

## **Frequently Asked Questions: Lab Safety/Mercury Testing at Rio Grande Campus**

### **What is the College doing to ensure safety in our chemistry labs?**

- The Chemistry Taskforce has worked diligently to implement strict lab safety procedures in all ACC chemistry labs. Over the past three years, the faculty has improved the inventory of chemicals, disposing of unneeded supplies, and labeling all chemicals.
- Emergency gas shut-off valves were installed in labs in 1999.
- Also in 1999, maintenance staff installed temporary ventilation and a vent hood in one of the chemistry labs at Rio Grande.
- During the summer of 2001 a new ventilation system in the chemical storeroom and new cabinets to segregate and store flammable and corrosive liquids were installed.
- Installation of new fume hoods and a \$130,000 ventilation system that was previously budgeted as part of the 2001-2002 budget is being completed during this winter break in the two chemistry labs at Rio Grande.
- Across the College, the Chemistry Taskforce is working to update chemical inventory lists and labeling of secondary bottles.
- Last spring, the Texas Department of Health provided hazardous materials training to lab techs and faculty. All chemistry students receive safety training from their instructors at the beginning of each semester.
- An ongoing practice of time-weighted testing is the best way to monitor exposure to mercury vapor over time, something ACC intends to implement district-wide in Spring 2001. While this is not required by any federal, state, or local government agency, it represents our commitment to ensuring safety in our labs.

### **What else is ACC doing to ensure the long-term safety of College facilities?**

- Last year ACC established an annual schedule of indoor air quality testing at all campuses.
- We have previously implemented a hazardous materials training program and will continue to train students, faculty, and staff who come into contact with hazardous materials.
- We are implementing an Industrial Hygiene Sampling Plan to monitor air quality in laboratories at all campuses.
- Budgeted improvements in our science labs have upgraded equipment and facilities over the past three years; additional improvements are planned.
- All used chemicals are stored in ventilated, secured storage units, and collected for final disposal by a licensed disposal company.
- Elevators, fire extinguishers, hydrants, fire alarms, and sprinkler systems all receive monthly inspections and/or annual testing.

### **Was ACC cooperative with TDH during its testing on December 13?**

Yes. The Texas Department of Health was invited by ACC's executive vice president to conduct tests at Rio Grande. ACC officials provided TDH

representatives with full access to all Rio Grande facilities. TDH determined what rooms were to be tested, and only TDH staff was allowed in the rooms being tested, with the exception of a maintenance technician who assisted them in two rooms. At one point during the testing, Physics faculty asked that their labs also be tested. ACC officials immediately asked TDH to add those rooms to the testing schedule – an additional seven rooms in the Physics Department were tested, all with zero mercury readings.

**Is there a public health problem caused by mercury vapors at Rio Grande?**

All evidence to date says there is not. According to the report of the Texas Department of Health, following their independent testing on December 13, *“To the extent that the zero readings accurately reflect the conditions in the tested rooms, there is **no indication of a public health problem** from mercury contamination in the surveyed rooms at this time.”*

The TDH report corroborates the testing results of Bolton Laboratories, an independent, state-registered environmental firm that ACC had previously contracted to do air testing of heavy metals at Rio Grande. Both the Texas Department of Health and Bolton Laboratories used the same testing methodology and the same equipment model – a Jerome 431-X Mercury Vapor Analyzer manufactured by Arizona Instrument.

In all, four tests for mercury vapor have been conducted to date by TDH and Bolton Laboratories (December 8, 13, and 14 by Bolton Labs; December 13 by TDH), as well as surface testing for mercury and lead by Bolton Labs in August 2001. More than 250 separate measurements were taken for mercury vapor, 92 of them by TDH. Of these 92, only three (in two areas) were found to be positive for mercury vapor; subsequent re-measurements on that same day indicated no mercury present.

In addition, Bolton Laboratories also conducted additional re-testing on December 13 and December 14. A total of 42 measurements were taken in areas that had had previous positive readings; all retests showed no evidence of mercury. As noted in the TDH report, such re-testing results are an indication that the first measures were false positives, and that mercury was not evident.

**Why might there be false positive readings?**

A number of factors can cause a false reading for positive (higher than background) mercury vapor levels. These include temperature and humidity variations, air flow, human traffic, and the presence of ammonia compounds such as those found in cleaning fluids. This is why retesting within moments of the first reading is the recommended protocol.

**Why were ceiling holes plugged by ACC prior to testing?**

Repairs were made in the ceiling based on a staff member’s concern about his office. The needed repairs had not been previously observed by Buildings and

Grounds staff. These included the capping of a disused sink drainpipe, sealing around electrical and A/C conduit, and the filling of other holes. In the past, similar holes in walls and ceilings have been plugged when brought to the attention of the Buildings and Grounds department. While the age of the Rio Grande Campus means that it no longer falls within fire code sanctions, nonetheless the administration is committed to ensuring that all fire hazards and other potentially unsafe conditions be dealt with when brought to our attention. In this instance, the maintenance technician used the wrong sealant, which has since been replaced with the correct “fire stopping” materials.

At no time was any staff member instructed to fill these holes in order to adversely affect subsequent testing. In addition, TDH bureau chief Claren Kotrla has said that sealing the holes would have “little effect” on their testing assuming mercury levels were low. When asked on December 13 if they wanted to unplug the holes, the TDH examiners indicated it wasn’t necessary. The same question was asked of these officials on December 20, and again they said they did not see the need to unplug the holes. As it turns out, no positive mercury levels were confirmed, and no health hazard was found.

**Was there a prior mercury vapor “problem” that constituted a health threat?**

Based on what we know to date, we do not believe so. While it is common knowledge that mercury compounds as well as mercury thermometers are used in the chemistry labs at Rio Grande (as they are in other colleges and schools), there has never been a clear indication of mercury contamination at levels that would constitute a public health risk. Toxicological literature suggests that the faculty and students working in the chemistry labs would have been the first to develop acute symptoms if a chronic problem had existed. Yet no one working in those labs has claimed to be ill.

**The TDH report references factors that could influence the test results. How is ACC addressing these?**

- These factors were not mentioned by TDH examiners prior to the December 13 testing. However, factors such as temperature (indoor and outdoor), humidity, and the amount of human traffic can influence testing. Nonetheless, in our follow-up discussions with TDH, we learned that the presence of these factors does not invalidate the testing performed.
- Time-weighted testing is the preferred method of monitoring mercury vapors over time and provides the most accurate measure of actual exposure to mercury vapors. Following a recommendation by ACC’s Risk Management Coordinator, the College will implement some form of time-weighted testing this spring. This commitment was made prior to the involvement of the Texas Department of Health and is being done voluntarily by the College; it is not a requirement of any regulatory agency. Time-weighted testing uses either stationary monitoring equipment or “badges” worn by students, faculty and staff working in the chemistry labs to monitor exposure.

- As mentioned previously, all indications from TDH are that the holes that were plugged in an office ceiling **did not represent a significant barrier** to achieving valid test results.
- During the December 13 testing, human traffic was kept to a minimum. Only the TDH examiners were in 17 of the 19 rooms being tested; they asked for assistance from an ACC staff person in the other two rooms.

**Does TDH believe it needs to retest?**

- In the oral exit interview on December 13, TDH officials were asked this question, and said **they did not see any need for them to retest**. They recommended instead that the College continue to utilize its own consulting firms to test as we determine is needed.
- The TDH written report does recommend that additional testing occur whenever major renovation is done. Because the ventilation systems in the two chemistry labs at Rio Grande are being updated over this winter break, ACC will retest the labs and adjacent spaces when the remodeling is complete.
- As stated previously, time-weighted testing on an ongoing basis is the best way to ensure air quality and safety, and the College made a commitment to implementing such a process before the Texas Department of Health was asked to work with us. This monitoring will commence in the spring.

**There have also been concerns expressed about underground diesel fuel tanks, also at the Rio Grande Campus. What is the status of that situation?**

- ACC first became aware of this situation in the fall of 1998, and it has been common knowledge among Rio Grande staff and faculty since that time.
- One leak occurred in December 1998, and the campus was evacuated by campus administrator Nancy Glass as a precautionary measure. This was briefly reported by the *Austin American Statesman* at that time.
- Both the TNRCC and City of Austin have long been apprised of the situation.
- AISD is the owner of the building, and as such, has been responding to the leaks when they occur, and is the responsible party for all liability issues.

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