MINING & MINERALS

Wastewater ponds drained and treated for onsite water reuse

Two years of exceptional rainfall left a remote zero-liquid-discharge facility with highly elevated wastewater ponds. Ecolutia's mobile fleet brought levels down safely — and turned the water into a usable asset for cooling-tower makeup.



CLIENT	LOCATION	SERVICE	DURATION
Remote chemical manufacturing facility	Australia	Temporary: Pond remediation & water reuse	1 year

44 m³/h	90%	1 yr	0
PRODUCTION FLOW	SLUDGE VOLUME REDUCTION	CONTINUOUS OPERATION	ENVIRONMENTAL INCIDENTS

THE CHALLENGE

Heavy rain looming, ponds at critical levels

Two consecutive years of significant rainfall at a remote zero liquid discharge facility left its wastewater ponds dangerously elevated — and previous attempts to reduce the levels had failed.

With the monsoon season looming, Ecolutia was contracted to urgently provide a temporary treatment service to bring pond levels down and avoid any potential environmental incident.

THE SOLUTION

Chemical, physical and membrane treatment in one train

Ecolutia's mobile systems treated the ponds to produce water suitable for use as cooling-tower makeup. With several ponds of different

PROJECT SNAPSHOT

Feed source	Wastewater ponds (≤35,000 µS/cm, 80 NTU)
Output quality	200–750 µS/cm
Flow delivered	Up to 44 m³/h
Technologies	DAF, MMF, SWRO, BWRO

composition, in-line monitoring managed automated chemical dosing against the fluctuating feed, while mixing tanks equilibrated water chemistry before the treatment process.

- ✓ Two DAF units — switchable between series and parallel operation — with multi-media polishing ahead of membrane treatment stage
- ✓ SWRO with concentrate recycle to maximise recovery, plus BWRO to protect cooling water chemistry
- ✓ On-site sludge press cutting solid waste volume by over 90%, minimising landfill costs

Talk to us about a similar project
info@ecolutia.com
www.ecolutia.com

CONTACT US

TREATMENT FLOW PATH



THE RESULTS

Ponds consolidated to safe levels — site operational throughout

Over the year the ponds were drawn down to satisfactory safe levels so the local habitat and neighbouring farmland could continue to stay protected and productive. Reusing the recovered water eased pressure on the site's stressed pre-treatment system, cutting freshwater use and bringing further cost and efficiency gains across the site.

FACING RISING POND LEVELS?

Recover and reuse the value in the ponds.

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