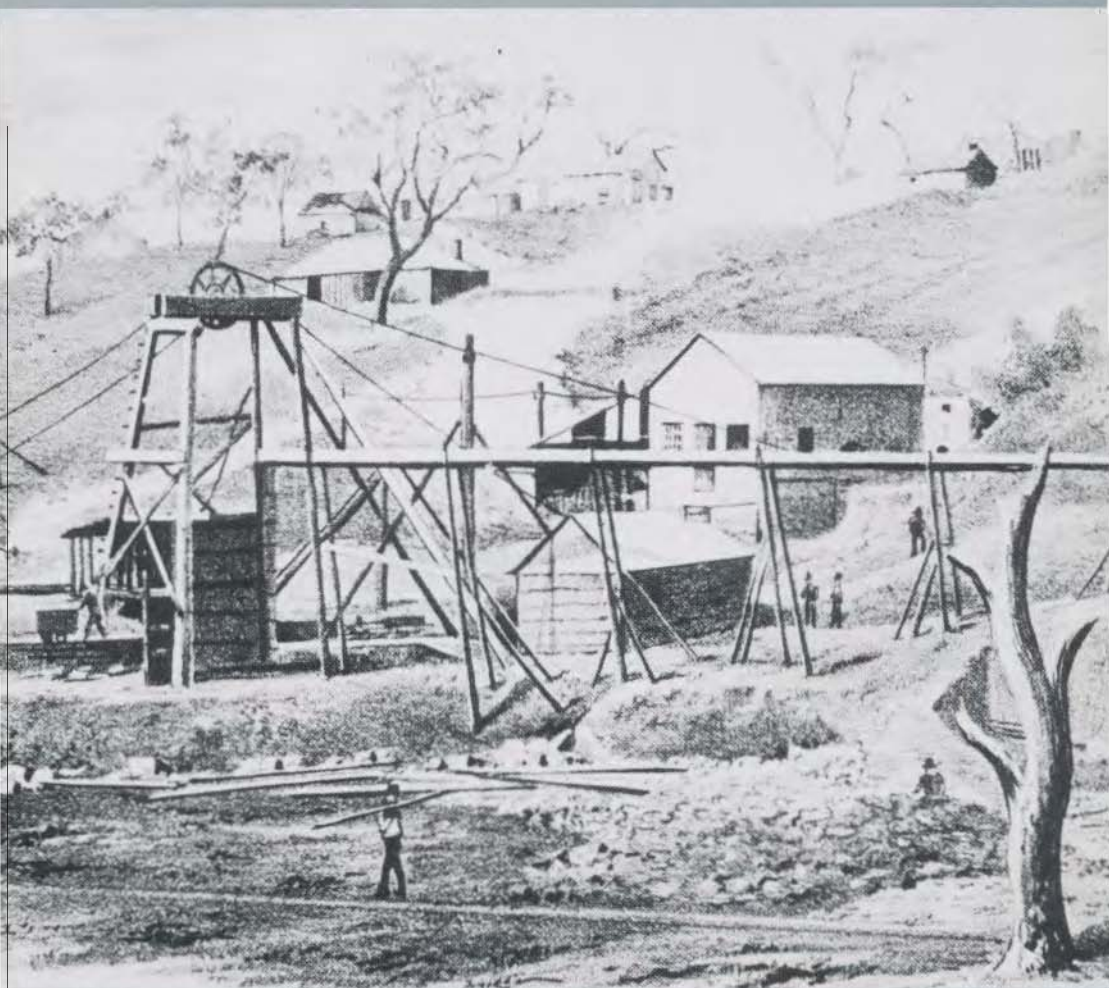


TALISKER SILVER-LEAD MINE

A guide to the historic mine site



MINES AND ENERGY
SOUTH AUSTRALIA



INTRODUCTION

Small deposits of silver-lead ore are widely distributed through the Mount Lofty and Flinders Ranges. Historically the one at Glen Osmond, near Adelaide, is the most significant as the site of Australia's first metal mine. But Talisker was also one of the largest producers of silver and lead in a colony whose early mining history was dominated by copper.

Talisker Mine and its associated town of Silverton were Cornish in influence during their period of principal activity between 1862 and 1872 and the area was very much another 'little Cornwall'.

The mine ruins illustrate typical mid-19th century Cornish mining and ore processing techniques and are an important remnant of South Australia's heritage. The mine is located in a conservation park managed by the National Parks and Wildlife Service and is listed on the Register of State Heritage Items.

HISTORY

While searching for gold near Cape Jervis in 1862, the McLeod brothers discovered an outcrop of silver-lead ore. The lode could be traced for about 50 m and was named the 'Talisker of Scotland' after a locality in the brothers' homeland, the Isle of Skye.

The Talisker Mining Co. was formed in the same year and the manager, mine Captain Jenkins, left by sea from Glenelg with a party of Cornish miners. By the end of July about 20 miners were busily at work on the lode. At first the ore was hammered into small pieces, hand picked, and bagged; the first shipment was despatched to England from Fishery Bay, an early whaling base near Cape Jervis.

In early 1863 a crushing and dressing works was erected at Fishery Bay. Ore was then hauled by bullock down to the bay where the bagged concentrate was hand loaded onto barges for transfer to coastal schooners which took the ore to Port Adelaide. About 32 000 bags weighing 50 kg were handled in this way. However in 1865 a treatment works and smelting plant were erected at the mine which was now under the control of Captain William Price. The small steam engine and boiler were hauled up from Fishery Bay and placed in a new enginehouse. Main Shaft was sunk, another enginehouse built for pumping and winding, and roasting and smelting furnaces erected. The new engine was officially started at a traditional Cornish opening ceremony when a number of the directors and several wives inspected the surface installations and parts of the underground working with Captain Price.

By 1867 Main Shaft had reached nearly 80 m below ground and a Cornish stamp battery was installed to enable treatment of lower grade ore. The brick kiln was built in 1869 to make fire bricks from local clay.

The year 1870 was a disappointing one for the company. Shallow reserves were exhausted and an expected continuation of the ore at depth did not eventuate. Smelting was suspended and the miners were employed chiefly on development work. By 1871 Main Shaft had been sunk to its maximum depth of 132 m and the pumping engine had difficulty coping with the volume of water encountered. The ore was still lower in grade than expected and in 1872 the mine closed down. The fifty employees, still owed two months wages, were offered employment at Moonta-Wallaroo Mines and Captain Price moved to the New Cornwall mine at Kadina.

Closure of the mine was precipitated by three main factors: the increased expense of pumping and mining at depth, low ore grades, and lack of finance for development. Total production between 1862 and 1872 was valued at £46 000 but no dividend was ever paid.

The mine was reopened in 1890 with the driving of a new adit from Campbells Creek into the workings but operations ceased in 1891. Interest in Talisker revived in 1917 owing to the demand for arsenic contained within the silver-lead ore. Arsenic was mined intermittently until 1925.

The original Talisker mining lease remained as unallotted Crown Land until 1976 when the area became a recreation reserve; this became Talisker Conservation Park in 1985.

Cover: view of Main Shaft and the engine house in 1870, from a photograph taken by Captain Price.

MINING METHODS

The ore consisted of greyish sulphides, mainly galena and arsenopyrite in a quartz matrix. The ore horizon (lode) occupied a north-south fault zone within Cambrian metamorphic rocks. The lode varied from 15 cm to nearly 7 m in width and dipped steeply to the east. A feature of the lode was the occurrence of pods or 'bonanzas' which, when mined out, left large excavations known as 'ballrooms.'

Mining was carried out by Cornishmen under the management of a mine captain, using principles developed in Cornwall over several centuries. Employment was by the tribute system whereby miners were paid a proportion of the value of ore mined. Other miners, known as 'tutworkers', sank shafts and drove levels; these were paid by the amount of ground excavated. At one time up to 35 miners were employed, mostly on development work.

Ore processing techniques were typical of those used on small scale mines in the 19th century. The ore was broken by hand and sorted into high ('prill') and low grade ('dradge') ore and waste ('attle'). Sorted ore was then crushed and the sulphides concentrated by jigs. The concentrate was roasted in a furnace to remove sulphur and arsenic. Smelting was carried out in another furnace and molten silver-lead bullion run into an iron pot and ladled into moulds to form ingots.

SILVERTON

This town was surveyed adjacent to the mine lease in 1864 and had a population of about 300 at its peak in 1870. It possessed an eating house, hotel, a store and post office, school-chapel, mechanics institute and numerous wattle and daub cottages. Most of the town's social activities reflected the Cornish influence. Up to 200 people attended annual picnics organised by the temperance societies. Games were accompanied by singing and dancing and Cornish teas were served.

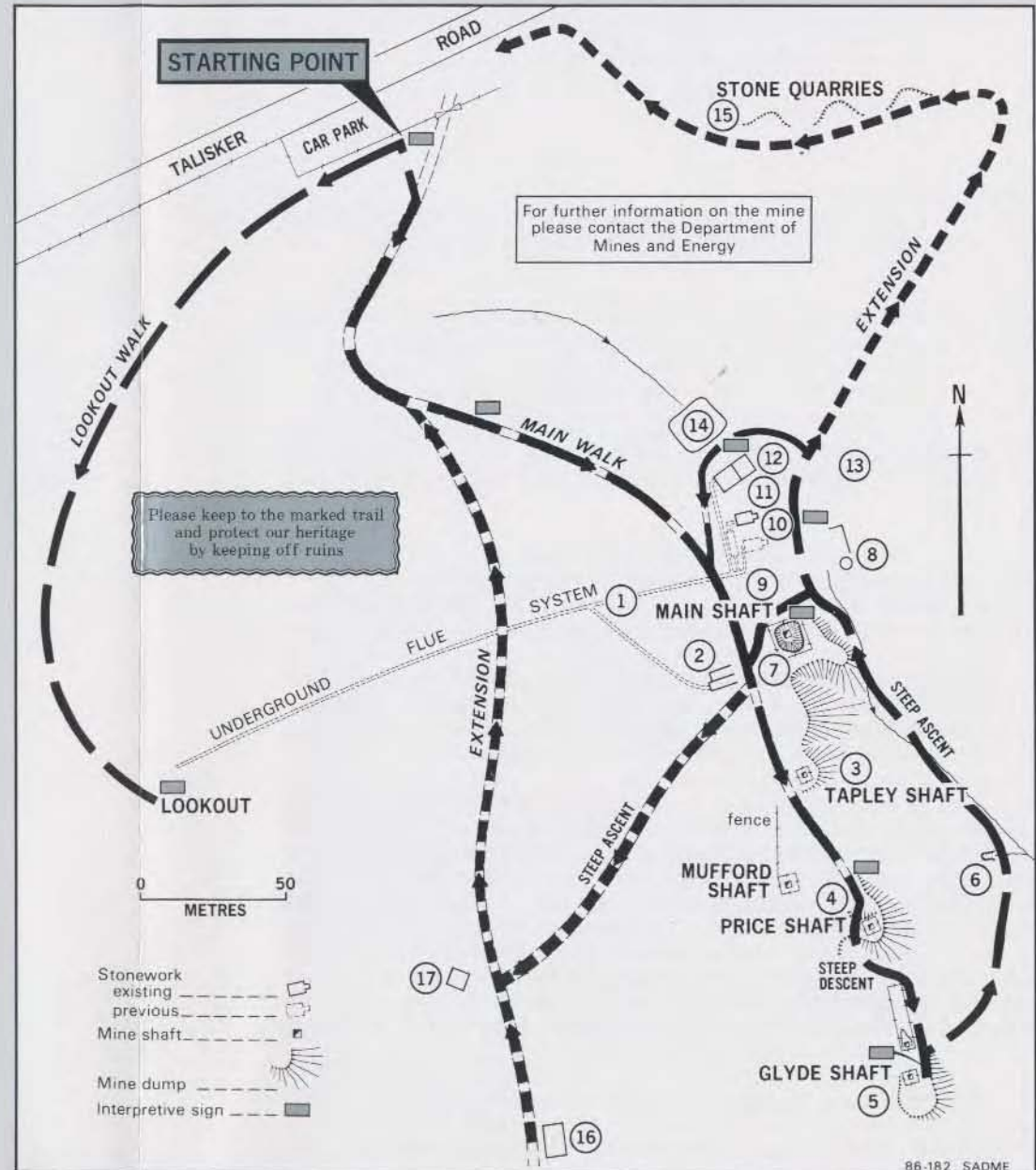
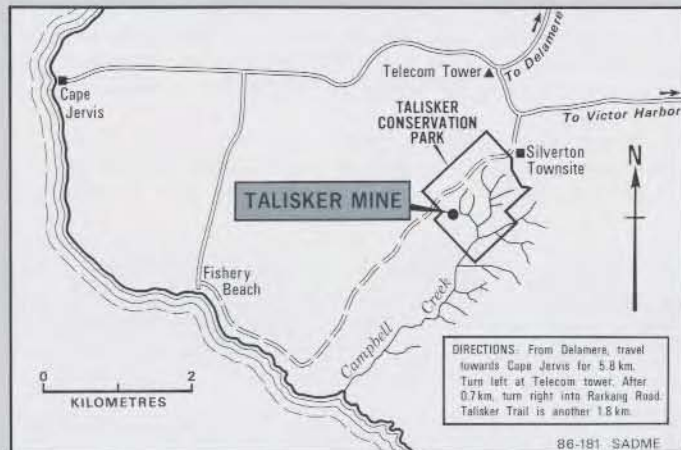
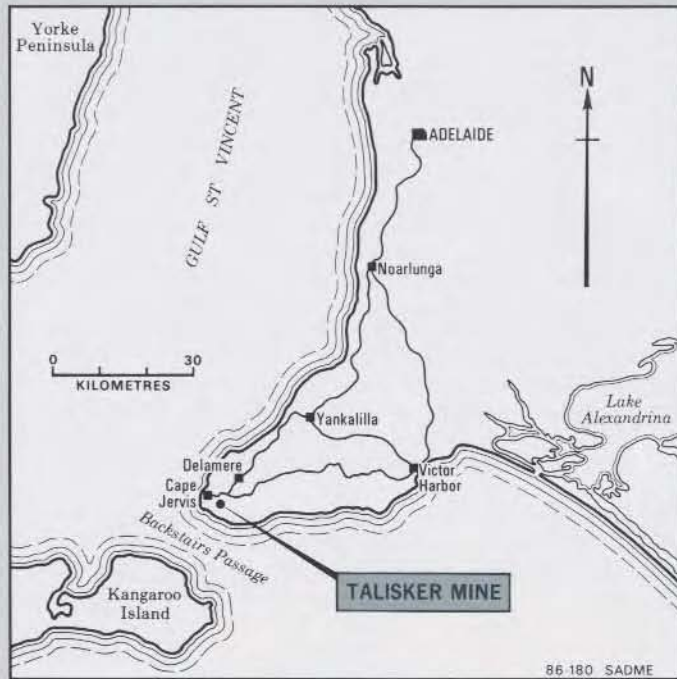
Some miners built their cottages near the mine on the Company lease rather than in Silverton. The remains of these can be seen scattered throughout the mine area.

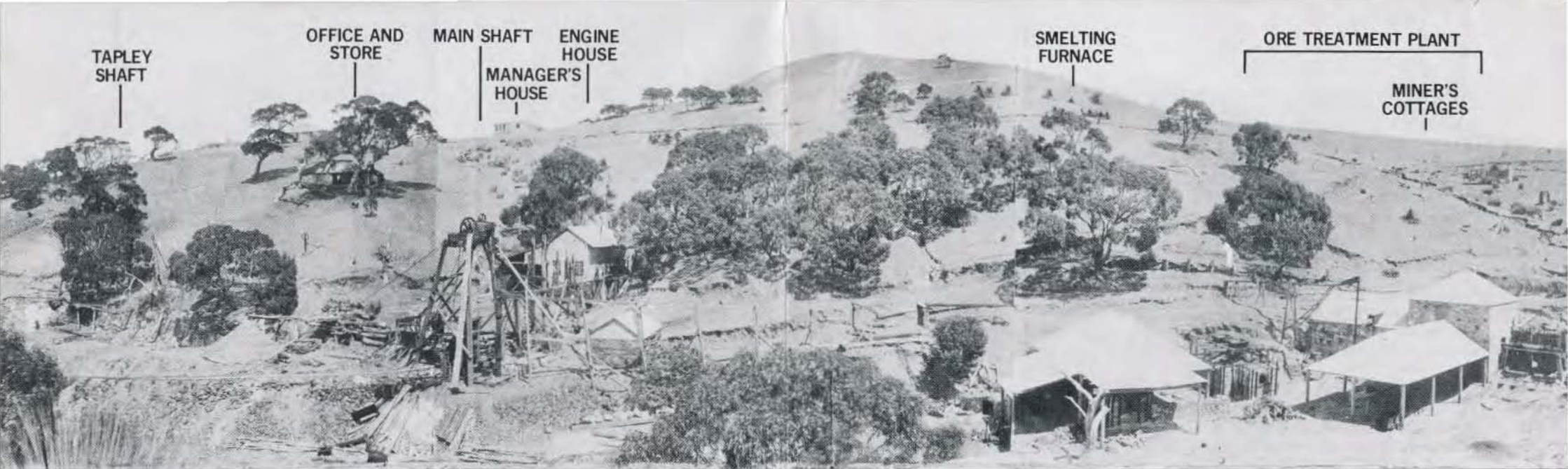
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Talisker Mine—1889.

The Historical Trail

The trail takes 1 to 2 hours to complete and interpretive signs explain how the ore was mined and treated. You can return via the manager's house or along a bush track past stone quarries.

1. **Flue:** this removed smoke from the smelting furnaces and boiler houses; it has a stone lining and runs underground to the hilltop.

2. **Boiler House:** from here two Cornish boilers supplied steam to a winding and pumping engine; the openings at the rear of the house connect with the flue.

3. **Tapley Shaft:** 113 m deep and named after James Tapley a director of the company.

4. **Price Shaft:** named after mine Captain Price, the shaft is 60 m deep.

5. **Glyde Shaft:** Lavington Glyde, M.P. was Chairman of the company; this shaft is 78 m deep.

From here the trail follows the original walkway used by the miners

6. **Drainage Tunnel:** used to drain the underground mine workings above the 40 m level.

The trail passes up a steep gully past the waste rock (mullock) dump where lumps of ore and smelter slag can be seen.

7. **Main Shaft:** originally 132 m deep but now blocked by collapse of the timber lining.

8. **Brick Kiln:** built in 1869 this was used to make firebricks for maintenance of furnaces and flues; bricks were stacked inside, the kiln sealed, and heat generated from a fireplace on the northern side. Openings for the fireplace and for the smoke to escape in the domed roof are still evident.

9. **Flue:** this part has an arched roof constructed of locally made firebricks.

10. **Calcining Furnace:** here the ore was roasted to remove sulphur and arsenic. The original arched roof has gone but the fireplace, furnace bottom, and arches where calcined ore was removed survive.

11. **Ore Floor:** a slate and sandstone floor surrounds the calcining furnace.

12. **Crusher House:** ore was crushed here in the two storey building before concentration and smelting.

13. **Miner's Cottage:** this pile of stones is the remains of a fireplace.

14. **Reservoir:** water pumped from Main Shaft was stored here for use in the boilers and ore treatment plant.

15. **Quarries:** the soft sandstone was used for the mine buildings.

16. **Office and Stores:** originally made of timber slabs with a shingle roof, only the foundations and fireplaces survive.

17. **Manager's House:** built for Captain Price out of local stone this was much larger than a typical miner's cottage.