

December 16, 2024

TO Carey Upton
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FROM Michelle Rosales, MPH, CIH
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RE **Wildfire Smoke Impact Assessment – Webster Elementary School (FACS# PJ84910)**

Forensic Analytical Consulting Services, Inc. (FACS) was retained by ASCIP on behalf of Santa Monica-Malibu Unified School District (SMMUSD) to provide remediation recommendations following wildfire smoke impact caused by the Franklin Fire that erupted in Malibu on December 9, 2024, and reached properties directly adjacent to the Webster Elementary School campus located at 3602 Winter Canyon Road in Malibu, California.

FACS performed a walk-through assessment of all accessible and representative interior areas on campus on December 14, 2024. During the walk-through inspection, sensory findings were documented and micro-vacuum dust samples from carpeting were collected at the request of the client. The purpose of the assessment was to document current conditions at the school and provide the SMMUSD's retained remediation contractor (ATI Restoration) remediation recommendation based on FACS' findings.

Please note, site conditions identified and documented by FACS on the date of the assessment may change due to changes in environmental conditions such as, wind directions, additional flare ups, which may result in additional impact not initially identified by FACS.

Assessment Findings

The following is a summarized account of FACS on-site assessment findings on December 14, 2024:

Exterior

- Heavy smoke odor was present.
- The fire did not reach the school campus but was within 500 ft of the campus. Burned vegetation was identified on the hillside adjacent to the campus.
- Visible smoke debris was identified throughout the campus's exterior grounds.
- Visible fire and heat damage (peeling paint) was identified on the school sign.

Interior Spaces

- Heavy smoke odors were identified in interior spaces in Buildings E, F, and H.
- Light to moderate smoke odors were identified in interior spaces in Buildings A, B and C. However, it should be noted that the custodial staff that allowed access to the rooms opened all doors upon arrival, and therefore some rooms may have ventilated prior to FACS walking into the rooms.

- Visible smoke related particulate (i.e., char and ash) was observed on surfaces located directly adjacent to exterior entry points (window and exterior doors; within 5 ft radius) in the majority of rooms assessed.
- In locations with visible exterior openings (e.g., bathroom outdoor air vent), the impact of wildfire smoke was more apparent and extended further than 5 feet.
- No unusual corrosion of metal or other materials that could be directly attributed to a fire event was observed.
- Micro-vacuum dust samples were collected from select carpeting by vacuuming dust onto a filter. Samples were promptly delivered to the laboratory (SGS Forensic Laboratories in Carson, CA) for analysis. In the laboratory, samples were analyzed by polarized light microscopy (PLM). The laboratory estimates the percentage of the visual area of the dust particulate composed of the various particulate types (a technique known as visual area estimation - VAE). Results were as follows:
 - Dust samples collected from carpeting located directly adjacent to exterior entry points (within 5 ft) indicated the sampled dust was composed of char and ash ranging from 30 – 55%.
 - Dust samples collected from carpeting further away from exterior entry points (greater than 5 ft) indicated only trace amounts (<1%) of the sampled dust was composed of char and ash.

The data collected in the course of the investigation is presented in this report as follows:

- Attachment A: Campus map
- Attachment B: Photographs (depicting inspection observations)
- Attachment C: Laboratory report and chain of custody forms

Recommendations

Based on assessment findings collected during the December 14, 2024 assessment, the following recommendations have been generated for interior surfaces on campus:

- a. General: All remediation and cleaning should be performed by a qualified contractor in accordance with the procedures outlined in the Restoration Industry Association (RIA) *Guidelines for Fire and Smoke Damage Repair, Second Addition, 2007*, document for cleaning and restoring the structure.
- b. Standard measures should be taken to control dust levels during remediation and cleanup of wildfire smoke debris. Work practices that result in excessive aerosolization of dust and debris should be avoided. The use of portable air filtration devices during remediation and cleanup should be considered to assist in improving air quality in the rooms.
- c. Interior Surfaces:
 - i. Interior Window Surfaces: Non-porous surfaces (i.e., window blinds, framing and windowsills), may be washed with a detergent-water mix as appropriate.
 - ii. Walls and Ceilings: Surfaces may be washed with a detergent-water mix as appropriate.
 - iii. Flooring: All flooring materials can be HEPA vacuumed and or wet-wiped with a detergent-water mix as appropriate. If odors persist following initial cleaning efforts, removal and replacement of flooring may be necessary.

- iv. Clothing, Household Items, and Other Fabric Items (Porous Items): Washable fabrics, including clothing, linens, small rugs, and other soft items can generally be machine-washed twice with hot water and detergent. Dry-cleaning is also generally acceptable.
 - v. Hard (Non-Porous) Household Goods: Washable household items, including ceramics, hard plastics, metals, and glass, may be washed, and rinsed twice using hot water and detergent.
 - vi. Household Items Made of Wood and Wood-Like Composites: Cleaning of these items may be dependent on the finish and ability of the item to be detergent washed, as well as on considerations of value, and potential contamination. Generally, these items can be HEPA vacuumed, and damp wiped with an appropriate cleaner.
 - vii. Upholstered Furniture / Large Rugs: Cleaning of upholstered items will usually consist of vacuuming using a machine equipped with a HEPA filtration system, followed by hot water detergent scrubbing and extraction.
- d. Deodorizing: Based on the observance of smoke odors, the use of deodorizers and odor neutralizers is recommended if general cleaning and removal of particulate as noted above, does not remove all odors. This includes but is not limited to the following: oxidizers (e.g., hydrogen peroxide), counteractants (i.e., deodorizers), and sealers (i.e., encapsulants).

Limitations

This investigation is limited to the conditions and practices observed and information made available to FACS. The methods, conclusions and recommendations provided are based on FACS' judgment, expertise, and the standard of practice for professional service. They are subject to the limitations and variability inherent in the methodology employed. As with all environmental investigations, this investigation is limited to the defined scope and does not purport to set forth all hazards, nor indicate that other hazards do not exist.

Please do not hesitate to contact our offices at 310-668-5600 with any questions or concerns. Thank you for the opportunity to assist ASCIP and SMMUSD in promoting a more healthful environment.

Respectfully,

FORENSIC ANALYTICAL



Michelle Rosales, MPH, CIH
Director of Environmental Health Services

Reviewed by:

FORENSIC ANALYTICAL



Madeleine Dangazyan, MS, CIH
Senior Project Manager



ATTACHMENT A

Campus Map



ATTACHMENT B
Supporting Photographs



Photo #1: Heat damage of school sign



Photo #2: Smoke and fire debris identified on exterior surfaces



Photo #3: Bldg A, Classroom 17 - visible smoke related particulate on interior window surfaces



Photo #4: Bldg H, Classroom 4 – visible smoke related particulate on surfaces located directly adjacent to exterior entry points (<5 ft.)



Photo #5: Bldg H, Restroom – Heavy fire smoke debris on flooring throughout room



Photo #6: Bldg C, Classroom 13 – visible smoke related particulate on flooring at door entry



Photo #7: Bldg F, Classroom 2 - visible smoke related particulate on interior door



Photo #8: Bldg C, Classroom 14 - visible smoke related particulate on contents located directly adjacent to exterior entry points (<5 ft.)

ATTACHMENT C

Laboratory Report and Chain of Custody Documentation

PLM Characterization

(Visual Area Estimation)

Forensic Analytical Consulting Svcs
 Madeleine Dangazyan
 4900 Airport Plaza Suite 115

 Long Beach, CA 90815

Client ID: LA05
Report Number: P020344
Date Received: 12/16/24
Date Analyzed: 12/16/24
Date Printed: 12/16/24
First Reported: 12/16/24

Job ID/Site: PJ84913; Santa Monica - Malibu Unified School District SMMUSD (ASCIP)
 Webster ES - WFS Assessment 3602 Winter Canyon Road Malibu CA 90265
Date(s) Collected: 12/14/2024

SGSFL Job ID: LA05
Total Samples Submitted: 11
Total Samples Analyzed: 11

Sample ID	Lab Number	%	Gross Description	%
MV01	12783988		BUILDING H - CRM 1 - CARPET FLOOR	
Sample Type: Microvac		Sample Loading: Light		
Fibrous Particle(s):		Non-Fibrous Particle(s):		
Cellulose		3	Soil minerals	35
Synthetics		2	Pyrolized plant material (char)	20
Trichomes		Trace	Insect parts	10
Misc. Components, fibrous & non-fibrous:		5	Plant ash (white ash)	10
			Spider silk	10
			Opaques (inconsistent with combustion products)	5
			Opaques (soot)	ND
MV02	12783989		BUILDING H - CRM 3 - CARPET FLOOR	
Sample Type: Microvac		Sample Loading: Moderate		
Fibrous Particle(s):		Non-Fibrous Particle(s):		
Cellulose		5	Soil minerals	45
Misc. Components, fibrous & non-fibrous:		5	Plant ash (white ash)	20
			Pyrolized plant material (char)	15
			Opaques (inconsistent with combustion products)	10
			Opaques (soot)	ND
MV03	12783990		BUILDING H - CRM 4 - CARPET FLOOR	
Sample Type: Microvac		Sample Loading: Moderate		
Fibrous Particle(s):		Non-Fibrous Particle(s):		
Cellulose		5	Soil minerals	36
Fungal hyphae		2	Plant ash (white ash)	20
Misc. Components, fibrous & non-fibrous:		5	Pyrolized plant material (char)	15
			Opaques (inconsistent with combustion products)	10
			Organic debris	5
			Fungal spores	2
			Opaques (soot)	ND

PLM Characterization

(Visual Area Estimation)

Forensic Analytical Consulting Svcs

Job ID/Site: PJ84913; Santa Monica - Malibu Unified School District SMMUSD (ASCIP)
Webster ES - WFS Assessment 3602 Winter Canyon Road Malibu CA 90265

Report Number: P020344

Sample ID	Lab Number	%	Gross Description	%
MV04	12783991		BUILDING E - CRM 7 - CARPET FLOOR	
Sample Type: Microvac		Sample Loading: Moderate		
Fibrous Particle(s):		Non-Fibrous Particle(s):		
Cellulose		5	Soil minerals	35
Misc. Components, fibrous & non-fibrous:		5	Pyrolized plant material (char)	25
			Plant ash (white ash)	20
			Opagues (inconsistent with combustion products)	10
			Opagues (soot)	ND
MV05	12783992		BUILDING F - CRM 8 - CARPET FLOOR	
Sample Type: Microvac		Sample Loading: Heavy		
Fibrous Particle(s):		Non-Fibrous Particle(s):		
Cellulose		5	Pyrolized plant material (char)	35
Misc. Components, fibrous & non-fibrous:		5	Soil minerals	25
			Plant ash (white ash)	20
			Opagues (inconsistent with combustion products)	10
			Opagues (soot)	ND
MV06	12783993		BUILDING F - CRM 9 - CARPET FLOOR	
Sample Type: Microvac		Sample Loading: Moderate		
Fibrous Particle(s):		Non-Fibrous Particle(s):		
Synthetics		45	Soil minerals	13
Cellulose		5	Carbonate minerals	10
Misc. Components, fibrous & non-fibrous:		5	Epithelial cells	5
			Opagues (inconsistent with combustion products)	5
			Organic debris	5
			Rubber	5
			Pollen	2
			Opagues (soot)	ND
			Plant ash (white ash)	ND
			Pyrolized plant material (char)	Trace

PLM Characterization

(Visual Area Estimation)

Forensic Analytical Consulting Svcs

Job ID/Site: PJ84913; Santa Monica - Malibu Unified School District SMMUSD (ASCIP)
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Report Number: P020344

Sample ID	Lab Number	%	Gross Description	%
MV07	12783994		BUILDING F - CRM 10 - CARPET FLOOR	
Sample Type: Microvac	Sample Loading: Moderate			
Fibrous Particle(s):			Non-Fibrous Particle(s):	
Synthetics		25	Soil minerals	18
Cellulose		15	Carbonate minerals	10
Misc. Components, fibrous & non-fibrous:		5	Epithelial cells	10
			Insect parts	5
			Opagues (inconsistent with combustion products)	5
			Organic debris	5
			Pollen	2
			Opagues (soot)	ND
			Plant ash (white ash)	ND
			Pyrolized plant material (char)	Trace
MV08	12783995		BUILDING B - CRM 11 - CARPET FLOOR	
Sample Type: Microvac	Sample Loading: Moderate			
Fibrous Particle(s):			Non-Fibrous Particle(s):	
Synthetics		25	Soil minerals	18
Cellulose		15	Carbonate minerals	10
Misc. Components, fibrous & non-fibrous:		5	Epithelial cells	10
			Insect parts	5
			Opagues (inconsistent with combustion products)	5
			Organic debris	5
			Pollen	2
			Opagues (soot)	ND
			Plant ash (white ash)	ND
			Pyrolized plant material (char)	Trace
MV09	12783996		BUILDING C - CRM 14 - CARPET FLOOR	
Sample Type: Microvac	Sample Loading: Moderate			
Fibrous Particle(s):			Non-Fibrous Particle(s):	
Synthetics		5	Soil minerals	56
Cellulose		2	Carbonate minerals	10
Trichomes	Trace		Epithelial cells	10
Misc. Components, fibrous & non-fibrous:		5	Opagues (inconsistent with combustion products)	5
			Organic debris	5
			Pollen	2
			Opagues (soot)	ND
			Plant ash (white ash)	Trace
			Pyrolized plant material (char)	Trace

PLM Characterization

(Visual Area Estimation)

Forensic Analytical Consulting Svcs

Job ID/Site: PJ84913; Santa Monica - Malibu Unified School District SMMUSD (ASCIP)
Webster ES - WFS Assessment 3602 Winter Canyon Road Malibu CA 90265

Report Number: P020344

Sample ID	Lab Number	%	Gross Description	%
MV10	12783997		BUILDING A - CRM 17 - CARPET FLOOR	
Sample Type: Microvac		Sample Loading: Moderate		
Fibrous Particle(s):		Non-Fibrous Particle(s):		
Synthetics		5	Soil minerals	58
Cellulose		2	Carbonate minerals	10
Trichomes		Trace	Epithelial cells	10
Misc. Components, fibrous & non-fibrous:		5	Opagues (inconsistent with combustion products)	5
			Organic debris	5
			Opagues (soot)	ND
			Plant ash (white ash)	Trace
			Pyrolized plant material (char)	Trace
MV11	12783998		BUILDING - LIBRARY- CARPET FLOOR	
Sample Type: Microvac		Sample Loading: Light		
Fibrous Particle(s):		Non-Fibrous Particle(s):		
Cellulose		5	Cement dust	43
Misc. Components, fibrous & non-fibrous:		35	Carbonate minerals	10
			Epithelial cells	5
			Opagues (inconsistent with combustion products)	2
			Opagues (soot)	ND
			Plant ash (white ash)	ND
			Pyrolized plant material (char)	Trace



Maria Casper, Lead Lab Supervisor

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Name & Address: Forensic Analytical Consulting Services, Inc. (LA05) 4900 Airport Plaza Dr. Suite 115 Long Beach, CA 90815		PO/Job#: PJ 84913	Date: 12-14-2024
Contact: Rebecca Schiffer		Turn Around Time: <input type="checkbox"/> Same Day / <input type="checkbox"/> 1 Day / <input type="checkbox"/> 3 Day / <input checked="" type="checkbox"/> 5 Day	
Phone: (310)668-5600	Fax: (310)763-8684	Analysis Type:	
E-mail: WFSsupport-LA@forensicanalytical.com		<input type="checkbox"/> IAQ Particle Identification (PLM LAB) <input type="checkbox"/> PLM Opaques/Soot	
Site: PJ 84913 Webster Elm School 3602 Winter Canyon Rd Malibu, CA		<input type="checkbox"/> Particle Identification (TEM LAB) <input type="checkbox"/> Special Project	
Comments:		<input type="checkbox"/> Limited Particle Identification with pH	
		<input checked="" type="checkbox"/> Limited Particle Identification	
		<input type="checkbox"/> Carbonaceous and dark opaque particles and/or ash components.	
		Hold Samples: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Report Via: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> E-mail

Sample ID	Sample Location / Description	Sample Type
MV01	Building H - CRM 1 - Carpet ← 5th Floor	
MV02	Building H - CRM 3 - Carpet ← 5th Floor	
MV03	Building H - CRM 4 - Carpet Floor	
MV04	Building E ^F - CRM 7 - Carpet Floor	
MV05	Building F - CRM 8 - Carpet Floor	
MV06	Building F - CRM 9 - Carpet Floor	
MV07	Building F - CRM 10 - Carpet Floor	
MV08	Building B - CRM 11 - Carpet Floor	
MV09	Building C - CRM 14 - Carpet Floor	
MV10	Building A - CRM 17 - Carpet Floor	
MV11	Building - Library - Carpet Floor	

Sample Type: T = Tape, MV = Microvac, S = Swab, B = Bulk

Sampled By: Edward C.	Date: 12-14-2024	Time: Various
Shipped Via: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> DHL <input type="checkbox"/> UPS <input type="checkbox"/> US Mail <input type="checkbox"/> Courier <input checked="" type="checkbox"/> Drop Off <input type="checkbox"/> Other:		
Relinquished By:	Relinquished By:	Relinquished By:
Date / Time: 12-14-2024 1230	Date / Time:	Date / Time:
Received By:	Received By:	Received By:
Date / Time: 12/16/24 10:30AM	Date / Time:	Date / Time:
Condition Acceptable? <input type="checkbox"/> Yes <input type="checkbox"/> No	Condition Acceptable? <input type="checkbox"/> Yes <input type="checkbox"/> No	Condition Acceptable? <input type="checkbox"/> Yes <input type="checkbox"/> No