



Botany Groundwater Cleanup Project

Progress Update Presentation to the CLC

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Update on GTP & Hydraulic Containment

Groundwater Injection and Recovery (GIR)

Springvale Drain

Water Recycling - Maximising groundwater extraction

GTP Operation



GTP

- 4.85 GL contaminated groundwater treated
- 643 tonnes CHCs destroyed
- Post annual shutdown – fouling of Stripped Water Treatment Plant pre-filters
 - Temporarily affected groundwater treatment capacity
 - Issues largely resolved and daily average capacities currently at pre-shutdown levels
- Penalty Infringement Notice received 5 January – exceedance of total solid particulate limit for GTP stack during DEAC treatment

Hydraulic Containment - Sep 2008 to Dec 2008

- SCA
 - Containment achieved
- PCA
 - Additional shallow groundwater monitoring wells installed last weekend to better assess shallow containment
 - Containment achieved in deep groundwater
- BIP
 - Containment achieved in central part of BIP containment line
 - Containment across the line improving since pre-filter issues at GTP resolved

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Groundwater Injection and Recovery (GIR) Proposal

- Formerly called Temporary Aquifer Storage & Recovery (initially presented to CLC at Sep 2007 meeting)
- Received feedback from DECC on Review of Environmental Factors
- Trial
 - Planned for April 2009
 - At the BIP upgradient of the BIP containment line
 - New injection and monitoring wells required
 - Injection of groundwater from the SCA
 - Seeking an injection bore licence from DWE
 - Seeking modification to Environment Protection Licence from DECC

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▶ **Springvale Drain**

Maximising groundwater extraction

Springvale Drain

- More than 2 years of ambient air monitoring completed
- Consolidated report issued to DECC
- Results showed that GTP operation has significantly reduced the concentrations of volatile CHCs in air at Southlands
- Health risks are considered “low and acceptable”
- At Southlands, variability greatest – require additional measures should it be developed
- Fill in re-alignment channel to eliminate the primary source of vapours
 - submission made to DWE to obtain permit under Part 3 of the Water Management Act as works are next to a waterway

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 **Maximising groundwater extraction**

Maximising Groundwater Extraction

- GTP improvements will soon enable Orica to pump and treat more groundwater than that required for containment alone
- Orica aims to maximise the extraction of groundwater
- Benefits of additional extraction include:
 - Maximise contaminant removal
 - Secure containment even further (i.e. greater drawdowns)
 - Secure improved quality of Penrhyn Estuary and Springvale Drain
 - Increase treated water sales on BIP and industries adjacent to BIP
- To be extracted from existing containment lines

Maximising Groundwater Extraction

- Investigations underway
 - Assess maximum volume for long term groundwater extraction
 - Assess impacts of additional extraction on built and natural environments
 - Personnel/consultants involved:
 - Al Laase (A D Laase Hydrologic, Colorado, USA)
 - Prof Ian Acworth (UNSW & IMC member)
 - Noel Merrick (formerly UTS)
 - Pell Sullivan Meynink (Geotechnical consultants)
 - URS (hydrogeologists and environmental assessment)
- Outcomes will be provided to DWE, DECC and presented to CLC

