CASE STUDY

evocra
WATER SOLUTIONS:EVOLVED

PROJECT **Coal Mine AMD Treatment**

PRODUCT **Ozofractionative Catalysed Reagent Addition (OCRA)**

INDUSTRY **Mining**

LOCATION **Queensland, Australia**

PROBLEM

The Client was seeking an alternative solution to treat Acid Mine Drainage (AMD) in captured surface water at their coal mine, and approached **Evocra** to trial the effectiveness of its patented Ozofractionative Catalysed Reagent Addition (OCRA) technology – originally developed to treat AMD – in achieving that aim.

SOLUTION

A series of trials were conducted at **Evocra**'s research facility to investigate the effectiveness of **Evocra**'s OCRA technology in treating AMD in stored water from the Client's site, particularly when compared to traditional treatment methods such as neutralisation with lime ($Ca(OH)_2$).

RESULTS & BENEFITS

The trials indicated that OCRA, with some reagent addition and post-treatment filtration, was a highly cost-effective alternative solution to traditional AMD treatments. Key outcomes:

- pH returned to compliance levels
- Iron reduced from 501mg/L to <0.05mg/L (99.9% reduction)
- Manganese reduced from 30.7mg/L to 0.006mg/L (99.9%)
- Aluminium reduced from 90.6mg/L to 0.06mg/L (99.9%)
- All target metals (Aluminium, Cobalt, Iron, Manganese, Zinc) reduced to level below that required for reuse on site for coal washing
- Iron, Manganese & Zinc reduced to level below that required for discharge to environment
- Modelling by an independent engineering consultancy estimated that a **70% decrease in reagent cost** could be achieved by using OCRA

AMD Water in Treatment

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