



GROUNDWATER TREATMENT PLANT

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Overview

The Groundwater Treatment Plant (GTP) plays an essential role in Orica's Botany Groundwater Cleanup Project. As shown in the diagram below, the groundwater



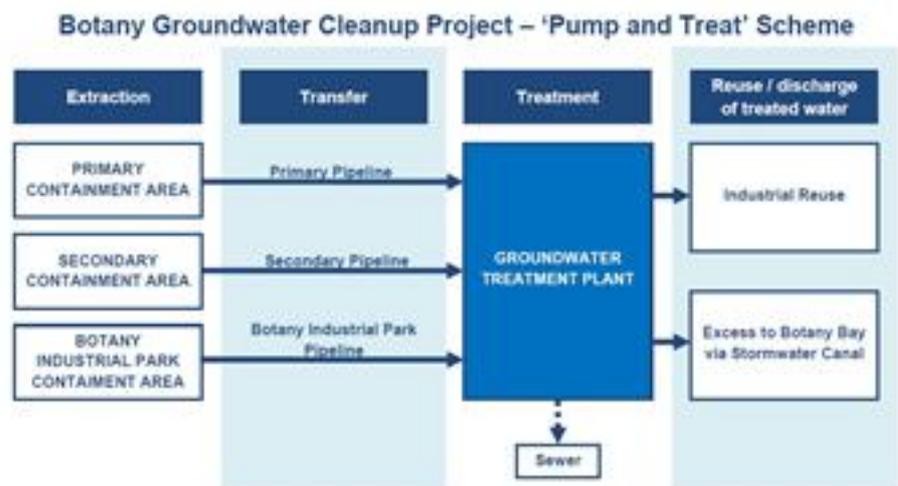
extracted from wells along the three containment lines is pumped and transferred through pipelines to the GTP for treatment. Treated water is then reused by local factories. Excess treated water is discharged to

Botany Bay via a local stormwater canal.

The GTP removes chlorinated hydrocarbons (CHCs) from the groundwater by an air stripping process, and the contaminated off-gas is treated in a thermal oxidiser. The 'stripped water' is then processed through various conventional water treatment operations before being fed to reverse osmosis units that produce high quality Treated Water.

See GTP
Environmental
Monitoring Data.

For more information
on the GTP including
details about the
treatment process, see
our fact sheets.



Treated Water Reuse Program

In December 2006, Orica commenced trials involving the use of Treated Water from the GTP at industrial facilities on the BIP site. The reuse is

made possible by the reverse osmosis units (right) in the GTP, which produce high quality treated water. A condition of Orica's Environment Protection Licence requires Orica to maximise the use of GTP treated water, and water reuse is also in line with the State Government's Metropolitan Water Plan.

Approximately 4-5 ML/day of treated water is being supplied to neighbouring industrial uses. This amount varies depending on the availability of groundwater (which fluctuates due to



periods of wet and dry weather), reuse of Treated Water within the GTP and customer requirements. Ixom's ChlorAlkali Plant and Qenos at BIP, and neighbouring Solvay Interlox all currently use Treated Water for industrial applications. The GTP also uses Treated Water within the process.

For more information on Orica's treated water reuse program, see our fact sheet.

Groundwater Injection and Recovery (GIR) System

In the unlikely event that the GTP is unable to operate for an extended period of time, Orica is able to utilise a Groundwater Injection and Recovery (GIR) System to ensure that contaminated groundwater is prevented from reaching Botany Bay. The GIR system uses a technique called 'aquifer storage and recovery' which allows water to be injected and stored in the aquifer for later extraction. Orica has conducted a number of trials of the GIR system. The report detailing the objectives, scope and results of the 2013 GIR trial is available [here](#) (PDF 4MB).

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