



**OBJECTIVE**

Cu recovery from acid mine drainage

**TECHNOLOGY**

ChemSulphide®

**PLANT CAPACITY**

24,000 m<sup>3</sup>/day – 2008 plant

24,000 m<sup>3</sup>/day – 2014 plant

**LOCATION**

Dexing, China

**BQE WATER SCOPE**

Process design, oversight plant construction, commission and training, and ongoing operating services

**AWARD**

2008 China Mining Environmental Protection Award

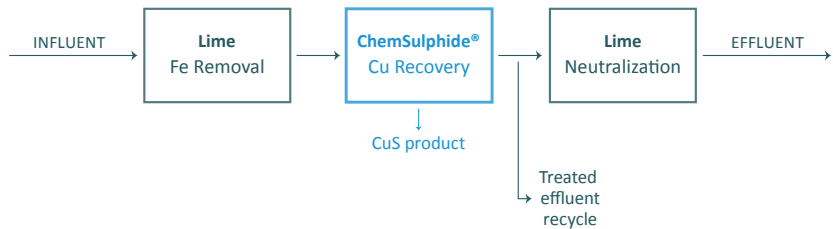
**Project Overview**

BQE Water established a joint venture with Jiangxi Copper Company to build and operate water treatment plants using BQE Water technologies. At the Dexing Mine, low-grade ore waste dumps generate copper-laden acid mine drainage.

To treat the mine water, a ChemSulphide® plant was built and commissioned in 2008. The plant flowsheet consists of a ferric iron removal stage followed by copper recovery and a final HDS (High Density Sludge) lime neutralization step. The copper is recovered as a high-grade concentrate and the treated effluent is either discharged to the environment or recycled onsite. In August 2014, a second ChemSulphide® water treatment plant was commissioned to provide excess water treatment capacity and to support future mine expansion activities.

The plants generate revenues from copper concentrate sales, ensuring that mine water treatment is both economically and environmentally sustainable. Revenues from copper recovery resulted in a payback on the first ChemSulphide® plant in less than three years.

**Process Flowsheet**



**ChemSulphide® Plant Operation Results**

	2011	2012	2013	2014	2015
Volume treated (m <sup>3</sup> )	7,660,000	8,660,000	7,990,000	10,222,000	16,736,000
Cu recovered (lbs)	1,733,400	1,985,300	1,830,900	2,334,000	2,533,000
Cu production cost (US\$/lb)*	1.61	1.51	1.60	1.65	1.60

\*Includes VAT  
(Starting 2014, amounts are for both plants.)