

# State Heritage Areas of South Australia



## Former Hughes Pump House & Chimney

### Moonta Mines

SAHR 10132 – confirmed as a State Heritage Place 26 November 1981

When mining commenced at Moonta in 1861, the company soon discovered that its operations were hindered by ground water, which constantly seeped into the shafts and drives. In March 1862 the directors ordered a 60-inch pumping engine, with three boilers and the necessary pitwork, from Harvey & Company of Hoyle, Cornwall. The engine, which was essential for the successful operation of the Moonta Mine, arrived at Wallaroo in February 1863. It was installed on the new Hughes Shaft, which had been purposely dug to drain the mine, and which was named after the mine's principle shareholder, William Watson Hughes.



*Hughes Pump House & Chimney, 2005*

The Cornish beam engine had a single cylinder, 60 inches diameter, and a 10-foot stroke. It was a 'Bab' type, with no flywheel or crankshaft. The pumping action applied a 'see-saw' motion. Steam entered the top of the cylinder and pushed the piston down; the weight of the pump rods at the other end of the beam brought it back up again.



*Hughes pumping house at the Moonta Mine 1900  
Photo B 58893: State Library of SA*

The enginehouse and its round boiler chimney were completed in March 1865. The massive pumphouse was a square Cornish design, built by John Beaglehole from local (Boor's Plains) fossilised limestone. The wall that supported the pump's beam was nearly two metres thick. The total cost of both engine and house was £7,000.

The Hughes pumping engine was officially started by the newly-appointed Mine Manager, Captain Henry Hancock, on 2 September 1865. It remained in commission as the principal pumping engine at the Moonta Mine for 58 years, until the mine closed in 1923. Cornish pumping engines were designed to operate at slow speed and low pressure for very long periods of time. As far as is known, Hughes

engine did not stop between 1865 and 1923. This is the longest period of continuous service for any Cornish pumping engine in South Australia.

Hughes engine had excess power for its task, and in 1868 it was connected, by flat rods, to the pump on Taylor's Shaft, about 300 metres to the north. Then, in 1873, it was also connected to the pump in Duncan's Shaft. For a time, Hughes engine was pumping water from three shafts, the deepest of which went down nearly 800 metres below the surface. The brackish water extracted from the mine was used in the ore-crushing process and for firefighting. Excess water was run out to sea at Moonta Bay, approximately four kilometres away.



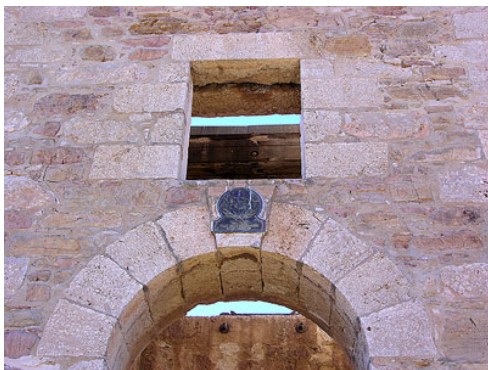
*Hughes Pumping Plant 1916  
Photo B 9207: State Library of SA*

The Moonta Mine closed in 1923, largely because of falling copper prices, and Hughes engine was officially stopped on 25 September. The engine, pump and all other machinery were broken up for scrap in 1925. The pumphouse roof and fittings were removed, but most of the tall building has remained. Beside it, the boiler smoke stack is still intact – the only remaining chimney on the Moonta mine site. These stone structures, which include foundations for the cistern and balance beam, are prized reminders of the Cornish technology that dominated South Australia's mining industry during the boom years of the nineteenth century.

In 1993 the National Trust of South Australia, with support from many other agencies, commissioned an archaeological excavation of the historic site.



*Hughes Pump House, 1990s*



*Plaque on Pump House, 2005*



*Chimney (note lightning rod), 2005*



*Hughes Pump House & Chimney, 2005*

