



PROJECTS

HYDROLOGY

HydroSOLUTIONS

HydroSOLUTIONS Sw7

Surface water monitoring program 2008-2010 at a former iron ore beneficiation plant, Major ion ore miner

A former iron ore beneficiation plant is still subject to the requirements of an operational license. Consistent with these requirements, a surface water monitoring program is required on a quarterly basis with annual reporting.



Thirteen surface water sampling locations are stipulated within the license, including internal drainage, surface water ponds and outfalls, however for the majority of the year most monitoring points are dry.



As required, each location was visited and field observations made. Where flowing water was present, samples were taken using a grab sampler consistent with site protocols and AS5667. Quality assurance/ quality control (QA/QC) samples were collected. Measurement of field parameters was undertaken using hand-held probes.



Short factual reports were compiled for each monitoring event. An annual report was also prepared, detailing all sampling event results for the preceding year. QA/QC data was analysed and assessed for representativeness. Time series graphs were prepared for determinands and comments made regarding current trends, together with a comparison against historical observations. For the majority of surface water locations, the water was either saline or hypersaline, receiving discharges from hypersaline groundwater.

Comparison was made to applicable beneficial uses, including stock rearing (a former land-use), and the marine guidelines, as surface water discharges into nearby tidal seawater creeks. Selenium exceeded guideline values in surface water and groundwater, which is most likely due to saline/ hypersaline matrix interference with the analyses. Recommendations were made for changes to the monitoring program the amendment of license conditions regarding selenium.



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