

August 4, 2014

MEMORANDUM

To: Sandra Lyon, SMMUSD Superintendent

From: ENVIRON International Corporation

Re: Summary of Pre- and Post-Cleaning Polychlorinated Biphenyls (PCBs) Results for MHS Building F (Building 300, Thresher Shark)

This report is submitted to the Santa Monica-Malibu Unified School District (SMMUSD or District) to summarize the preliminary¹ results from pre- and post-cleaning sampling in Building F (Building 300, Thresher Shark) at Malibu High School (MHS). This report also provides initial conclusions from the data pending a building-specific report summarizing inspection observations, sampling locations and results, and conclusions after receiving all validated data, as discussed in our [July 25, 2014 update](#) to the District.

Executive Summary

The results show that PCB concentrations in all post-BMP air and post-BMP wipe samples are below USEPA health-based benchmarks, therefore the BMP cleaning was successful and no additional BMP cleaning in the regularly occupied rooms of Building F is needed, except Room 303, as further discussed below:

- Based on review of all preliminary¹ air sample results, the results for MHS Building F show that all airborne levels of PCBs in the sampled rooms are either not detected or below USEPA's recommended health-based benchmark of 200 ng/m³, except a pre-cleaning air sample from Room 303 (Orchestra/Enhanced Lecture Room).²
- Based on review of all preliminary¹ post-BMP surface wipe samples results (except Room 303, which will be sampled after repairs and cleaning are completed), cleaning in the regularly occupied rooms of Building F demonstrated that PCB concentrations in all post-BMP surface wipe sample results are below USEPA's recommend threshold of 1 µg/100 cm². ENVIRON understands that the District will clean one remaining low-occupancy room (Electric Room 301E) in Building F before this area is routinely accessed.
- Due to the additional investigation planned for Room 303, ENVIRON recommends that this room remain closed and isolated from the building ventilation system pending the results from the further investigation to be conducted after repairs and cleaning are completed. Given this, the data in this memoranda focuses on results for the other two classrooms in this building (301 and 302) and associated offices and practice rooms.

¹ Data is undergoing Level III/IV third party data validation, as described in the USEPA Contract Laboratory Program National Functional Guidelines (USEPA 2008).

² The one result above USEPA's threshold is in a room where orchestra risers (building materials) were removed just prior to the start of investigation even though District Facility's staff had requested that the school and parents not remove these building materials until after the planned summer investigation. It is likely that this activity disturbed impacted building materials, adversely affecting the results seen in this room. Thus, this finding is not typical of conditions in any other rooms at MHS or JCES. This room is undergoing repairs and will be sampled following BMP cleaning.

Further information on the above-presented results is provided in the remainder of this memorandum.

Additional Information on Preliminary Findings

BMPs – Annual Cleaning for Building F (Building 300, Thresher Shark)

- Annual HVAC cleaning has been completed by the District's contractor.
- Annual BMP cleaning of all regularly occupied rooms has been completed by District staff except for Room 303. ENVIRON also understands that the District will clean one remaining low-occupancy room (Electric Room 301E) in Building F before this area is routinely accessed.

BMPs – Air and Wipe Sampling MHS Pilot Study on BMPs for Building F (Building 300, Thresher Shark)

- Preliminary review and analysis of all air sample results¹ collected prior to and after BMP cleaning indicates that airborne levels of PCBs in the sampled rooms are either not detected or are below USEPA's recommended health-based benchmark of 200 ng/m³, except Room 303 as discussed above.²
- Some of the light fixtures (mostly in the ballast compartment of the fixture) inspected in Building F exhibited visual evidence of past leakage. Some of these fixtures are in a room (i.e., Room 302B) where ENVIRON collected a post-BMP cleaning air sample, but as noted below, all PCB concentrations in air samples except Room 303² were below USEPA's recommended health benchmark of 200 ng/m³, which suggests that past leak residues are not causing unsafe levels of PCBs in air. As discussed in our [July 11th update](#), at a minimum, SMMUSD will remove light fixtures with evidence of past ballast leaks within 360 days in accordance with the [July 3rd MHS Specific Plan](#).

Preliminary¹ Air Sampling Results To Date					
Building	BMP Cleaning	Number of Indoor Samples	Not Detected³	Detected and Below 200 ng/m³	Above 200 ng/m³
Building F (Thresher Shark)	Pre-BMP	6 (includes 1 duplicate) ⁴	2	3 (maximum: 85 ng/m ³)	1 (Room 303: 480 ng/m ³) ²
	Post-BMP (excluding Room 303)	5	3	2 (maximum: 150 ng/m ³) ⁵	None

³ The method reporting limit for air samples in Building F ranged from 67 ng/m³ to 71 ng/m³.

⁴ Duplicate samples are collected adjacent to the original sample. Replicate samples are collected in the same location as the original sample, after the original sample is collected, and are applicable to wipe samples only.

⁵ All previous air sample results have only detected Aroclor 1254. The maximum post-cleaning air concentration of 150 ng/m³ was in Room 301 and is the only air sample to date that has been identified as Aroclor 1260. Aroclor 1260 was also detected in surface wipe samples in Rooms 301 and 301C. In [USEPA studies](#) on PCBs in schools, both Aroclor 1254 and 1260 have been detected in caulk.

- Preliminary review and analysis of all BMP surface wipe sample results¹ in Building F indicates that PCBs were not detected in approximately 20 percent (%) of pre-BMP and approximately 82% of post-BMP samples (note that a greater number of post-BMP samples were taken as indicated in the table below).
- Four pre-cleaning surface wipe samples for Building F (one sample each in Rooms 301 and 301C, and two samples in Room 303) had total PCB concentrations that were just above USEPA's recommended threshold of 1 µg/100 cm². Wipe samples were collected from Rooms 301 and 301C (as well as Room 302) following BMP-cleaning activities and the PCB concentrations were found to be below the USEPA's recommended threshold.
- As noted above, Room 303 will be sampled following repairs and BMP cleaning, as building materials were removed from that room prior to the start of this investigation. This is the only air result to date above USEPA's threshold and is in a room where orchestra risers (building materials) were removed just prior to the start of investigation even though District Facility's staff had requested that the school and parents not remove these building materials until after the planned summer investigation. It is likely that this activity disturbed impacted building materials, adversely affecting the results seen in this room. Thus, this finding is not typical of conditions in any other rooms at MHS or JCES.

Preliminary¹ Surface Wipe Sampling Results To Date					
Building	BMP Cleaning	Number of Samples	Not Detected⁶	Detected and Below 1 µg/100 cm²	Above 1 µg/100 cm²
Building F (Thresher Shark)	Pre-BMP	11 (includes 1 replicate) ⁴	2	5 (maximum: 0.99 µg/100 cm ²)	4 (maximum: 2.7 µg/100 cm ²)
	Post-BMP (excluding Room 303)	22 (includes 1 duplicate and 1 replicate) ⁴	18	4 (maximum: 0.6 µg/100 cm ²)	None

⁶ The method reporting limit for surface wipe samples in Building F is 0.10 µg/100cm².