



## MEMORANDUM

TO: George Farnsworth  
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Worker Health and Safety Branch

**HSM-11011**

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*(original signed by H. Fong)*

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SUBJECT: OBSERVATIONS OF A FUMIGATION/AERATION ADJOINING MY HOME

On June 1, 2011, the house next door to mine was placed under fumigation. It is a one-story, three bedroom, two-bath with an approximate surface area of 1,100 square feet. According to the fumigation warning sign, the application had been completed at 1051 hours that morning. This house was fumigated/aerated under the California Aeration Plan (CAP) protocols. CAP includes the use of a convection tube to direct the aeration air up over the fumigated structure. The aeration convection tube terminated at roof level, which put it approximately 8 meters from the windows of the corner bathroom on the second floor of my house. Two windows faced toward the aeration tube (Photos Set One).

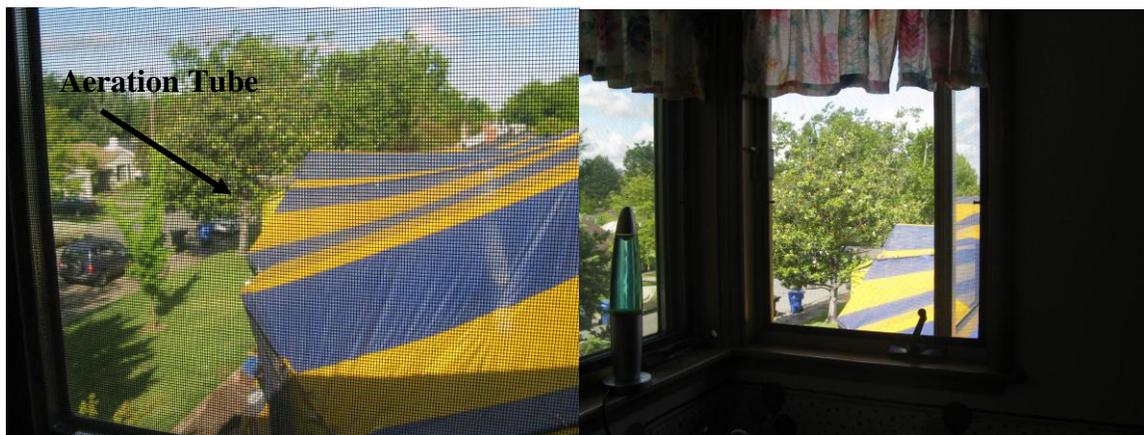


Photo Set One: View from bathroom window

Photo Set Two shows the reverse angle of the same location. These photos show that the aeration tube exit was in relatively close proximity to the bathroom windows and at essentially the same elevation. This situation suggested a potential opportunity to monitor sulfuryl fluoride infiltration during aeration.



Photo Set Two: View of fumigation, aeration tube and window from ground.

On June 2, the day of aeration, I deployed the ExplorIR unit in the bathroom. The unit was set and ready for the aeration, which began at 0845 hours. The fumigator activated the pre-positioned fan and pulled the aeration cap off (Photo Set Three). He then walked to the rear of the structure and opened the air intakes (Photo Set Four). After performing a walk-around inspection, the fumigator left. Aeration under CAP requires a minimum of 12 hours.



Photo Set Three: Fan Activation/Cover removal/Air flow



Photo Set Four: Opening aeration air intakes

During the first hour of aeration, the bathroom windows of my home were closed. These are tight-fitting, energy efficient (double pane) casement windows, approximately 19 years old and in excellent condition. The data-logging feature of the ExplorIR was activated and minute-interval monitoring values were recorded. Monitoring began at 0900 hrs and continued until 1044 hours. After the first hour of monitoring, the windows were fully opened and monitoring continued for 44 more minutes. After sampling was completed, the data log was downloaded into the off-board printer and a hard copy made of the results, which were uniformly <1 ppm (reported as "0 ppm").

On June 3, the tarpaulins were scheduled to be removed. Once again, this was an opportunity to take air samples in locations not normally required of the fumigator. During the initial dropping of the main section of the tarpaulin, while standing 3 meters back from the structure, a reading of >2 ppm was detected. This concentration reading persisted for approximately two minutes and then dropped rapidly to <1 ppm. I walked around the house to the rear, where the laundry room is located. This room does not have a direct entrance into the house, but shares a wall with the main house. The door to the laundry room opens to the outside. I noted that the door to the small dryer (stacked washer/dryer) was closed. I opened it up and took an air sample within the dryer drum. The concentration within was 3 ppm, which rapidly dropped as the interior air mixed with the room air. The laundry room itself was less than 1 ppm. Also located in the back of the structure was the crawlspace access. On lowering the detector into the crawlspace, a reading of 2.7 ppm was displayed. The fumigator observed this reading and placed a fan at the crawlspace entrance. This should be noted as problematic for utility workers reconnecting gas lines and reigniting pilot lights for sub-floor located heating units. Further investigation by DPR and potential refinement of the CAP protocol may be necessary.

Upon entering the house, the ExplorIR started behaving erratically. The detector had been in low-range mode (minimum detectable level [mdl] of 300 ppb). The display began to show negative values in the 3 to 4 ppm range. I switched back to standard mode (mdl <1 ppm) and the readings stabilized. I returned it back to low-range mode and the device indicated concentrations between 0.4 and 0.8 ppm. At the same time, the fumigator's ExplorIR was fluctuating between 0 and 1 ppm. Though I did not have an objective testing device, such as a Sensydine colorimetric tube, for detection of chloropicrin residue, neither I nor the fumigator experienced any sensory irritation.