

# CANNINGTON MINE Hoisting & Ventilation Shafts

## JET GROUTING



**Owner: BHP Minerals**  
**Main Contractor: Peabody Resources**

**Specialist Contractor: GFWA**

## THE PROJECT

The Cannington silver mine is located in north-west Queensland, 200 km south east of Mount Isa, near the township of McKinlay. The deposit was discovered by BHP Minerals in 1990 and the mine was commissioned in 1997. Full production was achieved in early 1999, since when capacity has been expanded from 1.5 Mt/year of ore to over 3 Mt/year.

Cannington is the world's largest single silver producer, representing about 6% of the world's primary silver production, while its lead production represents about 7% of the world's primary lead output.

Cannington is an underground mine accessed via a 5,250m-long, 5.2m-high by 5.5m-wide decline. The main, thicker hanging-wall ore bodies of the deposit are mined by transverse, long hole open sloping.

BHP appointed Peabody Resources to construct the hoisting and ventilation shafts. These two shafts needed to go through a soft saturated sandy layer extending from 60 to 80 m depth to reach final shaft depths of 600 m and 400 m respectively.

## THE ROLE OF GFWA

GFWA was awarded the contract for the installation of the jet grouted columns. In a world first in December 1996 GFWA conducted high pressure jet grout mixing to depths of 80 m at the mine site.

The final construction of the hoisting shaft consisting of a total of 6 grouted columns of 4x1.6 m and 2x1.4 m diameter extending from 65 to 86 m in depth, with the ventilation shaft consisting of 4 grouted columns 2 m in diameter extending from 56 to 64 m in depth. The total volume of soil treated was 392 m<sup>3</sup> and the total amount of cement used was approximately 285 t.