

**Red Mountain Ranch Elementary (RMRE)
Questions and Answers Regarding the Indoor Air Quality
March 12, 2009**

1. Is the indoor air safe at Red Mountain Ranch Elementary?

Yes. Since 2001, Mesa Public Schools (MPS) and independent air quality experts have tested the indoor air quality in various rooms and areas of RMRE more than 10 times, the most recent being in February 2009. None of these tests produced results that indicated that the air at RMRE was unhealthy.

The most recent RMRE air quality tests were performed by Hutzel & Associates, which has performed testing for other MPS buildings. The most recent test reports have been posted on the RMRE Web site. Hutzel & Associates is a well-respected company in the industrial hygiene and occupational and environmental health and safety industry. It adheres to the highest ethical principles and enforceable code of ethics for Certified Industrial Hygienists.

Currently, a group of parents have expressed concern about high levels of mold in the air. When evaluating this claim, it is important to understand that mold (i.e., fungi) spores are always present in the air, whether indoors or outdoors. Mold is deemed unhealthy when it is determined to be present indoors in quantities greater than the mold levels in the air outdoors in the vicinity of the building tested, or if the mold spores are of a type not found in the air outdoors.

In each case, when the RMRE air was tested for mold, the mold levels were substantially lower than the mold levels of the air outdoors at RMRE. Likewise, the type of mold spores did not differ from the type found outdoors.

2. Is there regular maintenance scheduled to clean the ducts and other HVAC equipment?

MPS regularly checks the operation of fresh air intakes and cleans all air filters, which are the steps essential to the maintenance of an efficient air conditioning system that circulates clean air. Other parts of the school's heating, ventilation and air conditioning (HVAC) equipment are cleaned as needed.

MPS follows federal and state guidelines for cleaning and maintenance regimes for all HVAC equipment. The Environmental Protection Agency (EPA) has found no scientific evidence that duct cleaning alleviates poor indoor air quality. Therefore, the ducts themselves have not been cleaned. In fact, the EPA cautions that duct cleaning in some circumstances may worsen air quality.

The EPA has published helpful articles which are available on the RMRE Web site. According to [Appendix B: HVAC Systems and Indoor Air Quality](#):

The presence of dust in ductwork does not necessarily indicate a current microbiological problem. A small amount of dust on duct surfaces is normal and to be expected. Special attention should be given to trying to find out if ducts are contaminated only where specific problems are present, such as: water damage

or biological growth observed in ducts, debris in ducts that restricts airflow, or dust discharging from supply diffusers.

3. A parent is circulating photographs showing ugly deposits of dust on vents and other parts of an HVAC system. Do these photos show that RMRE has an air quality problem?

MPS personnel were not present when the photographs were taken. Consequently, MPS cannot be certain of the location of the HVAC equipment in question. However, the return registers and ducts depicted are for the collection of return air, not fresh air that has been cooled, filtered and sent to the classroom.

In rooms 1, 3, 6, 11, and 12, the cooling coils were cleaned on February 6, 2009, as a precautionary measure. Air in the classrooms passes through return registers into the air handler closets, and can leave deposits of dust and other particulates in the duct work and on the registers. These deposits are unsightly but **do not** affect air quality because the return air is combined with outdoor air, cooled or heated, and filtered before it is sent to the classrooms.

Inspections of the air handler unit and ducts that distribute fresh air after filtration show no deposits of dust or other particulates.

The MPS Operations Department has scheduled more frequent cleaning of the return registers and cooling coils to eliminate any concerns about such deposits that are unsightly but do not affect air quality.

4. Why doesn't MPS just spray the ducts with antibacterial/antimicrobial spray as a precaution?

Spraying ducts with antibacterial/antimicrobial spray may be counterproductive to the elimination of mold and may create a new concern for persons who have sensitivities to biocides, according the Hutzell and Associates and Health Effects Group Inc., two leading Arizona consultants in the field of air quality.

The EPA article Should you have the air ducts in your home cleaned? states in part:

Chemical biocides are regulated by EPA under Federal pesticide law. A product must be registered by EPA for a specific use before it can be legally used for that purpose. The specific use(s) must appear on the pesticide (e.g., biocide) label, along with other important information. It is a violation of federal law to use a pesticide product in any manner inconsistent with the label directions.

A small number of products are currently registered by EPA specifically for use on the inside of bare sheet metal air ducts. A number of products are also registered for use as sanitizers on hard surfaces, which could include the interior of bare sheet metal ducts. While many such products may be used legally inside of unlined ducts if all label directions are followed, some of the directions on the label may be inappropriate for use in ducts. For example, if the directions indicate 'rinse with water', the added moisture could stimulate mold growth.

All of the products discussed above are registered solely for the purpose of sanitizing the smooth surfaces of unlined (bare) sheet metal ducts. No products are currently registered as biocides for use on fiber glass duct board or fiber glass lined ducts, so it is important to

determine if sections of your system contain these materials before permitting the application of any biocide.

This document is also available on the RMRE website.

5. Can the parents who are concerned about air quality pay for an outside agency to test the air?

Yes. MPS would cooperate with such testing, provided there is mutual agreement as to the scope of the testing, the certified industrial hygienist who performs the work, and the opportunity for an MPS air quality consultant to observe the work.

6. The EPA website indicates that air wand testing is not effective in determining mold. Is that the test used at RMRE?

No, the air wand (more appropriately referred to as a particle counter) was not the test used. These tests are NOT used to identify mold, which can only be determined by a lab analysis.

The particle counter is a useful diagnostic tool that is occasionally used by certified industrial hygienists to sample air to ascertain particle size and quantity. It is also used as a means to determine contaminant source location, which could include mold spores. Consequently, tests will occasionally involve a particle counter, but this is not the only tool used to determine whether the air is healthy at RMRE.

The particle counter is also used to certify clean rooms, surgical rooms, and air filter medium efficacy. The use of handheld test instruments has received endorsement at the highest levels. According to infection control guidelines published by the U.S. Centers for Disease Control (2003), "the use of handheld, calibrated equipment that can provide a numerical reading on a daily basis is preferred for engineering purposes" in ensuring the proper and safe operation of HVAC systems.

7. What is being done about leaks in the roof?

Roof leaks are repaired as soon as they are identified. At this time there are no roof leaks at RMRE.

Our roofs are cleaned and inspected twice a year, which greatly reduces roof leaks caused by clogged roof drains, damaged flashing and other situations. When a leak is observed and repaired, an evaluation is done as to whether ceiling tiles or other materials need to be replaced to eliminate the risk of mold growth.

Periodically, ceiling tiles are found that show visible evidence of mold. These items are replaced immediately. The fact that small quantities of ceiling tiles are found with mold or other contaminants does not mean that the air quality in the room or the building is unhealthy.

8. Why is the temperature in buildings set at 78 degrees?

MPS implemented an energy conservation policy in December 2008 to reduce energy costs and promote conservation. Following "acceptable environmental conditions" guidelines recommended by the American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) and adopted by the U.S. Department of Labor, MPS has established these heating season and cooling season set points:

Heating season set points

- a. Occupied – 70 degrees
- b. Unoccupied winter – 60 degrees

Cooling season set points

- a. Occupied – 79 degrees
- b. Unoccupied – 88 degrees

Because of the mechanical function of a thermostat, all thermostats and temperature sensors will vary slightly in temperature settings. The set point used is 78 degrees to accommodate this variation and allow for an occupied space temperature of approximately 75 - 79 degrees Fahrenheit.

9. Is it true that RMRE is one of only three buildings in the state that is cooled and heated with a water cooled system?

No. this statement is false. MPS has centrifugal chillers at Skyline High, Stapley Junior High, Red Mountain High, Shepherd Junior High and Red Mountain Ranch Elementary.

The McQuay PFH050 centrifugal chiller (serial # 5ZD8104400) used at RMRE was installed in 1994. This is not an evaporative cooler type system and does not include a heat exchanger. It is a closed-loop chilled water system that is very common in commercial buildings and schools throughout Arizona and the country.

10. Will absences be removed from students' records because they are absent due to concerns about air quality?

Yes. Recent absences due to a parent's air quality concerns will be treated as an excused absence. Please discuss any concerns with RMRE Principal Joyce Cook.

11. If I feel that I cannot send my child to RMRE, can my child transfer to another MPS school?

MPS, including its Operations Department, is committed to providing all students and employees with a safe, healthful learning environment. This commitment is not just a matter of professionalism: Our Operations staff members have more than 400 family members who are students enrolled in or employees working at MPS schools. If the safety of its students and employees is in jeopardy, MPS will not operate a school until the safety concern is resolved.

Nevertheless, we understand that some parents may feel that their child should attend another school. Arizona law and MPS policies provide open enrollment options for students who wish to attend a school outside of their attendance area. Please meet with RMRE principal Joyce Cook if you wish to explore this option.