

Balmain's own coal mine

Mineral Resources

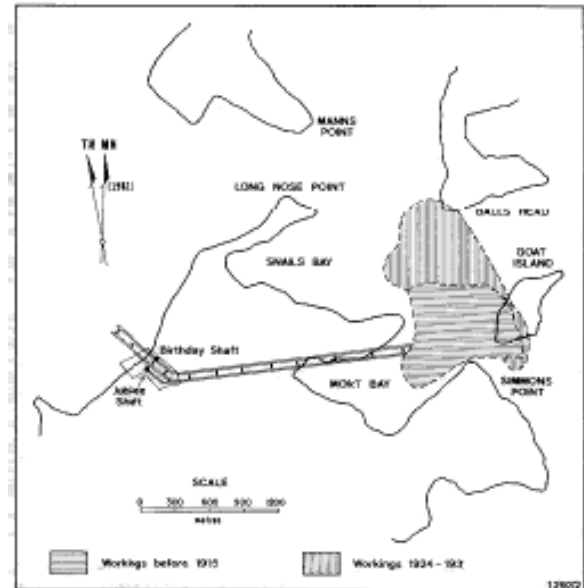
It is probably not now very well known that Balmain, for many years, had its own coal mine.

The surface works were on the site to the north of Birchgrove Primary School. The mine, at first known as the Sydney Harbour Colliery, started operations in 1897 and the last coal was mined in 1931. The mine was the deepest ever worked in Australia and later produced methane gas, but was not a commercial success. It had poor working conditions and suffered several disastrous accidents. The property was sold in 1955 and the shafts filled in and sealed two years later.

Coal was discovered in 1797 to the south of Sydney at Coalcliff by the survivors of a shipwreck, and to the north on the Hunter River by officials chasing escaped convicts. After the crossing of the Blue Mountains in 1813, coal was also found in the west and the idea was formed of a continuous coal basin centred on Sydney. Predictions were made that coal existed under Sydney, but there was disagreement about its depth. An incentive to find coal at Sydney was the cost of transporting coal from Newcastle. Prospecting for coal had been by finding outcrops in creeks and cliffs, or by slow and expensive sinking of shafts. Until the introduction of the diamond drill, there was no practical way of proving the existence of coal under Sydney. The idea of using diamond bits for rock drilling was first used in boring blasting holes in the driving of the Mount Cenis tunnel through the Alps in 1864.

Diamond drills for mineral exploration were brought into Australia in the late 1870s and many bores were put down around Sydney to search for coal. Some of the sites chosen were Liverpool, Rose Bay, the Hawkesbury River, Narrabeen, Newington on the Parramatta River and Moore Park. The first to find economic coal was the Helensburgh bore in 1884, which led to the opening up of the Metropolitan Colliery which is still in production.

In 1890-1891 the Sydney and Port Hacking Coal Company bored at Cremorne, with the help of a Government subsidy and at 2 800 feet reached a 10 foot seam of coal which had unfortunately been



Balmain Colliery workings to 1931

turned into cinder by a volcanic dyke. A second bore put down in 1892-1893, also at Cremorne, reached a good 10 foot seam at 2900 feet. The company, having proved the existence of coal, and with a title to mine under the waters of Sydney Harbour, granted in 1878, then looked for a site for its surface workings.

Those considered were Kurraba Point near Neutral Bay, Ball's Head and two on Bradley's Head. The proposed plan for one of the Bradley's Head sites, on Little Sirius Cove showed an area for miners' cottages, a reservoir and a 120 foot smoke stack. This is now Taronga Park. The hostility of local property owners opposed to the extension of industry to the north shore caused the Government to reject all these sites. The Birchgrove site was bought in 1895 for \$15 000.

Sinking of the first shaft, named the 'Birthday', started in June 1897 and was completed in November 1902. This and the second shaft, the 'Jubilee', were 18 feet in diameter and fully lined using over four million bricks.

Other heavy expenses were the cost of surface machinery and buildings and the reclamation of a



580 foot wharf which provided 26 feet of water at low tide.

A disastrous accident occurred in March 1900, while sinking the Birthday Shaft, when six men were being lowered in a bucket which was tipped over by an obstruction in the shaft wall and threw out five of them, who fell 400 feet to the bottom.

The sinkers went on strike in 1902 and 1905 and were helped by contributions from other unions, including those at Broken Hill, Lithgow, the Painters and Dockers and Wharf Labourers.

After the five years of sinking, coal was eventually struck at 2880 feet, but was split into several thin seams, the largest being only 2 feet 4 inches. This was not encouraging to the English directors of the largely English owned company and the company was reconstructed as a NSW company in 1903.

A decision was made to head towards the successful Cremorne bore in the expectation that the seams would join. The seam did improve, to 6 foot in places, and an average of 4 foot 6 inches. Long drives had to be made under Balmain before much coal could be won.

The company had title to mine only under the harbour and public reserves, and a special Act of Parliament (*Sydney Harbour Collieries Act of 1903*) had to be passed to allow these drives. These went under the slipway at Mort's Dock, in spite of that company's complaints.

The 'longwall' method of mining was used. In Australia the usual method of mining coal has been 'bord and pillar' in which drives and cross cuts are made leaving pillars of coal.

The proportion of coal recovered by this method when pillars are not extracted is about 40%. Mines Department regulations provide that a certain proportion of coal should be left as pillars, this proportion increasing with depth of workings.

At 2000 feet 85% of the coal seam had to be left as pillars. At Balmain's depth the requirement would have been over 90%, which, especially with a thin seam, could not possibly have allowed economic working. Even before striking the disappointingly thin seam the management had decided that an alternative form of mining, 'longwall' should be used.

In the longwall advancing version used at Balmain, a long, continuous face was advanced extracting all of the coal, and the roof allowed to fall behind, the access roads being kept open with stone pack walls, gained by 'brushing' the low roof. With such a thin seam much stone would have had to be removed anyway so that the roof was high enough in the access road to allow passage of men, horses and coal.

The company never managed to produce enough coal to get a cash flow large enough to offset the huge capital costs. It simply ran out of cash and work ceased in 1915.

After a nine year shutdown the mine was reopened in 1924. The existing headings were inadequate for transport and increasingly inadequate for ventilation as the working face advanced further from the shafts. The new company obtained permission to drive two new headings by another act of Parliament (*Sydney Collieries Enabling Act, 1924*), but these were never completed. Following continuing financial trouble the mine was reorganised in 1928 on a semi cooperative basis. The miners, operating as the Balmain Coal Contracting Company Ltd, agreed to take over running of mining operations and to supply the new company with coal at a certain price. There was some hostility from Miners Federation branches in the other coalfields, particularly because the contract specified fork filled – that is 'large' coal – and accusations were made that wage rates were lower and that working conditions were being broken down.

The cooperative scheme was temporarily successful during the lock out on the Northern Coalfield, which for a while reversed the usual situation of over supply in the coal industry. Wages were reduced to pay the salaries of the surface hands, who were not members of the contracting company. Continuing industrial and financial troubles caused the Sydney Collieries Ltd to go into liquidation in February 1931, and that was the end of coal mining operations at Balmain.

Working conditions had always been poor at the Balmain mine. It was hot, dusty and gassy. The roof tended to break away and the floor heaved up. Coal being worked on the face broke away unevenly.

The dust could not be laid by water sprays because the humidity would have been unbearable at the working temperatures of over 90°F.

The high temperature followed from the depth of the mine and poor ventilation. By 1931 the working face was about half a mile from the ventilation shaft.

A letter written to the 'Labour Daily' in 1924 gives one miner's impressions of working in the Mine.

The coalmine under the Harbour

"The Cage in which we go down this deep shaft appears to have outlived its usefulness.

"Some of the side plates are eaten through with rust.

"It is still used for lowering and raising men – 36 at a time.

"When we step on the cage to go into this living tomb, we do not know but that the day may be our last.

"Much of our risk could be remedied, but profits stand in the way.

"A few yards from the shaft bottom we have several minutes to get our eyes accustomed to the dungeon-like darkness of our surroundings.

"Then we start in single file – a stream of men, about 70 in number. The dust begins to rise from under our feet and we are in a cloud due to horse refuse and stone dust.

"There's no side-stepping the foulness of it.

"After the best part of an hour's walk under beautiful Sydney Harbour we reach, in a half-dazed state, the coal face.

"Dripping with perspiration we began to get our drapery off.

"By gee, Scotty,' a mate of mine will say, 'She's hot – a regular furnace.'

"The work on this longwall face is so dangerous a man is always on his guard. Broken roof is the most awkward feature of this particular job.

"This means that it is always broken in the face. Every miner knows how much more this difficulty adds to his work of cutting coal.

"Apart from watch your life and limbs, the miner has to see that none of this stone get in among his coal. If it does you are treated as not trustworthy and rewarded with the boot."

The mine had a feeble extension of life as a producer of methane gas which, before its final sealing, caused two serious accidents.

In 1932 the Natural Gas & Oil Corporation Ltd issued a prospectus which stated that it was expected to find gas or oil if a bore was put down a further 3000-4000 feet below the bottom of the mine shafts.

Two men were preparing the site for boring in January 1933, when an explosion occurred. They were severely burned and later died in Balmain Hospital. Because of the apparent dangers of boring operations in the shafts, the boring rig was set up on the surface.

By 1937 the bore had reached 4937 feet from the surface. No reservoir of gas was found and the gas flow was weak.

The source of methane which had been a problem in coal mining operations has mainly been the face of freshly broken coal.

During the war and after, the gas was compressed and sold as an industrial and motor fuel. In the peak year, 1944, over 11 million cubic feet of gas was produced.

The last year of production, 1950, records a pathetic total annual value of gas sold as £36.

In April 1945 a further gas explosion had occurred, killing two men and injuring two others.

The property was sold in 1955 to Grascos Cooperative Ltd. Each shaft had been filled with fly ash from White Bay Power Station and concrete seals were placed on the shaft heads by 1957.

There have been several newspaper reports and questions in Parliament since, but it is considered impossible for an explosion to occur.

Most of the workings have probably collapsed and filled with water, and access to the surface of the gas is blocked by 2800 feet of ash topped by seals, and now also by buildings.

After the war the Joint Coal Board did give consideration to reopening the mine for coal production.

This was rejected because working conditions would have prevented mechanisation, the workings would have collapsed, surface equipment was worn out or had been sold, and the area able to be worked from the existing shafts was too small to be economic.

With the increasing demand for energy which can be met in part by coal, mining will be carried on in deeper and deeper parts of the Sydney Basin.

At present mines in the southwestern coalfield are working at over 1500 feet. It seems certain that coal will eventually be mined again at a depth of over 2000 feet not far from Sydney.

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