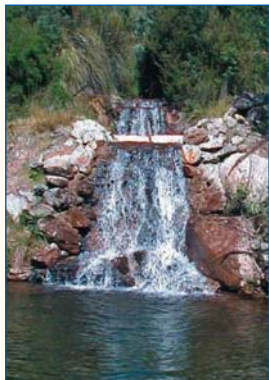


Henty has developed an innovative cutting edge solution referred to as 'mushy closure' to rehabilitate their waste residue. As the name suggests this involves a mix of water and soil cover very similar in appearance and activity to a natural tarn or wetland formation. Included in this environment will be a variety of plant species such as reeds, button grass, gum trees and tea trees and animals such as the brown crested duck, brown froglet and platypus. Due to the relatively benign state of the tailings, additional treatment will not be required.



Water treatment occurs by using settling ponds, oil separators, wetlands, polishing ponds and water falls to ensure water quality.



Gradually the area where the mine site is will be returned to an ecosystem that is self propagating and as close to the original as possible. Evidence of the mine's working life will dissolve into the landscape.

Past damage caused from mining around Queenstown was a product of its times, although present and future generations live with its legacy.

Historical practice is not modern practice. Mt Lyell's legacy is testament to a past that did not have the technological knowledge or environmental vision we have today. The economic imperative was the main consideration. Henty is testament to sustainable development practices of the present and the future.

This brochure has been produced jointly by the Tasmanian Minerals Council, the Mining Lands Rehabilitation Trust Fund and the Department of Primary Industries, Water and Environment. No details from this brochure should be copied without permission of the authors. Photos the property of Copper Mines Tasmania, Henty Gold Mine and DPIWE. Contact details:
Jennifer Phillips Tasmanian Minerals Council, 32 Davey St Hobart 7000.
Ph. 03 6223 8600; Email tasminerals@southcom.com.au
URL: www.tasminerals.com.au

WILDERNESS, RIVERS AND MINES



THE WEST COAST EXPERIENCE



Tasmania

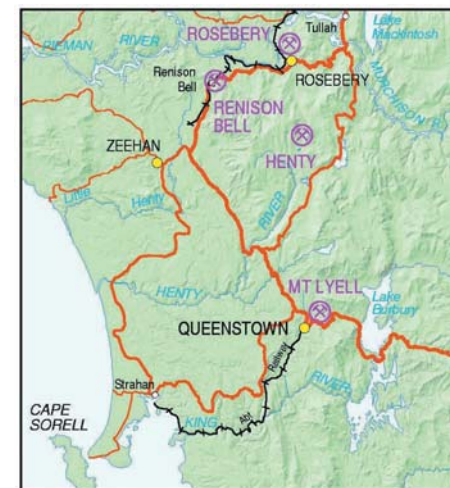
Mining started in this region in the late 19th century. More than one hundred years on, the environmental reminders of historical practice are evident. By the dawn of the 20th century, the damage had been done. As the 21st century unfolds, mining has moved on – into a world of high expectations, leading-edge environmental performance and sustainable development.

Your visit to this region will leave you with lasting impressions and perhaps many questions. This brochure will help answer some of those questions.

MINING ON THE WEST COAST

In Tasmania mining and the west coast are synonymous.

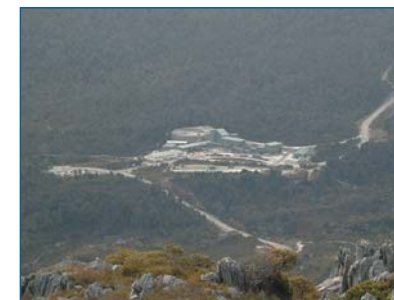
There are five major mines on the West Coast of Tasmania. There's copper at Queenstown, zinc at Rosebery, gold at Henty, tin at Renison Bell and iron ore at Savage River.



TWO TO VIEW

Two of the current mines are featured in this brochure.

In their own way the Mount Lyell Mine at Queenstown (*below left*) and the Henty Gold Mine, north of Queenstown (*right*), demonstrate where mining has come from in Tasmania, where it is now, and where it is headed.



We will view these mines through the lenses of "sustainable development" – a philosophy currently applied to business practices.

WHAT IS SUSTAINABLE DEVELOPMENT?

A sustainable approach to development is really being mindful of current activities and how they will impact on future generations. It includes balanced consideration of environmental, social, community and economic needs.

This way of thinking is relatively new. It is a concept increasingly underpinning the way business is conducted and approached. It features prominently in mining because it is often a very visible activity.

THE GOOD AND THE BAD

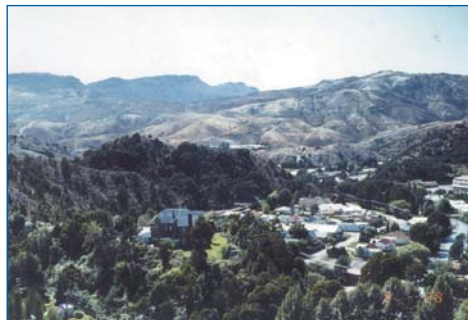
The mining picture on the West Coast is not all good. This can be noted as you travel past the Queen and King Rivers on to Macquarie Harbour. The Mt Lyell Copper Mine then, and the Henty Gold Mine now, are good examples at each end of the environmental management spectrum, and show how our knowledge and thinking have changed over time.

HILLSIDES AND RIVERS



The most visible reminder of past practice in mining is the "moonscape" of the Queenstown hills (*left*). The causes were many. The felling of the trees in the early days to provide home heat, cording for roads, construction material and fuel for a copper smelter all contributed. Fumes containing sulphur from the smelter at the time added to the damage of the vegetation.

Regular bush fires also damaged vegetation and a constant high rainfall, measured in metres per year, washed away the thin topsoil. Since those times there has been a gradual and now rapid greening of the hills as vegetation takes hold on the fragile slopes (*right*).



Long term damage to the waterways has been caused by the copper and gold bearing pyritic rocks being exposed to the elements. When combined with oxygen, the pyrite breaks down to produce weak sulphuric acid. This acid forms in the old mine

workings, in the cracked rocks and rock dumps on the surface and also from the current surface operations. The resulting acid drainage dissolves metals such as copper, iron, aluminium, manganese, zinc, and cadmium out of the rocks and the brew is transported via natural water channels to the Queen and King Rivers, and eventually into Macquarie Harbour.

Right - Brown-grey mud deposits in the river bed and in the delta at the mouth of the King River are formed by crushed waste rock and deposits from the old mine operations at Queenstown.



Left – Waste products from the current workings underground at Copper Mines of Tasmania are now contained in a tailings dam and treated to make them less acidic. Some acid drainage from site is also captured and mixed with the tailings. The rest of the acid drainage from the mine site plus drainage from the old workings, waste dumps and the surrounding bare landscape is of such a large scale that the same treatment and containment is impossible. This run off drains into the Queen River. The challenge has been, and continues to be, how to find a solution for this mammoth problem.



WHAT IS BEING DONE?

Several studies have recently been undertaken which demonstrate that a huge financial commitment over a very long period of time would be required just to manage the problem. Various technological applications have been tested for efficacy and validity and ongoing work in this area and new technologies may hopefully bring about a solution for the long term.



HISTORICAL PRACTICE IS NOT MODERN PRACTICE

The Henty Gold mine is an example of best environmental practice in action in modern times. The mine sits inside rainforest and borders a World Heritage area. It is also an area of very high rainfall. Best practice water management underpins the environmental approach at Henty because drainage from the mine enters streams in the area.