

Lockheed Martin
Maritime Systems & Sensors, DSS
1210 Massillon Road Akron, OH 44315-0001
Telephone 330.796.1679
Facsimile 330.796.6999



December 5, 2007

Tony Martig
Waste Pesticides and Toxics Division
Region 5 (DT-8J)
U. S. Environmental Protection Agency
77 W. Jackson Blvd.
Chicago, IL 60604-3590

RE: Akron Airdock, Akron, Ohio

Dear Mr. Martig:

Attached to this letter is a copy of the Akron Airdock Pavement PCB Characterization for your awareness. No approval action is being requested from you.

Lockheed Martin prepared this report to compile the data previously collected regarding the condition of pavement surrounding the Airdock and to characterize the extent of PCBs in the pavement. This report provides the information Lockheed Martin needs to coordinate routine maintenance, renovations and changes to the pavement surrounding the Airdock and communicate with the various property owners and tenants at and nearby the Airdock.

Except for three locations, all of which had the pavement removed as TSCA waste, the pavement sample results indicate PCB concentrations below 1 mg/kg.

If you have any questions, please contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "D. Gunnarson", with a long horizontal line extending to the right.

David Gunnarson
330-797-8751
703-367-5022

Copy: Steve Vardavas (Lockheed Martin)
Vanessa Steigerwald Dick (Ohio EPA)
Chris Burnham (Summit County Port Authority)

Akron Airdock Pavement PCB Characterization

Akron, Ohio

November 20, 2007

Lockheed Martin Corporation
1210 Massillon Road
Akron, Ohio 44315

CONTENTS

Section	Page
EXECUTIVE SUMMARY	i
1. INTRODUCTION.....	1
1.1 BACKGROUND.....	1
1.2 SITE DESCRIPTION	1
1.3 SAMPLING RATIONALE.....	2
2. PAVEMENT SAMPLING METHODS AND RESULTS.....	3
2.1 SAMPLING DATES AND NUMBER OF SAMPLES	3
2.2 SAMPLING PROCEDURES.....	3
2.3 PCB LABORATORY ANALYSIS	4
2.4 PCB PAVEMENT SAMPLING RESULTS.....	4
3. PAVEMENT MANAGEMENT	5
3.1 HYDRANT 105 PAVEMENT REMOVAL.....	5
3.2 WESTERN PROPERTY PAVEMENT REMOVAL.....	5
3.3 REMAINING PAVEMENT AREAS	5
4. SUMMARY	6
5. REFERENCES.....	7

TABLES (follow text)

Number

- 1 PAVEMENT SAMPLES WITH TOTAL PCBS GREATER THAN 1 PPM
- 2 PAVEMENT SAMPLES WITH TOTAL PCBS LESS THAN 1 PPM

FIGURE (follows tables)

Number

- 1 SITE LAYOUT MAP WITH PAVEMENT SAMPLE LOCATIONS AND TOTAL PCB RESULTS

EXECUTIVE SUMMARY

Pavement core samples and pavement debris samples were collected from the exterior concrete and asphalt apron on and surrounding the Airdock parcel between September 2003 and May 2007. All samples were tested for total polychlorinated biphenyls (PCBs) using United States Environmental Protection Agency (EPA) Method 8082. The following results were generated from the sampling:

- Results from three sampling locations were reported with total PCBs greater than 1 part per million (ppm) (1.3, 1.91 and 3.3 ppm); pavement from each area was subsequently excavated and properly disposed.
- In the remaining areas the detected concentrations of total PCBs in pavement samples ranged from non-detect to 0.84 ppm; the average detected PCB concentration among those samples was 0.24 ppm, and the average total PCB concentration of all samples was 0.14 ppm.

The sampling data demonstrate that the overall average pavement PCB concentration is below 1 ppm. The form of the non-liquid PCB release (as small particles) and the area topography indicate that any PCB contamination would be low and relatively uniform; the sampling grid used for the investigation and the low or non-detectable results for all of the samples confirm this observation.

Results of sub-pavement soil samples are addressed in Lockheed Martin's risk-based soil cleanup application for the Akron Airdock dated August 2007.

1. INTRODUCTION

This report presents PCB sampling data from pavement samples collected on behalf of Lockheed Martin Corporation (Lockheed Martin) at the Akron Airdock, Akron, Ohio, from 2003 to 2007. Samples were collected to characterize the extent of PCBs in pavement surrounding the Airdock, and thereby to guide the management of pavement during construction, maintenance or repair activities proximate to the Airdock. The purposes of this report are to compile the results of the various PCB pavement sampling events, and to document recent pavement removal activities.

Cleanup and disposal of non-liquid PCBs at the Akron Airdock site is being conducted pursuant to a Consent Agreement and Final Order (CAFO) and in accordance with the Federal Toxic Substances Control Act (TSCA) and its implementing regulations of 40 C.F.R. §761.61 (a) and (c).

1.1 Background

In 2003, the unusual non-liquid PCB Aroclor 1268 was discovered to have been a component of the Airdock's original Robertson Protected Metal (RPM) roof and siding. PCBs apparently had been included in the coating of the roofing and siding material and served as a fire retardant. Since the initial PCB discovery and continuing to the present, Lockheed Martin has successfully planned and implemented a voluntary remediation program addressing the RPM.

The Airdock and its associated 19-acre parcel are undergoing voluntary remediation under two regulatory programs: the federal TSCA and the State of Ohio Environmental Protection Agency (Ohio EPA) Voluntary Action Program (VAP).

1.2 Site Description

The Airdock is a structure built on a parcel of land occupying 19.1837 acres. The land, buildings, and paved surfaces on the parcel constitute the Airdock parcel, which is owned by Summit County Port Authority and leased by Lockheed Martin.

Topography of the Airdock parcel is extremely flat with only approximately 1 foot of topographic relief over its entire nineteen acres. Surrounding properties are equally level with a 300-acre

airfield located immediately north and an adjoining industrial complex located to the south, east, and west. The area between the Airdock and the surrounding plants to the east, south, and west is mostly paved. Drainage from the Airdock parcel and surrounding properties is controlled by a series of catch basins and storm drains within a broad valley bisected by a perpendicular drainage divide south of the Airdock parcel. There are no open ditches, basins, or other surface drainage features on the site or in the local area.

1.3 Sampling Rationale

Sampling of pavement was intended to characterize the lateral extent of PCB contamination in the pavement itself, taking into account the physical features of the site, current and planned occupancy, and the nature of the PCB release.

There is no known date or specific point of PCB release. Weathering of RPM panels is believed to have resulted in the exfoliation of small siding particles over many years. The PCB that is found in RPM, Aroclor 1268, is solid at room temperature and almost insoluble in water, therefore its mobility in the exterior environment is extremely limited.

The pavement sampling program was focused only on determining the extent to which PCBs had settled on and penetrated the pavement materials, presumably as small particles. Particle debris that accumulated on the pavement surfaces and in cracks in the pavement will be removed by vacuuming and manual cleaning and disposed as TSCA remediation waste. Pavement cleaning is scheduled to be conducted in the spring of 2008.

2. PAVEMENT SAMPLING METHODS AND RESULTS

The area of investigation includes the pavement apron immediately surrounding the Airdock and a perimeter zone surrounding the western and southern property line within the storm water drainage divide. The area of investigation thereby includes the eastern side of the parcel adjoining Aircraft Braking Systems Corporation (ABSC), and an area west of the parcel between Plant E and the Airdock. Figure 1 shows the facility layout and the pavement sampling locations.

2.1 Sampling Dates and Number of Samples

Pavement sampling took place over four events listed below. Thirty-six individual surface pavement samples and four quality assurance/ quality control (QA/QC) samples were collected during these events. The pavement materials that were sampled consisted of concrete and asphalt.

Date	Number and Type of Pavement Samples	Sampling Team	Laboratory
September 18, 2003	14 cores; 2 QA/QC	Weston Solutions, Inc.	STL – Chicago, IL
October 6, 2004	1 core; 3 debris	Weston Solutions, Inc.	STL – Chicago, IL
May 19, 2005	3 cores	Weston Solutions, Inc.	STL – Chicago, IL
May 8-9, 2007	15 cores; 2 QA/QC	Tetra Tech, Inc.	STL – North Canton, OH

Samples of materials directly beneath pavement were sampled in July 2006 (BBL) and May 2007 (Tetra Tech). Sub-pavement sampling data is included in Lockheed Martin's *Application for 40 CFR §761.61(c) Risk-Based Cleanup of Soil* for the Akron Airdock dated August 2007.

2.2 Sampling Procedures

Prior to sampling at each location, the area was swept to simulate the vacuuming planned for the surface material. The pre-sampling cleaning and sweeping was performed to a visual standard.

Pavement conditions, drainage direction, and other general observations were recorded on log sheets or in field notebooks at each sampling location.

Core samples were collected as destructive samples using a hammer drill to a 1-inch depth. The materials generated were transferred to pre-cleaned, laboratory supplied jars using a disposable, stainless steel spoon. All non-disposable sampling tools were decontaminated between each location. At locations where two types of pavement were encountered, such as a thin veneer of recently applied asphalt over concrete, a sample of the lower pavement material was submitted for analysis.

Duplicate samples and a rinsate blank sample were collected for QA/QC.

2.3 PCB Laboratory Analysis

Pavement samples were submitted to Severn Trent Laboratories, Inc., (STL) in Chicago, Illinois, or North Canton, Ohio, for total PCB analysis by EPA Method 8082, modified to include Aroclor 1268. Analytical report references for each sample set are listed in Tables 1 and 2.

2.4 PCB Pavement Sampling Results

Total PCB concentrations of the pavement samples ranged from non-detected (16 samples) to 3.3 mg/Kg or ppm. Three discrete samples contained total PCB concentrations above 1 ppm: LM-CC001 (1.91 ppm); LM-CC101 (1.3 ppm); and LM-CC104 (3.3 ppm); these sample results are summarized in Table 1. Pavement from each of the sample locations with total PCBs greater than 1 ppm was subsequently excavated and properly disposed as described in Section 3.

Total PCB results for the remaining pavement samples (less than 1 ppm) are listed in Table 2. The detected concentrations ranged from non-detect to 0.84 ppm; the average detected PCB concentration among those samples was 0.24 ppm and the average total PCB concentration of all samples was 0.14 ppm.

3. PAVEMENT MANAGEMENT

Lockheed Martin elected to remove the pavement containing total PCBs greater than 1 ppm from the three areas shown in Figure 1.

3.1 Hydrant 105 Pavement Removal

In June 2006, an underground pipe joint failed at the location of fire hydrant 105 (Hydrant 105), coincident to the location of sample LM-CC 001. An excavation (approximately 15 feet long by 10 feet wide by 8 feet deep) was made to repair the valve, generating soil that was placed in a roll-off container and water that was stored in a frac tank. The concrete pavement in this location was disposed in a TSCA landfill by combining it with other TSCA waste generated at the Airdock. After the pipe repair was completed, new concrete pavement was installed. Waste profile sampling was performed to determine proper disposal methods for the water and soil removed from the excavation. Analytical results of the characterization sampling are stored in the Lockheed Martin Airdock sample database.

3.2 Western Property Pavement Removal

Concrete core and debris samples were collected from locations west of the Airdock where pavement had degraded and was no longer suitable for vehicle traffic. Repairs were conducted to restore the pavement.

Concrete pavement removed in the area of samples LM-CC 102, LM-CD 102, LM-CD 103, and LM-CC 103, all of which contained less than 1 ppm total PCBs, was disposed in a local landfill as construction debris. Concrete pavement removed in the areas of samples LM-CC 101 and LM-CC 104, both of which contained greater than 1 ppm total PCBs, was combined with other TSCA waste generated at the Airdock and disposed in a TSCA landfill.

3.3 Remaining Pavement Areas

All of the pavement samples collected from the remaining investigation areas were reported with either less than 1 ppm total PCBs or non-detectable levels.

4. SUMMARY

Pavement core samples and pavement debris samples were collected from the exterior concrete and asphalt apron on and surrounding the Airdock parcel between September 2003 and May 2007. All samples were tested for total PCBs using EPA Method 8082. The following results were generated:

- Results from three sampling locations were reported with total PCBs greater than 1 ppm (1.3, 1.91 and 3.3 ppm); pavement from each area was subsequently excavated and properly disposed.
- In the remaining areas the detected concentrations of total PCBs in pavement samples ranged from non-detect to 0.84 ppm; the average detected PCB concentration among those samples was 0.24 ppm, and the average total PCB concentration of all samples was 0.14 ppm.

The sampling data demonstrate that the overall average pavement PCB concentration is below 1 ppm. The form of the PCB release (as small particles) and the area topography indicate that any PCB contamination would be low and relatively uniform; the sampling grid used for the investigation and the low or non-detectable results for all of the samples confirm this observation.

Results of sub-pavement soil samples are addressed in Lockheed Martin's risk-based soil cleanup application for the Akron Airdock dated August 2007.

5. REFERENCES

- BBL Environmental Services, Inc. (BBL) 2006a. "HYD-105 Excavation Plan, Lockheed Martin Corporation (LMC) Airdock Facility, Akron, Ohio." July.
- BBL 2006b. Memorandum Regarding "Subsurface Soil Characterization Results, Lockheed Martin Corporation, Airdock Facility." From Micki Maki to David Gunnarson. November 21.
- Lockheed Martin Corporation (LMC). 2007a. Summary Data Tables from Samples Collected by Blasland, Bouck & Lee, Inc. in May and August 2005. Transmitted by David Gunnarson of LMC to Jennifer Krueger of Tetra Tech EM Inc. January 29.
- LMC. 2007b. Akron Airdock Analytical Database. February.
- LMC. 2007c. Application for 40 CFR §761.61(c) Risk-Based Cleanup of Soil, Akron Airdock, Akron, Ohio. Submitted to Region 5 United States Environmental Protection Agency. August.
- Tetra Tech, Inc. 2007. Memorandum Regarding "Lockheed Martin Airdock Pavement Sampling, Akron, Ohio." From Jennifer Krueger to Dave Gunnarson. June 7, 2007.
- Weston Solutions, Inc. (Weston). 2003. "Phase I Exterior Soil Sampling & Analysis, Lockheed Martin Airdock, Akron, Ohio." Maps.

TABLES

TABLE 1
PAVEMENT SAMPLING RESULTS GREATER THAN 1 PPM TOTAL PCB
AKRON AIRDOCK, AKRON, OHIO

Sample ID	STL Laboratory Report	Sampling Date	Pavement Type	Matrix	Location	Total PCB Result (ppm)
LM-CC001	220697	9/18/2003	Concrete	Core	Exterior concrete sample - NE of building	1.91
LM-CC101	230908	10/6/2004	Concrete	Core	Concrete Core from Adjacent West Property	1.3
LM-CC104	236855	5/19/2005	Concrete	Core	Concrete Core from Adjacent West Property	3.3

Notes:

Sampling locations shown on Figure 1.
 ppm = Parts per million
 PCB = Polychlorinated biphenyl

TABLE 2

PAVEMENT SAMPLING RESULTS LESS THAN 1 PPM TOTAL PCB

AKRON AIRDOCK, AKRON, OHIO

Sample ID	STL Laboratory Report	Sampling Date	Pavement Type	Matrix	Location	Total PCB Result (ppm)
LM-CC002	220697	9/18/2003	Concrete	Core	Exterior concrete sample - East of building	0.12
LM-CC002DP	220697	9/18/2003	Concrete	Core	Exterior concrete sample - East of building (dup)	0.051
LM-CC003	220697	9/18/2003	Concrete	Core	Exterior concrete sample - East of building	0.169
LM-CC004	220697	9/18/2003	Concrete	Core	Exterior concrete sample - East of building	0.18
LM-CC005	220697	9/18/2003	Concrete	Core	Exterior concrete sample - East of building	0.098
LM-CC006	220697	9/18/2003	Concrete	Core	Exterior concrete sample - SE of building	0.46
LM-CC007	220697	9/18/2003	Concrete	Core	Exterior concrete sample - SW of building	0.16
LM-CC008	220697	9/18/2003	Concrete	Core	Exterior concrete sample - SW of building	0.14
LM-CC009	220697	9/18/2003	Concrete	Core	Exterior concrete sample - W of building	0.26
LM-CC010	220697	9/18/2003	Concrete	Core	Exterior concrete sample - W of building	0.55
LM-CC011	220697	9/18/2003	Concrete	Core	Exterior concrete sample - NW of building	0.22
LM-CC012	220697	9/18/2003	Concrete	Core	Exterior concrete sample - NW of building	0.18
LM-CC013	220697	9/18/2003	Concrete	Core	Exterior concrete sample - North of building	0.31
LM-CC014	220697	9/18/2003	Concrete	Core	Exterior concrete sample - North of building	0.083
LM-CC014DUP	220697	9/18/2003	Concrete	Core	Exterior concrete sample - North of building (dup)	0.077
LM-CD101	230908	10/6/2004	Concrete	Debris	Misc. Concrete Debris from Adjacent West Property (chunks of the broken pavement, 1/4 in. to 1-1/2 in. diameter pieces)	0.84
LM-CD102	230908	10/6/2004	Concrete	Debris	Misc. Concrete Debris from Adjacent West Property (chunks of the broken pavement, 1/4 in. to 1-1/2 in. diameter pieces)	0.11
LM-CD103	230908	10/6/2004	Concrete	Debris	Misc. Concrete Debris from Adjacent West Property (chunks of the broken pavement, 1/4 in. to 1-1/2 in. diameter pieces)	0.22
LM-CC102	236855	5/19/2005	Concrete	Core	Concrete Core from Adjacent West Property	0.22
LM-CC103	236855	5/19/2005	Concrete	Core	Concrete Core from Adjacent West Property	0.34
LMC-CC-105*	A7E100326	5/8/2007	Concrete	Core	Concrete Core from Adjacent West Property	<0.033
LMC-CC-106*	A7E100326	5/8/2007	Concrete	Core	Concrete Core from Adjacent West Property	<0.033
LMC-CC-107*	A7E100326	5/8/2007	Concrete	Core	Concrete Core from Adjacent West Property	<0.033
LMC-CC-108*	A7E100326	5/8/2007	Concrete	Core	Concrete Core from Adjacent West Property	<0.033
LMC-CC-109*	A7E100326	5/8/2007	Concrete	Core	Concrete Core from Adjacent West Property	<0.033
LMC-CC-110*	A7E100326	5/8/2007	Concrete	Core	Concrete Core from Adjacent South Property	<0.033
LMC-CC-111*	A7E100326	5/8/2007	Concrete	Core	Concrete Core from Adjacent South Property	<0.033
LMC-CC-112*	A7E100326	5/9/2007	Concrete	Core	Exterior concrete sample - south of building	<0.033
LMC-CC-112D*	A7E100326	5/9/2007	Concrete	Core	Duplicate concrete sample - South of building	<0.033
LMC-CC-113*	A7E100326	5/8/2007	Asphalt	Core	Asphalt core from Adjacent South Property	<0.033
LMC-CC-114*	A7E100326	5/9/2007	Asphalt	Core	Exterior asphalt sample - South of building	<0.033
LMC-CC-115*	A7E100326	5/9/2007	Concrete	Core	Concrete core from Adjacent South Property	<0.033
LMC-CC-116C*	A7E100326	5/9/2007	Concrete	Core	Exterior concrete sample - South of building	<0.033
LMC-CC-117*	A7E100326	5/9/2007	Asphalt	Core	Exterior asphalt sample - South of building	<0.033
LMC-CC-118*	A7E100326	5/9/2007	Concrete	Core	Exterior concrete sample - East of building	<0.033
LMC-CC-119*	A7E100326	5/9/2007	Concrete	Core	Exterior concrete sample - East of building	<0.033
Total number of samples						36
N, number of samples with detections						20
Mean PCB Concentration (samples with detections), ppm						0.24
Mean PCB Concentration (all samples), ppm **						0.14

Notes:

* Sample result reported as non-detect; detection limit 0.033 ppm.

**Mean calculated with one-half detection limit.

Sampling Locations Shown on Figure 1.

ppm = Parts per million

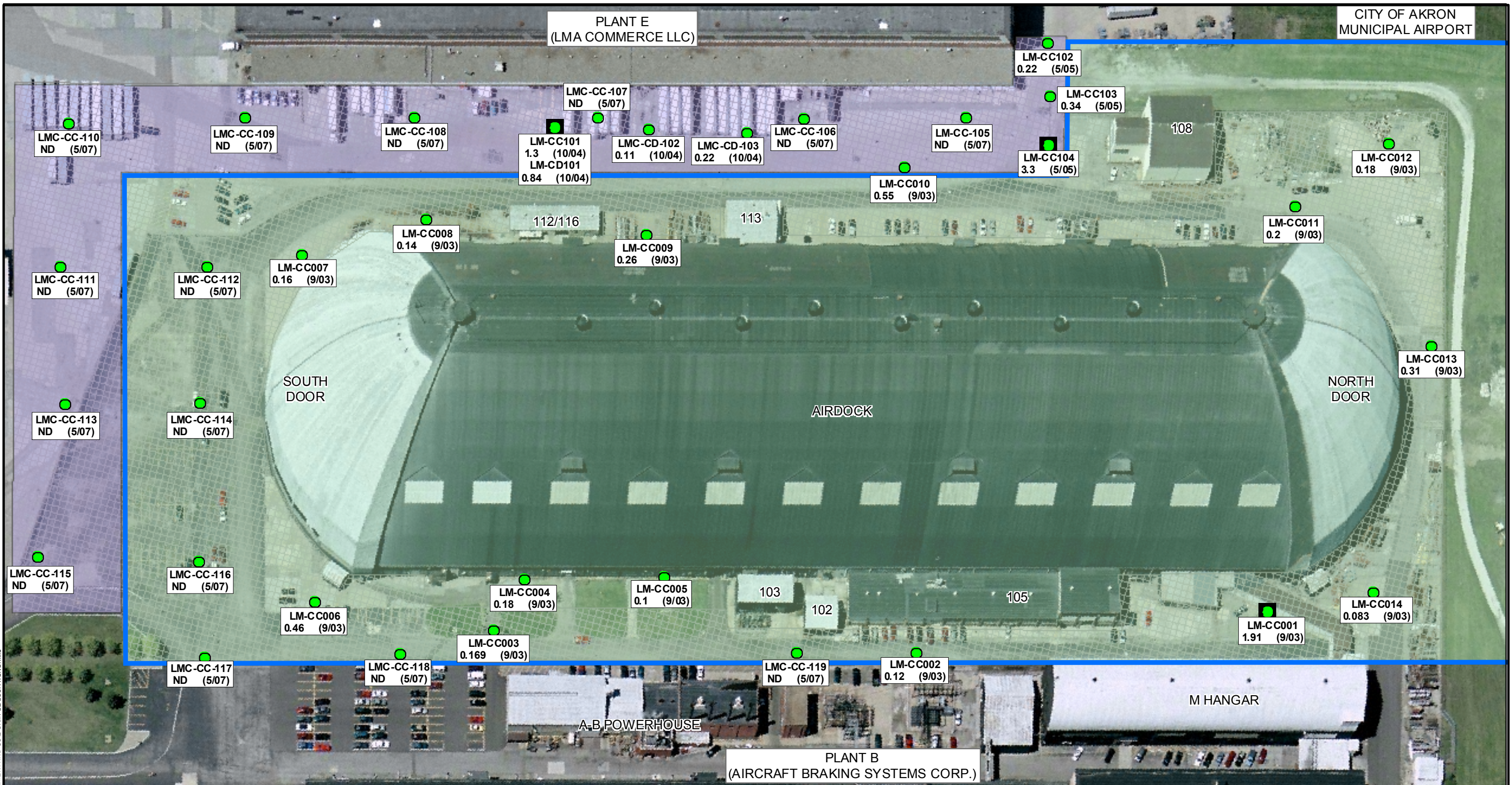
PCB = Polychlorinated biphenyl



FIGURE

PLANT E
(LMA COMMERCE LLC)

PLANT B
(AIRCRAFT BRAKING SYSTEMS CORP.)

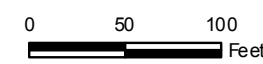


LEGEND

- Approximate Pavement Sampling Location with Total PCBs (ppm) and Sampling Date
- Area of Pavement Removal with Total PCB > 1 ppm
- Approximate Airdock Boundary
- Area of Industrial Use Restriction
- Area of Perimeter Pavement Sampling
- Area of Surface Debris Removal
- ND = No PCBs detected
- CC = Core Sample
- CD = Debris Sample

Building Legend

- 102 - Helium Compressor/Fire Suppression
- 103 - Electrical Substation/Transformer House
- 105 - Outer Press Shop
- 108 - Motor Run-In
- 112 - Former Flame Cutting
- 113 - Former Acid/Alkali Waste Storage Facility
- 116 - Storage



SOURCE: MODIFIED FROM SUMMIT COUNTY GIS, 2004.

AKRON AIRDOCK FACILITY
AKRON, OHIO

FIGURE 1
SITE LAYOUT WITH PAVEMENT SAMPLE
LOCATIONS AND TOTAL PCB RESULTS



2007-10-01 X:\projects\lcb\akron\figure 1 pavement and soil sample locations.mxd