

AUSTRALIAN MINING HISTORY ASSOCIATION BOOK REVIEW

Cornish Beam Engines in South Australian Mines

G.J. Drew and J.E. Connell, 2012 (2nd edition). Department for Manufacturing, Innovation, Trade and Resources, Adelaide, 196 pp., photographs, tables, diagrams. \$40 (plus postage in Australia).

NOTE: This review was for the first edition published in 1993

South Australia was the last of the Australian colonies to be settled by Europeans, the only one of them founded on free enterprise, and the first to establish a mineral industry. The population that established this curious colony was unlike that in any other part of Australia, rural rather than urban in origin, with a high proportion of dissenting protestants from the West Country. They were people who knew what lead and copper ore looked like, and had a social and economic structure which enabled them to exploit it intelligently when they saw it. Within only a few years they were writing home for the archetypal tool of the Industrial Revolution, the steam engine, in the form of the great low pressure engine with its reciprocating beam which had been pumping water from the copper mines of Cornwall for two generations,

Between 1848 and 1888, 33 Cornish enginehouses were built on South Australian mine sites. They were very different mines: the legendary Burra which returned its shareholders an average of 300% interest on their capital every year for seventeen years; failures such as Burrawing and Karkulto which are now forgotten; Worthing which was probably only a stock exchange fraud, but has the oldest surviving enginehouse of all; and Moonta and Wallaroo Mines, as deep as Mount Isa and as productive as Mount Morgan. From the mid-nineteenth century until 1923 there was never a day or night when beam engines with their slow sighing stroke were not draining the mines somewhere in South Australia. Eight of the masonry enginehouses still stand, but sadly they are hollow shells; every one of the engines has long since gone for scrap.

This book is a history of the 75-year career of those great machines in South Australia. It is a technical book, written by an engineer and a geologist, and it has its fair share of terms like 'clack valve', 'flat rods' and 'scoggins', which some readers will find daunting. But it vividly evokes the spirit of these 'gentle monsters' as the book calls them, huge and powerful, but mute and benign, with the same fascination for us today as elephants or dinosaurs. And it preserves something of the almost medieval awe of the Cornish miners to whom a steam winding engine was a 'fire whim', but who also had the larrikin cheek to call an equilibrium valve an 'Uncle Abram valve'.

Jack Connell is a combustion engineer who made the study of Cornish engines his passion and is now one of the foremost authorities on the subject. In 1990 he won an Australian Heritage Award for his work on conservation of industrial sites in South Australia. Greg Drew has been the force behind the South Australian Department of Mines and Energy's very impressive interpretation work on historic mine sites in recent years, and its range of published books and brochures on mining history.

The one criticism that can be made of the book is that it has missed an opportunity: while it deals comprehensively with South Australia, it would have required only a little more effort to make it the definitive work on the topic in Australasia as a whole. The 33 enginehouses built in South Australia were probably 85% of the total. There were only about six others: Cadia in New South Wales, Kawau Island in New Zealand, the Duke of Cornwall mine at Fryerstown, the Duke and Timor at Maryborough, and two on the Berry Deep Lead at Creswick, all in Victoria. These are all well documented by researchers. It would have been more satisfying for the reader to have wrapped up the whole task, and not stopped at the State border.

For South Australia the book is definitive; no-one will ever write a better one on the same subject. Every engine is here, its size, its date, its cost. The book deals with every aspect of the era: the invention and development of the technology, the different types of beam engine, their operation and efficiency, the boilers that powered them, how they were transported and erected, and the engineers who did the work. It then gives a historical account and a detailed description of the physical remains on every site where a beam engine stood. Appendixes and a glossary pull the engines apart and explain their details. The book is copiously illustrated with plates and line drawings on almost every page. Most of the line drawings of the present state and the likely reconstructions of enginehouses are by Jack Connell and never previously published. To pay only \$30 for this book feels almost like stealing it.

Peter Bell
State Heritage Branch, South Australia
President, AMHA

Australasian Historical Archaeology Vol. 10, p. 100, 1994