Botany Groundwater Cleanup Project

Fact Sheet 15 **November 2004**

Fact sheets are designed to provide the community with simple and easy-to-understand information on environmental science and technology. Readers requiring greater detail should contact Orica:

- by email to info@oricabotanygroundwater.com
- by phoning our Community Feedback Line - 1800 025 138
- by writing to - Community Matters, 16-20 Beauchamp Road, Matraville 2036

Monitoring Programs

Introduction

As required by the Notice of Clean Up Action issued by the EPA, Orica has implemented a comprehensive monitoring program specifically to:

- Monitor changes in the concentration, distribution and the rate of movement of contaminants in the contaminated plumes *fix formatting*
- Gauge the effectiveness of the hydraulic containment procedures put in place
- Monitor concentrations in groundwater and surface water discharges to Botany Bay and Penrhyn Estuary

What type of monitoring programs are in place?

- **Shallow and deep groundwater** samples are collected from strategically located monitoring wells and multilevel piezometers. In most instances this occurs every three months. The samples are mostly tested for volatile and semi-volatile chlorinated hydrocarbons (CHCs);
- **Surface water** samples are collected at the same time as the groundwater samples from strategic locations in Springvale and Floodvale Drains, and in Penrhyn Estuary at high and low tides. They are tested for volatile CHCs;
- **Residential groundwater bores** within the "groundwater extraction exclusion area[1]" are being monitored twice a year. Orica will continue to monitor these bores in consultation with those potentially affected residents who would like to participate in this program. Results are reported back to people individually, to the relevant statutory authorities and to the wider community through the *Southern Courier* newspaper (see fact sheet 16);
- **Air emissions** from surface soil are measured using an emissions flux hood; samples are collected in multiabsorbent tubes and analysed for volatile CHCs. This is done on a 15-monthly cycle to gauge seasonal effects. When the groundwater treatment plant is completed, a monitoring regime for air emissions from the plant will also be implemented to ensure compliance with national and state regulations;
- **Marine biota** monitoring entails the collection of targeted fish species at strategic locations within Botany Bay using gill nets; according to their size and likely mode of human consumption, they are analysed for semi-volatile CHCs and mercury on whole-fish or muscle-tissue bases. Oysters are also periodically included in the sampling.

The monitoring program – the locations, types of samples, frequency, and chemicals to test for – is included in Orica's Groundwater Cleanup Plan, which was agreed with the EPA. Variations to the program may arise due to project requirements and findings from the data gathered, but are first agreed with the EPA.

Where can I read about the monitoring results?

A summary of the monitoring results is published in each 90 day Progress Report for the Groundwater Cleanup Plan. These reports are made available on the Orica Botany groundwater website (www.oricabotanygroundwater.com).

[1] This area has been defined by the Department of Infrastructure Planning and Natural Resources. Further information is available at http://www.dlwc.nsw.gov.au/care/water/groundwater/reports/botany.html