

**Infrared Helps Abracadabra Make Unwanted Moisture  
At University of Arizona Disappear – Fast.**

When a chiller pipe burst in a six hundred-foot long tunnel running through a boiler room that is located beneath a building on the University of Arizona's campus in Tucson, AZ, three hundred feet of the tunnel was flooded to a depth of five feet.

Compounding the job of drying out the area was a dirt and gravel floor and the insulation around the chiller and boiler pipes, both of which absorbed moisture.

A quick resolution to the problem was critical, both to restore the line feeding the chiller to operation, and to dry out the area before mold had a chance to develop. Abracadabra Restoration, also of Tucson, removed the water and dried out the tunnel in two weeks, using two WaterOut® trailers and 31 air dryers.

Abracadabra used a ThermaCAM® B1 infrared camera to accurately detect the extent of water intrusion, and ensure that the drying process was complete.

“The challenge,” states Abracadabra President Breck Grumbles, “was that a certain amount of moisture in the insulation around the pipes is normal, due to the condensation emitted by the pipes during operation. So we first had to establish a benchmark for that normal moisture emission before we looked for excessive moisture and thus potential mold growth.”

“We did a comparison of the secondarily affected area in the far north end of the tunnel, the furthest points where there had been no prior inspection, with the primarily affected area, using three separate instruments,

including our penetrating and non-penetrating moisture detectors, but primarily with the B1 infrared camera.”

“With the University, time is of the essence. Finding the cause and taking the remedial action to get us back to our original level of operation –as quickly as possible -- was our objective,” says Mike Keller, Claims Supervisor, State of Arizona, Risk Management. “Considering what they were faced with at the time, I think Abracadabra was very expeditious and timely.”

“Aside from quickly addressing and solving the problem in a timely manner using infrared, Abracadabra was also able to confirm that the tunnel was dry without tearing everything apart,” adds Keller. “I’d definitely use infrared in the future if we had the same type of situation.”

### **The WaterOut Process**

WaterOut uses fresh outside air as the drying source. The outside air is conditioned within the WaterOut trailer and introduced into a flooded building at about 2%RH (relative humidity). This super-dry air is circulated through a flooded building and then exhausted to the outside. This "open drying" concept leaves a clean, dry building in only a few days.

Since 1997 over four thousand buildings of every size and construction have been dried using WaterOut equipment. A single WaterOut trailer will remove 100 pounds of water per hour and uses 115 volts at 9-14 amps, about the power consumption of a typical household appliance.

A WaterOut trailer can be easily transported, set up, and operated by a single trained technician. Inaudible from more than twenty feet, WaterOut will not disturb neighbors.