

**RGC Abatement/Remodel Completion
Summary of Work**

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Austin, Texas**

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The asbestos and lead paint abatement project in Rooms 317, 318, and 318.1 and the cleaning of Room 221, as discussed in Dr. Kinslow's memo of August 15, 2005, are now complete. This is a summary of the abatement work, as it was planned and carried out.

Austin Community College contracted with Baer Engineering and Environmental Consulting, Inc. (Baer Engineering) of Austin, Texas, to design asbestos and lead paint abatement for Rooms 317, 318, and 318.1 in preparation for planned renovations of these rooms. Previous sampling of building materials in these rooms had identified asbestos in the floor tile mastic and lead in the wall and ceiling paints. Asbestos in flooring materials and lead paint were commonly used building materials in the past. Baer Engineering prepared written abatement plans for both the asbestos and lead in accordance with state and federal regulations. A single containment system was installed and operated under reduced air pressure to control the potential release of contaminants from the three rooms during abatement activities. The containment consisted of heavy plastic sheeting sealed around the hallway areas of the three rooms. High-efficiency particulate air filtering units were used to pump air from inside the containment to the roof area of the building, creating a lower air pressure inside the containment than in the surrounding hallways. In this way, dust and contaminants that were released during the abatement work were prevented from getting into the surrounding hallways.

ARC Abatement performed both the asbestos and lead-paint abatement. State asbestos health protection regulations required the Texas Department of State Health Services to be notified prior to the start of work, which was accomplished by ARC Abatement. The lead-paint abatement was performed under federal occupational regulations, but no notifications were required.

Baer Engineering provided asbestos project management on-site during all asbestos removal work, ensuring the contractor complied with the design specifications and state regulations for asbestos abatement. Baer Engineering collected daily air samples inside the containment to ensure asbestos concentrations did not exceed worker protection levels and collected daily air samples in the adjoining hallways to ensure that airborne concentrations did not exceed 0.01 fibers per cubic centimeter of air (f/cc), which is the Texas public health protection level. The air sampling indicated that this concentration was not exceeded in the hallways during abatement work. Final clearance air sampling in the room, when abatement was complete, indicated that airborne concentrations of asbestos were less than the Texas health protection concentration. Asbestos waste was removed in sealed plastic bags and disposed of in a landfill licensed by the state for asbestos waste disposal.

Lead-paint abatement began in accordance with the written specifications after asbestos abatement was complete. This required the removal of the plaster ceiling and a layer of plaster from the walls. Baer Engineering monitored the lead-paint removal on a daily basis to ensure compliance with the written specifications. The plaster waste was sealed in plastic bags and taken to a landfill licensed by the state for lead waste disposal. The room walls and floors were then cleaned by ARC Abatement, and Baer Engineering collected wipe samples from the floors in Rooms 317 and 318 for laboratory analysis of lead. The sample results indicated that the room was adequately cleaned of residual lead paint dust.

Baer Engineering included monitoring and worker protection procedures for possible mercury exposure in the asbestos abatement specifications in the event that mercury was found during removal of the floor tile and asbestos-containing mastic. This was precautionary since Rooms 317, 318, and 318.1 had been used as a chemistry laboratory/storage area for a number of years.

Mercury vapor monitoring for the project was performed by the RETEC Group of Austin, Texas. We used the Minimum Risk Level (MRL) recommended for mercury vapor by the Agency for Toxic Substances and Disease Registry (ATSDR) as our health protection guideline for Austin Community College staff and students (the ATSDR is a division of the Centers for Disease Control and Prevention). The MRLs established by the ATSDR are recommended screening levels to identify potential health effects to the general public from certain contaminant sources. They are set below levels that might cause adverse health effects in even the most sensitive populations.

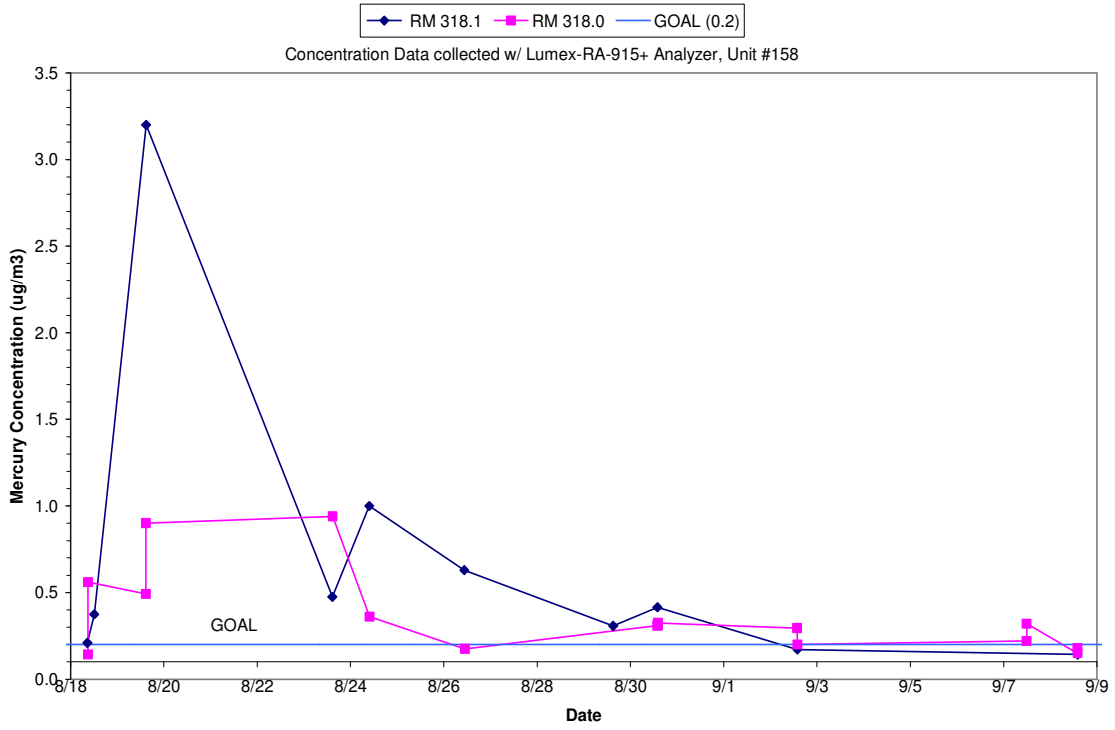
The MRL for mercury vapor is 0.2 micrograms per cubic meter of air for continuous daily exposure (24 hours). The Occupational Safety and Health Administration (OSHA) Permissible Exposure Limit (PEL) for occupationally exposed workers (the abatement workers) is 0.1 milligrams of mercury per cubic meter of air for a continuous 8-hour workday exposure.

Monitoring of the three rooms for mercury vapors was initiated after completion of initial maintenance efforts that included removal of shelving units and a small lab bench but prior to starting lead and asbestos abatement work. Levels just above the MRL were measured initially, due to the level of room disturbance that had already occurred. Mercury vapor concentrations further increased above the MRL inside the containment during abatement. The highest concentration measured inside the containment was 3.2 micrograms per cubic meter, which is the same as 0.0032 milligrams per cubic meter. Mercury vapor concentrations in the rooms rapidly decreased once the flooring materials were removed and a mercury cleaning solution was applied to targeted floor areas. Within a few days, mercury vapor levels inside Rooms 318 and 318.1 were reduced to below the MRL. All measurements in the hallways adjacent to the contained work area during the abatement and cleaning indicated that mercury concentrations remained below the MRL.

The attached chart is a chronological summary of the measurements for mercury vapor by The RETEC Group using a Lumex Mercury Vapor Monitor. Note that mercury vapor concentrations inside the containment initially increased and then steadily decreased as our work progressed. Also note that none of the hallway measurements exceeded the MRL.

Room 221, located directly below Room 318.1, was cleaned utilizing a similar work area containment as that used upstairs. Baer Engineering prepared a written remediation protocol for the room, also taking the precaution to have The RETEC Group monitor for mercury vapor during the work. Accumulated dust was removed from all surfaces in the room by vacuuming and wet wiping and dusty materials such as ceiling tiles and lumber was monitored for mercury contamination prior to removal for disposal. Mercury concentrations remained below the MRL guidelines at all times during the cleaning of the room.

Breathing Zone Concentrations in Lab and Chemical Storage Rooms



3rd Floor Hallway Breathing Zone

