



**PCB CLOSURE AND CHARACTERIZATION PLAN**

**FORMER KELLY-MOORE MANUFACTURING FACILITIES  
5410 AIRPORT WAY SOUTH  
SEATTLE, WASHINGTON**

*Submitted to:*

**Kelly-Moore Paint Company, Inc., San Carlos, California**

*Submitted by:*

**AMEC Geomatrix, Inc., Seattle, Washington**

July 2009

Project 14697

**AMEC Geomatrix**

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## **PCB CLOSURE AND CHARACTERIZATION PLAN**

Former Kelly-Moore Manufacturing Facilities

5410 Airport Way South

Seattle, Washington

### **1.0 INTRODUCTION**

The former Kelly-Moore manufacturing facility is located at 5400-5410 Airport Way South, in Seattle, Washington, as shown in Figure 1. The facility was used to blend paints and pigments as the Preservative Paint Company initially, and later as the Kelly-Moore Paint Company, Inc. (Kelly-Moore). The facility grew over the years through acquisition of a number of separate adjoining parcels and structures.

Figure 2 shows the current layout of the facility, including Buildings 1 through 12. Buildings 1, 2, 3, 4, 5, 9, 10, and 12 were used as warehouse or office space. The western portion of Building 8 was used for retail paint sales. Building 5A, Building 6 (first and second floors), Building 7, and the non-retail portion of Building 8 (first and second floors) were used for various manufacturing processes. Figure 3 shows the second floor layout of Buildings 6, 7, and 8.

The facility ceased manufacturing operations in September 2008, and Kelly-Moore has removed former production equipment to ready the facility for lease or sale as light manufacturing or warehouse space. As part of the closure process, two wipe samples were collected and analyzed for polychlorinated biphenyls (PCBs) near what was initially thought to have been hydraulic compressors in Building 8. PCBs were detected in one of the two wipe samples above the United States Environmental Protection Agency (EPA) PCB cleanup level for indoor surfaces of 10 micrograms ( $\mu\text{g}$ ) per 100 square centimeters ( $\text{cm}^2$ ) (See Section 2.0 for further discussion of these results). The source of PCBs detected in this wipe sample is not known. Additional sampling in this area showed that the concrete and a sediment sample collected near one of the wipe samples contained PCBs at concentrations greater than 25 milligrams per kilogram ( $\text{mg/kg}$ ) but less than 50  $\text{mg/kg}$ .

Since the sources of PCB contamination in the initially collected samples cannot be determined, Kelly-Moore requested AMEC Geomatrix, Inc. (AMEC), to prepare this PCB Closure and Sampling plan to address the potential presence of PCBs in the former manufacturing areas of the facility. This closure and sampling plan was prepared in accordance with the requirements of the Toxic Substances Control Act (TSCA), Code of Regulations (CFR) Title 40 (40 CFR) Part 261 concerning PCBs. Because Kelly-Moore

intends to demolish Building 8 where PCBs were identified, they will restrict access to Building 8 and post large "PCB Marks", consistent with TSCA, on all closed doors leading into the building. Additional details about the planned closure are described in Section 3.0.

Daniel Duncan, the local EPA Region 10 contact for PCBs, was consulted during preparation of this plan and recommended that the PCB Remediation Waste section of 40 CFR Part 761.61, subpart N, would apply with regard to the initial characterization of PCBs on site. This PCB Closure and Characterization Plan (Plan) was developed following the guidance in subpart N and includes the following information:

- The nature of the PCB contamination, including the types of materials;
- A summary of the sampling procedures;
- A cleanup site map showing PCB concentrations measured in all characterization samples, and the location and extent of the identified contaminated area; and
- A characterization plan for the manufacturing areas of the site.

Per TSCA, this plan is being submitted to EPA Region 10 for review 30 days prior to characterization of possible PCB contamination in the former manufacturing areas. Within 30 calendar days of receiving the notification, EPA will respond in writing to approve the self-implementing cleanup, disapprove the self-implementing cleanup, or request additional information. If EPA does not respond within 30 calendar days of receiving the notice, Kelly-Moore will assume that it is complete and acceptable and proceed with characterization.

## 2.0 NATURE OF PCB CONTAMINATION

The source of PCBs at the facility is unknown. Building 8 was initially selected for PCB sampling because it had been thought that hydraulic compressors had been used in the building. Surface wipe samples were collected in Building 8 to screen selected area for possible PCB contamination. Samples were collected by aggressively wiping a hexane-moistened gauze pad over a specified, measured area, using EPA's wipe sampling procedure (Smith, 1991). The PCB analyses were done using EPA Method 8082A. Hexane was allowed to evaporate from the gauze for at least 1 hour before sealing the sample containers. Samples were transported at 4 degrees Centigrade ( $^{\circ}\text{C}$ ) to the laboratory under chain of custody.

One wipe sample (Sample 9-012209) was collected from a dark stained area on the floor in an area where a paint mixer formerly stood, with a result of  $7.9 \mu\text{g}/100\text{cm}^2$  total PCBs. The mixer stood southwest of the former shop office, in the southeast half of Building 8. The location for the PCB wipe sample was 2.0 feet from the face of the wall and measured 0.4 foot x 0.4 foot square (an area of  $149 \text{ cm}^2$ ).

A second wipe sample (10-012209) was collected from another section of floor, near where another paint mixer once stood, with a result of  $10.9 \mu\text{g}/100\text{cm}^2$  total PCBs. The sample was collected from a dark stained part of the floor, west of the shop office, in the southern half of Building 8. The sample location for the PCB wipe measured 0.4 foot x 0.4 foot square (an area of  $149 \text{ cm}^2$ ). Table 1 lists the analytical results for the two wipe samples from Building 8. These sample locations and the associated analytical results are shown in Figure 2.

Based on the results of the wipe sampling, a concrete chip sample and a sample of sediments from the steel flooring were collected adjacent to the location of wipe sample 10-012209. Both of these samples were analyzed for PCBs using EPA Method 8082; results are presented in Table 1, and the sample locations and results are shown in Figure 2. Copies of the analytical data packages for all of these samples are provided in Appendix A. Analytical results for the concrete chip and sediment samples showed total PCB concentrations of 35 mg/kg and 41 mg/kg, respectively. These results correspond to a low level of PCB contamination of the floor in Building 8.

### 3.0 BUILDING 8 CLOSURE AND MARKING

The exact sources of PCB contamination in Building 8 are not known. Kelly-Moore intends to potentially demolish Building 8 before leasing or selling the facility. Until the future use of Building 8 is resolved, Kelly-Moore plans to temporarily address the issues of PCBs in Building 8 in accordance with 40 CFR Part 761.61(4)(i)(B)(2). Bulk PCB remediation wastes may remain at a cleanup site at concentrations above 25 mg/kg but below 50 mg/kg if the site is secured and marked with a sign including the large PCB Mark ( $M_L$ ). Kelly-Moore will take the following steps to address the PCBs remaining in Building 8.

- Access to the former production areas of the building by unauthorized personnel will be restricted by securing all access points by locking doors if possible, or posting chains across other entries.
- All doors and entries to the former production areas of Building 8 will be marked in accordance with 40 CFR Part 761.45 (a)(10) with  $M_L$ .
- All currently used and propagated facility drawings showing Building 8 will be annotated to show that PCB remediation waste is present in Building 8 above regulatory cleanup levels.

PCBs will be addressed in Building 8 as part of demolition planning and demolition waste management. Additional characterization may be conducted following demolition if warranted. Kelly-Moore is currently taking steps to secure Building 8 and will implement the measures identified above pending possible review and comments on the plan by EPA, as outlined in Section 1.0.

#### **4.0 MANUFACTURING AREA CLEANING**

Kelly-Moore plans to clean the entire facility with the exception of Building 8 in preparation for lease or sale. Cleaning will include cleaning accumulated paint sludges and debris from the strip drains. Strip drains are located in the floors of Buildings 5a, 6, and 7, as shown in Figure 2. The gratings covering the strip drains will be removed, and the accumulated sludge and sediment inside of the drains will be scraped and removed from the drains. The sludge and sediment will be containerized in 55-gallon drums. The drums will be sealed and labeled to indicate PCB waste. The sludge and sediment will be analyzed for total metals, semivolatile organic compounds (SVOCs), and PCBs.

Kelly-Moore will then also clean the floors of Buildings 1, 2, 3, 4, 5, 5a, 6 (first and second floors), 7 (first floor), and 9 using a pressurized hot-water spray. Personnel trained in hazardous waste operations will operate the hot-water spray equipment under the direction of AMEC personnel. Wash water will be vacuumed up during cleaning, along with any debris loosened during cleaning. The wash water will be temporarily stored in a large polyethylene tank. Samples of the wash water and the accumulated sediment or solids will be analyzed for total metals, SVOCs, and PCBs.

Once the analytical results for these cleaning residuals have been received, the material will be profiled for disposal, and disposed in accordance with all federal and state regulations.

## 5.0 PCB CHARACTERIZATION SAMPLING

The presence of unknown sources of PCB contamination in Building 8 raises the possibility of PCB contamination in other buildings formerly used for manufacturing. PCB characterization sampling is proposed to be completed in Buildings 6 and 7, which are located adjacent to Building 8. Building 6 contained a second story, which is also concrete-floored and which was also used for manufacturing. The concrete floors in both Buildings 6 and 7 are thought to be 6 inches thick. PCB sampling is not proposed for the former manufacturing area in Building 5A, because it was used primarily for storage rather than formulation of paint.

The following subsections detail the applicable cleanup levels, sampling approach and methods, analytical methods, and decision criteria that will be used to evaluate the sampling results.

### 5.1 CLEANUP LEVELS

In accordance with 40 CFR Part 761.61(4)(i), the PCB cleanup level for high-occupancy areas is 1 mg/kg, and the cleanup level for low-occupancy areas is 25 mg/kg. Low-occupancy areas are those areas occupied for less than an average of 6.7 hours per week (such as a warehouse). Both cleanup levels will be used to evaluate the results of the concrete samples.

In accordance with 40 CFR Part 761.61(4)(ii), If wipe samples are collected from a nonporous surface, such as a piece of equipment, the applicable cleanup level will be 10 µg/100 cm<sup>2</sup>; if the surface concentrations exceed this concentration, additional decontamination may be necessary in order to dispose of the equipment as non-PCB-contaminated equipment under the definition in 40 CFR Part 761.3.

### 5.2 SAMPLING APPROACH AND METHODS

Figure 3 shows the proposed PCB sample locations in Buildings 6 and 7. The sampling design is based on a 3-meter grid. The grid spacing is based on the requirements of 40 CFR Parts 761.265, 761.283, and 761.286. Samples will be collected at the grid nodes as shown in Figure 3, and two samples will be collected from each location. One individual sample will be archived and held pending future analysis. The second sample will be added to a composite sample created from six to nine individual samples as specified in 40 CFR 261.289. The samples will be collected in the following manner.

- The grid sample locations will be determined by measuring a predetermined distance from the building walls and locating the grid nodes with a white paint-based marker.
- Each grid location will be assigned an identifier that consists of the building number followed by sequential numbering. For example, grid nodes in Building 6 will be



designated: 6-1, 6-2, 6-3, etc. The grid nodes will be grouped into “inference” areas composed of six to nine individual sample locations as shown on Figure 3. Samples within each inference area will be composited into one composite sample.

- An electrically driven rotohammer with a 1-inch-diameter steel carbide drill bit will be used to drill a hole approximately 7.5 cm (or 3 inches) deep into the cement slab within 6 inches of the painted node location. The bit will be marked with a piece of duct or electrical tape at the 3-inch depth.
- The pulverized concrete from the first sample location will be spooned out of the drilled hole and placed into a 2-ounce sample jar. The jar will be labeled with the sample location and the date and time collected.
- A second drill hole will be placed approximately diagonal to the first hole, 6 inches away from the node. The hole will be bored to a depth of approximately 3 inches, and the pulverized concrete from the hole will be placed in a large 8-ounce widemouth jar.
- Material in the 8-ounce sample jar will represent the composite sample for a given inference area. Each inference area will be given an identifier consisting of the building number (6 or 7) and an alphanumeric designation (6A, 6B, 6C...). The second sample collected from each location will be added to the composite sample for its representative inference area.
- A decontaminated carbide drill bit and spoons will be used to collect samples from each node. A container of 20 precleaned drill bits and spoons will be prepared prior to sampling.
- Sampling of nodes for a given inference area will continue until the composite sample for that inference area is complete. Subsequent inference areas will be sampled in a similar manner until the composite sample from each inference area has been completed.
- Sample nomenclature for the individual samples will use the following scheme: “KMyearcode-BuildingNumber-SampleNumber.” For example, “KM09-6-01” is a sample collected in 2009 from Building 6 at Location 1. The corresponding inference composite sample will be labeled: “KM-06A-COMP,” with each of the subsequent composite samples labeled “KM-06B-COMP, KM-06C-COMP, etc.
- All of the samples will be labeled with a sample control number and stored in a cooler containing ice at 4°C.
- One equipment blank will be collected during each day of sampling. The equipment blank will be collected by placing decontaminated drill bits and utensils in a large, clean stainless steel bowl. Sufficient deionized water will be added to the bowl to cover drill bits and utensils. Next, the drill bit and utensils in the bowl will be stirred with a clean utensil to thoroughly mix the blank. Finally, the equipment blank will be decanted into a sample container.

- A second aliquot of one of the composite samples will be analyzed to serve as a field duplicate sample. Since fewer than 20 composite samples will be analyzed, a single field duplicate aliquot from a selected composite sample should be sufficient.

All of the samples in a given cooler will be listed on an individual chain-of-custody form. The coolers will be sealed and transported to the analytical laboratory.

The drill bits and sample spoons will be decontaminated between sample locations following a standard three-step decontamination process that employs an Alconox-containing detergent spray, and two sequential tap water rinses. All cleaning will take place above three clearly-labeled buckets to contain the cleaning sprays and rinsates.

Once the analytical samples have been collected, the holes in the floor will be regouted using a cement-sand mixture. The concrete dust remaining in the holes will be wetted and vacuumed using a wet/dry vacuum. The grout mixture will be set level with the existing floor and faired smooth taking care to not obscure the paint labels for each sample point.

### **5.3 ANALYTICAL METHODS**

EPA Method 8082A will be used to quantify PCBs in the concrete and wipe samples. The analytical results will be quantitated as Aroclors. All wipe sample results will be normalized by the analytical laboratory to be equivalent to an area of 100 cm<sup>2</sup>. The analytical laboratory will be certified for PCB analyses by the Washington State Department of Ecology. Initially the composite samples will be submitted for analyses and the individual subsamples will be placed on hold at the analytical laboratory pending initial results. Decision criteria described in Section 5.4 will be applied to identify further testing, if needed.

### **5.4 DECISION CRITERIA**

Analytical results for the composite samples will be compared with decision criteria presented in Table 2. The decision criteria in Table 2 are based on both the 1 mg/kg and 25 mg/kg cleanup levels discussed in Section 5.1. The decision criteria in Table 2 will be used as a screening tool to determine if analytical result for each composite sample exceed the cleanup level while minimizing the chance for false positives. The method used to calculate the decision criteria is based on EPA guidance (EPA, 1985).

Decision criteria for a given composite sample are based on the number of individual, discrete subsamples that make up the composite. If analytical results for a given composite sample exceed the decision criterion for that composite based on the number ("x") of subsamples in that composite, then at least one of the subsamples that contributed to the composite exceeds the cleanup level. In such a case, other actions may need to be taken. Such actions may include one or more of the following: analysis of relevant subsamples, cleaning or scarifying of

the concrete floor, or encapsulation of the inference area represented by the composite result. Because the actions undertaken depend on not only the individual composite results, but the magnitude of each result and the number of composite samples that exceed the decision criteria, the exact course of action will be determined after a thorough review of the data.

## **5.5 RESIDUALS DISPOSAL**

All residuals from sampling will be contained and either tested for PCB contamination or disposed of as PCB waste. The residuals expected from the investigation will include:

- Cleaning water and sediment settling in the storage tank from cleaning the various building floors;
- Solids and paint sludge removed from strip drains;
- Sampling equipment decontamination (decon) water; and
- Soiled personal protective equipment, rags, and other refuse generated during the investigation.

Representative samples of the cleaning water, sediment, and paint sludge will be submitted to an Ecology-certified analytical laboratory for analysis for the Resource Conservation and Recovery Act (RCRA) list of eight metals and total PCBs by EPA Method 8082A. The metals sample will be analyzed using the Toxicity Characteristic Leaching Procedure (or TCLP). All residuals will be stored inside Building 6 or 7 in secure containment in U.S. Department of Transportation (DOT) capable containers. All residuals will be disposed after profiling by Ingenium L.L.C., an environmental waste handling firm, who will contract directly with Kelly-Moore.

## **6.0 REPORTING**

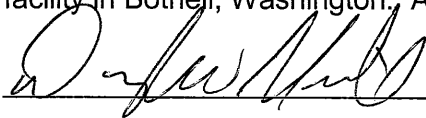
AMEC will prepare a report that summarize the PCB characterization sampling results, indicate what follow-on steps will be taken, and include a schedule for implementing these steps. The PCB analytical data will be presented, along with photographic documentation of the closure of Building 8. The report will include certificates of disposal for all TSCA wastes produced during the PCB characterization sampling.

## **7.0 SCHEDULE**

The PCB sampling plan will be implemented after receiving and addressing EPA's comments on the plan, or 30 days after submittal of the plan to EPA. Cleanup of the floors of the buildings and the cleaning of strip drains will be implemented prior to PCB sampling. The results of the PCB sampling will be reported to EPA approximately 45 days after receipt of the analytical results from the laboratory.

## 8.0 OWNER CERTIFICATION

I certify that all sampling plans, sample collection procedures, and laboratory reports presenting sample preparation procedures, extraction procedures, and instrument/chemical analysis procedures used to assess or characterize the PCB contamination in aboveground structures located at the former Kelly-Moore manufacturing facility at 5410 Airport Way South in Seattle, Washington, are on file at the offices of AMEC, Inc., in Seattle, Washington, for the work performed by AMEC on behalf of Kelly-Moore Paint Company, Inc. The detailed laboratory records for work performed by On-Site Environmental are on file at the laboratory's facility in Bothell, Washington. All files are available at these locations for EPA inspection.

 (signature)

Douglas W. Merrill (printed name)  
Kelly-Moore Paint Company, Inc. 7/8/09

## 9.0 REFERENCES

EPA (U.S. Environmental Protection Agency), 1985, Verification of PCB Spill Cleanup by Sampling and Analysis: EPA-560/5-85-026, August.

Smith, J.H., 1991, Wipe Sampling and Double Wash / Rinse Cleanup as Recommended by the Environmental Protection Agency Spill Cleanup Policy U.S. EPA, Office of Prevention, Pesticides and Toxic Substances, April 18.

**TABLES**

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TABLE 1

**BUILDING 8 PCB ANALYTICAL RESULTS<sup>1,2</sup>**  
Former Kelly-Moore Paint Manufacturing Facilities  
Seattle, Washington

	Sample ID	9-012209	10-012209	30-030609	29-030609
	Date Collected	1/22/2009	1/22/2009	3/6/2009	3/6/2009
	Matrix	Area wipe	Area wipe	Concrete chip sample adjacent to sample location 10	Sediment on steel plate flooring adjacent to sample location 10
		PCBs ( $\mu\text{g}/100\text{ cm}^2$ )		PCBs (mg/kg)	
Aroclor 1016		1.3 U	1.3 U	4.0 U	4.0 U
Aroclor 1221		1.3 U	1.3 U	4.0 U	4.0 U
Aroclor 1232		1.3 U	1.3 U	4.0 U	4.0 U
Aroclor 1242		1.3 U	1.3 U	4.0 U	4.0 U
Aroclor 1248		1.3 U	1.3 U	4.0 U	4.0 U
Aroclor 1254		<b>4.7</b>	<b>8.1</b>	<b>22</b>	<b>29</b>
Aroclor 1260		<b>3.2</b>	<b>2.8</b>	<b>13</b>	<b>12</b>
Total polychlorinated biphenyls		<b>7.9</b>	<b>10.9</b>	<b>35</b>	<b>41</b>

Notes

- Results in bold indicate a detected value.
- Flags:  
U = analyte was not detected at the reported concentration

Abbreviations

$\mu\text{g}/100\text{ cm}^2$  = micrograms per 100 square centimeters  
mg/kg = milligrams per kilogram  
PCBs = polychlorinated biphenyls

**TABLE 2**

**DECISION CRITERIA FOR PCB CHARACTERIZATION<sup>1</sup>**

Former Kelly-Moore Paint Manufacturing Facilities  
Seattle, Washington

Number of Samples in Composite	Cleanup Level (High Occupancy)	Cleanup Level (Low Occupancy)	Composite Sample Decision Criteria	
			High Occupancy	Low Occupancy
5	1.0 mg/kg	25 mg/kg	0.28 mg/kg	7.08 mg/kg
6			0.24 mg/kg	5.9 mg/kg
7			0.20 mg/kg	5.06 mg/kg
8			0.18 mg/kg	4.42 mg/kg
9			0.16 mg/kg	3.93 mg/kg

Notes

1. The Decision Criteria are calculated using the method described by the EPA (1985).

The high-occupancy decision criteria is given by

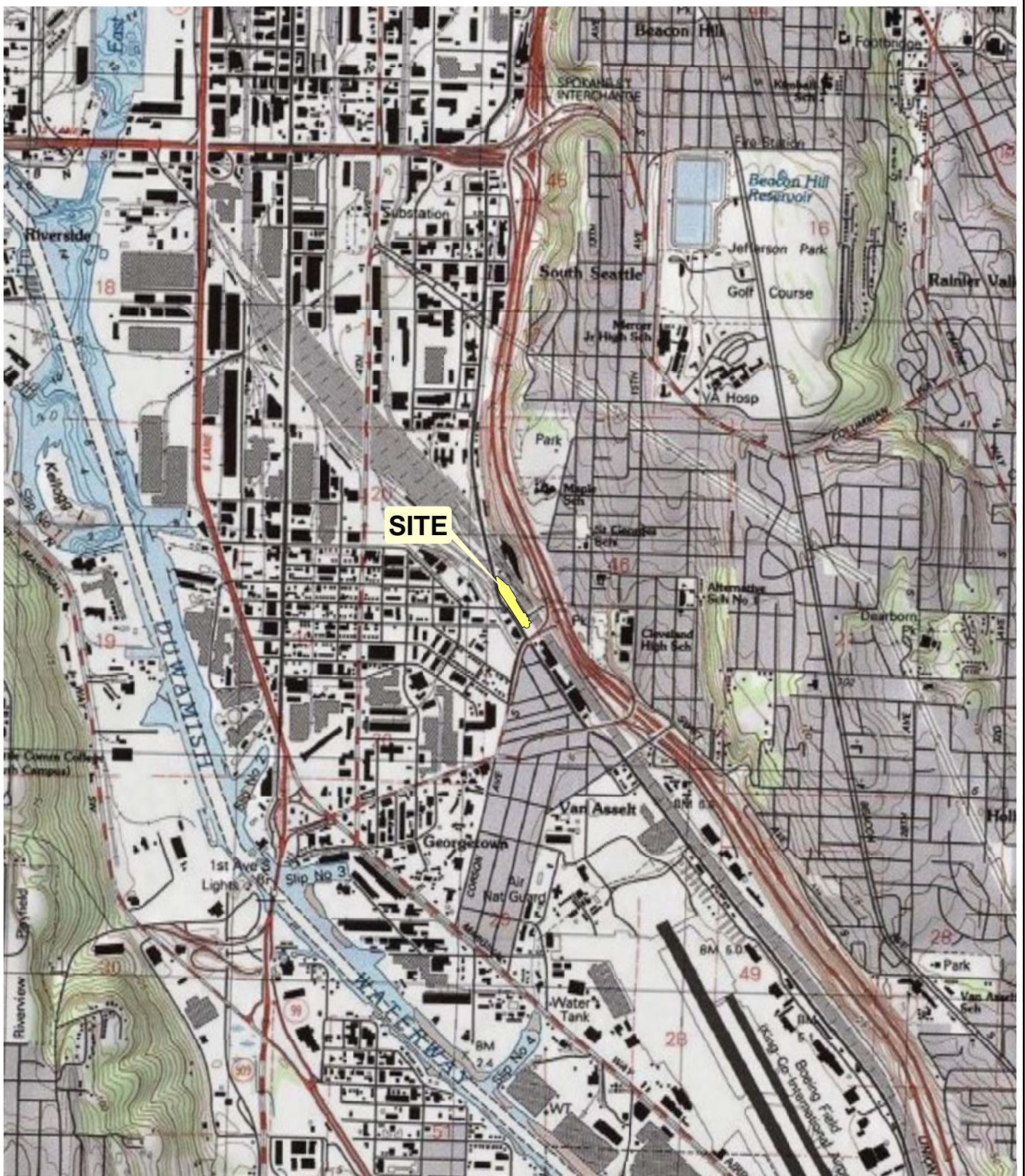
$$(0.8) \cdot (1 \text{ mg/kg}) + (2.576) \cdot (0.3) \cdot (0.8) \cdot (1.0) = 1.42 \text{ mg/kg/ number of subsamples in composite}$$

The low-occupancy criteria is given by

$$(0.8) \cdot (25 \text{ mg/kg}) + (2.576) \cdot (0.3) \cdot (0.8) \cdot (1.0) = 35.4 \text{ mg/kg/ number of subsamples in composite}$$

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**FIGURES**



Note: Base map from U.S.G.S. Seattle South E, WA.  
(7.5' Map Series)



0 1,000 2,000  
Feet

# SITE LOCATION MAP Former Kelly-Moore Manufacturing Facilities Seattle, Washington

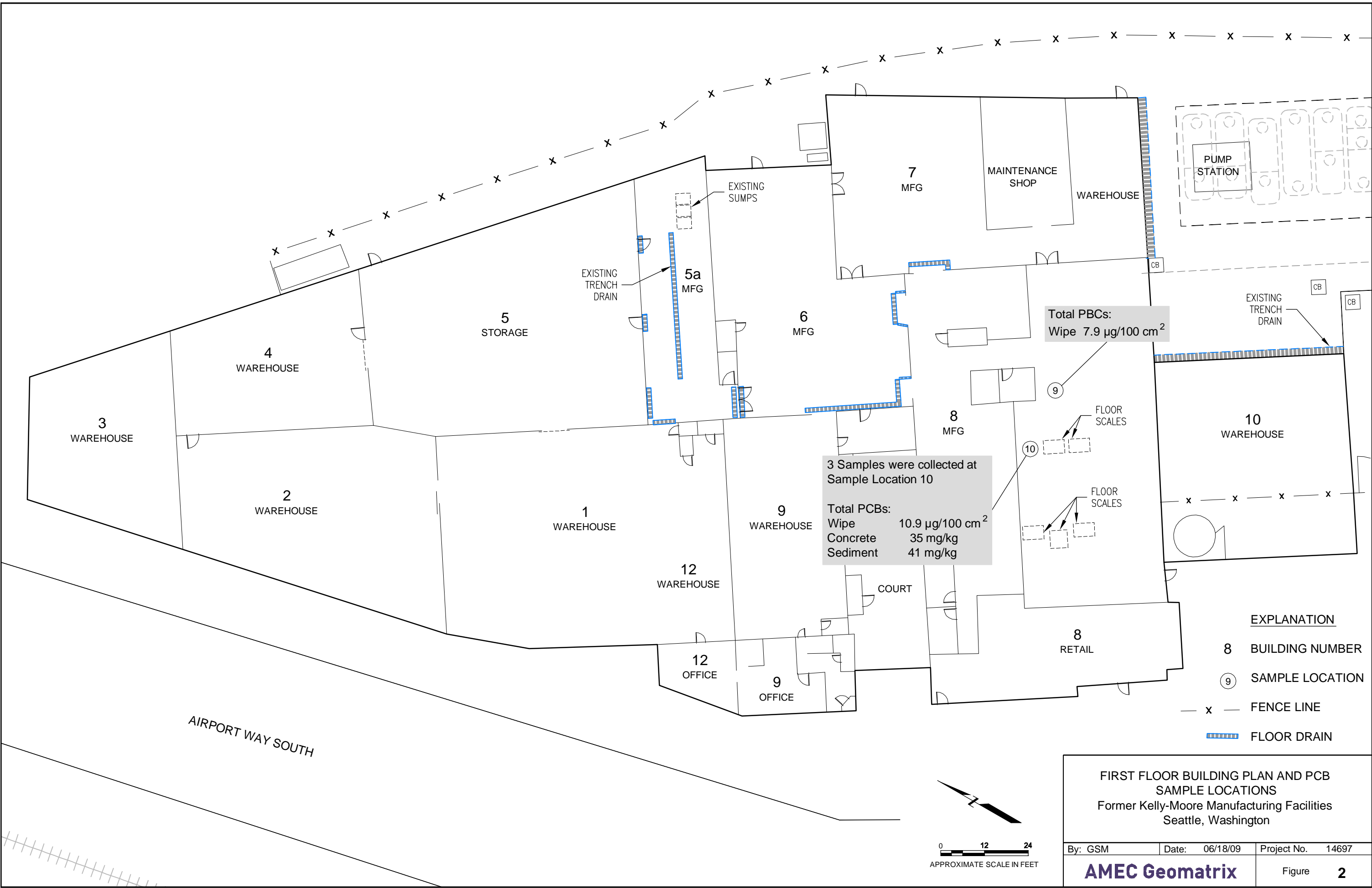
By: APS	Date: 06/12/09	Project No. 14697
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**AMEC Geomatrix**

Figure **1**



Plot Date: 06/18/09 - 9:43am, Plotted by: gary.maxwell  
Drawing Path: P:\Kelly Moore\ Drawing Name: KellyMoore\_BldgSamples\_020209 GSM edit.dwg



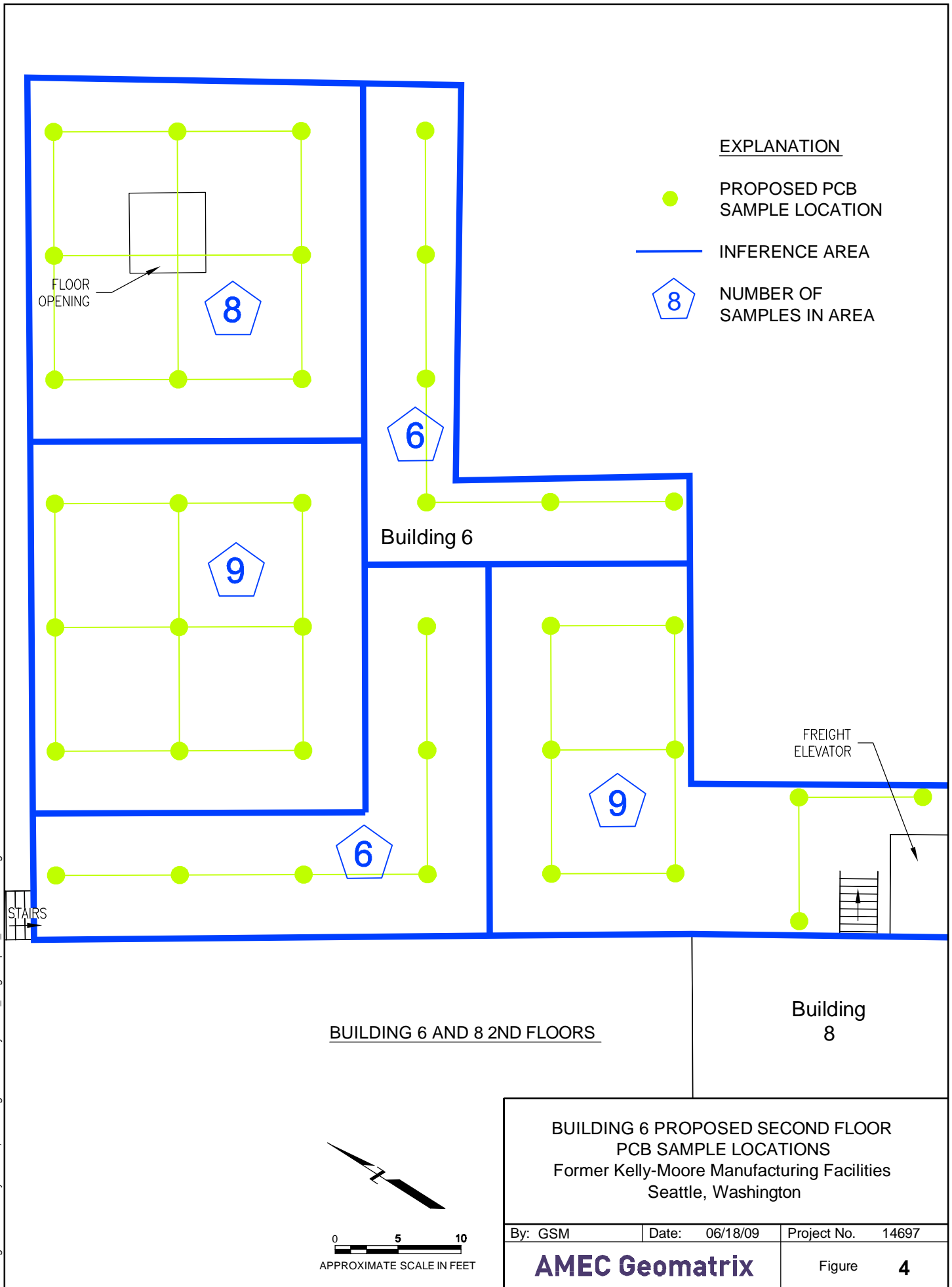
AIRPORT WAY SOUTH

0 12 24  
APPROXIMATE SCALE IN FEET



Plot Date: 06/18/09 - 9:12am, Plotted by: gary.maxwell  
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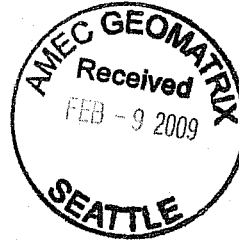


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**APPENDIX A**

PCB Sampling Analytical Packages





February 3, 2009

Tim Reinhardt  
AMEC Geomatrix Consultants, Inc.  
One Union Square  
600 University Street, Suite 1020  
Seattle, WA 98101

Re: Analytical Data for Project 14697.000  
Laboratory Reference No. 0901-148

Dear Tim:

Enclosed are the analytical results and associated quality control data for samples submitted on January 23, 2009.

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to be 'DB' followed by a long horizontal stroke.

David Baumeister  
Project Manager

Enclosures

Date of Report: February 3, 2009  
Samples Submitted: January 23, 2009  
Laboratory Reference: 0901-148  
Project: 14697.000

### Case Narrative

Samples were collected on January 22 and 23, 2009, and received by the laboratory on January 23, 2009. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

#### Volatiles EPA 8260B Analysis

Method 5035A VOA vials were not provided for the samples. They were therefore extracted from 2-ounce jars. Some loss of volatiles may have occurred.

The results for samples 13-012209, 15-012209, 16-012209, 17-012209, 18-012309, 19-012309, and 20-012309 are reported on a wet-weight basis.

Internal Standard 1,4-Dichlorobenzene-d4 does not meet acceptance criteria for samples 2-012209, 15-012209, 17-012209, 19-012309, and 3-012309 due to sample matrix effects. The samples were analyzed at two different dilutions with similar results. All results, including Practical Quantitation Limits, from Bromobenzene onward should be considered estimates.

Internal Standards Chlorobenzene-d5 and 1,4-Dichlorobenzene-d4 do not meet acceptance criteria for sample 16-012209 due to sample matrix effects. The sample was analyzed at two different dilutions with similar results. All results, including Practical Quantitation Limits, from (trans) 1,3-Dichloropropene onward should be considered estimates.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

#### Semivolatiles EPA 8270D/SIM Analysis

The sample 3-012309 had one acid and one base surrogate outside of control limits. This is within allowance of our standard operation procedure as long as the recovery is above 10%.

Due to the matrix of the samples, the samples were extracted at 0.5grams.

The results for samples 13-012209, 15-012209, 16-012209, 17-012209, 18-012309, 19-012309, and 20-012309 are reported on a wet-weight basis.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

#### Total Metals EPA 6010B/7471A Analysis

Sample results are reported on a wet-weight basis.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: February 3, 2009  
 Samples Submitted: January 23, 2009  
 Lab Traveler: 0901-148  
 Project: 14697.000

## PCBs by EPA 8082

Matrix: Wipe

Units: ug/100cm<sup>2</sup> *wipe*

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
<b>Client ID:</b>	<b>10-012209</b>					
<b>Laboratory ID:</b>	<b>01-148-04</b>					
Aroclor 1016	ND	2.0	EPA 8082	1-26-09	1-26-09	
Aroclor 1221	ND	2.0	EPA 8082	1-26-09	1-26-09	
Aroclor 1232	ND	2.0	EPA 8082	1-26-09	1-26-09	
Aroclor 1242	ND	2.0	EPA 8082	1-26-09	1-26-09	
Aroclor 1248	ND	2.0	EPA 8082	1-26-09	1-26-09	
Aroclor 1254	12	2.0	EPA 8082	1-26-09	1-26-09	
Aroclor 1260	4.1	2.0	EPA 8082	1-26-09	1-26-09	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>DCB</i>	102	69-130				

<b>Client ID:</b>	<b>9-012209</b>					
<b>Laboratory ID:</b>	<b>01-148-05</b>					
Aroclor 1016	ND	2.0	EPA 8082	1-26-09	1-26-09	
Aroclor 1221	ND	2.0	EPA 8082	1-26-09	1-26-09	
Aroclor 1232	ND	2.0	EPA 8082	1-26-09	1-26-09	
Aroclor 1242	ND	2.0	EPA 8082	1-26-09	1-26-09	
Aroclor 1248	ND	2.0	EPA 8082	1-26-09	1-26-09	
Aroclor 1254	7.0	2.0	EPA 8082	1-26-09	1-26-09	
Aroclor 1260	4.8	2.0	EPA 8082	1-26-09	1-26-09	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>DCB</i>	72	69-130				

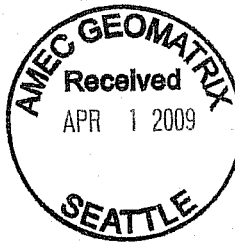
Date of Report: February 3, 2009  
 Samples Submitted: January 23, 2009  
 Lab Traveler: 0901-148  
 Project: 14697.000

**PCBs by EPA 8082  
 QUALITY CONTROL**

Matrix: Wipe  
 Units: ug/100cm2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
<b>METHOD BLANK</b>						
Laboratory ID:	MB0126P1					
Aroclor 1016	ND	2.0	EPA 8082	1-26-09	1-26-09	
Aroclor 1221	ND	2.0	EPA 8082	1-26-09	1-26-09	
Aroclor 1232	ND	2.0	EPA 8082	1-26-09	1-26-09	
Aroclor 1242	ND	2.0	EPA 8082	1-26-09	1-26-09	
Aroclor 1248	ND	2.0	EPA 8082	1-26-09	1-26-09	
Aroclor 1254	ND	2.0	EPA 8082	1-26-09	1-26-09	
Aroclor 1260	ND	2.0	EPA 8082	1-26-09	1-26-09	
Surrogate:	Percent Recovery	Control Limits				
DCB	122	69-130				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB0126P1										
	SB	SBD	SB	SBD		SB	SBD				
Aroclor 1260	21.9	21.7	20.0	20.0	N/A	110	109	91-120	1	4	
Surrogate:											
DCB						121	121	69-130			



March 27, 2009

Tasya Gray  
AMEC Geomatrix Consultants, Inc.  
One Union Square  
600 University Street, Suite 1020  
Seattle, WA 98101

Re: Analytical Data for Project 14697.000  
Laboratory Reference No. 0903-040

Dear Tasya:

Enclosed are the analytical results and associated quality control data for samples submitted on March 9, 2009.

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

A large, stylized handwritten signature in black ink, enclosed within a large, loopy oval shape.

David Baumeister  
Project Manager

Enclosures

Date of Report: March 27, 2009  
Samples Submitted: March 9, 2009  
Laboratory Reference: 0903-040  
Project: 14697.000

### **Case Narrative**

Samples were collected on March 6, 2009, and received by the laboratory on March 9, 2009. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

#### Total Metals EPA 6010B/7471A Analysis

Samples are reported on a wet-weight basis.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

#### PCBs EPA 8082 Analysis

Due to the solid waste matrices of the samples 29-030609 and 30-030609, results are based on a wet weight basis.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: March 27, 2009  
 Samples Submitted: March 9, 2009  
 Lab Traveler: 0903-040  
 Project: 14697.000

### PCBs by EPA 8082

Matrix: Solid  
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
<b>Client ID:</b>	<b>29-030609</b>					
Laboratory ID:	03-040-02					
Aroclor 1016	ND	4.0	EPA 8082	3-10-09	3-10&11-09	
Aroclor 1221	ND	4.0	EPA 8082	3-10-09	3-10&11-09	
Aroclor 1232	ND	4.0	EPA 8082	3-10-09	3-10&11-09	
Aroclor 1242	ND	4.0	EPA 8082	3-10-09	3-10&11-09	
Aroclor 1248	ND	4.0	EPA 8082	3-10-09	3-10&11-09	
Aroclor 1254	29	4.0	EPA 8082	3-10-09	3-10&11-09	
Aroclor 1260	12	4.0	EPA 8082	3-10-09	3-10&11-09	
Surrogate:	Percent Recovery	Control Limits				
DCB	63	35-127				
<b>Client ID:</b>	<b>30-030609</b>					
Laboratory ID:	03-040-03					
Aroclor 1016	ND	2.0	EPA 8082	3-10-09	3-10&11-09	
Aroclor 1221	ND	2.0	EPA 8082	3-10-09	3-10&11-09	
Aroclor 1232	ND	2.0	EPA 8082	3-10-09	3-10&11-09	
Aroclor 1242	ND	2.0	EPA 8082	3-10-09	3-10&11-09	
Aroclor 1248	ND	2.0	EPA 8082	3-10-09	3-10&11-09	
Aroclor 1254	22	2.0	EPA 8082	3-10-09	3-10&11-09	
Aroclor 1260	13	2.0	EPA 8082	3-10-09	3-10&11-09	
Surrogate:	Percent Recovery	Control Limits				
DCB	58	35-127				

Date of Report: March 27, 2009  
 Samples Submitted: March 9, 2009  
 Lab Traveler: 0903-040  
 Project: 14697.000

**PCBs by EPA 8082  
 QUALITY CONTROL**

Matrix: Soil  
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
<b>METHOD BLANK</b>						
Laboratory ID:	MB0310S1					
Aroclor 1016	ND	0.050	EPA 8082	3-10-09	3-10-09	
Aroclor 1221	ND	0.050	EPA 8082	3-10-09	3-10-09	
Aroclor 1232	ND	0.050	EPA 8082	3-10-09	3-10-09	
Aroclor 1242	ND	0.050	EPA 8082	3-10-09	3-10-09	
Aroclor 1248	ND	0.050	EPA 8082	3-10-09	3-10-09	
Aroclor 1254	ND	0.050	EPA 8082	3-10-09	3-10-09	
Aroclor 1260	ND	0.050	EPA 8082	3-10-09	3-10-09	
Surrogate:	Percent Recovery	Control Limits				
DCB	99	35-127				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	03-037-04										
	MS	MSD	MS	MSD		MS	MSD				
Aroclor 1260	0.235	0.251	0.500	0.500	ND	47	50	24-128	7	14	
Surrogate:											
DCB						65	58	35-127			