

THE
COHEN
GROUP



July 22, 2013

Mr. Grant Takamoto, LEED AP
Senior Designer
Orchard Construction
2055 Laurelwood Road, Suite 130
Santa Clara, CA 95054

Ms. Alicia Kellie
Safety & Ergonomics Manager
San Mateo County
Human Resources Department - Risk Management
455 County Center, Fifth Floor
Redwood City, CA 94063

Re: Site Inspection and Post-Remediation Air Sampling at #1 Circle Star Way Café

Dear Mr. Takamoto and Ms. Kellie:

Per the remediation protocol established for this project (see attached), I conducted a post-remediation site inspection and collected air samples for mold spore particulate inside the remediation containment structures located in the first floor Café areas of #1 Circle Star Way, San Carlos, on July 16, 2013. The inspection and air sampling were performed after the completion of remediation activities by the mold abatement contractor, Restoration Management Company (RMC), who was retained by Orchard Construction. This letter serves as my report of findings.

Limitations

This report reflects the existing conditions at the time of the inspection and sampling survey. The air sampling findings are limited by the number of air samples collected and by the limitations of the analytical methods used by the laboratory. Nevertheless, the findings are believed to be representative of the conditions sampled and provide an accurate assessment of the conditions evaluated at the time the survey was performed.

Three Waters Park Drive
Suite 226
San Mateo
California 94403
Tel 650 349.9737
Fax 650 349.3378
www.thecohengroup.com

This report has been prepared for the exclusive use of San Mateo County for this particular project. The inspection, sampling survey and report preparation work was performed within the limitations set forth in the Agreement as to the degree of care, amount of time and expense, and any other limitations contained in the Agreement. No other representation, warranty or guarantee, expressed or implied, is included or intended in this report.

Site Inspections

Progress Inspection

On July 11, following the start of remediation activities, I conducted a progress inspection of the construction work areas with Blake Takata, Project Manager with RMC. He pointed out several additional locations where visible mold had been identified by the RMC work crew during their initial remediation efforts. I agreed that additional removal of drywall was necessary, which would require an additional containment structure around the alcove in the café where the refrigerated display case had been located (it had been pulled away from the wall to allow access to the drywall behind it). In addition, Blake and his crew foreman pointed out several areas within the original containment, such as in the kitchen office and the waste disposal areas where more drywall than originally anticipated had to be removed (and was removed) when additional visible mold was found and followed by the RMC crew. Finally, a couple of locations were noted where further drywall removal was going to be problematic if removal was warranted by the investigations of the RMC crew, including the wall behind the walk-in freezer (just outside the main containment), the wall next to the end of the serving counter, and the wall at the elevator equipment room. At these locations, it was agreed that the drywall paper backing was to be cleaned as best possible and then "encapsulated" with a mold-inhibiting coating (e.g., Fosters 40-20).

Final Inspection

I began my post-remediation inspection activities on the afternoon on July 16 at the janitor's room on the 3rd floor. RMC was not able to create a closed containment for this room due to the necessity of keeping the water supply (faucet) available to the other contractors working in the building. A small amount of drywall was removed along the bottom two feet of the two walls at the corner where the janitor's drain basin is located. Drywall in the exposed wall cavities behind the basin were observed to be wet from the splashing of water into the basin from the wall-mounted faucet directly above.

I next inspected the janitor's room on the first floor, directly below the janitor's room on the third floor. The zippered door to the containment structure constructed around the corridor entry door and portion of corridor wall outside the room was not secured at the time of inspection and the zipper appeared to be broken. The entire length of the zipper was slightly open since it was secured in only one location near its center by a small piece of tape. The HEPA air cleaning device inside the room was not in operation and its electrical cord had been disconnected from the extension cord used to provide power to air handler. The bottom two feet of drywall had been removed on both walls forming the corner where the drain is located. Additional drywall was removed from the corridor wall and within the "dead space" located directly behind the janitor's room and adjacent to the elevator bank.

I next inspected the main containment for the kitchen area and the secondary containment constructed for the display case alcove (“display nook”). In preparation for the collection of “clearance” air samples, I turned off the air filtration device operating (in recirculation mode) inside each containment and visually inspected the interior surfaces to ensure that the containment perimeters were sealed, all areas of visible mold had been removed, and no significant visible debris remained. The ceiling, floor and wall cavity areas where drywall had been removed inside the display case containment area were covered with plastic (polyethylene) sheeting secured by tape along the edges. Drywall had been removed in multiple locations within the kitchen area containment, including the north wall in the food waste disposal room where the containment had been extended beyond the north wall to accommodate the drywall removal (and at the corner of the elevator equipment room).

Air Sampling Clearance Survey

Methodology

Air samples for mold particulates (spores) and other biological/non-biological particles were collected using a Zefon Bio-Pump and Air-O-Cell cassettes (also known as “spore traps”). The Zefon sampler is a battery-operated sampling device specifically designed for use with the Air-O-Cell cassette and is calibrated to a flow rate of approximately 15 liters per minute. At each sampling location, the Zefon sampler was mounted on a tripod, with the Air-O-Cell inlet situated approximately 5 feet above floor level. Each sample was collected at a flow rate of 15 liters per minute for 5 minutes, resulting in a sample volume of approximately 75 liters.

In this manner, one sample was collected within the containment for the first floor janitor’s room, two samples within the containment for the display case alcove in the café serving area, and four samples within the containment for the kitchen area. The air samples inside each containment were collected approximately 10 to 30 minutes after the air cleaning devices had been turned off. After the indoor sampling was completed, two outdoor samples were collected for comparison purposes at a location on the walkway at the entrance to the patio situated between the two buildings at Circle Star Way. Sampling was performed between approximately 2:20 pm and 3:45 pm.

After each sample was collected, the cassette was sealed, labeled with an identification number, and subsequently submitted to an independent analytical laboratory that is accredited by the American Industrial Hygiene Association (AIHA) under the Environmental Microbiology Laboratory Accreditation Program (EMLAP). The samples were examined under a microscope in the laboratory to identify the types and amounts of mold spores present in the samples (reported as spores per cubic meter of air sampled).

Results

Results of the air sampling survey are shown in Table 1.

In general, the levels of total mold spores measured indoors were lower than the average total spore concentration measured outdoors. Indoor levels ranged from 320 to 2,900 spores/m³, compared with the two outdoor air samples, which contained total spore concentrations of 3,100

and 870 spores/m³, respectively. The highest total spore concentration was measured in the 1st floor janitor's room where the air cleaning device had not been operating prior to sampling and zippered door to the corridor was not fully closed. The *Penicillium*/*Aspergillus* types of spores that predominated in the sample are indicative of prior mold growth within the space, but may also be influenced by spores present in the construction areas outside the containment that entered through the zippered door opening (and via prior unauthorized foot traffic) after cleaning by RMC. It should be noted that the entire building is still an active construction zone, with a good deal of foot traffic and construction-related dust on the floors and other surfaces.

The low indoor concentrations measured in the main kitchen and display case containments are indicative of the level of cleanliness achieved inside those two remediation containment work areas after removal and final cleaning by the RMC crew. One sample contained a slightly elevated level of *Penicillium*/*Aspergillus* types of spores, but the other three samples collected within the same containment contained relatively low levels of those same spore types.

Conclusions

Based on my observations during the site inspection on July 16 and results of the air samples collected, I conclude the following:

1. Airborne fungal spore levels measured inside the containment areas after completion of the remediation tasks by Restoration Management Company personnel were generally low relative to outdoor spore levels, indicating successful completion of their drywall removal, surface cleaning and final cleaning tasks.
2. Orchard Construction took appropriate action after discovery of the water- and mold-impacted wall areas by initially segregating the affected areas where visible mold was first observed (kitchen and 1st floor janitor's room) and promptly retaining the services of a qualified and competent restoration contractor, such as Restoration Management Company.
3. The Cohen Group provided verbal notification to Orchard Construction after receiving the laboratory analysis results on July 17 that the remediation had been successfully completed and that rebuilding of the affected wall areas could commence.

Please contact me if you have any questions.

Sincerely,



Mark A. Golembiewski, CIH
The Cohen Group

Table 1
Summary of Mold Spore Trap Sampling Results
One Circle Star Way, San Carlos, CA
July 16, 2013

Sample No./ Location	Total spores/m ³	Mold Type (Genus)	Raw count	Calculated count (spores/m ³)	Percent of total
MG071613-1: Janitor's Room - 1st floor	2,900	Penicillium/Aspergillus types	41	2,200	75
		Basidiospores	7	370	13
		Cladosporium	5	270	9
		Chaetomium	4	53	2
		Stachybotrys	2	27	1
		Other brown	2	27	1
MG071613-2: Display nook-A	550	Basidiospores	4	210	39
		Ascospores	2	110	20
		Stachybotrys	7	93	17
		Penicillium/Aspergillus types	1	53	10
		Cladosporium	1	53	10
		Other brown	1	13	2
		Chaetomium	1	13	2
MG071613-3: Display nook-B	490	Basidiospores	4	210	43
		Penicillium/Aspergillus types	2	110	22
		Stachybotrys	7	93	19
		Ascospores	1	53	11
		Smuts, Periconia, Myxomycetes	1	13	3
		Chaetomium	1	13	3
MG071613-4: Main containment-A	1,800	Penicillium/Aspergillus types	19	1,000	56
		Cladosporium	5	270	15
		Basidiospores	5	270	15
		Ascospores	4	210	12
		Stachybotrys	2	27	1
		Torula	1	13	1
MG071613-5: Main containment-B	320	Penicillium/Aspergillus types	2	110	33
		Basidiospores	2	110	33
		Ascospores	1	53	17
		Stachybotrys	3	40	13
		Other brown	1	13	4

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Sample No./ Location	Total spores/m³	Mold Type (Genus)	Raw count	Calculated count (spores/m³)	Percent of total
MG071613-6: Main containment-C	920	Cladosporium	8	430	46
		Basidiospores	5	270	29
		Penicillium/Aspergillus types	2	110	12
		Ascospores	2	110	12
		Chaetomium	1	13	1
MG071613-7: Main containment-D	520	Basidiospores	4	210	41
		Cladosporium	3	160	31
		Ascospores	2	110	21
		Stachybotrys	3	40	8
MG071613-8: Outdoors-A	3,100	Cladosporium	36	1,900	61
		Basidiospores	13	690	22
		Ascospores	7	370	12
		Penicillium/Aspergillus types	3	160	5
MG071613-9: Outdoors-B	870	Cladosporium	5	270	31
		Ascospores	5	270	31
		Penicillium/Aspergillus types	3	160	18
		Basidiospores	3	160	18
		Smuts, Periconia, Myxomycetes	1	13	2

Mold Remediation Procedures
1 Circle Star Way - Café Area
San Mateo County
June 20, 2013

BACKGROUND

Visible mold was recently identified by Novo Construction personnel in the Café area and the nearby janitor's closet on the north side of the ground floor of the building located at 1 Circle Star Way in San Carlos during tenant improvement work currently in progress that is encompassing the entire, unoccupied building (Note: The building faces southwest, but for purposes of this document and the directional identifications noted herein, will be considered to face west. The main entry lobby and associated center corridor and elevator lobby bisect the building into north and south halves).

A remediation contractor (Restoration Management Co., RMC) was recently retained by Novo Construction (the general contractor at the site) to provide restoration services after a construction-related water leak occurred in the south part of the building and damaged drywall on three floors in primarily the southern half of the building. RMC removed water and water-impacted drywall near the floor level in the affected areas on the ground floor and performed drying of remaining surfaces.

When an initial inspection of the café area was performed by The Cohen Group on Friday, June 14, containment (i.e., floor-to-ceiling plastic sheeting sealed with tape at top and bottom) had been set up by RMC to segregate the rear kitchen area from the serving areas of the café. Similar floor-to-ceiling plastic sheeting had been erected outside the entry door to the nearby janitor/utility room to restrict access to that area as well. A HEPA-filtered air handling unit (AHU) was present inside the kitchen containment and was running in recirculation mode (i.e., no flexible duct was connected to the air exhaust port on the AHU). Portions of drywall in the kitchen and adjacent corridors, have already been removed from several lower wall areas (from the floor to a height of about 4 feet at some locations), as shown in Figure 1, to investigate potentially mold-impacted areas within the wall cavities. The areas of drywall where visible mold was observed by The Cohen Group appeared to be primarily locations where kitchen equipment/appliances had been previously attached to or situated against the walls.

The bottom four inches of the walls in the kitchen area is covered by a ceramic tile base molding (the flooring is also ceramic tile). The suspended ceiling is comprised of 2 ft by 4 ft acoustic tiles in a metal grid, with utilities and equipment located in the space above the ceiling.

GENERAL WORK PLAN

Drywall impacted with visible mold will be removed from the lower wall areas (one to three feet from the floor) in the following locations, at a minimum:

- East wall of the kitchen (common with the corridor) - between the entry door from the corridor and the Dry Storage room (south) and from the entry door north about 25-30 feet to the edge of the containment (or further, if needed). This fire-rated wall is constructed of two layers of drywall and both layers will need to be investigated for mold.
- West wall of the Dry Storage room - both sides of the entry door (short wall to the north and longer wall to the south)
- North wall of the Waste Disposal room (tray/dishes return area outside the Kitchen and Service areas) / South wall of the Kitchen area - length of wall below the tray return 'window' and possibly portions of the walls on either side
- South wall of the Janitor/Utility room at the east end of the elevator bank - entire wall (about 6 ft wide) and possibly portions of the walls on either side. The south wall is common with both the elevator lobby and a small dead space ('chase') at the double door entry to the east entrance to the elevator lobby. A section of drywall has already been removed on the corridor side of the 'chase'. The bottom half of the south wall inside the utility room is covered by a fiberglass-reinforced plastic panel. A hot water heater is situated at the southeast corner and a janitor's basin and water faucet are located at the southwest corner.

In addition to the areas listed above where visible mold has been identified, the contractor shall also investigate other suspect locations within the work area that have not already been inspected to ensure that no other areas of suspect mold remain on drywall.

PROCEDURES

The procedures outlined below are to be followed when disturbing and removing contaminated portions of the walls and cleaning wall cavity surfaces that may be contaminated with fungal growth. The specified approach to remediation contained herein is consistent with "Guidelines on Assessment and Remediation of Fungi in Indoor Environments" (New York City Department of Health, Bureau of Environmental & Occupational Disease Epidemiology, November 2008), guidelines established in *Bioaerosols Assessment and Control* (J. Macher, Editor, ACGIH, 1999) and "Mold Remediation in Schools and Commercial Buildings" (US EPA, March 2001).

General Requirements for Remediation Personnel

- Remediation personnel will be trained in accordance with the provisions of the Hazard Communication Standard, 8 CCR§5194. Individuals involved in the remediation work and potentially exposed to mold-contaminated materials are to be trained in the health hazards associated with mold exposure and the steps the contractor will take to minimize those hazards.
- Personnel are to be instructed on the procedures described herein, including use of personal protective equipment, containment construction, entry and egress procedures, hygiene requirements, and waste disposal procedures, appropriate for the level of work to be performed (i.e., as described in the pertinent sections below).

- Personnel using respiratory protection will meet all training, fit testing and medical evaluation qualifications per 8 CCR §5144. Remediation workers must wear a respirator (minimum of P100, half-face air-purifying, or equivalent; disposable protective suit (e.g., Tyvek® coveralls) with head and foot covers; and gloves prior to entering containment.
- All non-remediation (contractor) personnel who enter the contained work area during remediation must wear personal protective equipment consisting of disposable coveralls (e.g., Tyvek®) and respiratory protection (N95 disposable dust masks are appropriate).

Work Plan for Wall Remediation

1. Unauthorized persons are not to be present within the containment when remediation activities begin.
2. Ventilation system duct openings/grills (the HVAC system is non-operational) and other penetrations inside the contained area on ceiling, floor and walls must be covered with plastic sheeting that is sealed with duct tape. Ensure that all acoustic ceiling panels are in place and no openings to the space above the suspended ceiling exist.
3. Stainless steel Kitchen equipment that has been moved to the middle of the rooms/spaces within the kitchen containment has already been covered with plastic sheeting. Ensure that the bottom edges of the plastic sheeting are secured to the floor (sealed) with tape so that the equipment is completely enclosed.
4. Ensure that the existing containments within the café kitchen and outside the janitor's closet are sealed on all sides, top and bottom.
5. Additional containment may need to be constructed along the corridor side of the east wall of the kitchen to allow for drywall along the corridor side of the wall to be removed, if needed. Both sides of the kitchen-corridor wall are constructed with two layers of drywall.
6. Additional containment may need to be constructed along the north wall of the Waste Disposal (tray return) room (other side of the south wall of the tray return window wall in the kitchen) to allow for removal of drywall along the base of the Waste Disposal room wall.
7. Additional containment may need to be constructed along the corridor side of the Janitor/Utility room to allow for access to the 'chase' and/or removal of drywall within that empty space.
8. Provide access to each containment with a zippered door. An anteroom may be necessary for removal of materials and PPE by remediation personnel.
9. Place a HEPA-filtered air handling unit inside the containment in the kitchen area and operate the unit in negative pressure mode during remediation activities. The unit will be exhausted to the outdoors through a door at the north end of the corridor using a flexible duct (already in place). New primary and secondary filters shall be installed on the HEPA-filtered unit prior to delivery to the site. The HEPA-filtered exhaust unit shall remain in operation until clearance of the work area is completed.

10. Attach a small HEPA-filtered air handling unit to the containment constructed for the Janitor/Utility room to place the contained area under a negative pressure during remediation activities. The AHU will be similarly exhausted via the door at the north end of the corridor.
11. Carefully cut and remove the visibly affected portions of drywall in the designated locations. Ensure that all drywall containing visible mold is removed by investigating suspect adjoining areas as needed.
12. Place removed sections of drywall in plastic disposal bags appropriate for the waste.
13. Clean debris from structural members (metal studs and bottom track) as necessary.
14. Place used brushes/sponges/rags in waste bags for disposal.
15. Once drywall/structural cleanup work is completed, HEPA-vacuum and wet-wipe interiors of all containments (wet wiping as needed) and the exposed wall cavity surfaces.
16. Wet-wipe exterior of HEPA vacuum and waste containers prior to removing them from containment. Seal all bags of waste prior to removal from area.
17. Workers/visitors exiting containment will remove disposable coverall suit and gloves while inside containment and place them in a waste disposal bag positioned at the entry/egress door.
18. Upon completion of remediation activities, the HEPA air handling unit will be placed in recirculation mode until at least one hour prior to the start of clearance air sampling by The Cohen Group.
19. The Cohen Group will collect clearance samples inside the contained area approximately 12-24 hours after completion of remediation activities following the sampling procedures delineated below.
20. If acceptable results are received (notification given by The Cohen Group), dismantle containment and dispose of plastic sheeting in new disposal container(s). If acceptable results are not received, HEPA-vacuum and wet-wipe interior of containment, exposed wall and wall cavity surface as needed prior to a repetition of air sampling.

Clearance Monitoring

1. Remediation of each contained area will be said to be satisfactory when the area passes both visual inspection and clearance air monitoring procedures.
2. Contained areas will be inspected by The Cohen Group's Industrial Hygienist and determined to be adequately clean (i.e., areas of visible mold contamination on drywall have been completely removed and all surfaces are free of visible dust and debris).
3. Subsequently, the Industrial Hygiene Consultant will perform air monitoring inside and outside of containment. Monitoring for fungal spores will be performed using of Zefon Air-O-Cell cassettes (spore traps). At least two successive air samples will be collected inside each containment area and two successive air samples collected outside the building for comparison.

4. The work area will be deemed to have passed clearance monitoring when the findings of samples collected within the work area are similar or less than those obtained from the outdoor sampling; in other words, when 1) the types of fungi present in work area air are approximately the same as those present in adjoining outdoor areas, and 2) the concentrations are equal to or less than those present in adjoining outdoor areas.
5. Following remediation and clearance of the contained area by The Cohen Group -- AND NOT BEFORE -- the containment sheeting may be removed and the General Contractor may begin reconstruction activities.

Prepared by: Mark Golembiewski, CIH
The Cohen Group
(650) 349-9737