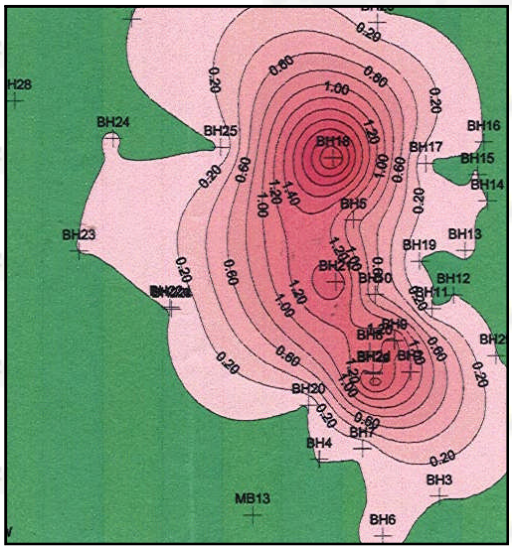
HydroSolutions Pty Ltd

Hydrogeological & Environmental Consultants

PROJECTS

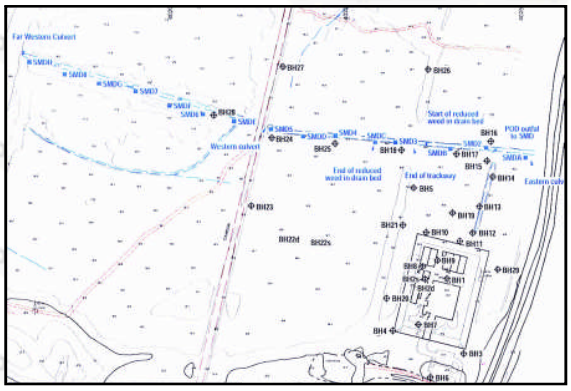
SITE REMEDIATION

SiteRem5



Groundwater beneath a precious metal refinery has been impacted by the loss of process effluent from below ground storage tanks. Migration of the plume is impacting environmental values within a surface water drain that discharges ultimately into a major water course.

A detailed risk assessment study concluded that there was no toxicity associated with the discharges occurring into the drain. The majority of metals within the plume were observed to be immobilised by precipitation as insoluble hydroxides via mixing with alkaline groundwater.



Residual metals in solution were relatively mobile, however numerical modeling indicated that peak concentrations within the plume had already occurred, as a result of leak-sealing operations reducing the rate of effluent release. The plume vertically stratified, and only depleted groundwater at the top of the water column was found to be contributing to surface water quality via baseflow discharge.

Recovery of the plume via a pump and treat Solution was proposed as an appropriate remedial strategy, including::

-Elimination of the leakage source
-On-going monitoring
-Treatment at the surface and reinjection
-Eco-toxicity & ecological risk assessment

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