

**PROJECT NAME:           IAQ Investigation – Intermittent Odor**

**PROJECT DESCRIPTION:**

EIS performed an Indoor Air Quality (IAQ) investigation of an office located in Boulder, Colorado. Employees related that an odor had persisted in the office and they described it as "smells like a dead animal." The smell would vary in intensity from day to day. They noted that when the outside temperature was cooler, the smell seemed to be more pervasive. The physical symptom associated with the odor was a dry throat.

The southeast office where the indoor air quality complaint was centered was visually inspected for signs of chemical residue(s). Suspected areas of residue were surveyed using a photoionization detector (PID). EIS inspected HVAC ductwork and equipment, collected air monitoring samples to determine airborne concentrations of formaldehyde, carbon dioxide, and carbon monoxide, and measured temperature and humidity.

Spots of suspected chemical residues were found on the electrical boxes located on the wall of the southeast office. The spots when rubbed released a relatively pungent amine like chemical odor that was briefly detectable using a PID. Upon inspection of the carpet an area was defined that when abraded released the same chemical odor noted above. Inspected ductwork showed no debris or residue.

The results of the ventilation measurements showed that the ventilation system was unbalanced. Carbon monoxide and carbon dioxide level were within the normal range. The temperature in the office was within normal range. The humidity in the office was low. The air monitoring sample analyses for formaldehyde were at the level of detection for the method used. The level of detection was approximately two orders (100 times) less than OSHA's Permissible Exposure Limit (PEL) and the American Conference of Governmental Industrial Hygienist Threshold Limit Values (TLVs) for Chemical Substances and Physical Agents.

We recommended that (1) The electrical boxes be cleaned (2) The carpet in the southeast office be removed, the concrete floor cleaned and sealed and new carpet be installed (3) The HVAC system for the offices be balanced, and (4) Add a humidifier to the HVAC system.