inch diameter cores drilled to a depth of approximately 1-inch below the surface using a hammer drill and a 1-inch drill bit. The drill bits were decontaminated between each sample. Concrete samples were collected, placed in pre-cleaned sample jars, labeled, and submitted to CT&E for PCB analysis.

Sample C-12636-113099-MM-187 had an analytical result of 2.6 ppm. This exceeded the 1.0 ppm criteria for the PCB removal standard for the Site. According to this data, it was required that the concrete floor of Fan Room 13 be removed.

## 8.2 REMOVAL OF CONCRETE IN THE BASEMENT FAN ROOM

IWPC sub-contracted this portion of the work to Entech Services. The work began on February 25, 2000 and ended on February 28, 2000. Entech Services built an encapsulating secondary containment for dust control. The encapsulation was built with plastic tarps that were draped around a USPCI roll-off box and extended to the floor below Fan Room 13.

Several technicians cut out a 9 x 11-foot section of concrete flooring using a concrete-saw. A vacuum with a HEPA filter was attached to the front end of the saw in order to minimize dust. The concrete was allowed to free fall to the roll-off box within the encapsulation that was constructed. All associated PPE and dust collected from the sawing activities was placed into the roll-off box as well. Finally, the encapsulating material (polyethylene) was placed in the roll-off box. The equipment was decontaminated as described in Section ##.

## 8.3 VERIFICATION SAMPLING

Several confirmation samples were collected after the removal of the PCB-impacted concrete in Fan Room 3. Three samples were collected along the concrete that remained in place adjacent to the removed concrete. A total of three concrete core samples were collected here on March 2, 2000. Samples were collected to the south (Sample 233), east (Sample 234), and north (Sample 235) of the removed concrete.

The concrete verification samples consisted of 1-inch diameter cores drilled to a depth of approximately 1-inch below surface using a hammer drill and a 1-inch drill bit. The drill bits were decontaminated between each sample. Concrete samples were collected, placed in pre-cleaned sample jars, labeled, and submitted to CT&E for PCB analysis.



According to the analytical results, the concrete cores were less than the PCB removal standard of ≤1 mg/kg for the site. This indicated that the removal of the PCB-impacted concrete had been successfully completed. Information on transportation and disposal of the concrete is described in Section ##.

# 9.0 TASK 6: SAMPLING AND REMOVAL OF IMPACTED MATERIAL IN BAY P-16 (BUILDING 44)

During the initial Building Decommissioning Assessment, several samples were collected from oil stained wood block flooring and were analyzed for PCBs. On October 14, 1999, sample WB-12636-101499-SM-135 was collected and sent to CT&E for analysis. The results indicated that the wood block flooring contained 2.6 ppm PCBs. On November 30, 1999, three additional samples (183, 184, and 185) were collected to delineate the extent of the impacted flooring.

According to the analytical results, approximately 13 cubic yards of wood block flooring were identified to have concentrations of polychlorinated biphenyls (PCBs) ranging from 0.54 to 11 parts per million (ppm). The removal was conducted in accordance with the performance based disposal provisions contained in Title 40 of the Code of Federal Regulations (CFR), Part 761.61 (b). The wood block flooring is located in a 45 x 45-foot bay near column P16 of the main manufacturing building (Building 44).

## 9.1 WOOD BLOCK FLOORING REMOVAL

IWPC was retained to remove the wood block flooring and load the material into containers suitable for off-Site transportation. A front-end loader was utilized to collect and remove the wood block. Care was taken to minimize the amount of dust generated during the removal process by minimizing agitation during removal. The contractor provided and installed a double layer of polyethylene lining in the disposal container (container provided by REALM). After all wood block flooring was removed, the contractor collected residual dust or debris using mechanical means such as push brooms. The dust and debris were placed in the same container as the wood block for disposal. Any equipment used was properly decontaminated or placed in the container for disposal with the wood block flooring, as described in Section 14.0. Once all wood block flooring and debris was removed, CRA performed verification sampling of the underlying concrete.



## 9.2 VERIFICATION SAMPLING OF CONCRETE UNDERNEATH WOOD BLOCK FLOORING IN BAY P-16

Verification sampling to demonstrate the effectiveness of performance based disposal of PCB remediation waste activities in accordance with 40 CFR Part 761.61(b) was performed. Wood block flooring with PCB concentrations ranging from 0.54 to 11 ppm was removed for disposal by IWPC/MPS Group Inc. The wood block flooring was

contained in a 45 x 45-foot bay near column P16 of the main manufacturing building (Building 44). Verification sampling was performed in accordance with the Toxic Substance Control Act (TSCA), 40 CFR Part 761, and Subpart O.

A sampling grid was established over the 45 x 45-foot area near column P16. The grid consisted of 5 x 5-foot squares. Concrete core samples at depths of 3, 6, and 9-inches were collected from each of the 5 x 5-foot squares. The laboratory will be instructed to hold the 6 and 9-inch cores pending the analytical results of the 3-inch cores. Nine sub-samples representing a larger 15 x 15-foot square will be composited for each vertical strata. The sample locations are shown in Figure 9.2. Table 9.2 summarizes the analytical results.

Equal volumes of sub-sample concrete were composited in the field and placed in glass jars. The jars were then placed on ice in a cooler for transportation to CT&E Environmental Services, Inc. for analysis. Sampling equipment was decontaminated in accordance with 40 CFR 761.79(c)(2). Surfaces were swabbed with a solvent and double wash/rinsed after all nine cores had been collected from each 15 x 15-foot square. The concrete samples were analyzed in accordance with SW-846 8082.



After reviewing the analytical data, the samples composited in grid 311 were above the criteria allowed for the site. Also, the additional samples at 6-inches and 9-inches were analyzed and indicated elevated results for PCBs (samples 311A, 311B, and 311C).

## 10.0 TASK 7: REMOVAL OF IMPACTED MATERIAL IN MAIN SWITCHYARD

**NOT COMPLETED AT THIS TIME**





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## 11.0 TASK 8: SAMPLING AND REMOVAL OF CONCRETE IN SUBSTATION 1A

Substation 1A is located within Substation 1 on the second story of Building 44. During a visual inspection, oil stains were noticed on the concrete floor of Substation 1A. According to verification sampling, it was identified that an area on the concrete floor had been impacted by PCBs. The concrete was removed, and verification sampling indicated that the removal of the PCB-impacted concrete was successful. Analytical results and locations of samples are summarized in Table 11.0. Figure 11.0 displays the location of these samples.

### 11.1 CONFIRMATION SAMPLING

On March 19, 2000, a wipe sample was collected from the oil stained concrete in Substation 1A. Sample W-12636-031900-BS-270 was collected and sent to CT&E for PCB analysis. The results indicated that the concrete contained over 6.4 ppm PCBs. In order to determine the extent of contamination, additional samples were collected. These samples indicated that PCBs had impacted a 5 x 10-foot area.





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# APPENDIX A

## SPECIALIZED SHIPPING PERMITS





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# APPENDIX B

# PHOTOGRAPHIC DOCUMENTATION OF WORK PLAN IMPLEMENTATION





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# APPENDIX C

## WASTE DISPOSAL MANIFESTS AND CERTIFICATIONS FOR PCB LIGHT BALLASTS





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# APPENDIX D

# WASTE DISPOSAL APPROVALS/CHARACTERIZATION





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# APPENDIX E

## WASTE DISPOSAL MANIFESTS AND CERTIFICATIONS





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# APPENDIX F

# CRA DATA QUALITY ASSESSMENT AND VALIDATION MEMORANDA





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# APPENDIX G

# CONFIRMATORY SAMPLING ANALYTICAL DATA





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