

RGC Room 221 Remodel

EHS and Insurance
Becky Cole
223-1015
rcole@austincc.edu
12.07
Updated 1.30.08

Agenda for Meeting

- Open communications
- Questions
- Discussion topics
 - Mercury testing activities at RGC
 - Testing and abatement Rm 318 remodel
 - Planned testing and abatement Rm 221
 - Status of Rm 221 design activities

Mercury Testing Overview

- **Austin American Statesman Articles**
 - Nov. / Dec. 2001
- **<http://www.austincc.edu/ehs/communications.php>**
 - **Texas Department of State Health Services (old Texas Dept. of Health)**
 - **Four different environmental testing firms**
 - **Board Certified toxicologist**

Testing Chronology

- 12/8/01-12/14/01** **Mercury vapor testing by Bolton Labs . Testing done at RGC and all other campuses in the Chemistry/Biology labs where mercury thermometers were used.**
- 12/10/2001** **Dr. Kinslow Memo to all Faculty and Staff concerning Health and Safety at ACC Facilities**
- 12/13/2001** **Mercury vapor testing by Texas Department of Health at ACC's request**
- 12/14/2001** **Memo to all Faculty and Staff from Dr. Kinslow discussing the TDH testing and the retesting by Bolton Labs.**
- 1/4/2002** **Additional mercury vapor testing done at RGC by Bolton Labs.**

Testing Chronology

1/4/2002

Memo from Dr. Kinslow to all Faculty and Staff

1/7/2002

Received electronic report from Texas Department of Health of 12/13/01 Mercury Vapor sampling. Report posted on EHS Web Site

1/9/2002 Memo from Dr. Kinslow to all Faculty and Staff

1/11/2002

Report from Bolton Labs for RGC sampling and mercury vapor sampling at all other campuses. Results of Bolton Rio Grande mercury vapor testing posted on Risk Management Web site on 1/16/02

Testing Chronology

5/27/2002

As a follow up to the TDH recommendation in the 12/19/01 report to perform a "hot Box" test, ACC conducted Mercury Vapor Testing by Bolton Labs

9/6/2002

Final report received from Bolton Labs for May 2002 mercury vapor testing at RGC. Report posted on EHS web site.

10/6/2002

ACC scheduled EORM, an environmental testing firm, and Bolton Laboratories to perform concurrent mercury vapor testing, but was unable to test because contract janitorial was in building overnight stripping floors and buffing. This did not meet the TDH recommended conditions for the hot box testing. Additionally, the janitorial crew had been stripping with ammonia which is an interference for the Jerome Mercury Vapor Analyzer.

EORM and Bolton Labs were scheduled for the following weekend to do concurrent "hot box" testing.

Testing Chronology

- 10/11/02** E-mail canceling rescheduled RGC second hot box test due to weather conditions not meeting the TDH recommended conditions for testing.
- 8/16/03** HBC Terracon and Bolton Labs performed concurrent "hot box" testing per the TDH specified criteria.
- 9/10/03** HBC Terracon and Bolton Labs report of testing done on 8/16/03. Reports placed on EHS web site
- 9/26/03** All employee communication sent out.

Testing Chronology

4/16/04

Dr. Thomas Dydek, Board Certified Toxicologist and Licensed Professional Engineer report entitled Preliminary Report on the Evaluation of Air Quality Testing for Mercury Vapor at the ACC RGC Campus was received and posted on the EHS web site. Report states that the levels of mercury vapor currently present in the Main Building of ACC's Rio Grande Campus do not pose any risk to human health.

Dr. Thomas Dydek was present and personally observed the 3/19/04 mercury sampling that was performed concurrently by multiple environmental engineering firms.

8/17/05

All employee communication from ACC President announcing asbestos and lead abatement activities and mercury monitoring at RGC. Additional detailed information was posted on EHS web site on Communications page

Testing Chronology

August-05

Mercury vapor sampling during asbestos and lead abatement activities performed by Baer Engineering and RETEC, environmental engineering firms

Final mercury vapor sampling by Baer Engineering utilizing NIOSH methodology

RGC Informational Meeting held with representatives from RETEC and Baer Engineering to discuss abatement and mercury monitoring during the abatement activities. Open to all employees. Meeting notice was posted on EHS web site on Communications page.

RGC Rm 318

- **Baseline testing**
- **Testing**
 - Abatement
 - Core drilling
 - Hallways
 - Post remodel
 - Rm 221
- **Other activities**
 - Vapor suppression
 - Wipe down of Rm 221

Testing Results Charts

- <http://www.austincc.edu/ehs/communications.php>
 - Graph of testing results
- Exposure limits
 - Applicable regulations
 - OSHA (ARC Abatement personnel)
 - » Permissible Exposure Limit 0.1 milligrams per cubic meter
 - Agency for Toxic Substances and Disease Registry
 - » ATSDR MRL 0.2 micrograms per cubic meter
 - 0.2 micrograms = .0002 milligrams

Minimal Risk Levels (MRLs) are derived for hazardous substances using the no-observed-adverse-effect level/uncertainty factor approach. They are below levels that might cause adverse health effects in the people most sensitive to such chemical-induced effects.

- <http://www.atsdr.cdc.gov/mrls/index.html>

RGC Rm 221

- **Precautionary testing**
- **Abatement**
 - Asbestos – transite pipe, window glazing, floor mastic
 - Lead - paint
- **Design status**

Room 221

Update Information

1.30.08

Room 221 Update

Historical Background Information

- **1926 vintage floor plan prints**
- **Room 221 and 219 identified as chemistry lab, chemical storeroom and darkroom**
- **Indicate historical usage of these areas may have been areas where mercury containing thermometers, barometers etc. may have been in use.**
- **1926 prints indicate additional areas 1st and 2nd floor in SW quadrant historically used as biology labs and physics labs.**

Original Flooring Construction

Rm 221 and 219

- **Room 219 original floor**
 - wooden floor installed over stanchions, with an unfinished concrete sub-flooring
 - Wooden floor was removed as part of the asbestos abatement activities
- **Room 221 original floor**
 - unfinished concrete sub-floor with a finished concrete fill layer approximately 1 1/4 inch deep
- **Remodel of 221 and 219,**
 - noise dampening materials to be installed into the flooring components of the area
- **Differences in height in the flooring construction**
 - plans are to remove the 1 1/4 inch fill material in Room 221.
 - allows noise dampening materials to be installed in the floor and then covered with a finish layer of concrete.

Precautionary Testing

- **Done in conjunction with the disturbance of building materials**
- **Following approach was used in doing the preliminary testing of concrete floor prior to its removal:**
 - Twenty four test holes
 - 1/2 inch in diameter and 1 1/4 inch deep were drilled
 - mercury vapor testing was performed at the top of the opening
- **Results varied from one side of the room to the other,**
 - 0.051 micrograms per cubic meter to 2.7 micrograms per cubic meter
 - SW corner of the room had higher readings
 - west side of the room being generally higher than the east section of the room

Exposure Limits

- **Occupational Safety and Health Administration (OSHA)**
 - permissible exposure limit (PEL) for mercury vapor is **0.1 milligram** per cubic meter of air as a ceiling limit. A worker's exposure to mercury vapor shall at no time exceed this ceiling level.
- **The American Conference of Governmental Industrial Hygienists (ACGIH)**
 - has assigned mercury vapor a threshold limit value (TLV) of **0.025 milligram** per cubic meter of air as a TWA for a normal 8-hour workday and a 40-hour workweek
- **The Agency for Toxic Substances and Disease Registry (ATSDR) Minimal Risk Level (MRL) is the most protective level**
 - ACC uses
 - is **0.2 micrograms** per cubic meter
 - These are derived for hazardous substances using the no-observed-adverse-effect level/uncertainty factor approach. They are below levels that might cause adverse health effects in the people most sensitive to such chemical induced effects.
- **0.2 micrograms = .0002 milligrams**

Important Note

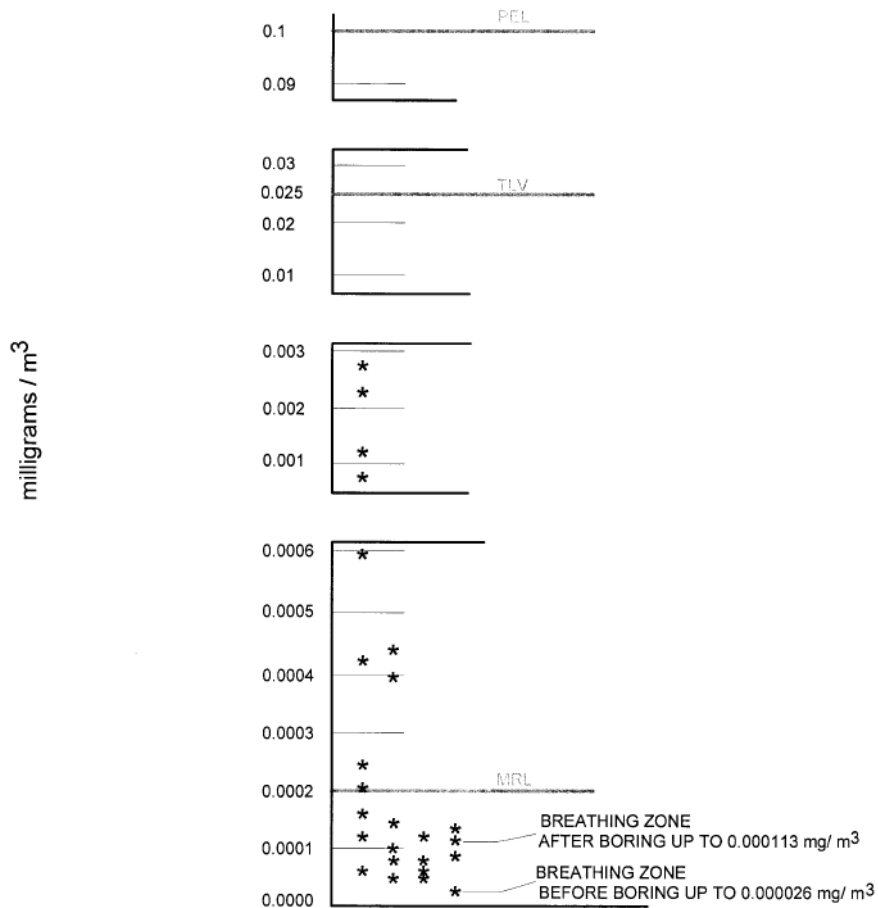
- At no time did the levels of mercury vapor at breathing zone level reach the most protective limit of 0.2 micrograms per cubic meter of air
- Breathing zone readings were below 1/2 of the ATSDR MRL, ranging from 0.085 micrograms per cubic meter to 0.113 micrograms per cubic meter.

Comparison Chart in Milligrams

Floor boring Results in micrograms	Floor boring Results in milligrams	OSHA PEL In milligrams	ACGIH TLV In milligrams	ATSDR most protective limits (ACC) in milligrams
Lowest reading of 0.051	0.000051	0.1	0.025	0.0002
Highest reading of 2.7	0.0027	0.1	0.025	0.0002

AUSTIN COMMUNITY COLLEGE RIO GRANDE CAMPUS ROOM 221 FLOOR BORINGS

BAER ENGINEERING PROJECT NO: 051039.23
January 28, 2008



NOTE: ALL READINGS TAKEN AT BOREHOLE, ACCEPT WHERE NOTED.



Baer Engineering
and Environmental Consulting, Inc.

DRAWN BY: _____ DATE: _____
MRL: _____ 1-28-08
CHECKED BY: _____ DRAWING NO: _____
JM: _____ 051039.23
SCALE: _____
N/A

AUSTIN COMMUNITY COLLEGE
RIO GRANDE CAMPUS
ROOM 221 FLOOR BORINGS
BAER ENGINEERING PROJECT NO: 051039.23
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Indications

- **Increase in mercury vapors upon disturbance of the concrete flooring fill material**
- **May indicate that at some time during the historical use of this room, mercury may have come into contact with the floor**
- **Possibly a thermometer or barometer, which are commonly used in science labs, may have been broken in this area .**

Plans

- **Have the concrete fill material removed by contractors with concurrent mercury vapor testing.**
- **Due to the expected noise level during this floor removal, this activity will be done on Saturday after the end of classes and on Sunday.**
 - **Estimated two weekends to complete**
 - **Protocols for removal provided by Baer Engineering**
 - **This activity will be performed under containment, with negative air pressure**
 - **Contractors will use appropriate personal protective equipment during the floor removal**
 - **Testing in hallways and adjacent areas will be performed**
 - **Same approach that was used in the preconstruction abatement activities in Room 318**

Additional Precautionary Testing Conducted

- **All areas located in the southwest quadrant of the main building on the first and second floor.**
- **Readings were well below the ATSDR MRL level of 0.2 micrograms per cubic meter**
- **In most cases the same or lower as the mercury levels present in outdoor air and do not pose any risk to human health.**
- **An update will be provided after the floor removal activities are completed. Target date for completion is February 17.**