

Application Note: Measurement of VOCs From Packing Peanuts in a Shipping and Receiving Room

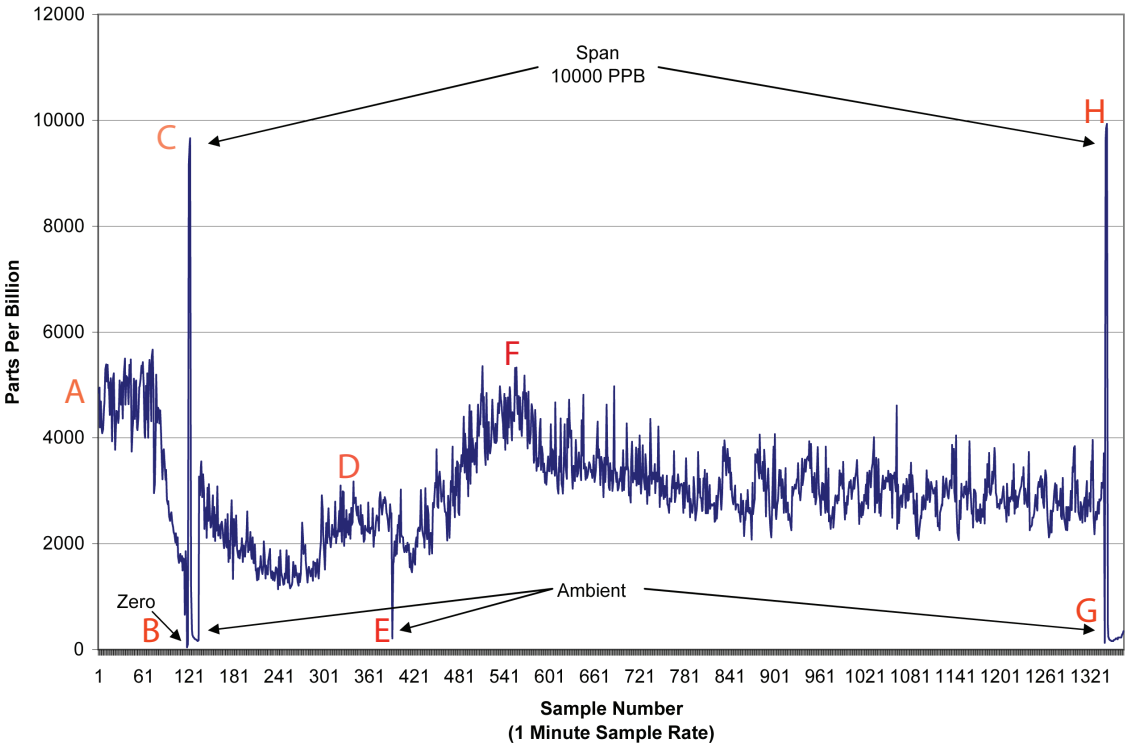


Application Note #AQ-14-826

A recent study conducted in an office environment exposed the increasing levels of Volatile Organic Compounds (VOCs) that are released through normal daily functions. An E Instruments AQ VOC, Indoor Air Quality Monitor was used to measure the VOC readings in an ordinary shipping and receiving room. The monitor was used to measure the various VOC compounds released into the breathable air as a result of the usage of packing material. The graph below displays and proves the accuracy the unit holds. The beginning of the test (labeled by point A) captures the higher levels of VOCs released from the opening of a bag packing peanuts. The monitor was able to capture the VOC readings rising toward levels of 4,000-6,000 parts per billion. The monitor was then brought outdoors to clean ambient air (at point B) where the VOC levels quickly dropped, and the readings reflected the new cleaner environment.



VOC Reading Of Packing Material



The instrument was then exposed to span gases in a controlled laboratory (at point C). The unit properly produced the expected measurement of the bottled reference gas of Isobutylene, during the span gas process, of 10,000 ppb. The monitor was then brought into a regular office environment (at point D), and readings stabilized around the expected amount of VOCs anticipated of an ordinary office space (between: 2,000-3,000 ppb). After a few hours, the AQ VOC was taken outdoors to clean ambient air (at point E). The unit was then carried back indoors, where another bag of packing peanuts was opened (at point F). As predicted, the results observed were identical to the readings observed from opening the first bag of packing peanuts (compare to point A).



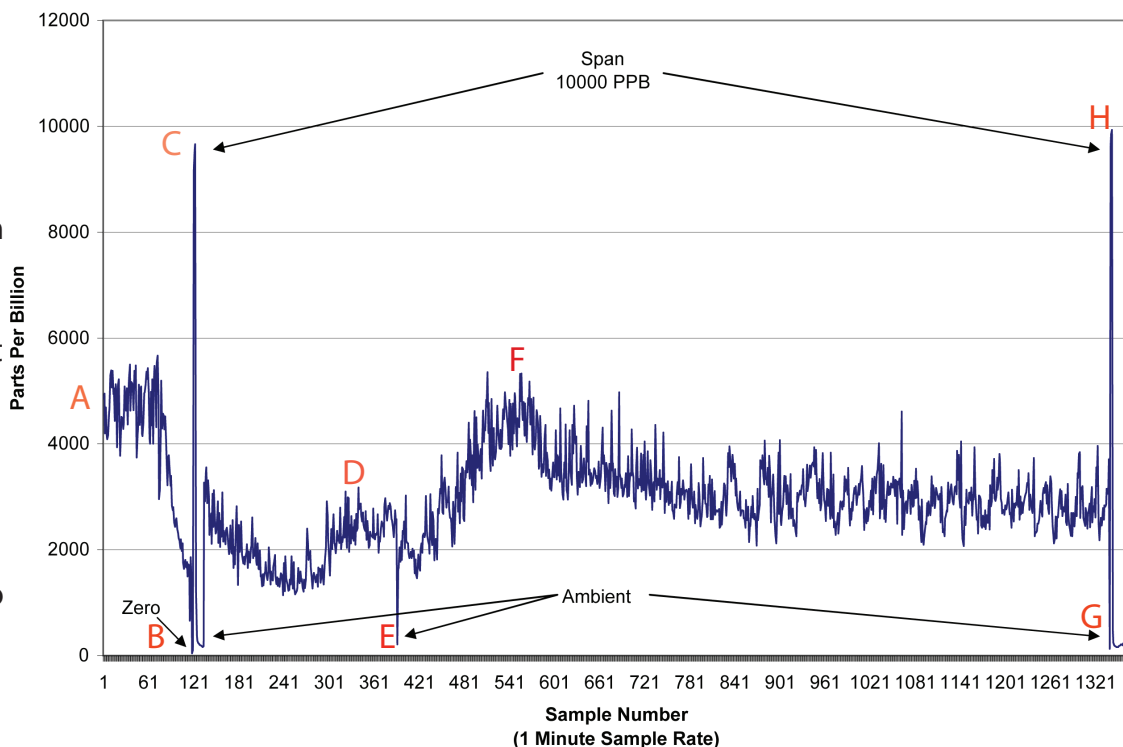
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The monitor was then left in the shipping and receiving room over night and exhibited the eventual dissipation of VOC gasses into the air until the VOC levels stabilized to 2,000-4,000 ppb. The monitor was once again exposed to the fresh ambient outdoor air (at point G), to ensure that even though the unit had been in operation for nearly 24 hours, it was still functioning at optimal performance. As a final confirmation and testament to the AQ VOC's durability and accuracy, it was again exposed to the reference bottle of Isobutylene span gas (at point H), where the sensor was once again able to pick up, and display the appropriate and expected measurement of nearly 10,000 ppb.

VOC Reading Of Packing Material



Monitoring Solution: AQ EXPERT & AQ VOC Indoor Air Quality Monitors

The measurement of the concentration of VOCs commonly found in indoor environments can be performed using the E Instruments AQ EXPERT portable IAQ monitor and the AQ VOC handheld VOC monitor. These specialized monitoring instruments utilize the latest sensor technology that allow air quality analysts, environmental safety companies, laboratory technicians, etc., to quickly and accurately monitor the levels of dangerous VOCs present in the breathing environments of homes, office building, laboratories, or industrial facilities. These monitors include software with real-time continuous data logging, wireless Bluetooth compatibility, and can be customized to monitor up to 11 different parameters relevant to indoor air quality.



AQ EXPERT



AQ VOC