

Gasworks Arts Park Environmental Audit



Report Summary

Supplementary Groundwater Investigations

- Title:** Supplementary Groundwater Investigations at Former South Melbourne Gasworks, Version 3, April 2012
- Prepared by:** Environmental Earth Sciences (Environmental Assessor)
- Objective:** To evaluate the inferred groundwater changes of previous groundwater investigation, confirm sewers are intercepting groundwater migrating from the site and establish whether further migration of contaminated groundwater from the site has occurred.

Scope of works

- Gauging of all groundwater wells associated with the site to calculate the inferred groundwater flow direction.
- Sampling and testing of samples from selected groundwater wells.
- Comparison of historical to current results to confirm the trending of chemicals of concern.

Findings

- Groundwater is impacted with common gasworks contaminants including heavy metals, ammonia, cyanide, sulphate, chloride, nitrate, total dissolved solids, pH, naphthalene, total petroleum hydrocarbons, monocyclic aromatic hydrocarbons.
- Groundwater use onsite and offsite is likely to be limited given the availability of reticulated water and low groundwater yields.
- Groundwater contamination conditions onsite and offsite are relatively stable and where concentrations have increased they have been attributed to contaminant migration from the site.
- Groundwater flux has been recalculated to be 7 ML/year from 4 ML/year. Groundwater flux is several orders of magnitude lower than the estimated daily flow rate of the sewers of 230 ML/day.
- Risk to sewer maintenance worker is considered to be very low given the degree of dilution of contaminants that are intercepted by sewers.
- Risk of groundwater that migrates to the northwest of the site is considered to be negligible in-situ. The extraction and use of groundwater in this area is interpreted to be unlikely.

Recommendations

- The most effective and practical way of managing groundwater impacts is to implement regular monitoring via a Groundwater Management Plan.

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).