

ALMANDA SILVER MINE

A guide to the walking trail



DEPARTMENT OF
MINES AND ENERGY

HISTORY

In the early 1840s, Scott Creek was first settled by the Hill and Mackereth families. These early settlers exploited the timber for Adelaide buildings and, as the land was cleared, it was put under cultivation for onions and potatoes. Bullock drays hauled the produce to Adelaide via Coromandel Valley and, in 1850, the wheels of a dray broke off pieces of rock which were recognised to contain copper. A shaft was sunk to 9 metres and the mine was named Wheal Maria. A small quantity of ore was removed but the shaft was soon abandoned.

In 1862, new leases were acquired and the mine renamed Wheal Mary Anne. A new shaft was sunk to a depth of 27 metres and a few dray loads of ore were produced but the mine was abandoned again by 1865. A company, comprised mainly of Kapunda shareholders, attempted to develop the lode in 1866 and sent ore to the Port Adelaide Smelting Works. In 1868, William Ey, a German assayer, noticed abandoned copper ore from Wheal Mary Anne at Port Adelaide, which he recognised to contain silver.

Following successful experiments which proved that the silver could be extracted by amalgamation, Ey and James Gawen acquired leases over the site in June 1868. A trial crushing of ore in Wentzel's Chilian mill in Adelaide produced two ingots of silver weighing 131 ounces (4kg) which were exhibited at the Adelaide Stock Exchange. The Almanda Silver Mining Association was formed in July 1868, the proprietors being John Beck, Phillip Levi, James Gawen, Edward Bagot, William Hughes, Frederick Blades, Alfred Hallett and William Ey.

The announcement of rich silver ore at the Almanda Mine created a rush for claims along the length of Scott Creek and 235 were pegged. Most of these were incorporated into the six companies that were formed but only the Almanda and Potosi companies passed the prospecting stage.

By August 1868, twenty miners were employed under Captain Henkel, and Ey supervised the erection of a treatment plant, which comprised a 10-head stamp battery, Chilian mill and concentration tables (see cover). This plant proved very ineffective and was replaced by a more powerful engine, 15-head battery and improved concentrating machinery in 1869. About 1500 tons of ore, mainly from Eys Workings, had been stockpiled when the new plant commenced in July 1869.

Operations proved uneconomic and, by early 1870, work was suspended. The company was dissolved in 1871 and the machinery, cottages and plant sold for £650. The mine was reworked in 1877, 1881, and 1887. Total production was 10 000 ounces (310kg) from 2000 tons of ore.

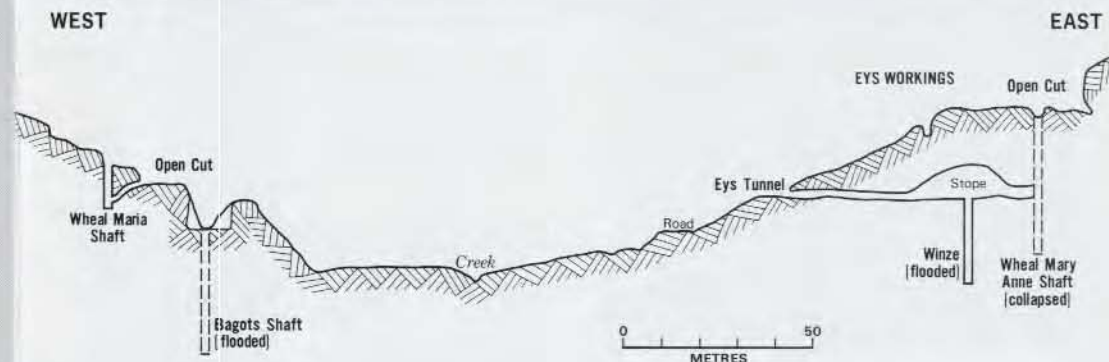
The SA Department of Mines carried out detailed exploration including diamond drilling between 1968 and 1972. Drilling delineated about 6000 tonnes of ore, averaging 0.8% copper and 180 grams/tonne silver, below Eys Workings.

The mine is located on Scott Creek Conservation Park managed by the National Parks and Wildlife Service. The interpretive walking trail has been established in conjunction with the Department of Mines and Energy.

GEOLOGY

The mineralised lode or ore zone occurs along a steeply dipping, east-west trending fault zone within deeply weathered shale of Precambrian age. The lode outcrops as a narrow iron-rich band up to 1.5 metres wide over a length of 800 metres. This was mined from two sets of underground workings located on both sides of a narrow valley. Those on the eastern side of the valley are known as Eys Workings and include a tunnel and open cut, where the lode was mined over a length of 20 metres. On the western side is the site of the Wheal Maria Shaft and a small open cut along the exposed lode.

Within the lode were veins of siderite (iron carbonate) containing small amounts of chalcopryrite, tetrahedrite (silver sulphide) and other sulphide minerals.

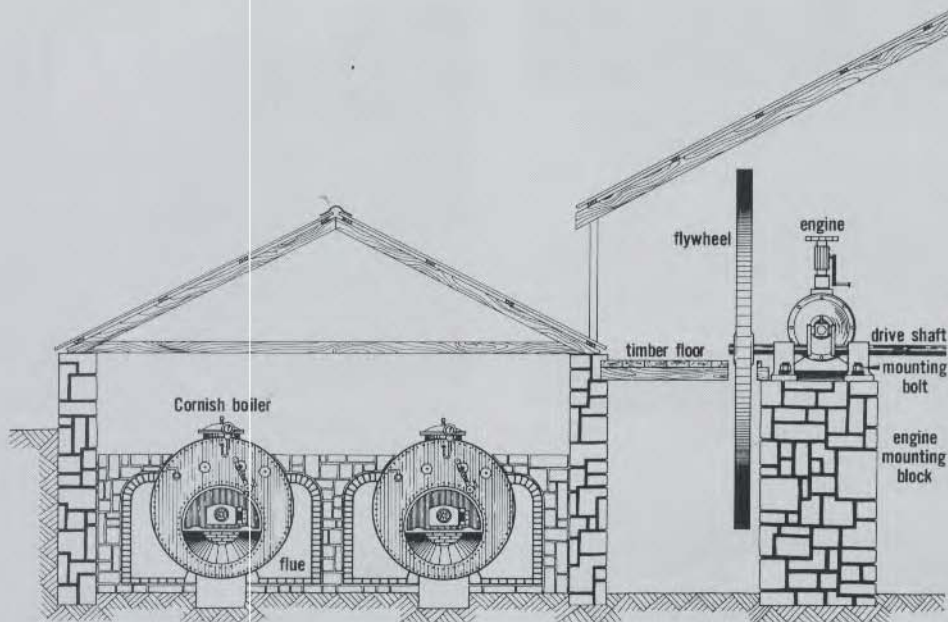


Longitudinal section of the Almanda Mine.

COVER: The Almanda Mine, 1868, by W.A. Cawthorne, showing the first treatment plant erected in 1868. The shed (centre) contained a stamp battery and Chilian mill. A water race entered the shed at the right. This plant was situated near the present car park. Mitchell Library, State Library of NSW.

ORE TREATMENT

Ore was carted from the mine in small bags by ox-drawn drays and passed through a stamp battery which reduced it to a fine slurry. Particles of silver were concentrated by amalgamation with mercury in a series of centrifugal pans. After separation from waste, the amalgam was retorted in a furnace and silver bullion poured into ingots.



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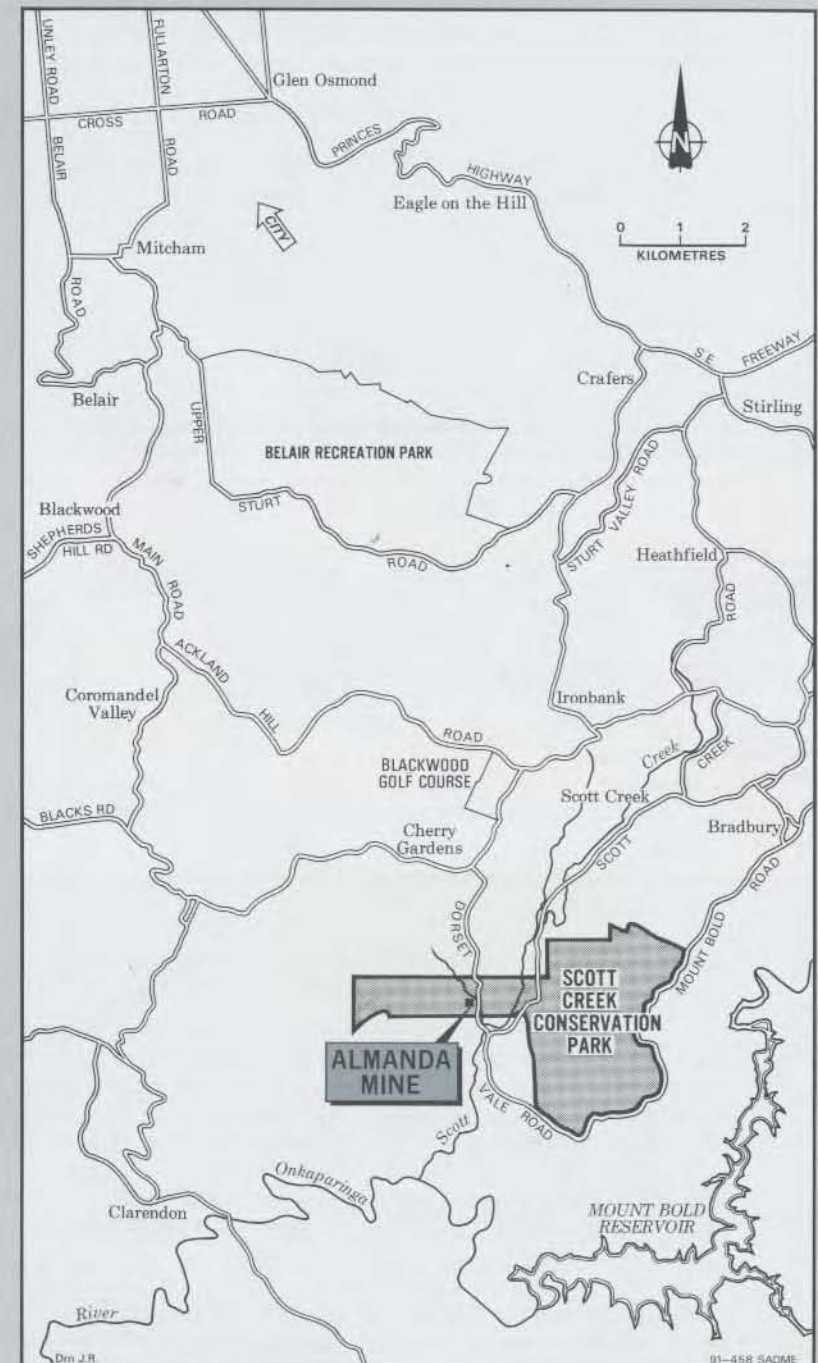
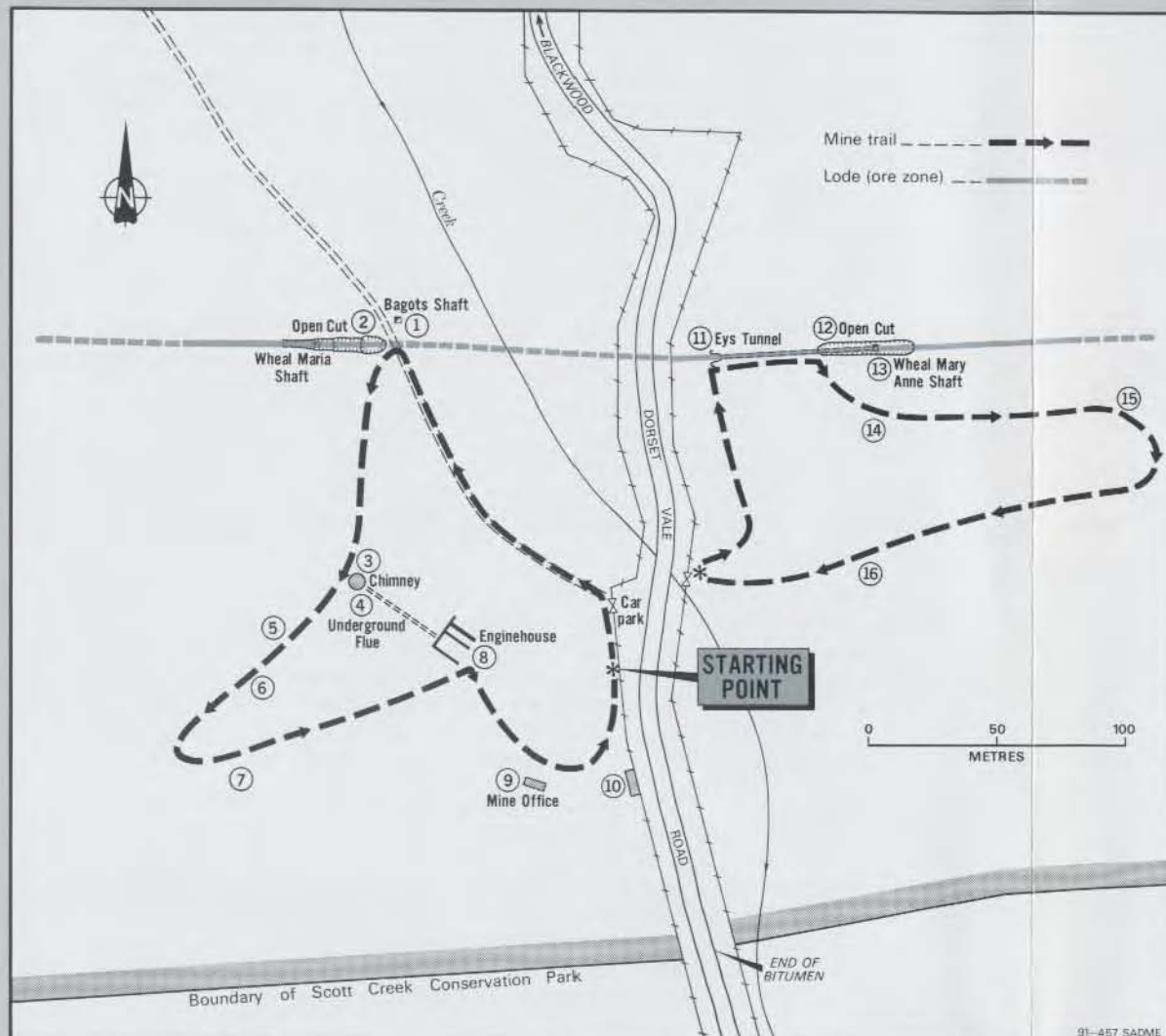
An impression of the interior of the boilerhouse and enginehouse erected in 1869 (Locality 8). The engine powered a 15-head stamp battery and concentrating machinery which were located in an iron shed to the right of the engine.

**SA DEPARTMENT OF MINES AND ENERGY
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September 1991

ALMANDA SILVER MINE

Interpretive Trail



THE TRAIL

Explore the mine area on two short loops which each take 1/2 to 1 hour to complete. Interpretive signs illustrate the nature of the orebody and methods of mining and treatment. The trail includes a tunnel, which must only be inspected with TORCHES.

1. Bagots Shaft: named after Edward Bagot, a major shareholder in the Almanda Silver Mining Association. The shaft was sunk to 29 metres in 1870 and equipped with a small portable engine.

2. Open Cut: within the fenced area is the Wheal Maria Shaft which was sunk to 9 metres in 1850. The open cut was excavated along the outcropping lode between 1868 and 1870.

3. Chimney: this stone chimney was erected in 1869 and connected by an underground, stone-lined flue, producing underground, to a boilerhouse lower down the hill.



Almanda Mine chimney.

4. Flue: sections of the flue are visible in collapsed areas, which show the arched roof construction.

5. Dray Track: this narrow track was used by drays carrying materials for the erection of the chimney in 1869.

6. Native Cherry: several yellow-green, pine-like native cherry trees (*Exocarpos cupressiformis*) occur below the trail.

7. Blue Gums: the tall trees with straight smooth trunks are South Australian blue gums (*Eucalyptus leucoxylon*). Below the trees are slender golden wattles (*Acacia pycnantha*).

8. Enginehouse Ruins: the stonework is the remains of the ore treatment plant erected in 1869. The location of two Cornish boilers and the mounting block for a steam engine are visible. Inspect the underground flue running up to the chimney. Note the large hand-cut blocks of sandstone used for the engine mounting block.



Enginehouse ruins with engine mounting block (right) and boilerhouse (left). Note the square opening to the underground flue at left.

9. Mine Office: this stonework marks the probable site of the mine office and captain's residence erected in 1868. Edward Henkel was appointed Captain in 1868 and was replaced by Bennett Opie in 1869.

10. Dairy: this was erected in the early 1900s by the Mitchell family using some large dimension stones from the nearby enginehouse. An old tractor survives from the era of the dairy.



Ruins of dairy with mine office in the background.

This completes the first trail loop. The second loop is located across the road.

11. Eys Tunnel: this 60 metre long tunnel was driven along the lode in 1868 to connect with the Wheal Mary Anne Shaft above. The lode outcrops between the tunnel entrance and the open cut above. Ore was extracted from the tunnel leaving an opening or *stope*. The lode is visible in the roof of the stope. An internal shaft or *winze* was sunk to 23 metres in 1881. **Torches must be used.**



Entrance to Eys Tunnel.

12. Open Cut: this was formed by excavation of an old tunnel to the surface in 1887.

13. Wheal Mary Anne Shaft: this shaft was sunk on the lode to 27 metres in 1862. The collapsed shaft can be seen in the middle of the open cut below the bridge.



Open cut showing the narrow nature of the lode.

14. Stringybarks: the common tree in this area is the stringybark gum (*Eucalyptus obliqua*). The spindly dead trees are golden wattles killed in a bushfire in January 1990.

15. Yaccas: a number of yaccas or blackboys (*Xanthorrhoea semiplana*) can be seen dotted along the hillside amongst stringybarks. They have a skirt of stiff grassy leaves and a rush-like spike bearing creamy flowers in Spring.

16. Golden Wattles: regeneration of golden wattles since the bushfire can be seen to the left of the trail. Along the creek near the gate are bluish-leaved bushy tea trees (*Leptospermum pubescens*).