

Gasworks Arts Park Environmental Audit



Report Summary

Groundwater Investigations

- Title:** April 2011 Groundwater investigations at Former South Melbourne Gasworks, Version 2, October 2012
- Prepared by:** Environmental Earth Sciences (Environmental Assessor)
- Objective:** To gain improved understanding of groundwater condition related to Gasworks Park and Southport Community Residential Home, and investigate the sources of contaminants within groundwater.

Scope of works

- Installation of eight groundwater wells.
- Sampling and testing of samples from 39 groundwater wells (existing and newly installed).
- Evaluation of aquifer properties.
- Presentation of site history and site setting information, relevant criteria, field investigations and laboratory testing undertaken, evaluation of chemical data, risk assessment, conclusions and recommendations.

Findings

- Groundwater beneath the site originates as onsite recharge from rainwater and irrigation.
- Groundwater is impacted with common gasworks contaminants including heavy metals, ammonia, cyanide, sulphate, polycyclic aromatic hydrocarbons, total petroleum hydrocarbons and monocyclic aromatic hydrocarbons.
- A plume of ammonia and cyanide exist to the northeast of the site.
- No evidence of non-aqueous phase liquid in groundwater.
- Groundwater beneath the site is intercepted by surrounding deep sewers located on Pickles, Graham and Foote Streets and goes to the Werribee Treatment Plant.
- Groundwater movement has been calculated to be approximately 11 m³/day.
- Groundwater risk posed by the current groundwater status is considered to be low and implementation of remediation (i.e. groundwater treatment) is considered to be impractical and not necessary.

Recommendations

- Further investigation into the amount of contaminants being received by the sewers to assess the risk to sewers and the requirement of a groundwater treatment system.
- Review of management/remediation strategies.
- Consider a groundwater quality restricted use zone (GQRUZ) for the area northeast of the site.

NOTE: Whilst the test results in this report will remain unchanged, the analysis and recommendations of all technical documents concerning Gasworks Arts Park are still subject to the review of the Independent EPA appointed Environmental Auditor. The Independent Auditor's 'Environmental Audit Report' is then subject to review by the Environmental Protection Authority (EPA).