

Source Area Investigations

Description

Extensive monitoring of the shallow and deep groundwater beneath the Botany Industrial Park (BIP) and its environs has revealed a number of dissolved phase contaminant plumes that have been inferred to emanate from sources related to former manufacturing options on the site. During Stage 3 of the Orica Botany Groundwater Project Orica instigated a number of investigations to identify and delineate some of the inferred source areas. There are still some areas that remain to be fully investigated, particularly in the northern part of the BIP.

Objectives

- To obtain more detailed discretisation of dissolved phase chlorinated hydrocarbon (CHC) contamination in the aquifer within the inferred source areas to enable better understanding of the distribution of dense non-aqueous phase liquids (DNAPL) in the sub-surface;
- To gain better understanding of the lithological layers that might control the distribution of potential DNAPL in the sub-surface
- To characterise and delineate the extent of dissolved phase CHCs in the aquifer
- To provide data to enable an informed review the monitoring program

Technology

The investigation of source areas is usually an iterative process. Based on existing knowledge and identified data gaps, additional long-screened monitoring wells and multilevel bundle piezometers may be installed at strategic locations and depths. The new data from these monitoring locations is then used to assess the data gaps and to formulate plans for the next steps of the investigation (which may include installation of further monitoring points).

Resources

Project management: Orica
Consultants: URS Australia

Measures

- Characterisation and delineation of inferred contaminant source areas
- Closure of data gaps
- Review and, if necessary, revision of monitoring programs
- Review and, if necessary, revision of research activities and/or remedial action plans

Timing

Ongoing.

The currently inferred source areas in the northern part of the BIP will be investigated by December 2004.



Inferred CHC plumes and source areas