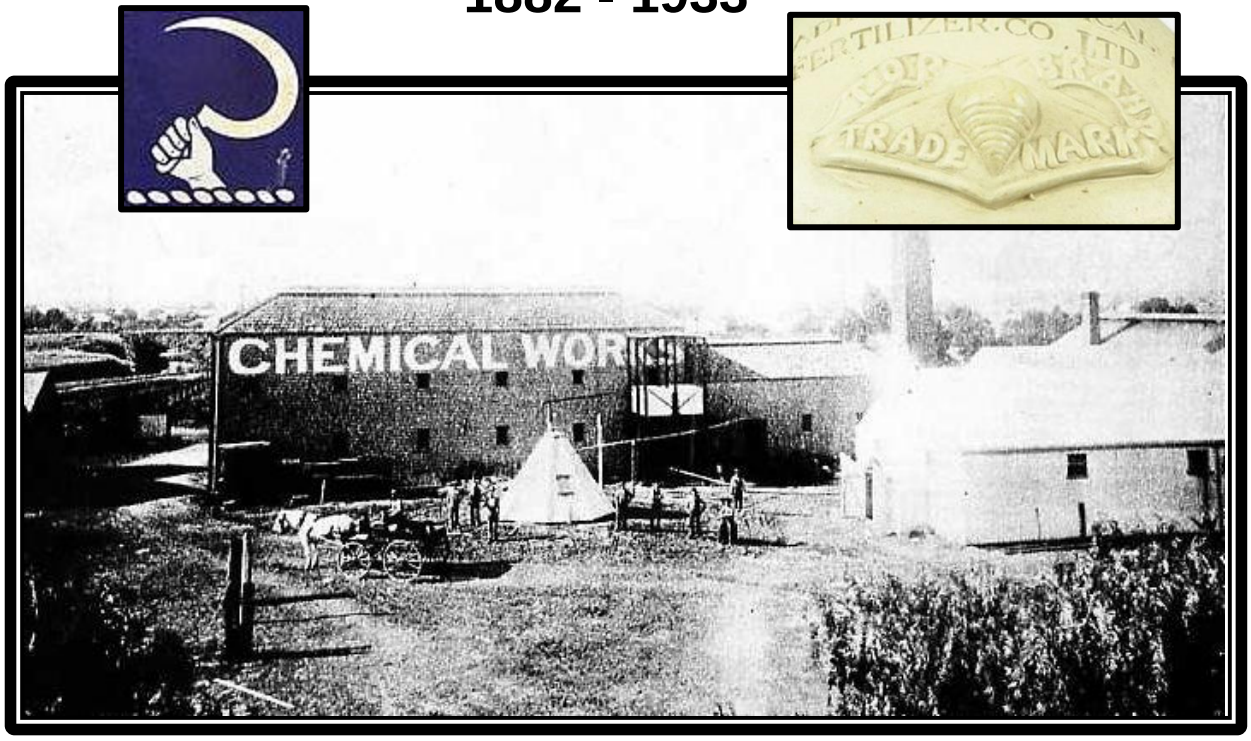
Adelaide Chemical Works

(New Thebarton/Torrensville)

1882 - 1933



1893 [WTHS LH0074-02a]

West Torrens Historical Society Inc.

(G. Grainger, 2021)

Every effort has been made to provide complete and accurate information, please advise of any errors or omissions.

1868 YARRAVILLE SULPHURIC ACID PLANT

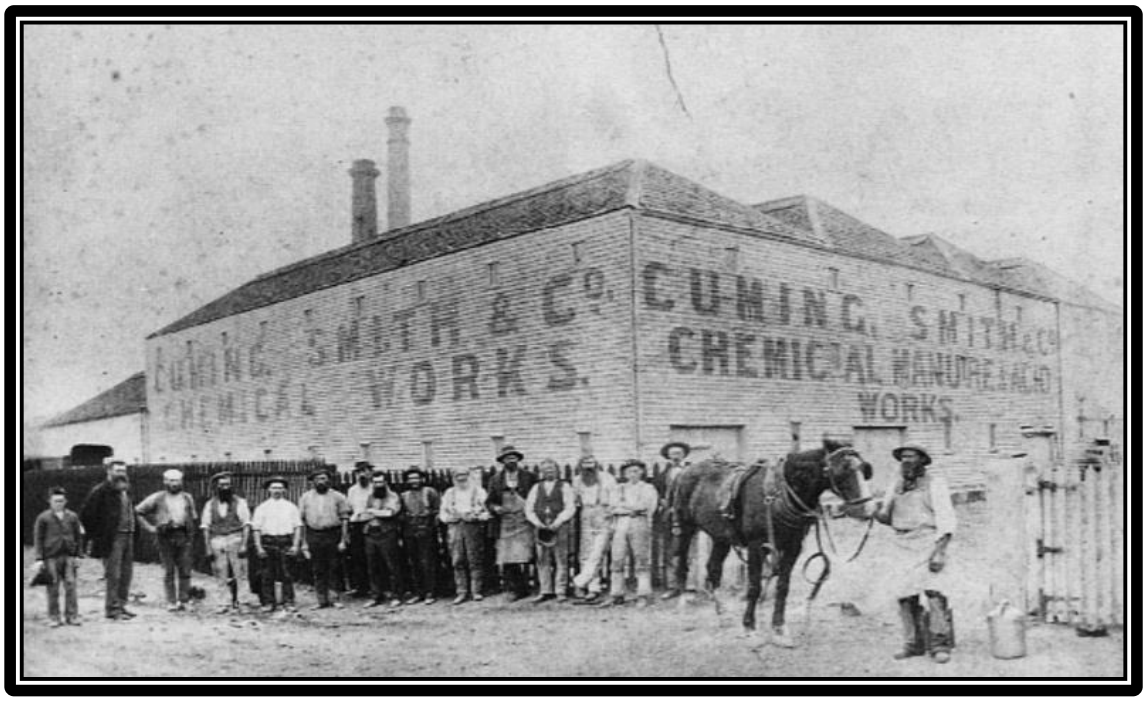
In 1868 successful farrier James Cuming (1835-1911), originally from Aberdeen, Scotland, and Charles Campbell (1840-1905), a lime and cement merchant and a fellow Aberdonian, bought a small sulphuric acid plant in Yarraville, an inner western suburb of Melbourne.

Sulphuric acid is used in a wide range of industrial applications including metal processing, textile manufacture and water treatment.

1872 CUMING, SMITH & COMPANY

In 1872 Cuming and Campbell acquired Robert Smith and Co., which operated a chemical works factory next to their business.

George Smith, a former manager of Robert Smith and Co. and Cuming's brother-in-law, was also involved in the purchase of the business, which was renamed as Cuming, Smith and Company.



Staff outside the Yarraville works, circa 1880. James Cuming is second from the left
[University of Melbourne Archives]

SUPERPHOSPHATE

Building on discoveries of a few years earlier, in 1843 Englishman John Bennet Lawes (1814-1900) had founded the artificial fertiliser industry by developing a method of manufacturing superphosphate (also known as mineral or rock super) in commercial quantities.

Superphosphate was a potent new plant and crop fertiliser formed by the action of sulphuric acid on crushed mineral phosphates: the acid turned normally insoluble phosphates, which were lacking in many soils, into a soluble form more readily usable in cultivation.

From 1875 Cuming, Smith and Company, driven in particular by James Cuming, used the new technology in its Melbourne factory. The development is considered by many observers to be the beginning of the Australian fertiliser industry, which in time transformed Australian agriculture and horticulture.

Cuming, Smith and Company's distinctive Sickle Brand fertilisers became known Australia-wide.

[antiquesreporter.com.au]

[auctionfinder.com.au]

Superphoshate [gevicomltd.com]

1881 SOUTH AUSTRALIAN FACTORY

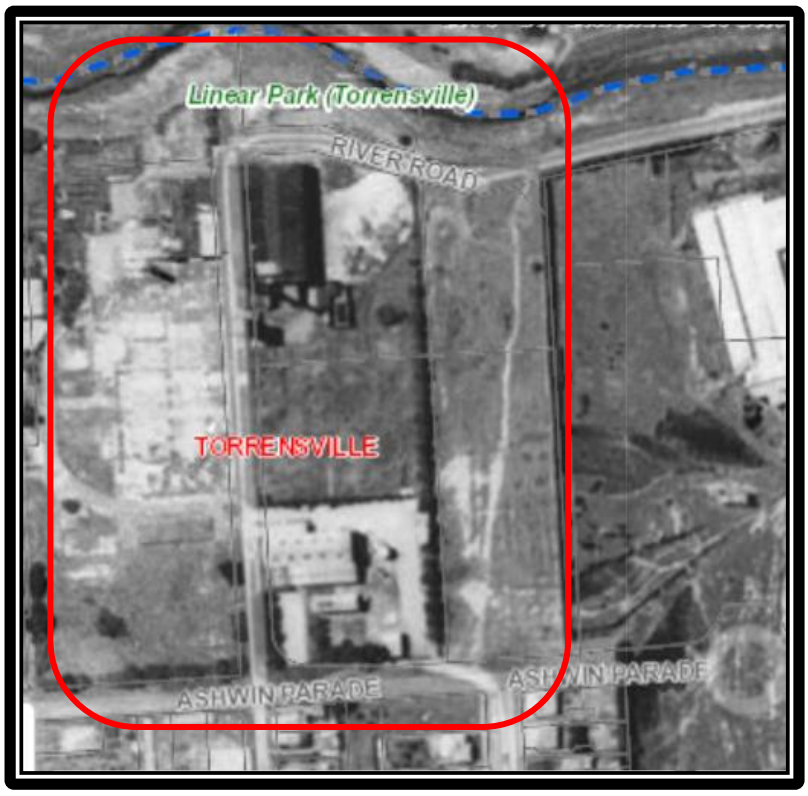
In 1881, bouyed by the success of the Melbourne plant, Cuming sent his eldest son Robert Burns Cuming (1859-1910) to set up a similar factory in Adelaide - in South Australia both sulphuric acid and superphosphate had to imported at high tariffs from other Australian colonies or from overseas.

Educated at the Bell Street School, Fitzroy, then studying for a time to be a veterinary surgeon, Robert had joined the family company as a manufacturing chemist in 1879. (His birth year was also the centenary of the birth of Scottish poet Robert Burns, hence his middle name).

1881 NEW THEBARTON PLANT

In late 1881 R.B. Cuming chose a rectangular 5.5 acre (around 2.22 hectares) site on the western side of Bellingham Street (renamed by the Thebarton council as a part of Jervois Street in 1937) New Thebarton Extension (which became a part of Torrensville from 1909) as the home for the venture.

The site stretched from Ashwin Parade to the River Torrens and was close to the city of Adelaide and to nearby market gardens and secondary industry, the latter of which were potential markets for the company.



Torrensville Site - 1935 [WestMaps public]

The plant was a joint financial venture between James Cuming, Campbell and Melbourne businessmen Alfred Fenton and Frederick Grimwade.

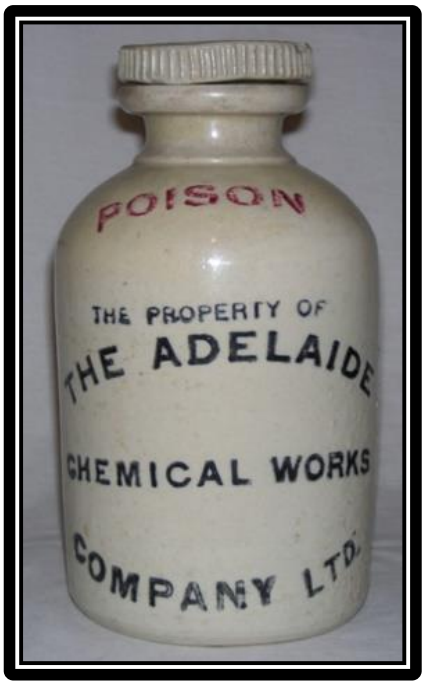
Designed by architect Edward Poulton of Lorne Chambers, King William Street and built by Messrs Clausen and Company of Adelaide, it cost £7,500. The factory's main plant covered 4,400 square feet (around 409 square metres).

The plant was constructed largely of wood since acid fumes would damage an iron structure. The site also featured eight furnaces and a chimney stack. The plant's boiler and furnaces were made at James Hooker's Hindley Street foundry.

[WTHS LH0074-06]

1882 ADELAIDE CHEMICAL WORKS COMPANY

The Adelaide Chemical Works Company began operation on 22 July 1882 – it was not only South Australia's first chemical plant but one of only four in Australia. John Mossop was plant superintendent and head chemist.



[antiquebottles.com.au]

At first the company employed only a handful of workers (and one horse) and concentrated on the manufacture of sulphuric acid and to a lesser extent acetic, carbolic, nitric and muriatic acids (the last a form of hydrochloric acid).

By the late 1880s the company was producing more than seven hundred tons of acid per year.

From mid-1884 the Adelaide Chemical Works ventured into the manufacture of artificial fertiliser by soaking bones with sulphuric acid, a mixture called Bone Super.

The company soon substituted more productive phosphate rock for bone to produce superphosphate.

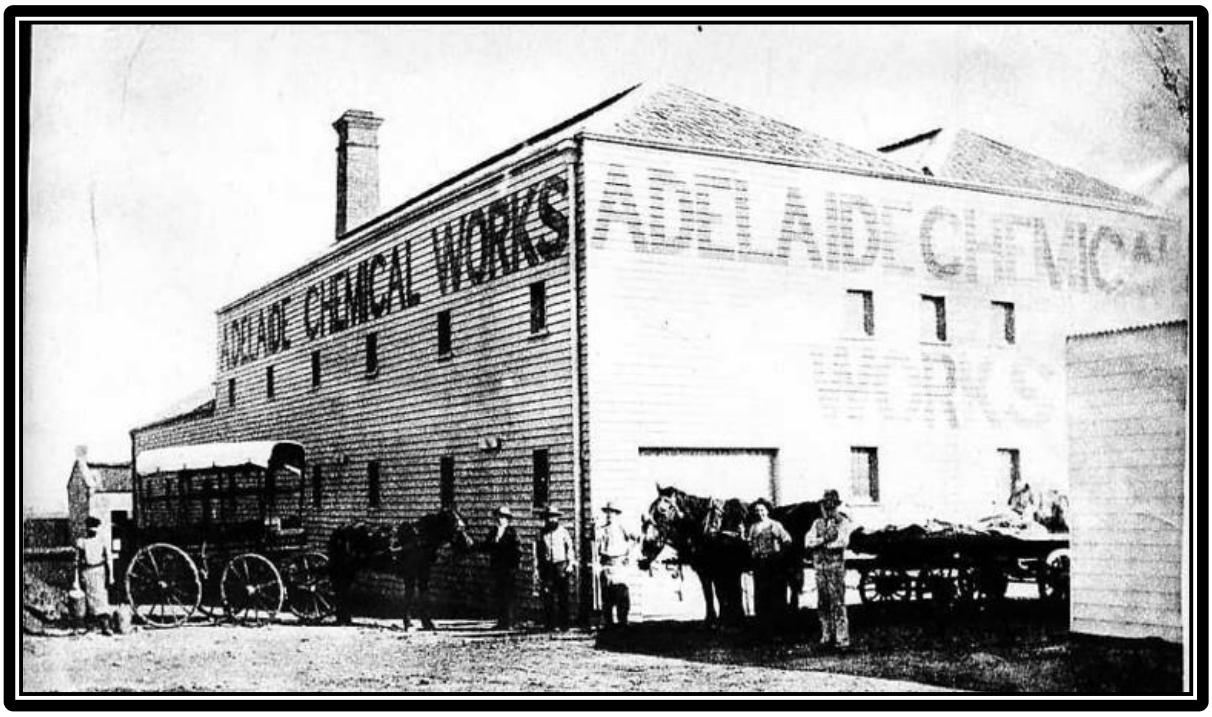
According to some sources Joseph Parsons of Curramulka was in 1892 the first South Australian farmer to use superphosphate – though not very successfully to begin with since he scattered it rather than drilling it with the seed into the soil.

South Australian farmers and gardeners, many of whom were naturally conservative, were deeply suspicious of the product at first.

Indeed in an attempt to boost sales the Adelaide Chemical Works initially gave superphosphate to growers for free – but even this failed to stimulate much interest and in the early years most of the company's superphosphate was exported to sugar plantations in Java.

[victoriancollections.net.au]

When South Australian farmers did tentatively begin buying artificial fertilisers in these early years they preferred the imported product, mainly from Britain, which they believed was of superior quality to local output.



1893 Adelaide Chemical Works, Torrensville [WTHS LH0074]

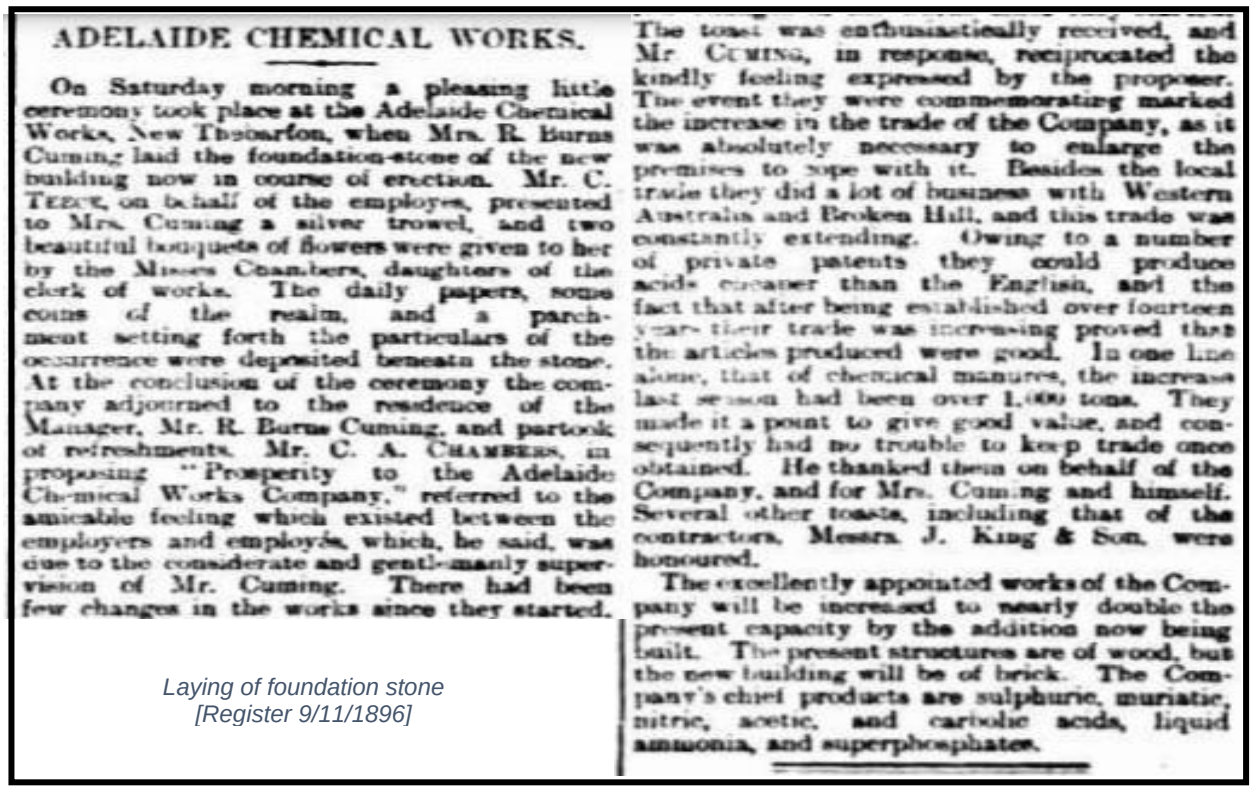
1896 PLANT EXPANSION

By 1896 the New Thebarton plant employed around fifteen men and in addition to its manufacture of acids and small quantities of superphosphate, produced a range of fertilisers including those based on liquid ammonia, iron sulphate and sodium nitrate.

The company sold to local, New South Wales and Western Australian markets.

Increasingly optimistic about its future, despite the occasional winter flooding of its factory by the Torrens (in 1889 for example) in March 1894 and June 1895 the company had bought an extra 1.92 acres/c. 0.78 hectares west of Jervois Street.

The following year it rebuilt and doubled the size of its plant to 2.5 acres (around 1.01 hectares). Construction, by James King and Son of Hindmarsh to a design by Cuming, began in November 1896. Cuming asserted, probably accurately, that the brick plant was one of the most modern of its kind in the world. To reduce transport times the company also built a private road of around three hundred metres along the southern bank of the Torrens from the factory directly to Taylors Road (now South Road).



ADELAIDE CHEMICAL WORKS.

On Saturday morning a pleasing little ceremony took place at the Adelaide Chemical Works, New Thebarton, when Mrs. R. Burns Cuming laid the foundation-stone of the new building now in course of erection. Mr. C. Teece, on behalf of the employes, presented to Mrs. Cuming a silver trowel, and two beautiful bouquets of flowers were given to her by the Misses Chambers, daughters of the clerk of works. The daily papers, some coins of the realm, and a parchment setting forth the particulars of the occurrence were deposited beneath the stone. At the conclusion of the ceremony the company adjourned to the residence of the Manager, Mr. R. Burns Cuming, and partook of refreshments. Mr. C. A. Chambers, in proposing "Prosperity to the Adelaide Chemical Works Company," referred to the amicable feeling which existed between the employers and employés, which, he said, was due to the considerate and gentlemanly supervision of Mr. Cuming. There had been few changes in the works since they started. The toast was enthusiastically received, and Mr. Cuming, in response, reciprocated the kindly feeling expressed by the proposer. The event they were commemorating marked the increase in the trade of the Company, as it was absolutely necessary to enlarge the premises to cope with it. Besides the local trade they did a lot of business with Western Australia and Broken Hill, and this trade was constantly extending. Owing to a number of private patents they could produce acids cheaper than the English, and the fact that after being established over fourteen years their trade was increasing proved that the articles produced were good. In one line alone, that of chemical manures, the increase last season had been over 1,000 tons. They made it a point to give good value, and consequently had no trouble to keep trade once obtained. He thanked them on behalf of the Company, and for Mrs. Cuming and himself. Several other toasts, including that of the contractors, Messrs. J. King & Son, were honoured.

The excellently appointed works of the Company will be increased to nearly double the present capacity by the addition now being built. The present structures are of wood, but the new building will be of brick. The Company's chief products are sulphuric, muriatic, nitric, acetic, and carbolic acids, liquid ammonia, and superphosphates.

Laying of foundation stone
[Register 9/11/1896]

1901 LARGE SCALE MANUFACTURING

It wasn't until the mid-1890s that, buoyed by extensive testing by academics and others, first market gardeners then larger scale farmers began slowly to accept the efficacy of the use of locally-made superphosphate.

From 1901 the Adelaide Chemical Works was confident enough to begin manufacturing superphosphate in large quantities.

The first bulk shipment of 3,350 tons of the phosphate rock required for manufacture arrived in Adelaide from Ocean Island – now Banaba, an island of Kiribati in the central Pacific – in November 1901. (The island was eventually destroyed by mining).

Shortly after Florida (US), became a key source of phosphate rock. Much of the rock sulphur required for local manufacture was from Sicily.

Phospate extraction early 1900's ruined 90 percent of Ocean Island [banabavoice.ning.com]

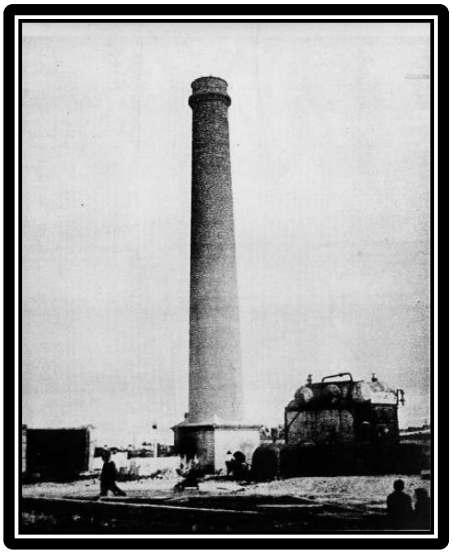
On the back of rising sales company expansion continued into the new century.

From February 1900 an additional plant was built on an 11.5 acre (around 4.65 hectare) site at Ocean Steamer Wharf, Port Adelaide. The plant, covering 0.53 acres (around 0.21 hectares) and designed by Cuming's younger brother Marianus, initially employed around forty workers.

The company also established offices at 19 Currie Street, Adelaide in September 1900 and in 1903 bought the Royal Chambers building, 38 Currie Street, for £8,500; the company's head office was based in the ground floor of the building for almost the next sixty years.

1901 CONTINUED EXPANSION

Expansion continued at New Thebarton. In 1901 much of the old machinery was replaced and the factory extended, including the construction of a distinctive new 110 feet (33.5 metre) high chimney with an average diameter of twelve feet (3.66 metres). The chimney weighed 340 tons and required 82,000 bricks for its construction. (It was the largest of several chimneys at the plant).



[WTHS LH0074-04a]

By 1903 the Adelaide Chemical Works had over the years spent around £25,000 on the New Thebarton plant, which now covered about 200,000 sq feet (4.6 acres (around 1.86 hectares) on 7.4 acres (3 hectares).

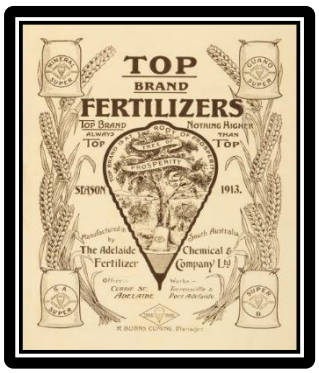
The New Thebarton and Port Adelaide factories were together producing around 20,000 tons of fertiliser per year, including about 10,000 tons of superphosphate, and a wide range of acids. In their peak February-April period the factories employed around 120 workers.

1904 REGISTRATION AS A LIMITED COMPANY

Now confident of its future and seeking to raise funds for further growth, in February 1904 the Adelaide Chemical Works Company was registered as a private limited company, the Adelaide Chemical and Fertilizer Company Limited, with starting paid up share capital of £50,000. Charles Campbell was chairman of the four man board of directors, with Robert Burns Cuming as a member.

By this time the company's range of fertilisers had expanded to include Super B (superphosphate with a lower than usual phosphate content), ammonium sulphate, kainite, potash sulphate and guano super – the last, first made by the company in 1898, was formed by the action of sulphuric acid on crushed seabird excrement. The company also manufactured specialised wheat fertiliser (SA Super Wheat manure) and a range of cattle and poultry feed.

From late 1904 the Adelaide Chemical Works began using a variation of its parent company's Sickle brand on their fertilisers; however after complaints from Cuming, Smith and Co that the move was diverting sales from its own lines, from September 1906 the Adelaide Chemical Works began using the 'Top' brand for its products. The name was in use until the mid-1990s.



[abebooks.com]

1905 EAST PLANT CONSTRUCTION

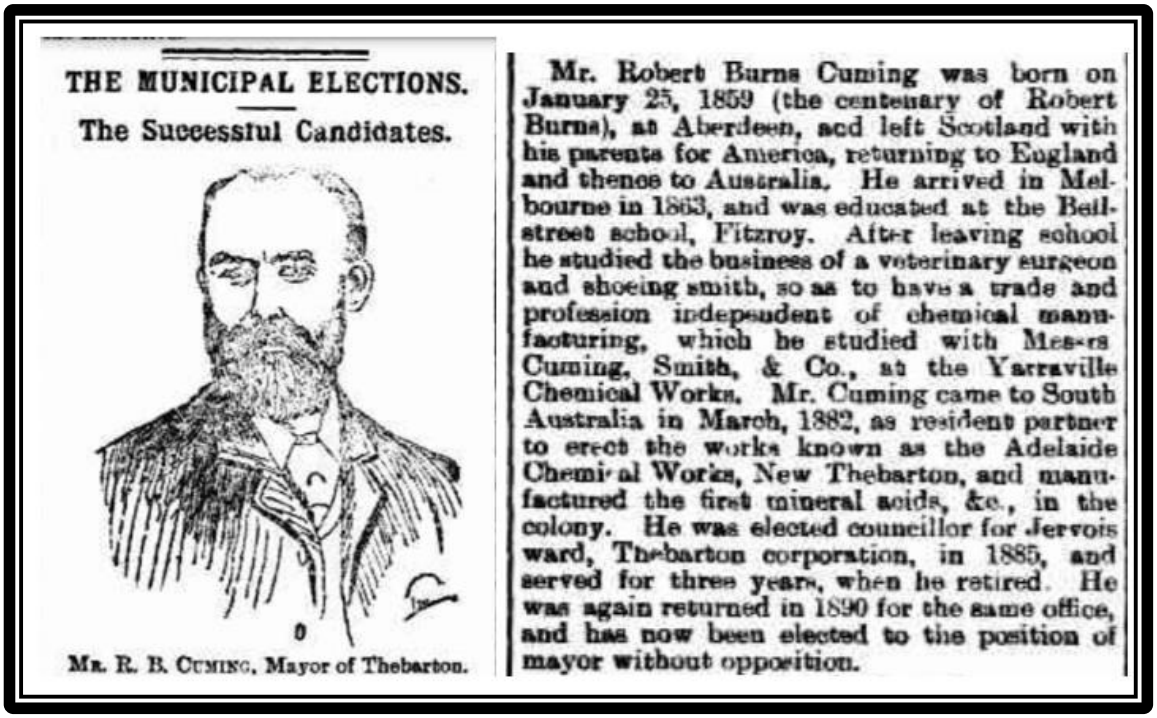
There were more changes at New Thebarton from mid-September 1905. The construction of an additional 1630 square feet (around 151.4 square metres) plant on the site – the plant was known within the company as the East plant while the existing factory became the West plant – allowed the manufacture of up to an extra 10,000 tons of fertiliser per year on top of the 27,615 tons (more than half of which was superphosphate) it was then producing.

SA farmers were now spending around £212,000 per year on artificial fertilisers. The company had also acquired more land at New Thebarton, in July 1905 buying for the first time around 4.5 acres (around 1.82 hectares) on the eastern side of Bellingham Street, extending from Ashwin Parade to the river. The company now owned about twelve acres (around 4.86 hectares) at New Thebarton Extension.

THE LIFE OF ROBERT BURNS CUMING SENIOR

After several years of poor health**,** Robert Burns Cuming died at his Torrensville home 'Burn Brae' (68 Meyer Street), on 5 May 1910, survived by his wife Elizabeth, nee Cleghorn (c.1861-1918) and their three sons and two daughters.

In addition to his role with the Adelaide Chemical Works Cuming had been active in local government, being a member of the Thebarton council in 1885-87, 1890-94 and 1899-1900 (elected unopposed for Jervois ward) and mayor of Thebarton, elected unopposed, in 1893-94 and 1901-03.



THE MUNICIPAL ELECTIONS.

The Successful Candidates.

Mr. R. B. Cuming, Mayor of Thebarton.

Mr. Robert Burns Cuming was born on January 25, 1859 (the centenary of Robert Burns), at Aberdeen, and left Scotland with his parents for America, returning to England and thence to Australia. He arrived in Melbourne in 1863, and was educated at the Bell-street school, Fitzroy. After leaving school he studied the business of a veterinary surgeon and shoeing smith, so as to have a trade and profession independent of chemical manufacturing, which he studied with Messrs Cuming, Smith, & Co., at the Yarraville Chemical Works. Mr. Cuming came to South Australia in March, 1882, as resident partner to erect the works known as the Adelaide Chemical Works, New Thebarton, and manufactured the first mineral acids, &c., in the colony. He was elected councillor for Jervois ward, Thebarton corporation, in 1885, and served for three years, when he retired. He was again returned in 1890 for the same office, and has now been elected to the position of mayor without opposition.

The Express and Telegraph (Adelaide, SA) - Dec 14 1893

Cuming served for several years on the council of the Adelaide Chamber of Manufactures and was president in 1906-1907.

He was also active in sporting and recreational circles, particularly cricket, horse breeding and lawn bowls.

Cuming Street, a part of a Mile End subdivision laid out by the South Australian Company in August 1903, was named in his honour.

1910 ROBERT BURNS CUMING JUNIOR TAKES OVER

Cuming's third child, also named Robert Burns Cuming (1887-1956), took over as manager and as a director of the Adelaide Chemical and Fertilizer Company Ltd after his father's death.

He eventually became managing director in 1919, company chairman in 1947 and was a board member for forty-eight years until his death.

Cuming the younger was a prominent member of Adelaide's business and horse racing communities and was a Thebarton councillor (Jervois ward) for two years from July 1940.

A horse drawn wagon owned by the Adelaide Chemical Works competing at a horse show in South Australia [SLSA PRG 280/1/22/44]

As an aside it should be mentioned that Burns Cuming the younger had a somewhat tragic life. He and his wife Doris lost both of their sons during the second world war: elder son Flight-Lieutenant Robert Wylie Burns Cuming died aged thirty years in January 1942 in a plane crash during the evacuation of west Timor, while second son Captain Jack Colin Cuming (b. 1913) was killed in action in November 1942 while serving with the 2/27 Australian Infantry Battalion in New Guinea. Flight-Lieutenant Cuming's widow, Patricia, took her own life in Singapore in October 1947.

1911 FINAL EXPANSION

In September 1911 the Adelaide Chemical Works bought 6.8 acres (around 2.75 hectares), to extend its holdings further west of Bellingham Street. In October 1920 and December 1923 the company bought an additional 1.72 acres (around 0.70 hectares) west of Bellingham Street, bringing its final land holdings at Torrensville to around 20.4 acres (around 8.26 hectares). The company's land extended west along Ashwin Parade to just past West Street.

Before the coming of motor vehicles most of the land on the western side of Bellingham Street was used to stable and agist the company's delivery horses: there were more than fifty in use in the early twentieth century.

By 1917 the Torrensville plant was making around 25,000 tons of fertiliser per year and the Port Adelaide plant (which was also extended substantially over the years) about 20,000 tons. At Torrensville the company's bagging machines dealt with one hundred tons per day and worked around the clock.

Port Adelaide, Interior view showing the bagging process 1961 [SLSA B53926]

By 1917 the company also manufactured specialised fertilisers for grasses, orchards, vegetables and vines. The company continued to manufacture a range of acids as well as salt cake and tallow.

The foreman of the Torrensville branch of the Adelaide Chemical Works at this time was Mr Cureton Teece (1865-1943). Beginning with the company in 1884 and retiring in 1930, Teece was foreman for over thirty years and became the longest serving employee in the life of the Torrensville plant.

By the end of the 1920s the value of superphosphate use was clear to South Australian farmers and horticulturalists.

In 1897-98 just 60,000 acres (around 24,281 hectares), 2.1% of the agricultural land in South Australia, had been dressed with 2,000 tons of superphosphate.

By 1928-29, 4.25 million acres (around 1.721 million hectares) of land, 91.2% of South Australian agricultural land, was dressed with 172,000 tons of superphosphate. Total use around Australia was around 480,000 tons.

By 1940-41, 220,000 tons of superphosphate were being used in South Australia.

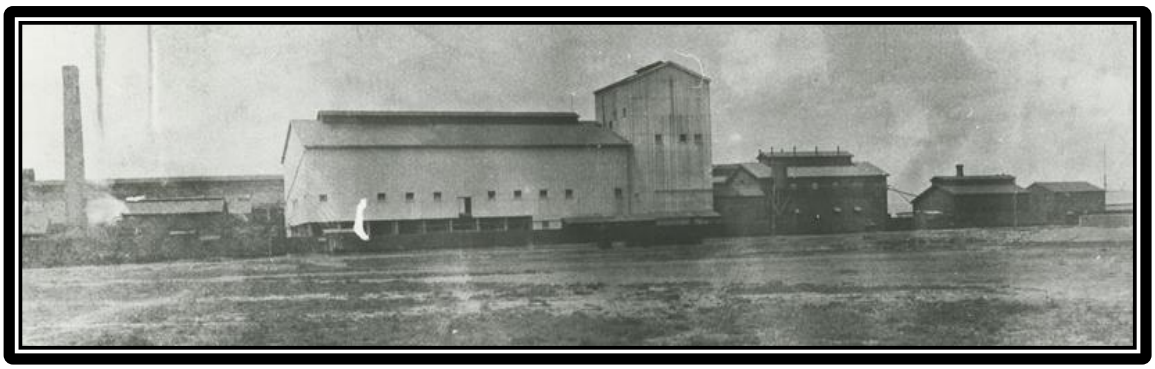
The story of the overwhelming acceptance of superphosphate was the same around Australia.

COMPETITION IN THE MARKET

The growth in the market for superphosphate had attracted new companies into the field in South Australia and elsewhere. Although there were around a dozen local firms manufacturing fertiliser, until 1914 the Adelaide Chemical Works had virtually monopolised the then £500,000 South Australian market.

However, the appearance of the Wallaroo-Mt Lyell Fertiliser Company early in that year brought a formidable new competitor to the table. With better access to inputs, by late 1916 the Wallaroo-Mt Lyell Fertiliser Company had already become the market leader, supplying around 65,000 tons of the 105,000 tons of artificial fertiliser then sold in South Australia. The Adelaide Chemical Works supplied most of the remainder.

The directors of Cuming, Smith and Company of Melbourne, the Adelaide Chemical Works's parent company, were so concerned by the rapid emergence of the Wallaroo-Mt Lyell Fertiliser Company that in 1917 they negotiated a deal with the company: the Wallaroo-Mt Lyell company was guaranteed a 61.4% share of the South Australian fertiliser market provided that the Adelaide Chemical Works was allowed the rest.



Wallaroo-Mount Lyell Fertilisers Ltd. factory, Port Adelaide.[SLSA B36323]

Although local management of the Adelaide Chemical Works was deeply unhappy with the arrangement – even after the Wallaroo-Mt Lyell company's sales allocation was reduced to 58% in 1926 – it remained in place until June 1933.

During the early years of the agreement both companies sourced their sulphur requirements from overseas suppliers. It was 1923 before they were able to use sulphuric acid manufactured exclusively by the Electrolytic Zinc Company of Tasmania, an arrangement that remained in place for many years. From 1921 both companies sourced their phosphate rock principally from Nauru and the Christmas and Ocean Islands.

By 1921-22 the Adelaide Chemical Works' sales were down to 38,200 tons, with turnover a little under £277,000. By the mid-1920s the emergence of another large player, Cresco Fertilisers Ltd, formed in 1913 by two former employees of the Adelaide Chemical Works, had consigned the Adelaide Chemical Works (which now employed around 260 workers) to third place in the market.

A later executive of the Adelaide Chemical Works maintained that the sales agreement with the Wallaroo-Mt Lyell company had 'stultified' incentive in his company, facilitating the rise of Cresco.

1924 LAND SALE

Already under business pressure, in February 1924 the Adelaide Chemical Works sold just over an acre of its land at the eastern corner of Bellingham Street and Ashwin Parade to the Western Oxygen Company Limited, a manufacturer of industrial oxygen for use in steel making and other metal refining and fabrication processes. (The Adelaide Chemical Works had never used its land on the eastern side of Bellingham Street).

Under additional economic strain with the onset of the Depression – although production remained solid at around 50,000 tons the company's workforce eventually fell by half during the crisis – in early 1932 the Adelaide Chemical Works resolved to base all its future production at its Port Adelaide facility apart from a bone grinding mill it established at Dry Creek.

At the same time the company sold its remaining 3.35 acres (around 1.36 hectares) on the eastern side of Bellingham Street to the Carba Dry Ice Company.

Peak production of superphosphate at Torrensville was around 25,000 tons in 1930.

1933 TORRENSVILLE CLOSES / SUBSEQUENT SITE USE

By the middle of 1933 the transition to Port Adelaide was complete and the Torrensville site was closed.

The company had donated its private road to Taylors Road to the Thebarton council in January 1933.

The Torrensville site lay abandoned until mid-1936 when salvage contractor Hugh Pender of Hampstead (Gardens) was hired to demolish the remaining buildings and chimney stacks. It was August 1938 before the site's last chimney, the massive construction built in 1901, was detonated.

Commonwealth Industrial Gases (CIG) South Australia Ltd (which the Western Oxygen Company was renamed in August 1946) and the Carba Dry Ice Company owned land on the eastern side of Bellingham/Jervois Street until the late 1980s.

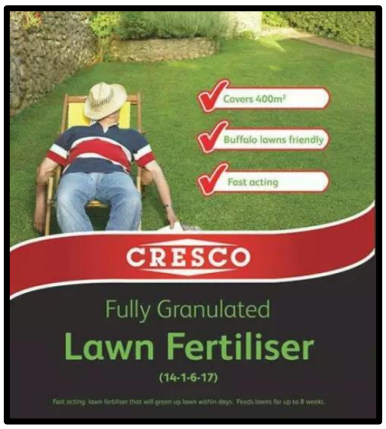
It was then sold to Peter Cochrane Transport, its current owner and occupier; that company also leases parts of the site to a range of businesses.

Though bought by CIG in December 1957 for £42,500 the 14.5 acres (around 5.87 hectares) on the western side of Jervois Street remained unoccupied until the mid-1970s. Today much of it is owned by Peter Cochrane Transport, except for a small portion owned and occupied by BOC Gases, which took over CIG in 1990, on Ashwin Parade. Another section near the Torrens is owned by the state government.

1936 THE BIG THREE

In the wake of a May 1936 agreement to split the state's market almost evenly among themselves, until the 1960s the Adelaide Chemical and Fertilizer Company, Wallaroo-Mt Lyell Fertilisers Ltd and Cresco Fertilisers Ltd remained the three dominant fertiliser manufacturers in South Australia.

In 1964-65 the Adelaide Chemical and Fertilizer Company had a paid up share value of £800,000 and total output of 201,406 tons.



1965 COMPANY MERGER

In November 1965 the Adelaide Chemical and Fertilizer Company and Wallaroo-Mt Lyell Fertilisers Ltd merged to form Adelaide and Wallaroo Fertilisers Limited. With starting issued capital of £1.632 million Adelaide and Wallaroo Fertilisers became a key player in the Australian fertiliser market.

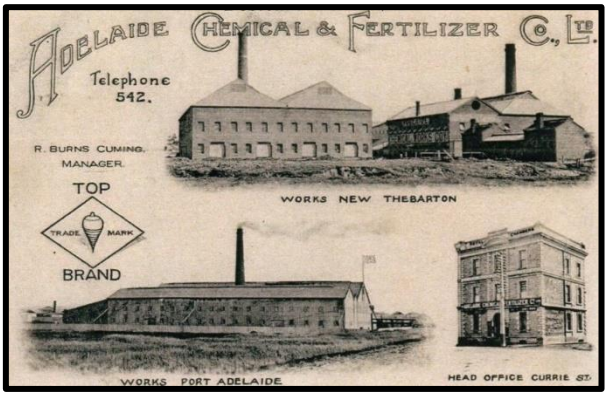
1987 TOP LIMITED / 2003 INCITEC PIVOT LIMITED

The company became Top Australia Limited in December 1987 and, after various corporate manoeuvrings, has been a part of multinational company Incitec Pivot Limited since 2003.

Incitec Pivot Fertilisers is the largest supplier of fertilisers in Australia. The company continued to manufacture fertiliser at the Ocean Steamers' Road, Port Adelaide site – originally set up by the Adelaide Chemical Works in 1900 – until 2014.

FOR MORE INFORMATION:

- Heritage Victoria http://images.heritage.vic.gov.au/attachment/11732
- State Library SA https://archival.collections.slsa.sa.gov.au/brg/BRG165
- WTHS Archives LH0074



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West Torrens Historical Society Inc

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