

Appendix 4

Comparison of Mechanical and Passive Ventilation Procedures



Log Row Ventilation

Comparisons of predicted methyl bromide concentrations with increasing distances for a passively ventilated and forced ventilated log row for different wind speeds are shown in Figure A - 2 to Figure A - 4. The figures shows maximum one-hour concentrations predicted outside the port's eastern boundary associated with discharges from a single log row oriented in an east-west direction and located 50m to the west of the port boundary. The hourly emission rate is assumed to be 24kg/hour. The same log row configuration was used in the construction of the look-up tables and is shown in Appendix 5. Downwind concentrations have been predicted for the constant wind speed of 1.5m/s, 3.5m/s and 5m/s.

The dispersion modelling predictions show lower maximum one-hour average concentrations are predicted for forced ventilation procedures for all of the modelled wind speeds. However, the results show the effectiveness of forced ventilation procedures is greatest during low wind speed conditions and when in closer proximity to the port boundary. For example, for the modelled wind speeds of 1.5m/s, 3.5m/s and 5m/s, the predicted concentrations for forced ventilated are 19%, 43% and 53% of levels predicted for passive ventilation at the port boundary and 49%, 74% and 83% at a 100m from the boundary.

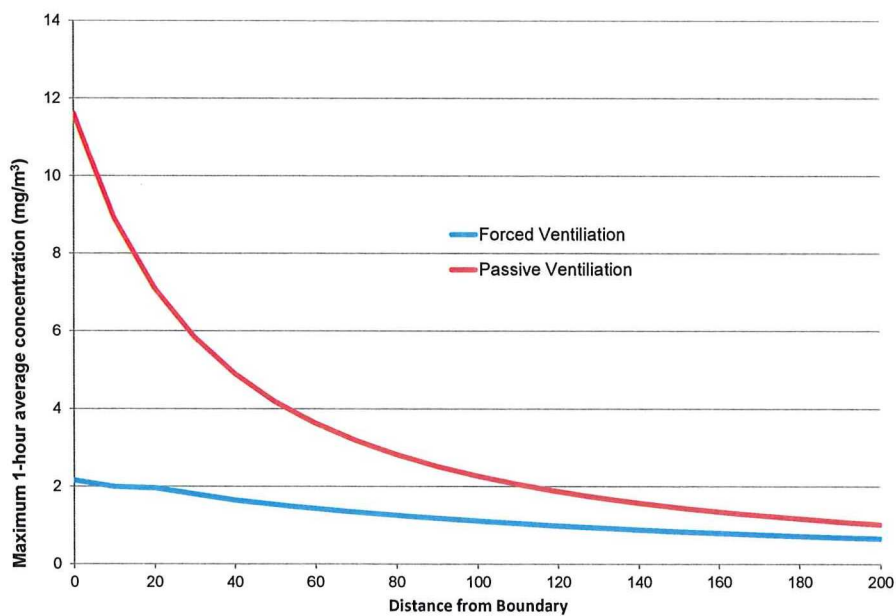


Figure A - 9. Predicted maximum 1-hour average methyl bromide concentrations (mg/m³) outside the Port boundary for a wind speed of 1.5m/s

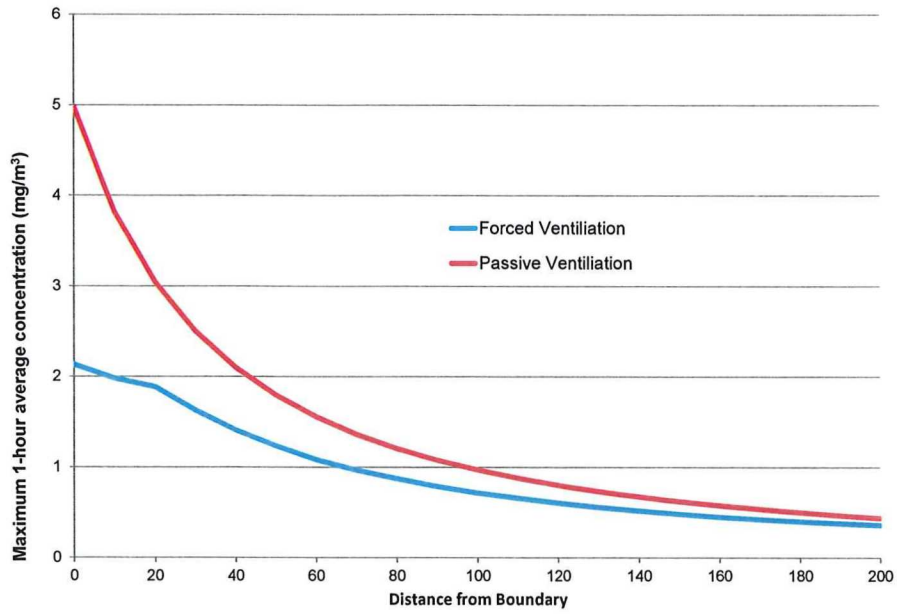


Figure A - 10. Predicted maximum 1hour average methyl bromide concentrations (mg/m³) outside the Port boundary for a wind speed of 3.5m/s

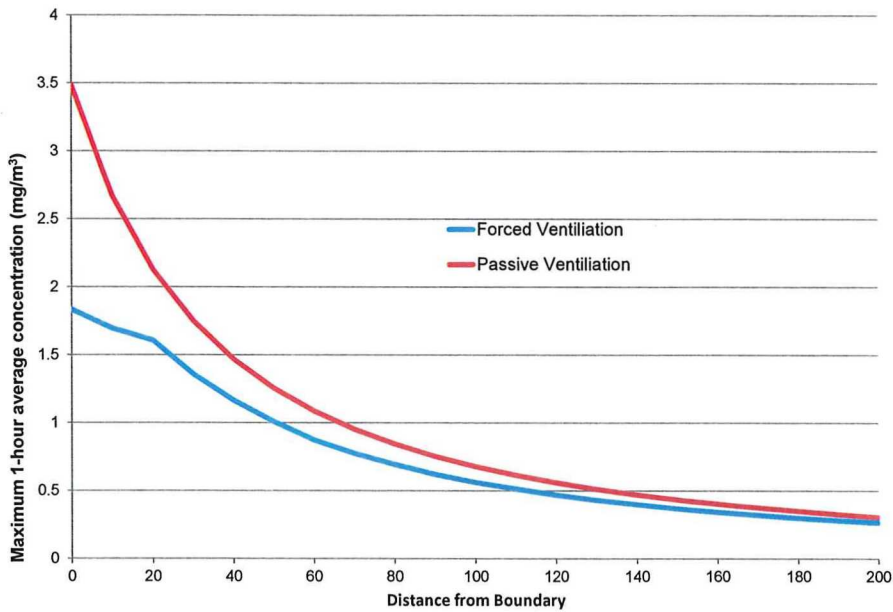


Figure A - 11. Predicted maximum 1-hour average methyl bromide concentrations (mg/m³) outside the Port boundary for a wind speed of 5m/s

