



September 20, 2017

Jason Gales
Stockard Coffee Elementary School
3900 Northview Drive
Modesto, CA

Moisture Survey – Stockard Coffee Elementary School, 3900 Northview Drive, Modesto, CA

Dear Mr. Gales:

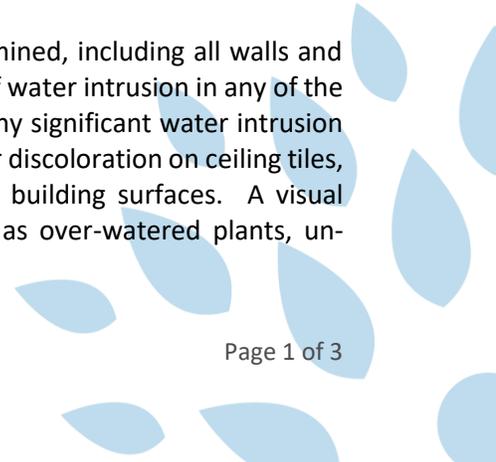
On September 18, 2017, a Sr. EHS Compliance Consultant from ACTenviro (ACT) conducted a mold & moisture survey at the Stockard Coffee Elementary School (3900 Northview Drive, Modesto, CA) to evaluate the potential for elevated levels of mold growth in Classroom Building B. The survey was conducted in response to building occupant concerns regarding mold growth and respiratory irritation. The survey consisted of a visual inspection of the affected areas in Building B, moisture level testing, and measurement of temperature, humidity, and carbon dioxide (CO₂) levels.

Building B is a classroom building with small storage rooms as well as student restrooms. Exterior walls are stucco; interior walls are generally gypsum wallboard (GWB) over steel studs. A variety of paint and wall treatments are used. Flooring is generally composite tile, although some areas are carpeted. There is reportedly no asbestos or lead-containing building materials. Based on information from School District personnel, the building has a central Heating, Ventilation and Air Conditioning (HVAC) system. This is regularly maintained by School District Personnel. Intake air filters and/or pre-filters were changed in September of 2017. The condensate drain functions adequately. The HVAC system was not inspected during this survey.

A moisture meter (Tramex Moisture Encounter Plus) was used to evaluate moisture levels in accessible building materials (walls, floors) in building B in order to identify active water intrusion that could support mold growth. Moisture levels in building materials are measured on a relative scale – areas of concern are compared to areas assumed to be dry. In addition, a thermohygrometer (TSI Q-TRAK) was used to measure temperature, humidity, and CO₂ levels in each of the classrooms to look for elevated humidity or similar conditions that could support mold growth. These measurements are evaluated with respect to accepted standards for indoor air quality as described below. Finally, a visual survey was conducted to look for evidence of previous water intrusion, such as damaged drywall, blistered paint or water stains. Table 1 (*below*) lists the readings from the materials and areas tested. Please refer to Attachment A for a map of the areas tested.

Survey Results

The moisture content of building materials was consistently low in all areas examined, including all walls and floors of the classrooms, storage rooms, and restrooms. There was no evidence of water intrusion in any of the areas examined. Based on discussion with site personnel, there have not been any significant water intrusion events, such as roof or plumbing leaks in Building B. There were no visible stains or discoloration on ceiling tiles, walls and carpeting indicating water intrusion, or mold growth noted in these building surfaces. A visual inspection did not show any other common indoor air-quality problems, such as over-watered plants, unemptied trashcans, etc.





The American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) establishes guidelines for occupant comfort:

- ASHRAE Standard 55 recommended "comfortable" temperature are 73 to 79°F (22.8 to 26.1°C) in the summer and 68 to 74.5°F (20.0 to 23.6°C) in the winter.
- ASHRAE Standard 62.1-2013 recommends indoor CO₂ levels not to exceed about 700 ppm above outdoor ambient air, (typically about 300 to 400 ppm) for occupant comfort.
- ASHRAE Standard 62.1-2013 recommends relative humidity in occupied spaces be controlled to less than 65% to reduce the likelihood of microbial growth and notes that levels over 70% near surfaces for extended periods of time promote the growth of some forms of mold and fungi.

Table 1 – Mold & Moisture Survey Measurements:

Location Room #	Moisture Reading/Rating	Temperature (° F)	Humidity (%)	Carbon Dioxide CO ₂ (ppm)
19	0-5 -Dry	74.1	60.1	510
20	0-5 -Dry	73.6	58.4	476
21	0-5 -Dry	73.9	60.1	518
22	0-5 -Dry	73.2	61.8	452
23	0-5 -Dry	72.9	61.3	404
24	0-5 -Dry	70.8	61.4	433
25	0-5 -Dry	69.4	59.2	414
26	0-5 -Dry	72.1	61.1	412
27	0-5 -Dry	72.3	61.6	459
Storage room 1	0-5 -Dry	73.5	60.3	427
Storage room 2	0-5 -Dry	Not tested	Not tested	Not tested
Storage room 3	0-5 -Dry	Not tested	Not tested	Not tested
WORK Room	0-5 -Dry	73.2	62.2	465
Toilet	0-5 -Dry	Not tested	Not tested	Not tested
Toilet	0-5 -Dry	Not tested	Not tested	Not tested
Girls RR	0-5 -Dry	74.5	66.2	419
Boys RR	0-5 -Dry	74	64.8	416
Janitor	0-5 -Dry	Not tested	Not tested	Not tested
Outdoor (ambient)	NA	80	70	400
ASHRAE Guideline	NA	73 - 79	65%	1000 - 1100

Conclusions and Recommendations

- As shown from Table 1, CO₂, temperature, and relative humidity measurements are consistent with ASHRAE guidelines. In addition, moisture levels in building materials were consistently low, there was no evidence of previous water intrusion and there was no visible mold growth on accessible surfaces in Building B.
- While mold is present in the environment at all times, no indications of elevated or active mold growth were found in Building B and no conditions were observed that are likely to support elevated or active mold growth.



- These results should be shared with the affected employees and current practices should be maintained to prevent conditions that could lead to elevated mold growth in the futures.
- If you feel employee concerns have not been adequately addressed by this evaluation, you can also provide the concerned employees the opportunity to visit your company's occupational medicine provider. That physician can then determine whether there are medical issues that require further investigation.

The conclusions in this report are based on the observations and data obtained on the September 18, 2017 site visit, generally accepted guidelines for the recognition, evaluation and control of bioaerosols and generally accepted industrial hygiene standards of care. The conclusions presented above apply to the site conditions existing at the time of the investigation. ACT cannot provide medical opinions regarding. While ACT performed due diligence investigations regarding building conditions based on reported and observed construction methods during the assessment, ACT cannot guarantee that no mold growth, sewage, or moisture is present on hidden materials.

ACT is not responsible for repair work designed and/or conducted by others that may affect the building environment now or in the future. ACT makes no warrantee that future mold growth will not appear if conditions conducive to mold growth continue or are reintroduced to the building. ACT provided these services using its commercially reasonable best efforts consistent with the level and skill ordinarily exercised by members of the profession currently practicing under similar conditions. The on-site tasks were performed under the direction of a Certified Industrial Hygienist (CIH) who is experienced in conducting indoor air quality, mold, moisture, and sewage assessments, and in developing fungal remediation work plans.

If you have any questions regarding this report, please feel free to contact me at jkapin@actenviro.com, or via phone at (858) 925-2500

Kindest Regards,

James Kapin

James Kapin, MPH, CIH
Manager, EM Services

cc: Patrick Flores

