The early miners, working by candlelight, gouged ore out using a miner's pick. For many years, blasting was carried out using explosives placed in holes driven by steel bars and sledge hammers until mechanical drills, designed by Captain Hancock, were introduced. Hancock also introduced wire rope and skips. Because of the relatively soft ore, the working shafts at Moonta were usually sunk on the incline down the lode and wheeled skips were used for ore haulage.

At the surface, ore was hand sorted and the high-grade portion sent directly to the smelters at Wallaroo. Lower grade material was crushed and ore separated from the waste or tailings by rapidly moving sieves or jigs. Improvements to the design and operation of these jigs, patented by Captain Hancock, contributed greatly to the mine's profitability by enabling more efficient separation of low-grade ore.

For further information see Discovering Historic Moonta by G.J. Drew

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HISTORY

In 1861, a shepherd, Patrick Ryan, discovered traces of copper in earth burrowed out of a wombat hole on the pastoral lease of W.W. Hughes. The discovery was made in a patch of dense scrub known by aboriginals as Moonta-Moontera. Two parties subsequently applied for mining leases over the discovery, but Hughes was eventually successful.

Hughes formed the Tipara Mining Association (later the Moonta Mining Co.) and began operations in late 1861, causing a rush of miners from the Burra and Wallaroo mines. The discovery also created a rush for leases in the vicinity and numerous companies were formed, including Karkarilla (later Hamley), Yelta, Paramatta and Poona. However, none of these smaller mines proved as rich or successful as the Moonta Mine.

The mine was rich from the outset, with nearly 5,000 tons of ore produced in the first year of operation and a dividend of £10 per share was paid on the 3,200 shares. As a result, no further capital was required to finance the mining operations. The mine was managed by Captain James Warrington and, later, by his brother William until dismissal of the latter in 1864, when Captain H.R. Hancock was appointed chief captain, a position he held until his retirement in 1898. Under Hancock, the mine developed rapidly and, by 1865, about 1,200 men and boys were employed. By 1870, more than 5,000 people were dependent on the mine, which was producing annually more than 20,000 tons of dressed ore, averaging 20% copper.

By 1876, Moonta was the first mining company in Australia to pay £1 million in dividends. At that time, employment reached a peak of nearly 1,700 men and boys, but depressed copper prices in the late 1870s brought widespread unemployment. Little development was carried out in the 1880s, when low copper prices resulted in the company’s first losses, and the Moonta and Wallaroo mining companies were forced to amalgamate in 1890. The Wallaroo and Moonta Mining and Smelting Co. was the largest mining company in South Australia, under the management of Captain H.R. Hancock and, later, his son H. Lipson Hancock.

After 1900, the lodes became unproductive at depth and work was confined to extraction of ore above the 300 fathom (549 metre) level. In 1901, the cementation (leaching) process was established for the extraction of copper from the large tailings (waste) heaps which had accumulated at the three concentration plants. After the First World War, activity and prosperity were further curtailed due to a sharp drop in copper prices and limited ore reserves. In 1923, the company went into voluntary liquidation after 2,000 workers at Moonta and Wallaroo refused to accept a drastic cut in wages.

Small-scale mining and prospecting continued until the late 1930s and some high-grade ore remnants were mined at shallow depths. Leaching of tailings dumps continued until 1943. Total production of the Moonta Mine from 1860 to 1923 was 170,000 tons of copper metal valued at £10.7 million.

MINING METHODS

Five major lodes or ore zones were worked within the mine area. These lodes, which filled fractures within the volcanic country rock, trended north-south and dipped westerly at 40° to 65°. Productive veins initially yielded up to 30% copper but, by 1908, the average grade had dropped to 4%. The principal ore minerals were chalcocite and bornite.

The first miners at Moonta were Cornishmen, who used methods developed in Cornwall over several centuries. A miner began his working life as a picky boy, whose job was to sit at a table or conveyor belt sorting good ore from waste. After a few years he could join a team working underground at the rock face sinking shafts and opening drives; this was known as tutwork. Miners showing promise would then be invited to join a tribute team working the exposed orebody and paid on the amount and value of ore mined. Tribute miners tendered for an area underground and could make a very good living in rich ore zones. The tribute system was supervised by mine captains appointed by the company. While the lodes were rich, the tribute system worked well, but tribute mining was abolished at Moonta in 1910 owing to falling ore grades.

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COVER: Moonta Mine viewed south along the main lode from Richmans Tailings Heap, c. 1898. From left to right background are Prankers Enginehouse, Taylors Shaft and Hughes Enginehouse. In the foreground are slimes settling pits.

Longitudinal section along the main lode.
MOONTA MINES STATE HERITAGE AREA

1. HANCOCKS PROCESSING PLANT. This operated between 1874 and 1904, treating ore from nearby shafts. Hancock's Tailings Heap and foundations remain.

2. MINERS COTTAGE. Built in about 1920 from local limestone and now a National Trust Museum depicting a typical miner's cottage and garden of the period.

3. TREUERS SHAFT. This was a major ore producing area after 1900. Foundations of the enginehouse remain.

4. MOONTA MINES METHODIST CHURCH. This stone church was built in 1865 and seats 1250 people. It is open for inspection by prior arrangement only.

5. MOONTA MINES MUSEUM. Opened in 1978 as Moonta Mines School for 800 students. It closed in 1988 and is now a National Trust Museum. The tourist railway terminus is nearby.

6. RYANS TAILINGS HEAP. This contains the waste or tailings from Ryan's processing plant. Rymill Shaft and walking trail are nearby.

7. RICHMANS ENGINEHOUSE. Built in 1890, this housed a Cornish beam engine which powered a processing plant. A lookout on top of the nearby tailings heap provides a panoramic view.

8. TAYLORS SHAFT. This was the main haulage shaft after 1900 and reached a depth of 765 metres, the deepest on the mine.

9. HUGHES ENGINEHOUSE. This was erected in 1925 and contained a 60-inch Cornish pumping engine which operated until 1923.

10. PRECIPITATION WORKS. Erected in 1901 to extract copper from the tailings heaps. The site is now accessible only by the tourist railway.

WARNING: DO NOT ENTER FENCED AREAS.