Waste not, want not – turning site waste into a valuable resource

At a glance

This insight shares a case study where we conducted on-site recycling of the hydrocarbon impact wastewater generated during remediation of fuel contaminated groundwater.

Using sustainable remediation to reduce cost, minimise off-site impact and avoid the generation of waste

When you're doing the right thing by implementing sustainable remediation measures, the last thing you want to do is create extra waste.

Remediation of contaminated sites can often generate wastes, such as excess soil, rubble or waste water. But this 'waste' can actually become a resource, provided it's used correctly.

Managers and developers of contaminated sites need to be aware of the options available for on-site waste management – both to save costs and to remain compliant with current waste regulation requirements.

This insight shares a case study where we conducted on-site recycling of the hydrocarbon impact wastewater generated during remediation of fuel contaminated groundwater.

Recycling hydrocarbon impacted wastewater is a way of reducing costs and being more conscious of resource management.

Case study

We recently completed a soil excavation and remediation project on a regionally-based, former petroleum depot. The works also involved the extraction of hydrocarbon impacted groundwater via a multiphase vacuum extraction (MPVE) system.

Although the MPVE system destroyed most of the contamination, the low levels of remaining hydrocarbon prohibited re-use of the water outside of the site. It's regional location meant the cost to dispose of wastewater at another location was prohibitive.

Our team recognised that the recovered groundwater was a valuable source of water. At the completion of the earthworks, this water could assist in the re-establishment of grass to stabilise a sloping section of the site.

We designed a simple water treatment system and extended this to an on-site irrigation network – including analysis of treated water to ensure quality.

The surface soil in the irrigated area was sampled at the beginning and end of the irrigation works to confirm that the low level residual contamination in the treated water had no detectable effect on the irrigated area.

The low flow, gravity fed, irrigation scheme sped up site revegetation which reduced the risk of land erosion.

The re-use of treated water for irrigation saved the project from the expense of connecting the water treatment system to the sewer network, located at some distance, and uphill, from the site. In total, this represented a saving of more than $50,000 in pipe installation, sewer connection and water discharge fees.

This system also reduced the effort required for grass maintenance using conventional water sources, which would have cost several thousand dollars in management and delivery.

At a glance

Our experience in providing sustainable remediation strategies for contaminated sites means we're able to provide smart solutions that save money and time – while delivering more environmentally sound solutions.

Sustainable remediation – it's a real option

We've been implementing a range of green and sustainable remediation technologies on contaminated sites across Australia. We're proving that the principles of sustainable development can be easily woven into contaminated land management projects – optimising environmental benefits and saving money and time.

Sustainable remediation provides a framework for reviewing the effectiveness of remediation strategies and investigating opportunities for improving social, environmental and financial benefits.

Having the skills to identify, design and implement sustainable solutions for soil and groundwater treatment has helped us deliver numerous sites in a cost effective way for our clients in the oil and gas industry.

How can we help?

Our experience in providing sustainable remediation strategies for contaminated sites means we're able to provide smart solutions that save money and time – while delivering more environmentally sound solutions.

Sustainable remediation techniques drive better outcomes and can be applied to any stage of site development. Find out how this can apply to your project.