PCB DELINEATION SAMPLING

Doors and Windows Replacement Project
Buildings F, I, G+D
Malibu High School
30215 Morning View Drive
Malibu, California 90265

Prepared for:

Santa Monica-Malibu Unified School District
Facilities Improvements Projects
2828 4th Street
Santa Ana, California 90405

Project No.: SMSD-16-6522

Date: January 9, 2017
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EXECUTIVE SUMMARY

Alta Environmental (Alta) conducted PCBs delineation sampling for the door and window replacement project to be completed in Buildings F, I, G+D at Malibu High School located at 30215 Morning View Drive, Malibu, California 90265.

The objective of this sampling was to determine if PCBs associated with PCB Bulk Product Waste may have migrated to adjacent porous surfaces away from the possibly impacted windows and doors casings (Components) slated to be remove and replaced.

The Reporting Limit (RL) used by the laboratory for this project was 0.5 ppm, this level is below the benchmark (1 ppm) currently being used as approved by the USEPA.

The sampling was conducted in accordance with the approved proposal, and site-specific work plan prepared for this project (Alta Work Plan dated November 4, 2016) which was reviewed and approved by the District and in conjunction with "USEPA Region I Standard Operation Procedures for Sampling Porous Surfaces for Polychlorinated Biphenyl", approved for use by the District, May, 23, 2011. A predetermined number of doors and windows, and sample locations were selected as part of the approved work plan. The doors and windows and sample locations were randomly selected based on similarity of each component in each building. At least ten percent (10%) of each similar component was randomly sampled in each building.

Alta collected samples from the surrounding porous surfaces at one inch (1"), three inch (3"), six inch (6"), nine inch (9"), twelve inch (12"), 15 inch (15"), twenty inch (20"), and twenty-one inch (21") intervals away from the impacted door and window casing from a surface depth of approximately zero to.5". Initially, only the 1" samples were analyzed, than the subsequent 3", 6", 9", 12", 15", 20", and 21" were analyzed if PCBs were detected above 1ppm.

A total of 126 samples were analyzed for PCBs.

During the delineation sampling, both caulking and glazing was observed around the window and door casings. The caulking and glazing was not sampled at the Districts request, it was assumed to be PCB Bulk Product Waste. Additionally, the porous materials installed around the possibly impacted doors and windows casings have been assumed to be PCB Remediation Waste.

Summary of findings and recommendations:

1. All window and door caulking and window glazing are assumed to be PCB Bulk Product Waste, in Buildings, D, F, G, and I
2. All delineation samples collected in Building D and F at approximately 1" intervals were reported as either not-detected or below the laboratory RL benchmark (1 ppm). All porous materials adjacent to window and door casings, within 0-1" are assumed to be PCB Remediation Waste. Materials beyond 1" were reported as non-detected or below the laboratory RL benchmark (1 ppm) -therefore, these materials are not interpreted to require removal and disposal as PCB waste at this time.
3. In Buildings G and I, delineation samples collected from various porous surfaces were reported with PCBs above 1 ppm. On wood and plaster substrates, PCBs above 1 ppm were reported to extend as far as twelve-inches away from the source components. Wood and plaster installed around interior door casing reported with PCBs above 1 ppm should be removed at a minimum 15 inches or to an extent practical to reach a clearance level below 1 ppm as

feasible. All wastes generated during this work should be assumed to be PCB Remediation Waste.

4. Two source samples, representative of the beige varnish applied to the wood panelling and white paint applied over beige varnish were collected from Room 506E and 501B in Building G. The laboratory reported results of the beige varnish as PCB Bulk Product Waste (greater than 50 ppm). The white paint was reported to be below 50 ppm, at 10.9 ppm. For the purposes of completing this report, the PCB Bulk Product Waste is limited to the Storage Room 506E in Building G, based on the samples collected during this task. Additional sampling is required to further characterize the beige varnish PCB Bulk Product Waste which may also be present in other areas of the building.

5. Removal of the PCB Bulk Product Waste associated with door and window caulking, window glazing and wood beige varnish located on the wall panels in Room 506E in Building G and PCB Remediation Waste associated with adjacent porous materials should be conducted using proper engineering controls including, but not limited to, containment, worker training, worker protection etc. PCB waste should be characterized, packaged, labelled and disposed as required by TSCA 40 CFR 761 and California hazardous waste regulation set forth in Title 22, Division 4.5 of the California Code of Regulations unless testing is performed prior to demolition and analytical results confirms that PCBs are less than 50 ppm in the window and door caulking and window glazing, and less than 1ppm on surrounding porous materials.

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REPORTED: Revised, April 6, 2017 **PROJECT NO.:** SMSD-16-6522

CLIENT: Santa Monica-Malibu Unified School District
Facility Improvements Projects
2828 4th Street
Santa Monica, California 90405

ATTENTION: Mr. Chris Emmett

REF: PCBs Delineation Sampling
Buildings F,I, G+D
Malibu High School
30215 Morning View Drive
Malibu, California 90265

1 INTRODUCTION

Alta Environmental (Alta) conducted PCBs delineation sampling for the door and window replacement project to be completed in Buildings F, I, G+D at Malibu High School located at 30215 Morning View Drive, Malibu, California 90265.

The sampling was completed by Fabian Ruvalcaba, Therese Rizarri, and Cesar Ruvalcaba, all Cal OSHA HAZWOPER trained technicians. Oscar Garcia provided assistance during the sampling.

The sampling was conducted in three phases as follows:

- Phase I delineation sampling was completed on November 22, 23, and 29, 2016. The sampling was representative of 1", 3", and 6" intervals, of at least 10% of similar components in each building.
- Phase I delineation sampling was completed on January 27, 30, and 31, 2017. The sampling was conducted to further characterized PCBs reported by the laboratory above the benchmark of 1 ppm at the 6" interval. This sampling also included the sampling of additional components in each building with the goal of obtaining a more accurate representation of the reported PCBs.
- Phase III delineation sampling was completed on February 27, 2017. This sampling was conducted to further characterize PCBs reported by the laboratory above the benchmark of 1 ppm at 12" interval. Samples were collected at 15", 20", and 21". Source samples of the beige varnish and white paint associated with surface reported with PCBs above 1 ppm beyond 12" were collected to determine if the beige varnish and white paint may be the source of the PCBs reported in the delineation samples in these areas.

2 SCOPE OF WORK

The Santa Monica-Malibu Unified School District (District) retained Alta Environmental for the sampling.

The PCB delineation sampling was completed around doors and window casings slated for removal and replacement in Buildings F, I, G+D in areas identified in project drawings prepared by HMC Architects for this project.

Alta delineation sampling was completed as follows:

1. A one inch sized diameter drill bit was used in conjunction with a rotary impact hammer to collect samples from stucco, and wall plaster surfaces.
2. A polyethylene drop-sheet will be placed below the sampling area to capture any dust which may be dislodged during the sample collection.
3. Samples were placed inside an appropriate glass jar with a Teflon lined cap.
4. Samples were labelled, packaged, and documented on a Chain of Custody for shipping to the laboratory.
5. Samples were shipped to the laboratory in a chilled ice chest.
6. Sampled areas were patched using a non-PCBs sealant. The patch area is temporary, intended only to provide a barrier to the exposed sampled substrates.
7. Each sample location was documented using digital photographs.
8. Equipment and tools were decontaminated using a two-step decontamination process. First, all used drill bits, and tools were cleaned using scrub brushes and detergent with de-ionized water base solution. Second, each piece was rinsed using de-ionized water. After the two step decontamination procedures, the equipment was placed on top of clean paper towels (or equivalent material) and were set to dry individually. Each piece of equipment was inspected by Alta for evidence of residual dust and debris.
9. The sampling was conducted in accordance with the approved proposal, and site-specific work plan prepared for this project, which was reviewed and approved by the District and in conjunction with "USEPA Region I Standard Operation Procedures for Sampling Porous Surfaces for Polychlorinated Biphenyl", approved for use by the District, May, 23, 2011. A predetermined number of doors and windows, and sample locations were selected as part of the approved work plan. The doors and windows and sample locations were randomly selected based on similarity of each component in each building. At least ten percent (10%) of each similar component was randomly sampled in each building.

The sampling was conducted in accordance with the approved proposal, a site-specific work plan prepared for this project (Alta Work Plan, dated November 15, 2016), which was reviewed and approved by the District and "USEPA Region I Standard Operation Procedures for Sampling Porous Surfaces for Polychlorinated Biphenyl," approved for use by the District, May, 23, 2011. A predetermined number of doors and windows, and sample locations were selected as part of the approved work plan. The doors and windows and sample locations were based on similarity of each component and building construction date. At least ten percent (10%) of each similar component was randomly sampled in each building of similar construction. Below, in Table 1 is summary of the sampled components.

Table 1 Summary of Doors and Window Types and Associated Substrates

Component ID	Component Description	Visible Caulking Yes/No	Building	Location	Exterior Porous Substrate	Interior Porous Substrate
A	Full wall aluminium window	Yes	I	East and West Elevation	Stucco	Plaster
B	High wall aluminium window	Yes	G	North Elevation	Stucco	Plaster and wood
		Yes	F	West elevation room 301		
C	Exterior Double Door	Yes	D	North and south entrance to restrooms	Stucco	Plaster, wood

Component ID	Component Description	Visible Caulking Yes/No	Building	Location	Exterior Porous Substrate	Interior Porous Substrate
		Yes	F, I, G	Exterior double doors, all		
D	Exterior Single Door	Yes	F, I and G	Exterior single doors, all	Stucco	Plaster, and wood
E	Interior Double Door	Yes	F, I, G	Interior double doors, all	N/A	Drywall and wood
F	Interior Single Door	Yes	F, I, G	Interior single doors, all	N/A	Plaster, drywall and wood
G	Interior window	Yes	I	Interior window room 405, 402B	N/A	Plaster
H	Varnish and white paint (source)	N/A	G	All varnish and white paint on wood	N/A	Wood

3 METHODOLOGY

Collected bulk samples were placed in an appropriate glass jar with a Teflon cap. Samples were labeled and packaged in a cooler and kept cool with ice during shipment. The samples were analyzed by Enviro-Chem located in Pomona, California, a Cal ELAP accredited laboratory.

All samples were analyzed in accordance with EPA Method 3540C/8082A for PCBs.

The Reporting Limit (RL) used by the laboratory for this project was 0.5 ppm, this level is below the benchmark (1 ppm) currently being used as approved by the USEPA.

4 RESULTS

Table 2.0 Summary of Sample Results

Component ID (from Table 1 above)	Building	Reported Construction Date	Number of Components Tested	Total Potentially Impacted Components to be Renovated	Total Samples Analyzed	Results
A	I	1963	2	2	2	Interior plaster-0.349 ppm Aroclor 1254 (1”) Exterior stucco-

Component ID (from Table 1 above)	Building	Reported Construction Date	Number of Components Tested	Total Potentially Impacted Components to be Renovated	Total Samples Analyzed	Results
						0.491 ppm Aroclor 1254 (1”)
B	**G**	1963	**4**	**4**	**22**	**Interior wood-1.16-1.21pm Aroclor 1254 (1”)** Not Detected (3”) Not Detected (6”) Not Detected (9”) **Exterior stucco-3.41 - 4.33ppm Aroclor 1254 (1”), 1.18 - 3.02 ppm Aroclor 1254 (3”)** Not Detected (6”) Not Detected (9”)
B	F	1963	1	1	3	Interior plaster-0.811 Aroclor 1254 (1”) Interior plaster-Not Detected (1”) Exterior stucco-not detected (1”)
C	D	1963	2	2	4	Interior plaster-0.251 ppm Aroclor 1254 (1”) Exterior stucco-not detected (1”)
C	F	1963	2	4	4	Interior plaster-not detected (1”) Exterior stucco-not detected (1”)
C	**G**	1963	**1**	**3**	**12**	**Interior wood 11.7 ppm (1”), 9.26 ppm (3”), and 2.95 ppm (6) 2.74 ppm (9”)**

Component ID (from Table 1 above)	Building	Reported Construction Date	Number of Components Tested	Total Potentially Impacted Components to be Renovated	Total Samples Analyzed	Results
						1.64 ppm (12") Aroclor 1254 Not detected (16") Not detected (20") Exterior stucco 0.574 ppm (1"), 0.149 (3") ppm Aroclor 1254 Not detected (6") Not detected (9") Not Detected (12")
C	I	1963	1	3	6	**Interior plaster 33 ppm (1")** **Interior plaster 19.8 ppm (2.5")** Aroclor 1254 Interior plaster not detected (6") **Exterior stucco-8.7 ppm (1")** **Exterior stucco-4.01 ppm (3)** **Aroclor 1254** Exterior stucco-not detected (6")
D	F	1963	3	4	6	Interior plaster 0.119 ppm Aroclor 1254 and Not Detected (1") Exterior stucco-not detected (1")
D	G	1963	2	9	6	**Interior wood-3.32 ppm and not detected (1")** **Interior wood-1.41 ppm (3")** Interior wood-0.746 ppm (6")

Component ID (from Table 1 above)	Building	Reported Construction Date	Number of Components Tested	Total Potentially Impacted Components to be Renovated	Total Samples Analyzed	Results
						Exterior stucco-not detected (1”)
E	F	1963	1	3	3	Interior platser- 0.277 ppm (1”), 0.333 ppm (3”), and 0.330 ppm (6”) Aroclor 1254
E	**G**	1963	**4**	**3**	**8**	**Interior wood-18 ppm (1”),** **1.56 ppm (3”),** **and** **1.13 ppm (6”)** **Aroclor 1254** Not detected (9”) Not detected (12”) Not detected (21”) Interior drywall-not detected (1”)
F	F	1963	5	13	7	Interior plaster- 0.107ppm and 0.262 ppm and not detected (1”), 0.307 ppm (3”), and 0.308 ppm (6”) Aroclor 1254
F	**I**	**1963**	**3**	**6**	**7**	**Interior plaster-8.02 – 20.5 ppm (1”)** **Interior plaster-1.71 - 2.85 - ppm (3”)** **Interior plaster-1.57 - 1.62 ppm (6”) Aroclor 1254** Interior plaster not detected (9”) Interior plaster not detected (12”)

Component ID (from Table 1 above)	Building	Reported Construction Date	Number of Components Tested	Total Potentially Impacted Components to be Renovated	Total Samples Analyzed	Results
						Interior drywall-not detected (1”)
F	**G**	1963	**7**	**14**	**7**	**Interior wood-4.51, 4.6 and 6.59 ppm (1”), 1.48 ppm, and 0.496 ppm (3”), and 1.3 ppm – 1.92 and 0.645 ppm (6”) 1.67 ppm (9”) 1.2 ppm (12”) Aroclor 1254** Not detected (12”) Not detected (20”) Interior drywall-not detected (1”)
G	**I**	1963	**1**	**2**	**7**	**Interior plaster 4.29 ppm (1”) Interior plaster, 2.56 ppm (3”) Aroclor 1254** Interior plaster, not detected (6”) Interior plaster, not detected (12”)
H (varnish paint)	**G**	1963	**1**	**1**	**1**	**81.5 ppm Aroclor 1254**
H (white paint)	G	1963	1	1	1	10.9 ppm Aroclor 1254

Refer to Appendix B in this report for a summary of samples collected and relevant sample information.

Information included in Table 2 above is a summary compilation of the results. The information should be used in conjunction with the information included in the field sheets (Appendix A), and laboratory reports (Appendix B).

5 QUALITY CONTROL

All samples were analyzed by a Cal ELAP accredited laboratory in accordance with EPA Method 3540C/8082A for PCBs

The laboratory reported, “all samples were received intact, and accompanying chain of custody.”

Based on review of the QC data associated with the sample analysis, the recovery and precision is within the acceptable limits of the laboratory.

6 CONCLUSIONS

Alta conducted PCB delineation sampling for the door and window replacement project to be completed in Buildings F, I, G+D at Malibu High School located at 30215 Morning View Drive, Malibu, California 90265.

The objective of this sampling was to determine if PCBs associated with PCB Bulk Product Waste may have migrated to adjacent porous surfaces away from the possibly impacted windows and doors casings (Components) slated to be remove and replaced.

Alta collected samples from the surrounding porous surfaces at 1 inch (1”), 3 inch (3”), 6 inch (6”), 9 inch (9”), twelve inches (12”), 15 inches (15”), twenty inches (20”), and twenty-one inches (21”) intervals away from the impacted door and window casing from a surface depth of approximately 0-.5”. Initially, only the 1” samples were analyzed, than the subsequent 3”, 6”, 9”, 12”, 15”, 20”, and 21” were analyzed if PCBs were detected above 1ppm at the previous sample increment.

A total of 126 samples were analyzed for PCBs.

During the delineation sampling, both caulking and glazing were observed to be present around the window and door casings. The caulking and glazing was not sampled at the District request but was assumed to be PCB Bulk Product Waste. Additionally, the porous materials installed around the possibly impacted doors and windows casings have been assumed to be PCB Remediation Waste.

Summary of findings:

1. All window and door caulking and window glazing are assumed to be PCB Bulk Product Waste in Buildings, D, F, G, and I.
2. All delineation samples collected in Building D and F at approximately 1” intervals were reported as either not-detected or below the laboratory RL benchmark (1 ppm). All porous materials adjacent to window and door casings, within 0-1” are assumed to be PCB Remediation Waste. Materials installed beyond 1” were reported as non-detected or below the laboratory RL benchmark (1 ppm) -therefore, not interpreted to require removal and disposal as PCB waste at this time.
3. In Buildings G and I, delineation samples collected from various porous surfaces were reported with PCBs above 1 ppm. On wood and plaster substrates, PCBs above 1 pmm were reported to extend as far as twelve-inches away from the components. Wood and plaster installed around interior door casing reported with PCBs above 1 ppm should be removed at a minimum 15 inches or to an extend practical to reach a clearance level below 1ppm if feasible. All waste generated during this work should be assumed to be PCB Remediation Waste.

   Two source samples, representative of the beige varnish applied to the wood panelling and white paint applied over beige varnish were collected from Room 506E and 501B in Building

G. The laboratory reported results of the beige varnish as PCB Bulk Product Waste (greater than 50 ppm). The white paint was reported to be below 50 ppm, at 10.9 ppm. For the purpose of completing this report, the PCB Bulk Product Waste is limited to the Storage Room 506E in Building G. Additional sampling is required to further characterize the beige varnish PCB Bulk Product Waste which may be present in other areas of the building.

7 RECOMMENDATIONS

Removal of the PCB Bulk Product Waste associated with doors and window caulking and window glazing, and wood varnish located on the walls panels in room 506E in Building G and PCB Remediation Waste associated with adjacent porous materials should be conducted using proper engineering controls including but not limited to containment, worker training, worker protection etc. PCB waste should be characterized, packaged, labeled and disposed as required by TSCA 40 CFR 761 and California hazardous waste regulation set forth in Title 22, Division 4.5 of the California Code of Regulations unless testing is performed prior to demolition and analytical results confirms that PCBs are less than 50 ppm in the window and door caulking and window glazing, and less than 1ppm on surrounding porous materials.

A site-specific removal work plan should be prepared, reviewed and approved by the District prior to the start of any removal action.

8 ASSUMPTIONS AND LIMITATIONS

This report was prepared exclusively for use by Santa Monica-Malibu Unified School District, and may not be relied upon by any other person or entity without Alta Environmental's express written permission. The information, conclusions and recommendations described in this report apply to conditions existing at certain locations when services were performed and are intended only for the specific purposes, locations, time frames and project parameters indicated. Alta Environmental cannot be responsible for the impact of any changes in environmental standards, practices or regulations after performance of services.

In performing our professional services, we have applied present engineering and scientific judgment and used a level of effort consistent with the current standard of practice for similar types of studies.

As applicable, Alta Environmental has relied in good faith upon representations and information furnished by individuals with respect to operations and existing property conditions, to the extent that they have not been contradicted by data obtained from other sources. Accordingly, Alta Environmental accepts no responsibility for any deficiencies, omissions, misrepresentations, or fraudulent acts of persons interviewed.

Alta Environmental will not accept any liability for loss, injury claim, or damage arising directly or indirectly from any use or reliance on this report. Alta Environmental makes no warranty, expressed or implied.

This report is issued with the understanding that the client, the property owner, or its representative is responsible for ensuring that the information, conclusions, and recommendations contained herein are brought to the attention of the appropriate regulatory agencies, as required.

Material quantities are in some cases listed within this document. These quantities are not intended to be used for removal bidding purposes. Nor is this document intended as a contract manual. Work methods and sequence, coordination of participants, applicable codes, engineering controls, required submittals and notifications should in all cases be addressed in a separate and independent bidding and contract document.

If you have any questions, please do not hesitate to contact the undersigned at (562) 495- 5777. We appreciate the opportunity to be of service to Santa Monica-Malibu Unified School District.

9 SIGNATORY

Respectfully submitted by:

Alta Environmental

Cesar Ruvalcaba
Project Manager

Reviewed by:

Alta Environmental

David R. Schack
Vice President, Building Sciences

Appendix A

Sample Inventories

Appendix B

Laboratory Reports

Appendix C

Sample Location Maps

Appendix D

Photographs