# PCB Air Monitoring Report (Fire Incident)

**Lockheed Martin Akron Airdock**
**May 2006**

This report presents the sampling event and results which took place during the night of May 18 and into the morning of May 19, 2006, at the Lockheed Martin Airdock located in Akron, Ohio.

In summary, all sample results for PCBs were reported below the National Institute for Occupational Safety and Health (NIOSH) Recommended Exposure Limit (REL) for PCBs of 1 $\mu g/m^3$. Area sample results ranged from < 0.0079 $\mu g/m^3$ to 0.023 $\mu g/m^3$.

The air monitoring activities for PCBs utilized a modified NIOSH 5503 method. Lower detection limits than in past sampling events were achieved for the area samples because a larger volume of air was collected.

Some considerations apply throughout this report:

- Under the results column in the tables, "<" means that the results were less than the indicated detection or reporting limit, with a 99% confidence level, if there was any analyte in the sample.
- Reporting or detection limits vary throughout the tables because of the different volume of air collected for each sample. The greater the volume of air collected, the lower the reporting limit.

The analytical information provided below applies to all the sampling activities and laboratory results in this report.

*Analytical Information*

Final Extract Volume: 2.0 ml iso-octane used for extraction

Injection Volume: 1.0 microliters (µL)

Analytical Parameters of Instrument:
   HP5890 GC/ECD with HP 7673 ALS Injector used
   Injector temperature 300º C; ECD detector temperature 310 ºC


GC Oven:
   Initial temperature 220º C, held for 2 minutes
   Ramp temperature at 25º C/minute
   Final temperature 270º C, held for 4 minutes
   Total run time 8 minutes

Column: DB-1; 15 meters; 0.53 mm ID w/ 0.15 micrometer depth of film thickness
   Column flow 20 ml/minute helium; makeup flow 60 ml/minute argon/methane

Data acquisition using Varian Star Chromatography Software V5.52

<u>Sample Desorption</u>:
   Front and back section of media tube separated; filter and front section desorbed separate from back section
   Desorbed with 2.0 ml iso-octane containing 0.050 µg/ml tetrachloro-m-xylene & 0.050 µg/ml decachlorobiphenyl

<u>Calibration Range</u>: 0.005 µg/ml to 2.0 µg/ml Aroclor 1268

 Specific procedures and results are presented in the following sections.

# 1. PCB area air sampling within Airdock after exterior fire (May 18, 2006)

Area air sampling was performed throughout the interior Airdock after an exterior fire burned a portion of the rubber membrane of the northeast clamshell door. Eight area samples were obtained and analyzed for PCBs. Air sampling pumps were calibrated before and after using a DC-Lite™ Primary Calibrator (S/N 103823). All pump calibrations included compensations for barometric pressure (29.58 in. – 29.60 in.) and temperature (60.8 – 55.4 ºF).

Air sampling and analysis for airborne PCBs was in accordance with NIOSH Method 5503. The area samples were obtained using high volume pumps, increasing the flow rate to approximately 2.4 – 2.9 liters per minute. Sample analysis was performed by American Industrial Hygiene Association (AIHA)-accredited EA Group.

The following table summarizes the results from within the Airdock:

*May 19, 2006*

| Sample # OH33144 | Employee/Area Location | Analyte | Duration (minutes) | Flow Rate (Liters) | Volume (Liters) | Results |
|---|---|---|---|---|---|---|
| 051906-01 | Arch 10.5 East | PCBs | 439 | 2.50 | 1096.4 | 0.011 µg/m³ |
| 051906-02 | Arch 10 Middle | PCBs | 445 | 2.50 | 1111.4 | < 0.0090 µg/m³ |
| 051906-03 | Arch 7 East | PCBs | 463 | 2.497 | 1156.3 | < 0.0087 µg/m³ |
| 051906-04 | Arch 10 East | PCBs | 436 | 2.497 | 1088.9 | 0.023 µg/m³ |
| 051906-05 | Arch 7 Middle | PCBs | 447 | 2.762 | 1234.8 | < 0.0081 µg/m³ |
| 051906-06 | Arch 6 East | PCBs | 445 | 2.53 | 1125.0 | < 0.0089 µg/m³ |
| 051906-07 | Arch 3 West | PCBs | 440 | 2.884 | 1269.3 | < 0.0079 µg/m³ |
| 051906-08 | Arch 8 East | PCBs | 402 | 2.375 | 954.8 | < 0.011 µg/m³ |
| NIOSH REL | | PCBs | | | | 1 µg/m³ |

All sample results were reported below the NIOSH Recommended Exposure Limit (REL) for PCBs.

**Analytical Information**

Breakthrough: No breakthrough occurred, as evidenced by not having any PCB detected in the backup section of media.