June 16, 2014

**MEMORANDUM**

To: Sandra Lyon, Santa Monica-Malibu Unified School District (SMMUSD)

From: Doug Daugherty, Eric Wood, and Carol Serlin, ENVIRON

Cc: Jan Maez, SMMUSD

**Re: Response to June 12th and June 14th Emails from Malibu Unites**

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ENVIRON has reviewed the June 12, 2014 email to you from Jennifer deNicola, President of Malibu Unites (Attachment 1) as well as the June 14, 2014 email from Jennifer deNicola to the SMMUSD Board of Education (BOE) (Attachment 2). We have identified several inaccuracies and erroneous statements in both emails that we want to address in this memorandum.

As we discussed during the May 7th SMMUSD Study Session on ENVIRON's Plan related to PCBs, healthy schools is the District's (and ENVIRON's) goal and our approach is a risk-based approach to effectively manage the potential presence of PCB-containing building materials[1] while limiting exposures below health based standards. In general, ENVIRON's April 2014 Draft Comprehensive PCB-Related Building Materials Inspection, Management, and Removal Plan (the Plan) specifies the management in-place for potential PCB-containing materials in the form of Best Management Practices (BMPs) until removal of these suspect materials during scheduled renovations or demolitions except for the case where potential PCB-containing light ballast are identified during the building inspection phase as the plan recommends their more expedited removal. The framework of this approach is based on EPA best practices and research as well as the experience in addressing PCB-containing building materials by the New York City school system, among others, as cited in the Plan.

Because the June 12th and June 14th emails from Malibu Unites overlap, the clarifications provided by ENVIRON below are grouped according to common topics.

## Assertion that EPA rejected ENVIRON's Plan is incorrect

Contrary to the assertions made by Malibu Unites, EPA has not rejected ENVIRON's PCB plans[2] for Malibu High School (MHS) or Juan Cabrillo Elementary School (JCES). First, EPA's June 4th comment letter[3] to the District on the PCB plans (Attachment 3) does not use the word "reject" anywhere in their letter nor has EPA used that word in ENVIRON's discussions with them. In fact, EPA has informed the District and ENVIRON that we should move ahead with our summer plans for building inspections, implementation of BMPs and sampling at MHS and JCES, including in the following EPA statements:

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[1] For purposes of this document, PCB-containing shall mean materials that contain any measurable concentration of PCBs detectable using common analytical procedures for air and wipe samples.

[2] "Comprehensive PCB-Related Building Materials Inspection, Management, and Removal Plan for Santa Monica-Malibu Unified School District" and covered letter prepared by ENVIRON submitted on April 25, 2014.

[3] Letter from S. Armann, Manager Corrective Action Section, Land Division, EPA Region IX, to S. Lyon, Superintendent of SMMUSD. June 4, 2014.

- EPA's June 4th comment letter[4] specifically recommended that the District move forward with the Building Material Inspection Plan and PCB Best Management Practices (BMPs) part of ENVIRON's Plan when EPA stated: "The "Building Material Inspection Plan" and the "PCB Best Management Practices" contained in the General Plan do not require EPA approval, and **we recommend that the District move forward with these activities at MHS [emphasis added]** before the MHS plan is finalized."
- This was further confirmed in an email[5] from EPA to ENVIRON on June 13th (Attachment 4), which stated "EPA concurs with your approach to testing as described in the plan forwarded…" by ENVIRON and said "I also want to confirm that we [EPA] do support the District conducting inspections and BMPs as stated in our June 4, 2014 letter".
- Furthermore, EPA expressed appreciation of the expedited implementation of the building inspection plan and BMPs part of ENVIRON's plan. As stated in an email[6] from EPA to ENVIRON on June 11th (Attachment 5), "We understand that ENVIRON and the SMMUSD will begin to implement the Testing Plan at the Malibu High School (MHS) and Juan Cabrillo on June 16, 2014. We appreciate ENVIRON and SMMUSD's expedited implementation of Section 2 (Inspection) and Section 3 (Best Management Practices) of the General Plan."

From the statements made by EPA, it is clear that they support the implementation of ENVIRON's building inspection, BMP, and samplings plans at MHS, which will also be implemented at JCES, and have not "rejected" these plans. Our understanding of EPA's basic comment in its June 4th letter was a request to restructure the original report so that specific activities at MHS in areas where previous caulk sample results indicated PCB concentrations greater than 50 ppm are clearly separated from the general Plan to allow for EPA regulatory approval of activities under areas of its regulatory authority.

## EPA's June 4th request is related to regulatory approval authority

Based on ENVIRON's review of EPA's June 4th comments on our Plan and subsequent discussions with EPA, it is ENVIRON's understanding that EPA is requesting submissions to them be split into two categories: 1) those that fall under their regulatory approval jurisdiction and 2) those that are not under their jurisdiction for regulatory approval. Our understanding is that EPA wants to clarify their regulatory role and will provide regulatory approval only for specific aspects under their regulatory jurisdiction in accordance with the Toxic Substances Control Act (TSCA), which currently only involves MHS Library, and Blue Building Rooms 1, 5, 8, where previous caulk sample results indicated PCB concentrations greater than 50 ppm. For all other aspects of the District's and ENVIRON's plans related to the potential PCBs in building materials, ENVIRON understands that the EPA would provide recommendations and suggestions on these plans (as they did in their June 4th letter) but would not be granting regulatory approval of these plans since it is not under their regulatory jurisdiction. We are scheduled to meet with EPA to further clarify their intent and the additional information requested by them.

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[4] Letter from S. Armann, Manager Corrective Action Section, Land Division, EPA Region IX, to S. Lyon, Superintendent of SMMUSD. June 4, 2014.

[5] June 13, 2014 email from T. Huetteman, Assistant Director RCRA Branch, Land Division, EPA Region IX to D. Daugherty of ENVIRON.

[6] June 11, 2014 email from T. Huetteman, Assistant Director RCRA Branch, Land Division, EPA Region IX to D. Daugherty of ENVIRON.

## Air and wipe sampling will be conducted at MHS and JCES this summer

The current schedule for conducting building investigation, BMP cleaning, and air and wipe sampling at MHS and JCES is posted on the District's website.[7] One of the requests in EPA's June 4th comments was to provide additional detail on the sampling to be conducted at MHS and JCES this summer (specifically, the request related to the sampling plan for MHS and comments A.2 and A.3).[8] ENVIRON submitted this additional information on the collection of air and wipe samples at MHS and JCES and EPA concurred with ENVIRON's sampling plan (Revision 1 – see Attachment 6) on June 13th.[9] This sampling plan will be implemented at MHS and JCES during the 2014 summer break at these two schools.

The goal of the sampling plan is to obtain samples from a sufficient number of locations and site-specific conditions to:

1) Serve as representative of the variety of potentially PCB-containing materials, conditions, and possible exposure pathways (inhalation, dermal, and incidental ingestion);
2) Address specific concerns of the community and staff at MHS and JCES;
3) Evaluate previous sampling efforts;
4) Assess effectiveness of Best Management Practices cleaning; and
5) Draw scientific conclusions on the potential presence of PCB-containing building materials and the potential for exposures to PCBs at MHS and JCES as compared to health based standards.

This approach is in alignment with EPA recommendations on testing. In an April 25, 2014 letter from Steve Armann of EPA to Jennifer deNicola of Malibu Unites (Attachment 7)[10], EPA clarified that "…the current regulations do not require testing of materials to determine if they contain PCBs at TSCA regulated levels." Rather, EPA recommends that if testing is to be done then air testing can be conducted; if PCB levels in air exceed EPA's suggested public health levels, then they recommend investigation to identify potential sources of PCBs that may be present in that area.

## Best Management Practices (BMPs) for PCBs have been shown to be effective

Contrary to statements made by Malibu Unites, there is evidence that BMPs for PCBs are effective in limiting exposures to below health based standards, including the following:

- In the April 25, 2014 letter from Steve Armann of EPA to Jennifer deNicola of Malibu Unites (Attachment 7), "EPA has recommended that the District implement PCB Best Management Practices (BMPs) to reduce the amount of PCBs in dust and air."
- In EPA's April 25th letter, they cite results of the cleaning of certain MHS rooms during the 2013-2014 school winter break and that "the results of this cleaning are very positive as they show reductions in PCB air concentrations by approximately 50% and in dust by approximately 90%." EPA also noted in the letter that all the air results are within EPA's health protective guidelines.

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[7] http://www.smmusd.org/PublicNotices/MHS-CabrilloSummerCalendar.pdf

[8] Letter from S. Armann, Manager Corrective Action Section, Land Division, EPA Region IX, to S. Lyon, Superintendent of SMMUSD. June 4, 2014.

[9] June 13, 2014 email from T. Huetteman, Assistant Director RCRA Branch, Land Division, EPA Region IX to D. Daugherty of ENVIRON.

[10] Letter from S. Armann, Manager Corrective Action Section, Land Division, EPA Region IX, to J. deNicola of Malibu Unites. April 25, 2014.

- ENVIRON's review of the post-cleaning verification sampling previously conducted at MHS indicates BMP cleaning generally reduced air and wipe sample PCB concentrations and all are below EPA's health based guidelines.
- As stated in EPA's April 25th letter, "… EPA's general strategy to address PCBs in building materials is one of avoiding harmful human exposures." This letter further cites a number of EPA fact sheets on PCBs in building materials at schools (including ones related to BMPs) and that these "…fact sheets recommend risk-management strategies to reduce unacceptable exposures from primary PCB sources…and secondary PCB sources…."
- Furthermore, a PCB Pilot Study[11] conducted under a consent agreement with USEPA Region 2 to address PCBs in caulk in New York City schools indicates that BMPs reduce exposures to PCBs and discusses how BMPs are effective at lowering exposures to PCBs as compared to other remedial activities studied. Specific findings from that study and other referenced EPA school collected data include:
  - "The field data confirm that dust removal represents a significant remedial measure for the mitigation of PCBs present in indoor environments. These remedial measures should include removal of both bulk and surface dusts. Dusts represent an important exposure pathway that includes inhalation, non-dietary ingestion and dermal contact. Routine cleaning of schools will continue to reduce dust levels and in turn reduce exposures to PCBs found in indoor air and on dust laden surfaces". (page 3)
  - "Best Management Practices have been shown to be effective at reducing surface dust levels below USEPA criteria." (page 34)
  - "Based on the current data, with the exception of the Best Management Practices, each of the alternative remedial approaches [patch and repair of caulk, encapsulation of caulk, removal of all caulk and replacement with non-PCB caulks, and window frame and caulk removal and replacement], as designed and implemented in this Pilot Study, have been shown to be relatively ineffective over the long term as sole remedies." (page 35) Given removal of caulk or caulk and window frames have yet to, in words of the study "...yield an effective remedy for PCB caulk…" over the long term, the report recommends further studies to evaluate new remedial approaches for caulk.

Thus, there is scientific information available that indicates BMPs are effective at reducing exposures to PCBs, contrary to the assertion made by Malibu Unites. BMPs are a useful risk-based management strategy that can be used prior to eventual removal of the caulk during planned renovations or demolitions while being protective of building occupants' health.

Moreover, as described in ENVIRON's June 13, 2014 memorandum to EPA, one of the goals for the air and wipe testing to be conducted at MHS and JCES during the 2014 summer session is to further evaluate the effectiveness of the BMP cleaning. The weekly, monthly and annual cleaning BMPs will be implemented by District custodial staff after training by ENVIRON to eliminate some past non-BMP practices and to implement the new BMP practices to help improve cleaning efficacy. The District is contracting with an outside firm to conduct annual cleaning of the HVAC system, and District staff will be trained to maintain and improve the HVAC systems at MHS and JCES.

[11] 2013. Summary Report for the New York City School Construction Authority Pilot Study to address PCB Caulk in New York City School Buildings. USEPA Consent Agreement and Final Order Docket Number: TSCA-02-2010-9201. Prepared by TRC Engineers, Inc. for New York City School Construction Authority. http://www.epa.gov/Region2/pcbs/PCB%20PilotStudySummaryReport.pdf

## ENVIRON Qualifications

Malibu Unites calls ENVIRON's qualifications into question based on their assertion that EPA "rejected" ENVIRON's Plan. However, as explained above in more detail, this statement is inaccurate. In fact, EPA has supported the implementation of our Plan's building inspections and BMPs as well as concurs with our sampling plan for MHS and JCES, which begins June 16th.

ENVIRON provided our qualification package in response to the SMMUSD's request for proposals and is posted on the SMMUSD's website.[12] Our qualifications packaged described both the firm's and the individual team members' experience including the experience related to PCBs in building materials. This information along with information provided in our interview was evaluated by a large review panel, including Jennifer deNicola of Malibu Unites, when evaluating our selection.

Also, we want to correct another inaccurate statement in the Malibu Unites email that ENVIRON's Plan was created by the San Francisco office. The plan was a joint effort between ENVIRON staff in its Irvine, Los Angeles, San Francisco, Chicago, and Boston, Massachusetts offices. As presented in our statement of qualifications, ENVIRON utilized a team well-versed in inspecting buildings for potential environmental hazards as well as members with experience related to PCBs in building materials.

## Conclusions

Thank you for this opportunity to respond to the several inaccuracies and erroneous statements in the Malibu Unites emails. As stated above, ENVIRON's goal is to support the District in achieving healthy schools, and our approach is a risk-based approach to effectively manage the potential presence of PCB-containing building materials while limiting exposures below health based guidelines. As described in our May 7th presentation at the SMMUSD Study Session, the principles used to develop our plan included:

- being protective of human health,
- using a science- and fact-based approach,
- consider experience of schools in EPA Region I and II,
- be applicable to any school in the District,
- be considerate of District resources, and
- be a "living" document that allows for updates with new science or results.

We look forward to continuing to work with you in applying these principles as part of the Plan's implementation this summer at MHS and JCES and in using these principles in on-going dialogue with all your stakeholders.

[12] http://www.smmusd.org/PublicNotices/ProposalResponses/ENVIRONSOQ122013.pdf

# Attachment 1

## June 12, 2014 Malibu Unites email

## Doug Daugherty

**From:** Lyon, Sandra <slyon@smmusd.org>
**Sent:** Thursday, June 12, 2014 7:54 PM
**To:** Doug Daugherty; Carol Serlin
**Cc:** Maez, Jan
**Subject:** FW: EPA Letter & MHS/Cabrillo Summer Schedule

**Follow Up Flag:** Follow Up
**Due By:** Thursday, June 12, 2014 10:08 PM
**Flag Status:** Flagged

Maybe we can talk about a response tomorrow during our phone call.
Thanks,
Sandy

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**From:** Jennifer DENICOLA [mailto:jd18@me.com]
**Sent:** Thursday, June 12, 2014 10:24 AM
**To:** Wahrenbrock, Sarah
**Cc:** Lambert, Lisa; Levy, Nancy; Lieberman, Laurie; Maez, Jan; Lyon, Sandra; Block, Jerry; Herkner, Pamela; Pieper, Yalile; michaelrichardjacobson@gmail.com; seth@jcipr.com; heatherla@me.com; Soniya Perl; jsibert@malibucity.org; Eli Craig; fredrubin39@gmail.com; elaine@erwdesign.com
**Subject:** Re: EPA Letter & MHS/Cabrillo Summer Schedule

Dear Sandra,

Thank you for sending this calendar. Is there a key to the calendar to explain what things like: "pre-samp/post-samp" means and what it refers to, As well as the details to this plan? Parents need to have a clear picture of what is going on at MHS and our other schools.

I learned last week from the EPA, that they have rejected the Environ plan for MHS and asked that Environ turn in, by July 4th, a full plan to address the PCBs at MHS that inadequately addressed what the EPA outlined in Jan 27th, 2014 and Nov 20th, 2013 letters.

Environ took an extra month to provide this 81 page report to the EPA and then provided a report that was rejected by the EPA on June 4th. Environ must now create a new report by July 4th, which will then require the EPA, the public and Malibu Unites to comment on that report, which could take a few weeks which leaves us at the end of July, which then requires Environ to make changes and resubmit which will lead us into mid Aug... How is full testing and remediation going to occur before the next school year?

Based on this timeline, approved source testing will not occur this summer, let alone remediation. It would be a good time to plan to order portable units for the middle school building for next school year while the rooms violating federal law have not been remediated and the rest of the buildings' materials be properly tested. The USEPA has made it blatantly clear that BMP cleaning is not a scientifically proven method to reduce PCBs. Continuos air testing is not cost effective: A middle school in CT had to pay approx $50,000, four times a year to continuously test the school. That would be $200,000 per year, in addition to the BMP professional cleaning fee of approx $80,000 we paid for less than 20 rooms. This is too much money to keep spending putting a bandaid on a serous healthy concern. The only way to get rid of the PCB problem for good is to test all the sources (as we will have to do anyway for demo of the library building) NOW and make a plan to remove them.

The simple, most health protective and most "legally" protective way for district to protect themselves from liability is to fully and completely investigate, test sources, and disclose all results to all parents. Then it is up to the parents to decide for themselves what is acceptable risk for their own kids, removing any liability from the district. This is what is best for everyone, the district and the students and staff.

Based on the fact that the 81 page PCB plan did not address the TSCA requirements or provide an investigation for PCBs in our school, it poses a question. Would you ask Environ to provide the specific PCB School experience they have? This information will be helpful so we can research how they solved this problem, what worked, what did not, so MHS does not make similar mistakes and we can learn from the experience of all schools that have dealt with this. We have already connected with the schools in NYC and Lexington, CT, Massachusetts and Iowa to get their PCB history and Environ was not hired by any of the schools/districts we have researched. According to Steve Armann at the EPA, we are the first in California to deal with PCBs in schools. The San Fran office created the PCB plan, according to the DTSC, so it would be important to know who is working on this that has direct experience.

We have all spent a great deal of time and energy and I thank everyone on this list for their dedication to this cause.

Sandy, I look forward to your response and finding a mutually beneficial solution for all parties involved.

Respectfully,
Jennifer deNicola

www.MalibuUnites.com
Sign Our Petition to Remove Toxicants from Schools
http://goo.gl/sKR30F

On Jun 10, 2014, at 2:55 PM, Wahrenbrock, Sarah <swahrenbrock@smmusd.org> wrote:

<MHS & Cabrillo Summer Calendar 2014_060414.pdf>

# Attachment 2

## June 14, 2014 Malibu Unites email

## Doug Daugherty

**From:** Lyon, Sandra <slyon@smmusd.org>
**Sent:** Saturday, June 14, 2014 3:58 PM
**To:** Doug Daugherty; Carol Serlin
**Subject:** Fwd: MHS portable classrooms needed for August

**Follow Up Flag:** Follow Up
**Due By:** Saturday, June 14, 2014 6:23 PM
**Flag Status:** Flagged

FYI

Sent from my iPhone

Begin forwarded message:

> **From:** "Lieberman (Ext), Laurie" <lieberman@hlkklaw.com>
> **Date:** June 14, 2014 at 3:54:54 PM PDT
> **To:** "Lyon, Sandra" <slyon@smmusd.org>, "Maez, Jan" <jmaez@smmusd.org>
> **Subject: Fwd: MHS portable classrooms needed for August**
>
> I just noticed that this didn't get sent to you.
>
> Sent from my iPhone
>
> Begin forwarded message:
> D
>
>> **From:** Jennifer DENICOLA <jd18@me.com>
>> **Date:** June 14, 2014 at 10:32:01 AM PDT
>> **To:** Maria Leon-Vazquez <mlvazquez@smmusd.org>, Oscar de la Torre <odelatorre@smmusd.org>, Ben Allen <ballen@smmusd.org>, Ralph Mechur <rmechur@smmusd.org>, Nimish Patel <npatel@smmusd.org>, "Lieberman, Laurie" <llieberman@smmusd.org>, Jose Escarce <jescarce@smmusd.org>
>> **Subject: MHS portable classrooms needed for August**
>>
>> Dear SMMUSD BOE,
>>
>> The school year has ended and parents need to have a clear picture of what's going on at our schools. EPA rejected Environ's PCB plan and gave Environ until July 4, 2014 to submit a MHS-specific plan to address PCBs. This should be a telltale sign to you that Environ is not qualified to do this job properly. The best strategy for the district and BOE to remove its future liability is by directing Environ to fully investigate for PCBs and other toxicants, test all sources, and disclose all results to parents and staff. Then parents and staff can decide for themselves what is an acceptable risk for their children and themselves. Thus removing any further liability by the district, since parents have all the information necessary to make their own educated choice.
>>
>> By the time Environ submits a plan for MHS by July 4th and this new plan is reviewed by the EPA, the public, and Malibu Unites, it will be August. Environ will then have to make

changes and resubmit, which will lead us to mid-August or later, hopefully with an agreed upon plan. Based on new timelines, PCB testing and remediation will likely not occur this summer. We request you get portable classrooms for the Middle School students for this August.

Our Children and Teachers Should Not Be Exposed One Day Longer to PCBs.

The community has received a summer calendar for Best Management Practices (BMP) cleaning. While cleaning is vital to the overall hygiene of our schools, and our schools are in desperate need of cleaning, BMP will not protect our children from PCB exposure; only full remediation will ensure that. Kent Thomas at EPA's Office of Research and Development has indicated that, "No scientific measurement data (has been) collected on the effectiveness of [BMP] cleaning, how often it needs to be done, and how to ensure it is done effectively for reduction in the potential for PCB exposures."

The SMMUSD Board of Education needs to direct Environ to test sources of PCBs and remove them. Leaving them in place is harmful to humans and will require continuous air and wipe testing. For example; a Connecticut School had to pay approximately $50,000 quarterly for continuous testing, mandated by the EPA. This district decided spending $200,000 per year was neither a good financial decision nor a good long-term solution. It puts a very expensive Band-Aid on a serious health problem.

The way to effectively solve the PCB problem at MHS is to test all the sources NOW and remove them. Testing all sources is required by law before BB's demolition of the library building, so why not just do this now. Measure BB bond clearly states that it is a "Safety and Repair Measure to improve health, safety and class instruction." This bond should reallocate funds to rebuild the library building as planned and remediate or rebuild building E to ensure a healthy environment for students and teachers.

Based on the four months spent preparing an inadequate PCB plan that was rejected by the EPA, and that did not address TSCA requirements or provide further investigation for PCBs in our school; the following question must be posed. What specific experience does Environ or any of its employees have with PCBs in schools? According to Steve Armann at the EPA, MHS is the first school in California to deal with PCBs. Environ's extremely inadequate plan seems neither born from experience nor intended to fully investigate and identify the PCB problem at our school, which questions Environ's experience and intention to protect our children and their teachers. There are some well-experienced PCB experts on the East Coast that could potentially investigate and identify our PCB problem in a short period of time.

I reiterate, now, is the time to order portable units for the middle school students for next school year. As we have said many times before, children should not be exposed to cancerous toxicants and classrooms that are in violation of federal law until those rooms are remediated. By ordering portables and informing parents  the district will prevent may parents from pulling their children from school this upcoming year. There are petitions going around with signatures from parents to pull their children if remediation is not complete. They have planned a micro school scenario and district transfers to Las Virginas and private schools. There is a current list of over 60 parents. This serious health crisis topped with the advanced math debacle and the centralized funding is driving Malibu families out of an already dwindling population.

I have met with many of you and shared our desire to find a mutually beneficial solution for all stakeholders involved. This is not about any of us getting our way, it's about compromise and putting the health of our children above all else. If I and the team at MU did not care so much about Malibu, our Malibu friends and their children and of course our own children, we would have pulled them from this situation long ago, but our kids love their friends and love

their community and school and we hope to remedy this situation so that our school and our district is better than ever. We need your cooperation to do that. Please help me, help all of us to rid our school of any toxicants, and remove any doubt that this matter has been fully and comprehensively investigated and addressed so none of us have to think about this again. Let's move on to excellence in education for our children in clean, safe, and healthy environment.

Please reply to this message or call me at 310-848-5400 to discuss how we can work together to solve this issue promptly. I look forward to hearing from each of you.

Respectfully,

Jennifer deNicola

Malibu Unites, President

www.MalibuUnites.com

Sign Our Petition to Remove PCBs from Schools

http://goo.gl/sKR30F

# Attachment 3

**June 4, 2014 EPA Letter**
**Ms. Lyon SMMUSD**

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**
**REGION IX**
**75 Hawthorne Street**
**San Francisco, CA 94105**

Via U.S. Postal Service and Electronic Mail

JUN 04 2014

Ms. Sandra Lyon, Superintendent
Santa Monica Malibu Unified School District
1651 Sixteenth Street
Santa Monica, California 90404
slyon@smmusd.org

Dear Superintendent Lyon:

Thank you for submitting the draft "Comprehensive PCB-Related Building Materials Inspection, Management, and Removal Plan for the Santa Monica-Malibu Unified School District" (District) dated April 2014 (General Plan). The U.S. Environmental Protection Agency, Region 9 (EPA) has reviewed the General Plan and our comments are enclosed.

Overall, the document needs significant restructuring to better clarify the activities that require EPA approval at Malibu High School. We request that the District submit two separate plans within 30 days after the date of this letter covering (1) Malibu High School (MHS) and (2) District-wide schools.

We will review and approve the MHS plan to address PCB contamination resulting from caulk known to have PCB concentrations greater than 50 ppm. We intend to approve the MHS plan under the most applicable sections of the Toxic Substances Control Act (TSCA) regulations for PCBs. The approval may be issued under a combination of the EPA's regulatory authorities in 40 CFR 761.61(a), 761.61(c), and 761.62(c). We do not intend to approve the General Plan (District-wide). We will review and comment on the General Plan for consistency with national approaches to PCBs in schools.

The "Building Material Inspection Plan" and the "PCB Best Management Practices" contained in the General Plan do not require EPA approval, and we recommend that the District move forward with these activities at MHS before the MHS plan is finalized. The enclosure includes comments on these tasks for your consideration. We would also like to observe the inspection process at MHS. Please provide us at least one week advance notice before initiating the inspections.

At your earliest convenience, please contact Carmen D. Santos at 415-972-3360 to set up a call to discuss our comments. Thank you for your cooperation and prompt attention to the matters in this letter.

Sincerely,

Steven S. Armann, Manager
Corrective Action Section
Land Division

Enclosure

Cc: Thomas Cota, DTSC

**U.S. Environmental Protection Agency (EPA) Comments On**
***"Comprehensive PCB-Related Building Materials Inspection, Management, and Removal Plan for Santa Monica-Malibu Unified School District"* (General Plan), dated April 2014**

**June 4, 2014**

## Introduction

In our January 27, 2014 letter (EPA Letter), we requested that Santa Monica-Malibu Unified School District (the District) submit a plan for the Malibu High School (MHS) that at a minimum would address removal of all caulk known to contain PCB levels at 50 milligrams/kilogram (mg/kg or ppm) or higher, mitigation or removal of any deteriorating caulk in pre-1979 structures at MHS, and development of an air sampling plan for EPA approval. In response, on April 25, 2014 ENVIRON International Corporation (ENVIRON) transmitted the draft *"Comprehensive PCB-Related Building Materials Inspection, Management, and Removal Plan for Santa Monica-Malibu Unified School District"* (General Plan) on behalf of the Santa Monica-Malibu Unified School District.

Instead of developing a specific PCB Cleanup Plan for MHS, ENVIRON used the General Plan transmittal letter to address our specific guidance and cross referenced Sections 2 (PCB-Related Building Materials Inspection Plan), 3 (Best Management Practices), and 4 (PCB-Related Building Materials Characterization, Removal and Cleanup Plan) of the General Plan. Those two documents combined are not the specific plan that we requested for the MHS, and that specific plan still needs to be submitted for approval.

Sections A through C, below, provide general comments and recommendations on Sections 2 through 4 of the General Plan. As noted in the cover letter, we recommend that the District implement Sections 2 and 3 of the General Plan after considering the comments below.

As currently proposed by the District, there is little difference in the approach outline in the General Plan and what is proposed for Malibu High School. The proposed approach to all schools in the District is to assume that structures built or renovated between 1950 and 1980 contain certain materials with some concentration of PCBs and to manage these materials in place until demolition or renovation. The only discernable difference for Malibu High School is a commitment to submit an air sampling plan covering certain rooms not previously sampled.

To safely manage suspected PCB-containing materials, the District is proposing to visually inspect each school and implement applicable Best Management Practices (BMPs) based on inspection findings. BMPs include thorough cleaning of surface areas; cleaning and maintenance of HVAC systems; and repairing and replacing deteriorating caulk. With the exception of PCB-containing light ballasts and deteriorating caulk, the District proposes to leave in place any suspected PCB-containing material until renovation or demolition.

We believe the General Plan should be augmented with periodic air and surface wipe sampling to ensure that children and teachers are not exposed to harmful levels of PCBs during the time prior to renovation and demolition. Furthermore, we recommend that the general approach be expanded to include inspection of all pre-1980 light fixtures that may have PCB ballasts; wipe sampling of some surfaces post-BMP cleaning; and pilot studies to determine the frequency of BMPs and effectiveness of proposed encapsulates.

Our specific comments are provided below.

**Roles and Responsibilities**

The General Plan includes a formal role for EPA throughout the plan. The role of the EPA will be limited to (1) approving school-specific PCB cleanup plans where PCB regulated sources have been identified; (2) overseeing the implementation of EPA approved cleanup plans; and (3) providing technical assistance. As stated in the cover letter, EPA will not be approving the District-wide Plan. Please revise the General Plan accordingly.

## A. PCB-Related Building Materials Inspection Plan, Section 2, General Plan

1. The term "PCB-containing" used throughout Section 2 and other sections of the General Plan needs to be defined. In general, the EPA uses the term "PCB-containing" when referring to caulk or other building materials containing total PCBs at levels equal to or above 50 milligram/kilogram (mg/kg or ppm).

2. The Inspection Plan is qualitative in nature and sampling of materials or environmental media are not part of the inspection. We understand the results of the visual inspection will be used to prioritize or consider where and which rooms will be sampled. The specific criteria that will be used to make those decisions should be described in detail and justified in the plan for the MHS.

3. In addition to visual inspection of building materials to create an "Inventory of Potentially Impacted PCB-Materials," BMPs should be conducted in all rooms. In addition, representative sampling and analysis of air, bulk dust (if available), and surface wipe samples be conducted for PCBs to ensure that PCB levels do not pose a risk of injury to health or the environment.

4. We recommend the "Inventory of Potentially Impacted PCB-Materials" be an inventory of potential PCB primary sources and "assumed" potentially-impacted building materials (secondary sources).

5. The Inspection Plan states that buildings constructed before 1980 and with available renovation records may be "eliminated from the building inspection process." Despite the availability of renovation records, buildings at MHS or rooms constructed before 1980 should be thoroughly inspected. Renovation may not have addressed primary sources of PCBs, and if primary sources were present, building or room renovation may not have addressed secondary PCB sources. A preliminary recommendation to conduct representative air sampling in those buildings or rooms with available renovation records should be considered to verify that PCBs are not an issue in those structures.

6. The inspection is proposed to also address electrical equipment that may be present at the MHS. All fluorescent light fixtures should be inspected, including both ballasts and thelight fixtures. It is possible that ballasts were replaced but not the fixture. Legacy PCB releases may reside on the fixtures if only the ballasts were replaced.

7. Inspection of one FLB within one FLB group may not be representative of true conditions regarding physical integrity of the FLBs and integrity of the ballasts inside the FLBs within a group of FLBs. We understand that certain non-fluorescent lighting manufactured prior to 1979 may also have PCB ballasts (e.g., metal halide lamps). Please inspect all lights.

8. We recommend the HVAC system (as that system is defined in the General Plan) inspection include checking for presence of dust to determine if, in addition to surface wipe samples, some bulk dust samples could be collected.

9. The inspector is expected to evaluate potential for human exposure after completing the inspection and to make this determination at the exit conference or some time shortly after. It seems that task should be done by a risk assessor or someone trained in risk evaluation. How will evaluation for human exposure be done without sampling and analysis data? Would the evaluation be qualitative, and quantitative data to be collected at a later time to verify the findings and conclusions of the inspection in reference to human risks?

**B. PCB Best Management Practices, Section 3, General Plan**

1. The MHS plan should include a schedule to remove caulk tested and containing total PCBs at levels equal to or above 50 mg/kg. We acknowledge that ENVIRON proposes to remove the caulk within a 9 to 12 months after the Coastal Commission Permit is issued to the District. However, it is not clear how long it will take for that permit to be issued. Therefore, in addition to the requested schedule, if issuance of the Coastal Commission Permit takes longer than one year after the date of these comments, include a sampling and analysis plan to monitor PCB concentrations in air and on surfaces in the four rooms known to have PCB-containing caulk to ensure that PCB levels remain below health guidelines.

2. The MHS plan should propose a schedule for routine implementation of Best Management Practices (BMPs). Such schedule should describe the type of BMPs to be implemented and propose a BMP implementation frequency with justification.

3. Flow diagrams and decision trees for BMPs should be included in the MHS plan similarly to those included in ENVIRON's presentation to the District's Board.

4. We understand that BMPs are being implemented under the premise that, if caulk is present, it contains PCBs and that waste will be generated during implementation of BMPs. A waste determination should be made in order to determine the appropriate management and disposal options under the TSCA PCB regulations.

5. The District should consider the analysis results that may be available for waste generated during the initial cleanup of the school in the winter of 2014. That information may be used to determine applicable disposal options for waste that may be generated in subsequent school cleanings. If data to determine waste disposal options is not available for the MHS, we recommend a pilot study be conducted to identify the applicable waste disposal requirements under the TSCA PCB regulations.

6. We recommend that an "initial" thorough cleanup of the HVAC system be conducted. We recommend the District propose a pilot study in the MHS plan to help establish an optimum frequency for cleanup of that system. The General Plan proposes an annual frequency for cleanup of the HVAC system without justification. In reference to the HVAC cleaning approach in the BMP Plan, we recommend that window openings be blocked to prevent dust from leaving the work area.

7. The BMP Plan states that "[w]hen the damaged materials is suspected to contain asbestos (>1%), asbestos remediation procedures should be followed and the repair or patch can only be conducted by asbestos certified workers." How would an inspector and parties responsible for implementation of the BMP Plan know asbestos might be or might not be present in the material being removed?

8. The EPA ORD April 2012 report, "Evaluation of the Encapsulation Method" (referenced in Footnote 7 of the BMP Plan) discusses limitations associated with encapsulation of materials containing or surfaces contaminated with PCBs. These limitations support the need for routine surface wipe or air sampling to verify the encapsulate effectiveness. Before final decisions are made on encapsulates that may be used at the MHS, we recommend the District confer with the EPA on this matter.

9. In addition to the "white glove" test, we recommend that wipe samples of cleaned surfaces be collected to verify if risk-based goals for PCBs in surfaces are being met via the BMPs. Please provide a proposed concentration goal for wipe samples.

## C. PCB-Related Building Materials Characterization, Removal and Cleanup Plan, Section 4, General Plan

1. For MHS, the notification to the EPA under the TSCA PCB regulations must include the written certification required in 40 CFR 761.61(c)/761.61(a)(3)(i)(e) and the cleanup plan supported by a characterization plan and other relevant information.

2. For a school scenario, the EPA will approve cleanup of soils under 40 CFR 761.61(c). As such, the terms high occupancy and low occupancy in 40 CFR 761.61(a) are not applicable. The EPA intends to apply health-based cleanup levels for soils (e.g., Regional Screening Levels or RSLs) that are more stringent than those prescribed in 40 CFR 761.61(a).

3. With regard to Section 4.3.1.1, in certain situations and based on laboratory analysis, a building material may contain PCBs below 50 mg/kg. That material may meet the definition of an excluded PCB product. However, the District should confer with the EPA when proposing such a determination.

4. The cleanup plan in Section 4 proposes to use encapsulates if cleanup of the substrate does not result in PCB concentrations at or below 1 mg/kg. We recommend use of encapsulates proven to be most effective for PCB applications based on the April 2012 EPA ORD report. The use of encapsulation will require continued implementation of BMPs, collection of surface wipe

samples, and air samples to verify encapsulate effectiveness. The District and EPA should further discuss this matter.

5. If caulk with PCBs equal to or above 50 ppm is proposed to be encapsulated, such approach, if approved by the EPA, would be a short-term alternative to minimize exposure to PCBs. Such alternative would be subject to approval by the EPA and contingent upon a schedule for ultimate removal of the PCB-containing caulk. The use of encapsulation will require continued implementation of BMPs, collection of surface wipe samples, and air samples to verify encapsulate effectiveness. The District and EPA should further discuss this matter.

# Attachment 4

## June 13, 2014 EPA email

## Doug Daugherty

**From:** Huetteman, Tom <Huetteman.Tom@epa.gov>
**Sent:** Friday, June 13, 2014 4:25 PM
**To:** Doug Daugherty
**Cc:** Lyon, Sandra <slyon@smmusd.org> (slyon@smmusd.org); Maez, Jan (jmaez@smmusd.org); Armann, Steve; Santos, Carmen; Yi Tian; Eric Wood; Beach, John; Wilson, Patrick
**Subject:** RE: EPA Comments of the District's PCB Plan

Doug,

EPA concurs with your approach to testing as described in the plan forwarded with the message below. We understand that there will be the opportunity to review results from this work, which may lead us to recommend additional testing or other work. I also want to confirm that we do support the District conducting inspections and BMPs as stated in our June 4, 2014 letter.

As mentioned over the phone, please check the calculation for the sample wipe reporting limit. The reporting limit would appear to be 0.1 (or 0.2) ug/100cm2.

Please contact me or Steve Armann if you have any questions.

Tom Huetteman, Assistant Director
RCRA Branch, Land Division, USEPA Region 9
415-972-3751

---

**From:** Doug Daugherty [mailto:ddaugherty@Environcorp.com]
**Sent:** Friday, June 13, 2014 3:08 PM
**To:** Huetteman, Tom
**Cc:** Lyon, Sandra <slyon@smmusd.org> (slyon@smmusd.org); Maez, Jan (jmaez@smmusd.org); Armann, Steve; Santos, Carmen; Yi Tian; Eric Wood; Beach, John
**Subject:** RE: EPA Comments of the District's PCB Plan
**Importance:** High

Tom,

First, thank you again for your review and comments as well as your and your staff's responsiveness as it is much appreciated. We have attached a revised version for your review.

We request EPA's concurrence with the revised sampling plan as well as confirmation of EPA's previous recommendation (per Steve Armann's June 4 ,2014 letter) with moving ahead with the planned expedited implementation of Section 2 (Inspection) and Section 3 (Best Management Practices) of ENVIRON's General Plan that is slated to being next Monday at MHS and CJES along with this sampling plan.

Regards,
Doug

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**From:** Huetteman, Tom [mailto:Huetteman.Tom@epa.gov]
**Sent:** Thursday, June 12, 2014 2:06 PM

**To:** Doug Daugherty
**Cc:** Lyon, Sandra <slyon@smmusd.org> (slyon@smmusd.org); Maez, Jan (jmaez@smmusd.org); Armann, Steve; Santos, Carmen; Yi Tian; Eric Wood; Beach, John
**Subject:** RE: EPA Comments of the District's PCB Plan

Doug,

Based on your inquiry below, we held a follow up conversation with our Office of Research and Development. Based on their advice, we have concluded that, while the filter is an acceptable choice to add to the sampling train, it should be considered optional and acceptable not to use it. With respect to the analytical methods, it is best to talk by phone regarding different factors to consider in making this choice.

Thanks, Tom

Tom Huetteman, Assistant Director
RCRA Branch, Land Division, USEPA Region 9
415-972-3751

---

**From:** Doug Daugherty [mailto:ddaugherty@Environcorp.com]
**Sent:** Thursday, June 12, 2014 11:04 AM
**To:** Huetteman, Tom
**Cc:** Lyon, Sandra <slyon@smmusd.org> (slyon@smmusd.org); Maez, Jan (jmaez@smmusd.org); Armann, Steve; Santos, Carmen; Yi Tian; Eric Wood; Beach, John
**Subject:** RE: EPA Comments of the District's PCB Plan

Tom,

Thanks for this information. However, the EPA TO-10A method document says this about particulate filters:
"Collocated sampling with and without a quartz-fiber pre-filter has yielded indistinguishable results for a broad spectrum of pesticides and PCBs found in indoor air (10)."

Do you have additional studies that indicate that this EPA finding is no longer true so that we can evaluate this request further?

As for the method, we have to check with the lab and will attempt to do so today; however we also wanted to inquire about what additional studies EPA has available that says EPA's TO-10A analytical method is no longer applicable to this test method?

Thanks
Doug

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**From:** Huetteman, Tom [mailto:Huetteman.Tom@epa.gov]
**Sent:** Thursday, June 12, 2014 10:33 AM
**To:** Doug Daugherty
**Cc:** Lyon, Sandra <slyon@smmusd.org> (slyon@smmusd.org); Maez, Jan (jmaez@smmusd.org); Armann, Steve; Santos, Carmen; Yi Tian; Eric Wood; Beach, John
**Subject:** RE: EPA Comments of the District's PCB Plan

Doug,

We have additional comment related to the air testing. We recommend that you consider adding a total suspended particle quartz filter to the sample filter assembly to be connected to the PUF, though it is acceptable to only use the

PUF. Also, we recommend dual column confirmation with method 8082A. Please also provide the detection limits that the lab will meet for air.

Thanks, Tom

Tom Huetteman, Assistant Director
RCRA Branch, Land Division, USEPA Region 9
415-972-3751

---

**From:** Huetteman, Tom
**Sent:** Wednesday, June 11, 2014 5:19 PM
**To:** 'Doug Daugherty'
**Cc:** Lyon, Sandra <slyon@smmusd.org> (slyon@smmusd.org); Maez, Jan (jmaez@smmusd.org); Armann, Steve; Santos, Carmen; Yi Tian; Eric Wood; Beach, John
**Subject:** RE: EPA Comments of the District's PCB Plan

Doug,

As requested, below are our comments on ENVIRON's June 9, 2014 memorandum regarding "Additional Information on the Selection of Representative Rooms for Air/Wipe Testing" (Testing Plan). We understand that ENVIRON and the SMMUSD will begin to implement the Testing Plan at the Malibu High School (MHS) and Juan Cabrillo on June 16, 2014. We appreciate ENVIRON and SMMUSD's expedited implementation of Section 2 (Inspection) and Section 3 (Best Management Practices) of the General Plan.

1. Clarify in the Testing Plan if the entire process described for MHS is the same process that will be implemented at Cabrillo.

2. Please briefly describe how the results of all the testing will be reported and evaluated. A final report should be prepared that includes a recommendation on additional testing or other work, as needed, based on the finding of the work to be performed this summer.

3. We recommend adding to either Section II or III of the Testing Plan the collection of photographic and/or video documentation during the inspection and sampling activities. We believe this documentation could be useful in interpretation of sampling results.

4. Schedule discussion, Item I.b.vii. For clarification, we recommend adding something like "including rooms not sampled if the data suggests the need to expand the sampling."

5. Room sampling assumption, Item I.c. Clarify if the estimated number of samples covers samples for both MHS and Cabrillo or only the High School. It also appears that the intent is to collect 50% of the samples prior to cleaning. You may want to consider a lower percent of samples prior to cleaning (for purposes of checking the effectiveness of the cleaning techniques) so that a larger number of rooms can be checked post cleaning since these results represent the exposure levels that will remain.

6. Wipe samples, Item I.c.ii. Please clarify the number of wipe samples that will be taken prior to cleaning versus the number after cleaning. Also, we assume that the blanks and duplicates are in addition to this number.

7. TO-10A Air sampling method, and air analysis, Item I.d. The samples should be extracted via EPA Method 3540C (Soxhlet). Sample cleanup methods such as sulfuric acid, Florisil, and mercury shake are recommended as extract pre-analysis cleanup methods to minimize analytical interferences and maintain consistent low detection limits. We recommend the extracted samples be analyzed for PCB Aroclors (and

suggest you consider including Aroclor 1268), following the specifications of EPA Method 8082A (or latest method revision). We are seeking some additional information from other Regions and may have a follow up comment in TO-10A that we will forward on June 12.

8. Room conditions for testing, Item 2. Clarify that windows will be closed during air testing inside the rooms.

9. Wipe tests, Item I.d.ii. The wipe sampling procedure in 40 CFR 761.123 should be followed in addition to the EPA guidance for sample collection and field quality control for surface wipe sampling (http://www.epa.gov/epawaste/hazard/tsd/pcbs/pubs/guidance.htm#wipe) That procedure requires the use of gauze pad templates (10 cm x 10 cm) or glass wool.

10. Wipe extraction and analysis, Item I.d.ii.1. The regulations allow use of either Soxhlet or Ultrasonic extraction. With whichever procedure is used, the wipe surrogate recoveries should be 65% or higher and matrix spikes should be above 75%. If analytical results for spike and surrogate samples indicate the extraction was not efficient (low biased results), the validity and acceptability of the data will need to be evaluated.

11. Caulk and glazing, Item I.d.2. Clarify the purpose of wipe samples for caulk and window glazing. If the intent is to measure dust for assessing exposure due to direct contact with the caulk, then a solvent different than hexane is recommended (e.g., HPLC grade 2-propanol) to avoid extracting PCBs out of the caulk material. If a decision is made to stay with the use of hexane, the results may have a high bias which needs to be considered when interpreting the data.

12. Building Materials, Item II.d. We recommend that renovation records be also considered.

13. The selection of sampling locations (II.d) should also consider evidence from the inspection of possible PCB contamination such as caulk condition, oily stains, or other observations that suggest PCBs levels that may be higher than in other locations.

Tom Huetteman, Assistant Director
RCRA Branch, Land Division, USEPA Region 9
415-972-3751

---

**From:** Doug Daugherty [mailto:ddaugherty@Environcorp.com]
**Sent:** Monday, June 09, 2014 4:42 PM
**To:** Huetteman, Tom
**Cc:** Lyon, Sandra <slyon@smmusd.org> (slyon@smmusd.org); Maez, Jan (jmaez@smmusd.org); Armann, Steve; Santos, Carmen; Yi Tian; Eric Wood
**Subject:** FW: EPA Comments of the District's PCB Plan
**Importance:** High

Tom,

Thank you for your comments. Carmen Santos has reached out to Eric Wood to set up a conference call on either Tuesday June 17 or Wednesday June 18. The District would like to attend the call as well and the mutually available window for us is between 9:30 to 12:30 on the 17th.

In your letter, EPA also requested notification at least one week prior to the beginning of the planned summer Building Inspections that we are moving forward with in accordance with EPA's concurrence on the proposed Building Inspections and BMPs at Malibu High School (MHS) (and which will also be done at Juan Cabrillo Elementary School (JCES)) per our Draft Comprehensive Plan. These are scheduled to begin next Monday, June 16th. As there is a good deal

of work to be done, the work is being done on a building by building rolling basis in accordance with the attached schedule (though note schedule is subject to change depending on what happens in the field during the work).

As you will note in the attached schedule, sampling is scheduled to be conducted on June 18th. We do need to start sampling then in order to accomplish all the work that is being planned during the limited summer schedule available to us before the resumption of classes this fall. Therefore, ENVIRON prepared the attached document to provide additional information on the selection of representative rooms for air/wipe sampling to be done at MHS (and also at JCES) during the summer of 2014 (June 16 through August 8) as requested by EPA in its June 4, 2014 letter to SMMUSD (specifically, the request related to the sampling plan for MHS and comments A.2 and A.3). Given the attached schedule, we wanted to get this to you sooner than the EPA requested conference call on the 17th, and we request EPA's review of this information this week as we would like to confirm EPA's concurrence with this approach by Thursday, June 12th at the latest.

Please do not hesitate to contact me with any questions or if you would like to discuss. We look forward to collaboratively working with EPA to complete the necessary summer work at MHS (and JCES).

Regards,
Doug

---

**From:** Huetteman, Tom [mailto:Huetteman.Tom@epa.gov]
**Sent:** Wednesday, June 04, 2014 3:14 PM
**To:** slyon@smmusd.org
**Cc:** thomas.cota@dtsc.ca.gov; Doug Daugherty; Santos, Carmen; Armann, Steve
**Subject:** EPA Comments of the District's PCB Plan

Dear Superintendent Lyon,

Attached are EPA's comments on the "Comprehensive PCB-Related Building Materials Inspection, Management, and Removal Plan for Santa Monica-Malibu Unified School District." Per the attached letter, please contact Carmen Santos to schedule a call to discuss these comments. Steve Armann is out on vacation until June 16. During his absence, feel free to contact me or Carmen.

Sincerely,

Tom Huetteman, Assistant Director
RCRA Branch, Land Division, USEPA Region 9
415-972-3751

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# Attachment 5

## June 11, 2014 EPA email

## Doug Daugherty

**From:** Huetteman, Tom <Huetteman.Tom@epa.gov>
**Sent:** Wednesday, June 11, 2014 5:19 PM
**To:** Doug Daugherty
**Cc:** Lyon, Sandra <slyon@smmusd.org> (slyon@smmusd.org); Maez, Jan (jmaez@smmusd.org); Armann, Steve; Santos, Carmen; Yi Tian; Eric Wood; Beach, John
**Subject:** RE: EPA Comments of the District's PCB Plan

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

Doug,

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1. Clarify in the Testing Plan if the entire process described for MHS is the same process that will be implemented at Cabrillo.

2. Please briefly describe how the results of all the testing will be reported and evaluated. A final report should be prepared that includes a recommendation on additional testing or other work, as needed, based on the finding of the work to be performed this summer.

3. We recommend adding to either Section II or III of the Testing Plan the collection of photographic and/or video documentation during the inspection and sampling activities. We believe this documentation could be useful in interpretation of sampling results.

4. Schedule discussion, Item I.b.vii. For clarification, we recommend adding something like "including rooms not sampled if the data suggests the need to expand the sampling."

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Tom Huetteman, Assistant Director
RCRA Branch, Land Division, USEPA Region 9
415-972-3751

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**Sent:** Monday, June 09, 2014 4:42 PM
**To:** Huetteman, Tom
**Cc:** Lyon, Sandra <slyon@smmusd.org> (slyon@smmusd.org); Maez, Jan (jmaez@smmusd.org); Armann, Steve; Santos, Carmen; Yi Tian; Eric Wood
**Subject:** FW: EPA Comments of the District's PCB Plan
**Importance:** High

Tom,

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In your letter, EPA also requested notification at least one week prior to the beginning of the planned summer Building Inspections that we are moving forward with in accordance with EPA's concurrence on the proposed Building Inspections and BMPs at Malibu High School (MHS) (and which will also be done at Juan Cabrillo Elementary School (JCES)) per our Draft Comprehensive Plan. These are scheduled to begin next Monday, June 16th. As there is a good deal of work to be done, the work is being done on a building by building rolling basis in accordance with the attached schedule (though note schedule is subject to change depending on what happens in the field during the work).

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Please do not hesitate to contact me with any questions or if you would like to discuss. We look forward to collaboratively working with EPA to complete the necessary summer work at MHS (and JCES).

Regards,
Doug

---

**From:** Huetteman, Tom [mailto:Huetteman.Tom@epa.gov]
**Sent:** Wednesday, June 04, 2014 3:14 PM
**To:** slyon@smmusd.org
**Cc:** thomas.cota@dtsc.ca.gov; Doug Daugherty; Santos, Carmen; Armann, Steve
**Subject:** EPA Comments of the District's PCB Plan

Dear Superintendent Lyon,

Attached are EPA's comments on the "Comprehensive PCB-Related Building Materials Inspection, Management, and Removal Plan for Santa Monica-Malibu Unified School District." Per the attached letter, please contact Carmen Santos to schedule a call to discuss these comments. Steve Armann is out on vacation until June 16. During his absence, feel free to contact me or Carmen.

Sincerely,

Tom Huetteman, Assistant Director
RCRA Branch, Land Division, USEPA Region 9
415-972-3751

---

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# Attachment 6

## June 13, 2014 MHS Sampling Plan_V2

June 13, 2014

**MEMORANDUM**

To: Tom Huetteman, Assistant Director, RCRA Branch, Land Division, EPA Region IX

From: Doug Daugherty, Eric Wood, Yi Tian, ENVIRON

Cc: Steve Armann and Carmen Santos, EPA Region IX
Sandra Lyon and Jan Maez, SMMUSD

**Re: Additional Information on the Selection of Representative Rooms for Air/Wipe Testing – Revision 1**

---

The following was prepared by ENVIRON and is intended to provide additional information on the collection of air and wipe samples at Malibu High School (MHS)[1]during the summer of 2014 (June 16 through August 8) as requested by EPA in its June 4, 2014 letter to SMMUSD (specifically, the request related to the sampling plan for MHS and comments A.2 and A.3).

The goal is to obtain samples from a sufficient number of locations and site-specific conditions to:

1) Serve as representative of the variety of potentially PCB-containing materials[2], conditions, and possible exposure pathways (inhalation, dermal, and incidental ingestion);
2) Address specific concerns of the community and staff at MHS;
3) Evaluate previous sampling efforts;
4) Assess effectiveness of Best Management Practices cleaning; and
5) Draw scientific conclusions on the potential presence of PCB-containing building materials and the potential for exposures to PCBs at MHS.

I. <u>Overall Process for MHS</u>

a. Schedule needs to be based on a Building (or Room Group) by Building basis in a rolling parallel process to accommodate the scale of the work to be conducted during the summer (from June 16 to August 8) – see accompanying schedule.

b. General Sequence for a Building/Room Group

i. Building Inspection by Building or Room Groups

ii. Determine representative rooms in that Building or Room Groups for pre-cleaning air and wipe sampling

iii. Conduct pre-cleaning air and wipe sampling in representative rooms in that Building or Room Groups

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[1] Although not part of the EPA's June 4th request involving MHS, the process outline in this document also covers the work to be conducted at Juan Cabrillo Elementary School (JCES) that will be conducted during the same time period as the MHS efforts.

[2] For purposes of this document, PCB-containing shall mean materials that contain any measurable concentration of PCBs detectable using common analytical procedures for air and wipe samples.

iv. HVAC/Duct cleaning

v. Room BMP cleaning

vi. Conduct post-cleaning air and wipe sampling in representative rooms in that Building or Room Groups. Post-cleaning sampling will be conducted in the same rooms as the pre-cleaning sampling, but post-cleaning sampling may also include additional rooms or locations without pre-cleaning sampling, as recommended by EPA[3], since those results are expected to be more representative of exposure levels that will remain following building re-occupancy.

vii. Schedule also includes accommodations for some re-cleaning and additional testing as needed, including rooms not sampled if the data suggests the need to expand the sampling.

c. Current assumption is that up to 1/3 of all rooms (inclusive of both MHS and JCES) will be sampled (subject to change based on information/experience during the summer inspections)

i. Up to approximately 45 pre-BMP air samples and up to approximately 65 post-BMP air samples. Outdoor/background, field blanks, and duplicates are included in the counts. Additional samples will be collected if the initial samples exceed relevant health-based benchmarks.

ii. Up to approximately 60 pre-BMP wipe samples and up to approximately 230 post-BMP wipe samples, assuming two to five wipe samples per room selected. Field blanks and duplicates are included in the counts. Additional samples will be collected if the initial samples exceed relevant health-based benchmarks

iii. Per EPA's recommendation[4], pre-cleaning sampling will be conducted in a smaller subset of representative rooms than post-cleaning sampling, as described in b.vi above.

iv. All pre-1981 buildings will be sampled.

v. All air sampling will be conducted with the windows closed and HVAC off.

d. Methods to be used

i. Air samples will be collected using the general methods previously approved by EPA for testing done in January. The air samples will be collected without a pre-filter and will be analyzed for Aroclors using EPA Method TO-10A[5], which is approved by EPA in its January 27, 2014 letter to the SMMUSD. The laboratory method reporting limit for each of the aroclors is 500 ng/PUF, which translates into approximately 0.07 µg/m$^3$ assuming a sample flow rate of 5 liters per minute (L/min) collected over 24 hours. Per EPA's recommendation[6], the laboratory will follow QA/QC procedures similar to those outlined in EPA Method 8082A.

ii. Wipe samples will be collected on gauze pads using the Standard Wipe Test described in 40 CFR 761.123 and will be analyzed using EPA Method 8082 for Aroclors. This method was used by EPA when its staff collected wipe samples from MHS, as indicated in EPA's letter to the SMMUSD, dated March 21, 2014. The laboratory method reporting limit for

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[3] June 11, 2014 email from T. Huetteman of EPA to D. Daugherty of ENVIRON.
[4] Ibid.
[5] June 12, 2014 email from T. Huetteman of EPA to D. Daugherty of ENVIRON.
[6] June 12, 2014 phone conversation between T. Huetteman of EPA and Y. Tian of ENVIRON.

each of the aroclors is 0.1 µg/sample (except for Aroclor 1221, which is 0.2 µg/sample), which translates into approximately 1 ng/100cm$^2$ (or 2 ng/100cm$^2$ for Aroclor 1221).

1. As many samples require next day service, wipe samples will be sonicated in the extraction solvent rather than using the soxhlet extraction procedure. Based on information from ALS Laboratory in Salt Lake City, Utah, the spike recoveries are essentially identical for either method. The laboratory will aim to achieve a surrogate recovery of at least 65% and a matrix spike recovery on the same wipe type of at least 75%. If the results are below these targets (i.e., low biased), the validity and acceptability of the data will be evaluated,

2. Representative materials and types of surfaces for wipe samples

   – Caulk and glazing on windows and doors (deteriorating and in good condition)
   – Vertical surfaces (e.g., walls) with lower exposure potential
   – Horizontal surfaces with higher exposure potential

   The intent of these samples is to measure dust for assessing exposures due to direct contact with the material/surface. Note that the use of hexane rather than other solvents (e.g., HPLC grade 2-propanol) may cause PCBs to be more readily extracted from certain materials such as caulk and glazing. At the recommendation of EPA[7], gauze pads used to collect surface wipe samples from caulk and glazing will be wetted with HPLC grade 2-propanol, and all other wipe samples will be collected with gauze pads wetted with hexane.

II. <u>Factors to be considered in selecting representative rooms for air and wipe testing</u>

a. Information obtained through meetings with MHS[8] Staff conducted on May 21, 2014.
   i. Information ranged from cleanliness of rooms to heath concerns in various rooms.

b. Results of prior sampling.
   i. Sampling (air and wipe) will include Library, Rooms 1, 5, 8, where previous caulk sample results indicated PCB concentrations greater than 50 ppm.
   ii. Rooms that were sampled previously by The Phylmar Group will be included during the selection process.

c. Room usage
   i. Frequency of occupation
   ii. Age of occupants
   iii. Exposure potential to surfaces in room

d. Building materials that may potentially contain PCBs identified during the Building Inspections
   i. Results of the inventory effort on the types and locations of potential PCB-containing materials

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[7] June 11, 2014 email from T. Huetteman of EPA to D. Daugherty of ENVIRON.
[8] And JCES staff.

ii. Similarities in construction (e.g., bathrooms, classrooms, lab classrooms, administrative rooms, etc.)

iii. Number, location, and type of windows in room

iv. Type of fixtures in room (e.g., presence of sinks)

v. Layout of room in regards to exposure potential

vi. Condition of building materials (e.g., flaking caulk, oily stains in light fixtures, other indications of potential PCB contamination)

vii. Characteristics of HVAC system

viii. Construction year

ix. Renovation records, if available

III. Documentation of information and rationale for selection of sampling locations

a. Information described in Section II will be documented in a matrix during the pre-inspection and building inspection phase of the work. ENVIRON will collect photographic and/or video documentation during the inspection and sampling activities.

b. Selection of representative rooms will be based on this information and both the conclusions and rationale for selection will be documented between the end of the inspection and prior to the collection of any pre-cleaning samples in each Building or Room Groups

i. Note that higher selection ranking consideration will be given to factors that could indicate higher exposure potential (e.g., types of PCB-containing materials, conditions of the material, exposure potential or concerns, etc).

IV. Documentation of sampling results

a. Sampling results will be summarized in tabular format over the course of the summer.

b. Results will be compared to relevant health-based criteria.

c. If any of the post-cleaning sample results exceed relevant health-based criteria, the schedule allows for some second round of cleaning and then re-testing. All of these results will be presented in the final report.

d. At the end of the summer effort, ENVIRON will prepare a report that contains a summary of all of the inspection and sampling results, ENVIRON's conclusions from the data, and any recommendations, including additional testing or follow up work if warranted based on the data.

# Attachment 7

**April 25, 2014 EPA Letter**
**Jennifer deNicola, Malibu Unites**

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

April 25, 2014

Ms. Jennifer deNicola, President
Malibu Unites
22747 Pacific Coast Highway, Suite 401
Malibu, California 90265

Dear Ms. deNicola:

Thank you for your March 10, 2014 email asking that I address several concerns regarding EPA's strategy to address PCBs at the Malibu High School/Middle School.

I want to provide some background on EPA's approach to PCBs in schools and how this is implemented at Malibu High School/Middle School. PCBs were widely used in caulking materials, as well as in paints and other building materials, in structures constructed from the 1950s until the late 1970s. It is common to find PCBs in buildings such as schools constructed or renovated during this time frame. Given the widespread use of PCBs and the variation of PCB concentrations in building materials, EPA's general strategy to address PCBs in building materials is one of avoiding harmful human exposures.

EPA has developed and posted a number of fact sheets to help school administrators and building owners address the impacts associated with potential exposures from PCBs in building materials. The fact sheets recommend risk-management strategies to reduce unacceptable exposures from primary PCB sources (i.e., products manufactured with PCBs like caulk and light ballasts) and secondary PCB sources (i.e., materials that may become contaminated by primary sources).

The EPA fact sheet, "Preventing Exposure to PCBs in Caulking Material" (available at http://www.epa.gov/epawaste/hazard/tsd/pcbs/pubs/caulk/pdf/caulkexposure.pdf) provides a good summary of key recommendations such as:

- Steps that concerned school administrators can take to minimize the potential for PCBs in the indoor air;
- Cleaning and proper maintenance of ventilation systems; thorough and frequent cleaning of surface areas to minimize exposures; and
- "If school administrators and building owners are concerned about exposures to PCBs and wish to supplement these steps, EPA recommends testing to determine if PCB levels in air exceed EPA's suggested public health levels. If testing reveals PCB levels above these levels, schools should attempt to identify any potential sources of PCBs that may be present in the building, including testing samples of caulk and other building materials."

Generally, when testing of caulk or other building materials in structures show PCBs are present at or above 50 ppm, the PCB regulations in 40 CFR 761 implementing the Toxics Substances Control Act (TSCA) require that the PCB-containing material be removed.

When spills or releases of liquid PCBs at or above 50 ppm contaminate non-porous surfaces (e.g., metal), those surfaces must be cleaned to the regulatory standard of less than or equal to 10 ug/100 $cm^2$ PCBs. Porous surfaces (e.g., concrete, brick) and non-porous surfaces can also become contaminated by PCBs contained in dust. For these situations, a site specific, protective risk-based PCB standard for surfaces will be developed as part of the cleanup plan.

In the case of Malibu High School/Middle School, EPA was notified in November 2013 that the District had collected surface wipe, caulk, and air samples and had these samples analyzed for PCBs. All of the air samples had PCB levels within EPA's acceptable risk range for a residential exposure scenario and below the applicable EPA "Public Health Levels for PCBs in Indoor School Air" ("http://www.epa.gov/pcbsincaulk/pdf/maxconcentrations.pdf"). However, four surface wipe samples showed PCB levels above 10 ug/100 $cm^2$; and four caulk samples showed PCB concentrations above 50 ppm. Because the caulk and wipe samples were above the TSCA regulatory levels, I notified the District that they would need to submit a cleanup plan to EPA and recommended that they implement PCB Best Management Practices to control dust.

During the school's winter break, the District conducted cleaning of the five rooms with the elevated PCBs in caulk and/or wipe samples, as well as, conducted post-cleaning air and wipe sampling. Comparison of the pre- and post-cleaning air and wipe samples show that all post-cleaning samples were below our guidelines and show a reduction in PCB air concentrations of approximately 50 percent and a reduction of PCBs on surfaces of approximately 90 percent. We are aware that certain additional rooms cleaned and sampled independently by the District, without EPA oversight, show lower reductions in air concentrations.

On April 25, 2014, we expect to receive a cleanup plan from the District that will include, at a minimum, a plan to remove all caulk currently tested that contains PCBs above 50 ppm, remove any deteriorated caulk from the school, and sample air inside all pre-1979 structures. In addition, we recommended that the District consider annual thorough cleaning of the school to maintain air quality. We are not requiring additional caulk testing or removal beyond what the cleanup plan may require unless air sample results are above our suggested public health guidelines.

Enclosed are responses to your questions and concerns. If you have any questions regarding my response, please contact me by phone at 415-972-3352 or email at Armann.Steve@epa.gov.

Sincerely,

Steve Armann, Manager,
Corrective Action Section, Land Division

Enclosure

cc: Thomas Cota, DTSC

EPA's Responses to Ms. deNicola's Questions and Items Submitted to EPA on March 10, 2014

Because the topic of many of the questions in the March 10th email overlap, the responses below are grouped according to common topics.

## A. General Clarification

### a. Scope of the TSCA PCB Program

EPA's formal involvement with the Malibu High School is under the PCB regulations in Title 40 of the Code of Federal Regulations (CFR) Part 761 implementing the Toxic Substances Control Act (TSCA). The TSCA PCB regulations apply only to PCBs. Consequently, EPA's role is limited to providing regulatory oversight and technical assistance in connection to PCBs. Through implementation of its TSCA PCB program, EPA does not oversee investigation or make decisions related to other contaminants.

### b. PCB Use Authorization

In 1979, TSCA banned the manufacturing, processing, distribution in commerce, and use of PCBs. EPA's implementing regulations prohibit the use of materials (or products) manufactured with PCBs, such as caulk, sealants, and paints, at levels equal to or above 50 ppm. EPA has authorized certain specified uses of PCBs at these levels, however, but such uses must not result in unreasonable risks to human health and the environment. The PCBs must also be used in a "totally enclosed manner" (no direct access to or direct exposure to PCBs) and the physical integrity of the equipment containing the PCBs may not be compromised in any manner (no leaks or malfunction that may result in releases or exposure to PCBs). An example of an authorized use is PCB containing ballasts in pre-1979 florescent light fixtures.

In determining whether PCBs are being improperly used, the current regulations do not require testing of materials to determine if they contain PCBs at TSCA regulated levels. However, once materials are known to contain PCBs at or above 50 ppm, the use prohibition applies and, unless otherwise authorized for use by the regulations, those materials must be removed and disposed of consistent with the regulations. In addition, contamination caused by movement of PCBs from those products into other building materials, substrates (e.g., concrete), and/or into the environment must also be cleaned up to an appropriate level. The District's cleanup plan will need to address the substrate (e.g., concrete, window metal frame) in contact with caulk equal to or above 50 ppm.

### c. Encapsulation of PCB Materials.

Encapsulation may be used to minimize PCB concentrations in air and may only be a temporary solution. The effectiveness of encapsulation depends on several factors such as the PCB concentration in the building material to be encapsulated, type of encapsulate, and thickness of the applied encapsulate layer.

**B. EPA's Use of Risk-Based Guidelines for PCBs in Schools**

a. EPA Risk Range

EPA's acceptable cancer risk range spans from $10^{-4}$ (one excess cancer in a population of 10,000 exposed individuals) to $10^{-6}$ (one excess cancer in a population of 1 million exposed individuals). This risk range is codified in 40 CFR Part 300, "National Contingency Plan" regulations for implementing the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly referred to as Superfund. EPA uses this risk range nationally in making health or risk-based decisions across its various environmental programs under different statues such as the Safe Drinking Water Act, Resource Conservation and Recovery Act, and TSCA. The referenced risk range supports the overall TSCA standard of preventing unreasonable risks of injury to health and the environment.

b. Evaluating PCB Risks

To assist EPA in evaluating sites to determine if contaminant levels represent an exposure hazard, we often refer to the health-based, media specific concentrations found in EPA's guidance document "Screening Levels for Chemical Contaminants at Superfund Sites" – or more commonly known as the Regional Screening Levels (RSLs). These risk-based screening levels are available at http://www.epa.gov/region9/superfund/prg/. The RSLs are a screening tool with levels based on a 10-6 cancer risk or the low end of EPA's acceptable risk range. The RSL for PCBs in air under a residential exposure scenario is 0.0043 ug/m$^3$ (0.0003 ppb). Therefore, in a residential exposure setting EPAs acceptable concentration level would range from 0.0043 ug/m$^3$ (0.0003 ppb) to 0.43 ug/m$^3$ (0.032 ppb).

EPA's national PCB program has established and published "Public Health Levels for PCBs in Indoor School Air" (School Levels). The School Levels are established at concentrations below which "EPA does not believe will cause harm." The acceptable PCB air concentration in schools ranges from 0.07 ug/m$^3$ (0.0053 ppb) to 0.6 ug/m$^3$ (0.045 ppb), depending upon the age of children. The concentration for teachers or adults is 0.45 ug/m$^3$ (0.034 ppb). These levels are based upon a school scenario that assumes people are exposed for 10 hours a day for 180 days a year. In contrast, the PCB RSL concentration is based upon an assumption that people are exposed for 24 hours for 360 days for 30 years. The highest concentration of PCBs found in air to date at Malibu High School is 0.1 ug/m$^3$ (0.0075 ppb) and this concentration in a school exposure scenario is roughly equivalent to a 1 in 1 million ($10^{-6}$) excess risk, or likelihood, of developing cancer.

Based on the School Levels, the relevant health levels for Malibu High School range from 0.3 ug/m$^3$ (0.023 ppb) to 0.6 ug/m$^3$ (0.045 ppb) total PCBs in air. EPA Region 9 also consulted with our Region 2 office in New York and elected to use at Malibu High School/Middle School a health-based screening level Region 2 developed of 0.2 ug/m$^3$ (0.015 ppb) for total PCBs in air. To date, all air data collected at Malibu High School/Middle School has been below 0.2 ug/m$^3$

The RSL tables provide risk-based concentrations in air for total PCBs, as well as, all PCB dioxin-like or co-planar congeners, such as Congener 126. EPA has examined the limited PCB congener

results provided by the District. To date, all congener concentrations fall within the acceptable risk range.

c. Toxicological Endpoints

Chronic and long-term exposure to PCBs can elicit a broad range of both carcinogenic and non-carcinogenic health impacts. EPA's risk assessment framework is a formal four-step process as outlined by the National Academy of Sciences. This process includes a formal step referred to as hazard identification. This step in the process is designed to assess the full range of health impacts associated with chronic PCB exposure. In general, toxic exposures are assessed via impacts occurring at the lowest dose on specific target organs or systems. This is referred to as the most sensitive toxic endpoint. Endocrine disruption is considered a mechanism of toxic action rather than a toxicological endpoint in and of itself. PCBs exert their toxic action by several different mechanisms or modes of action and endocrine disruption is potentially one of many.

d. California Human Health Screening Levels.

The California Human Health Screening Levels (CHHSLs) are more commonly applied by the California Environmental Protection Agency including its boards, offices, and departments such as the California Department of Toxic Substances Control (DTSC). For more information about the applicable use of CHHSL's please contact DTSC.

**C. Data and Testing**

EPA generally considers all available data when providing technical assistance. Depending on the quality of data collected independently by other parties, EPA may consider that data in making regulatory decisions. All available PCB data for Malibu High School helps us to understand the relative magnitude of the situation at this school.

At this time, air sampling has been conducted in 21 separate rooms at the school. All the air results are within EPA's health protective guidelines for schools and our acceptable RSL risk range for a residential exposure scenario.

EPA did not review, oversee, or accept the sampling plan implemented by the District before EPA's involvement with the Malibu High School site. However, we accepted the District's plan for sampling air and surfaces inside the five rooms with elevated caulk and/or wipe samples. Also, we were at the school when air and wipe samples were collected inside those rooms. Similar to the air samples collected at the school before EPA's involvement, these latest air sample results are all below or within our acceptable risk range for schools and residential exposure scenarios.

**D. PCB Best Management Practices and PCB Cleanup Plan**

EPA has recommended that the District implement PCB Best Management Practices (BMPs) to reduce the amount of PCBs in dust and air. The District conducted limited cleaning of certain school rooms during the 2013 – 2014 school winter break. The results of this cleaning are very positive as they show reductions in PCB air concentrations by approximately 50% and in dust by approximately

90%. As noted in the cover letter, we are aware that certain sampling conducted without EPA oversight show less reduction in air concentrations.

The District has verbally informed EPA that it intends to implement the BMPs throughout the Malibu High School/Middle School and other schools within the District. The District's cleanup plan is due to EPA on April 25, 2014. We expect the District will (1) identify specific BMPs and explain in the plan with sufficient detail the approach and schedule it will follow to implement the proposed BMPs, (2) explain its approach to address caulk at the school, and (3) provide a schedule to conduct the work proposed in the plan. We will also work with the District to develop a testing protocol to ensure that surfaces do not represent an exposure hazard.

**E. Contaminated Soils**

The California Department of Toxic Substances Control (DTSC) has entered into a Voluntary Cleanup Agreement with the District to further investigate soil contamination at the Malibu High School. EPA is coordinating with DTSC on this effort to assure that soil samples for PCB analysis are collected in areas near known potential PCB sources.