


A history of air quality monitoring in Wagerup

Wagerup Community Air Sampling Program

The Department of Environment and Conservation (DEC) has undertaken the following air quality investigations over the past five years:

	2002	<p>Community and DEC collect samples using a “drum sampler”, SUMMA canisters and DNPH tubes.</p> <p>Sampling was conducted as a result of community concern over pollution events. While some compounds were above background levels, volatile organic compounds (VOCs) and carbonyl concentrations were below levels considered hazardous to health.</p>
	2003	<p>DEC initiated sampling using DNPH tubes.</p> <p>This program was initiated to collect carbonyl data with short-term event and background sampling. The study found that concentrations of carbonyls were below relevant guidelines.</p> <p>Community-based ambient air sampling using DEC supplied SUMMA canisters.</p> <p>This study was conducted to collect additional information on short-term concentrations of VOCs. Concentrations detected were not of health concern.</p> <p>DEC Photo-ionisation Detector (PID) study.</p> <p>This study involved continuous PID monitoring at two sites. The study concluded that PIDs are of limited usefulness in assessing levels of air contaminants.</p>
	2004 2005	<p>Community provided with SilcoCan Canisters for collecting samples over short timeframes.</p> <p>This study was initiated to broaden the suite of compounds that can be analysed in canister samples. SilcoCan Canisters can capture short-term events for both carbonyls and VOCs.</p> <p>To date, some carbonyl compounds appear to be higher than detected in earlier sampling programs. The 2006 community sampling program will provide data to further investigate this.</p>
	2006	<p>Community Canister Air Sampling Program</p> <p>SilcoCan Canisters and logbooks were issued to community volunteers to capture short-term air quality events.</p> <p>Doppler LIDAR Wind Field and Plume Monitoring</p> <p>Deployment of the Arizona State University Doppler LIDAR system to measure three dimensional wind fields over the region and to monitor plume movement.</p> <p>DEC Proton Transfer Reaction Mass Spectrometer (PTRMS)</p> <p>Acquisition and deployment of PTRMS into monitoring station in Yarloop to monitor VOCs in the ambient air.</p> <p>Yarloop Air Quality Monitoring Station (AQMS)</p> <p>Co-located next to PTRMS in Yarloop, to monitor meteorology and trace gases – nitrogen oxides, carbon dioxide and carbon monoxide.</p> <p>CSIRO Flux Tower</p> <p>Located at the Boundary Road site to monitor atmospheric stability over the region.</p> <p>SODAR</p> <p>A sonic radar unit deployed at the Boundary Road site to monitor the wind speed and direction at different levels above the SODAR.</p> <p>Ceilometer</p> <p>A vertical looking LIDAR unit deployed at the Boundary Road site to measure cloud height and estimate the height of the mixing layer.</p> <p>Intensive Observation Periods (IOPs)</p> <p>Days, usually determined from weather predictions, when air quality problems could be anticipated. DEC staff were located in the field to “sniff” for odours in places determined by the Doppler LIDAR. Staff were also provided with SilcoCan Canisters to enable simultaneous sampling of the air.</p>