Acid Solutions®
Contaminated Water Treatment Services
FIXING THE ENVIRONMENT

2 contaminated pits containing 355 Megalitres treated in 5 days with 61 tonne of reagent.

Customer Name	- withheld (confidentiality requested)
Site Location	- Northern New South Wales
Site Problem	- pH & acidity
Water Volume	- 355 megalitres
Water pH	- 2.9 & 3.1
Acidity	- 365mg/l & 204mg/l
Suspended Solids	- Low
Treatment Objective	- Re-use in plant & process, License Requirements
What is causing the problem	- Mining – (Sand Extraction)
Dams/Pits	- 2
Length of water body	- 340 metres & 220 metres
Width of Waterbody	- 280 metres & 75 metres
Water Depth	- Up to 9 metres & up to 3.5 metres
Bottom Type	- Lumpy
Aquatic Flora	- Surrounding
Vehical Access and Flora	- Road with limited access
Environmental Sensitivity	- Contained and controlled
Aquatic Life	- None
Drains or Streams nearby	- Yes – environmental risk
Regulatory requirements	- Yes - discharge
Treatment urgency	- Yes – urgent

PROBLEM

A sand mining company required treatment of a large volume of low pH acidic water.
The water quality was in breach of license requirements due to the leaching of acid from the newly exposed sand and soil deposits after rain.

BACKGROUND

A Sand Mining operation was excavating new deposits for sand and topsoil sales.
This soil and sand, high in pyritic sediments, was being drained to aid extraction work.
Rainfall in late October 2004 caused leaching of large amounts of acidity from previously drained and oxidised soil and sand deposits.
The water was very high in acidity and was being collected in a 90 megalitre pit and then pumped to an 7.5 hectare, 265 megalitre holding dam.
Due to the high rainfall, the holding dam was full and could not be discharged due to poor water quality.
The acidity of the holding dam was 204 mg/l and 365 mg/l in the 90 megalitre pit.
Both had a pH of >3.0 and were high in aluminium, ferrous iron, other dissolved metals and suspended solids.
The aim was twofold - to neutralise acidity & raise pH to license limits and to reduce the corrosive nature of water for reuse in plant & process.

RESULTS

pH was raised, dissolved metals, acidity and suspended solids were reduced in accordance with license requirements.
61 tonne of reagent was accurately applied in less than 5 days to treat 355 megalitres.

Acid Solutions has treated this site on several occasions in the last 18 months due to the large extraction rate and high acidity produced constantly in the operation.

The cost (including reagent) totalled to $88.17 per megalitre.

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