

THE SUGAR HOUSE

CSR PYRMONT REFINERY
1878 - 1992



COVER

*Pymont Refinery from
the air with Darling
Harbour to the left.*

*(clockwise from
top right)*

Manuel Thymianos

Frederick Poolman

*An apprentice,
believed to be*

Alf Robbins

Sammy Danso

Bill Conway and

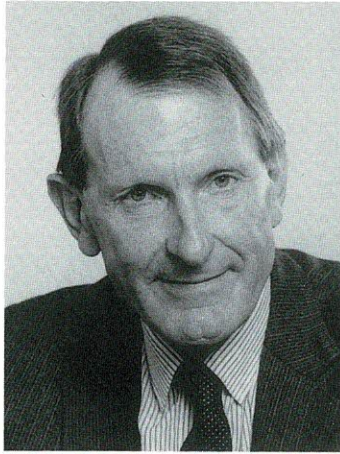
Bob Skyrme

*This book is dedicated
to the memory of Allan
Burton, who died on
September 23, 1992,
after 35 years' service
to CSR at Pymont. His
enthusiasm added
much to the quality and
content of this book.
Allan's own dreams of
writing a more detailed
history book on
Pymont will now,
sadly, go unrealised.*

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FOREWORD



It is sad to be writing about the closing of Pymont Refinery because it means the end of one of the main links to the company's origins.

The Refinery began operating in 1878 and is closing after 114 years. During that time many generations of Australians have been employed and so too many generations of technologists, including

myself. We learnt about sugar technology and about sugar refining during what was for many years a mandatory stint at Pymont.

The factory has a special place in the evolution of industrial education in New South Wales because many parts of the apprenticeship system had their origins there.

Much of the sugar technology so dear to CSR's heart and in its time so advanced in the international sugar refining world, was developed in the Research Laboratories at Pymont and tested at this Refinery. Certainly, the carbonation unit process was one that was pioneered here under Dr A.M. Hertzberg, who was subsequently General Manager of the Sugar Division and whom many present employees will remember.

Pymont Refinery is closing because of a change in the regulations governing sugar production in Australia, because it is now an old factory, and because of its close proximity to the central business district and to adjacent housing.

The Refinery really is the sum of its people. We salute the current employees for working through the last few difficult years and so to them, "Thank you, well done and good luck."

Ian Burgess,
Managing Director,
CSR Ltd

One afternoon in 1875 a small paddle-wheeler launch approached Johnston's Bay, which laps on the Pymont shore.

The EARLY YEARS

1875-1945

Aboard were directors and senior members of the Colonial Sugar Refining Company Ltd. They were looking for a site for a new refinery.

At Johnston's Bay, Company Secretary Mr Q. T. Deloitte looked at the deep-water frontage and again at the land behind it, and said "just the place we are looking for". Before the year was out CSR had leased the land and an adjoining property. The site's great advantage was that ships could unload sugar right on the Refinery wharf.

Pymont received its name when a woman in Captain John Macarthur's picnic party of 1806 remarked that the "pure and uncontaminated springs" on the headland reminded her of the medicinal springs of Pymont, near Hanover in Germany.

Refinery land acquired between 1892 and 1958 stemmed mainly from an original grant of 55 acres made to Thomas Jones in 1795 and 135 acres granted to Dr John Harris by Governor King in 1806. Jones's land was taken over by Captain John Macarthur, of merino sheep fame, in 1799.

Below
Frederick Poolman,
*who was responsible
for building Pymont
Refinery*



CSR had been operating a small refinery called Brisbane House in Parramatta Street since 1855, the year CSR was founded by Mr Edward Knox. This refinery had become inadequate as the demand for sugar in New South Wales increased.

Mr Knox, chairman of CSR at the time, planned to build "as good a refinery as could be built anywhere in the world". To help achieve his aim he sent an engineer, Frederick Poolman, on a tour of Europe to visit refineries and note the latest developments in design and technology so they could be incorporated in the Pyrmont Refinery.

Mr Knox believed Poolman, formerly manager of the Sandridge Works in Melbourne, was the most knowledgeable sugar refiner in Australia.

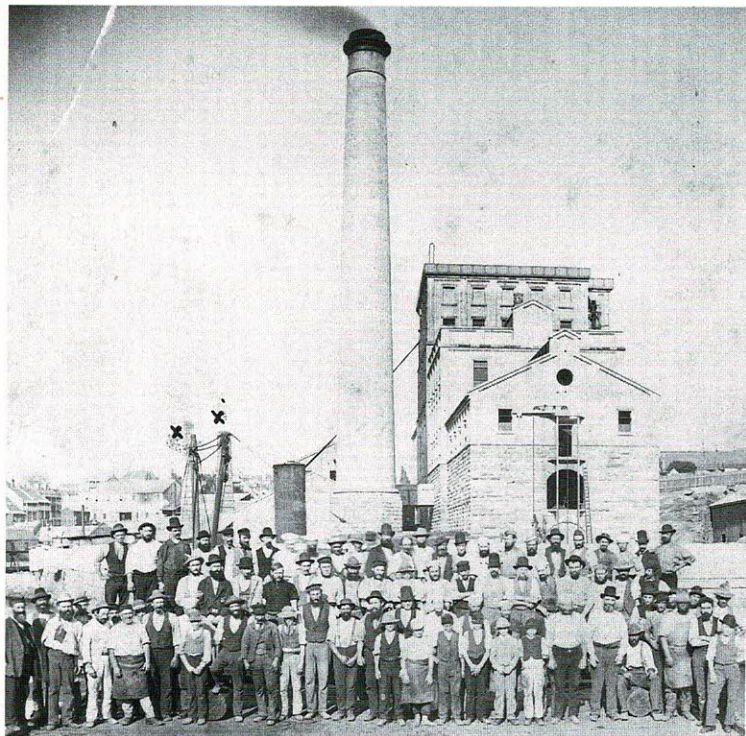
Poolman returned from visiting the best sugar houses in

England and Scotland with many ideas for improving the refinery plans.

Work started on building the Refinery from locally-quarried stone in 1876 and, by all accounts, Poolman succeeded in providing CSR with a refinery at least equal to any in the world - all for a cost of 120,000 pounds.

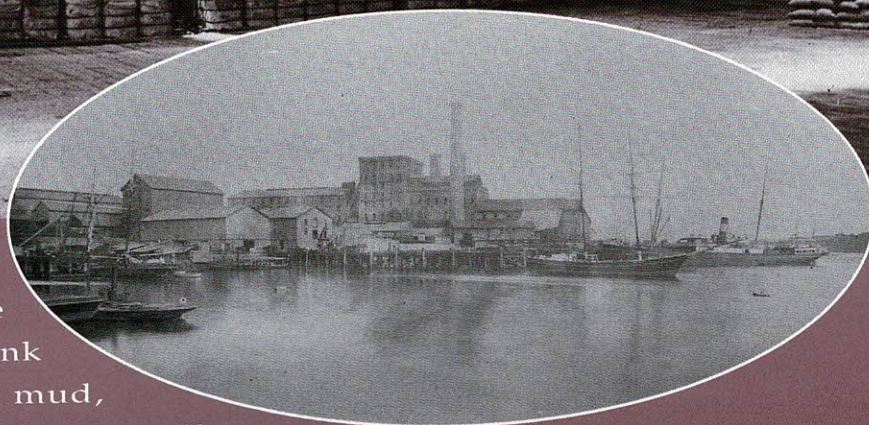
Almost all of its plant was imported from England and Scotland. Cast iron columns, tanks, pumps, steam engines and the vacuum pans all came from overseas.

Two long wharves were built into Johnston's Bay to receive the shiploads of sugar-making machinery. Tons of timber, steel, firebricks and other heavy material were piled on the wharves - so much cargo, in fact, that one of the wharves crumpled, toppling everything on it into the water. Divers worked for months to recover the centrifugals and missing bits of machinery



**Top Pyrmont Refinery
employees, 1878**

**Above
Fitters, 1895**



from where
they had sunk
deep in the mud,
but much of it is still
there.

Production begins

Pymont began operations on February 17, 1878, producing sugar at a far lower price than the Yarraville Refinery in Melbourne. It had a staff of 90 and a melting capacity to refine 400 tonnes of raw sugar a week. The early process included char-paste clarification, Taylor bag filtration and char treatment of filtered liquor.

The building, regarded at the time as a "splendid specimen of architecture in design and construction", contained nine floors. The roof consisted of an iron tank, 56ft x 4ft, capable of holding 80,000 gallons

Top *The raw sugar store*

Above *Early view of Pymont Refinery, possibly taken by Alf Robbins about 1890*



Top Pans 1892. The latest design and technology was incorporated into the Pymont Refinery when it was built

Above Plant foremen, circa 1900

of water. The vacuum pan for refined sugar crystallisation was the largest in the colony and held a charge of at least 25 tons, which it could treat in three to four hours. Other equipment included refined centrifugals and trays for air drying crystal sugar. Employees hand-turned the crystal to speed drying.

Fresh water was obtained from a well, 120ft deep, connected with a bore, four inches in diameter, which descended nearly 300 feet more.

A powerful pump raised the water to the tank on top of the Refinery.

In 1877 Frederick Poolman was appointed to the positions of Consulting Engineer to CSR and Manager, Pymont Refinery, both of which he held until 1885.

Poolman's employment was terminated on February 21 of that year, after one year's notice, because a depression in the sugar industry meant CSR could not afford to keep him on.

He started his own refinery in Melbourne and, after his death in 1892, his sons carried on the business. The Poolman Brothers erected a second refinery in Sydney in 1906, but both refineries were eventually bought by CSR.

Pymont's second Refinery manager was James Muir, who had come to Australia to erect a refinery in Melbourne, and he continued in the position until 1903.

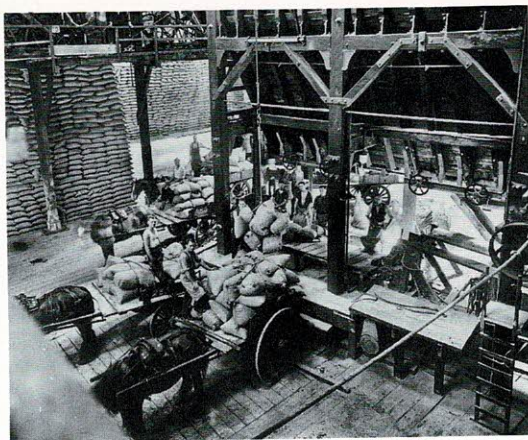
Scientific approach

Three years after Pymont was built, Mr Knox employed a Scottish chemist, Mr T. U. Walton, to try to improve the sugar milling and refining processes. Walton was a man of considerable insight, energy and ability who was able to improve the technical efficiency of the company's mills and refineries to the stage that made CSR a leader in the world sugar scene.

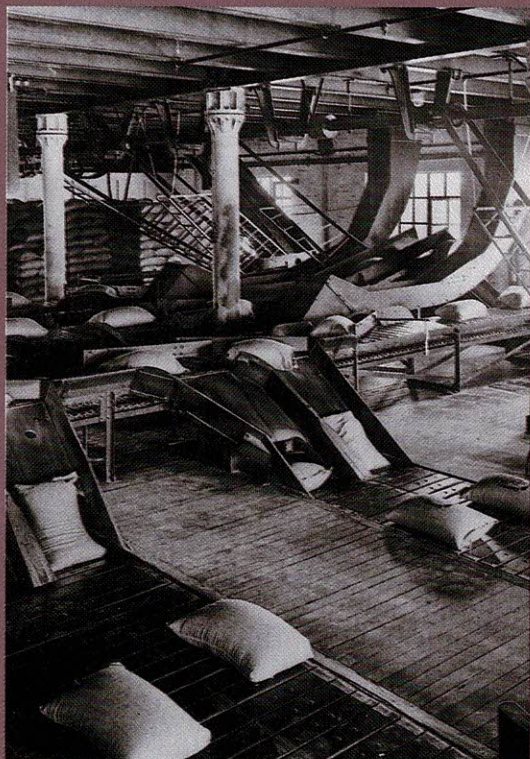
Its newly gained efficiency was one of the most important factors in enabling the company - and perhaps a big part of the whole sugar industry - to survive the sugar industry depression of the 1880s. The emphasis placed on finding new ways to improve efficiency was to set the pattern for the next 100 years.

Walton was able to apply his scientific knowledge to turn waste into marketable products. For example, in the incineration of bones to produce char for purifying the sugar, the acrid ammoniacal vapours were trapped and the ammonia sold - mostly in the form of manure. The molasses that once was waste was used to supply commercial spirits for manufacturing purposes.

As part of Pymont's policy of continually seeking ways to improve efficiency, affination centrifugals were installed in 1900, carbonation in 1912 and electric centrifugals in 1928.



Above *Cutting in station*



Above *Bagged, refined sugar being conveyed to the loading dock, 1950s*

Right *An early view of the Refinery taken from Balmain*

In those days the people who worked at the Refinery lived around it in cottages and terrace houses. An employee once remarked that he could be having breakfast when the morning whistle started to blow and at work by the time it finished.

The Refinery was producing 70 pound sugar bags to sell to the grocer, who emptied the sugar into a bin, alongside the flour and rolled oats. He would scoop up the sugar into a paper bag to sell to his customers.

The sugar was transported from ship to storage and from storage to customer by McCaffery's teams of horse and dray. Grand new stables were built in 1920 to accommodate 132 horses. The teams, minus the drivers who had dropped off at the pub at the end of the day's work, would make their own way up the hill to the feed bins.

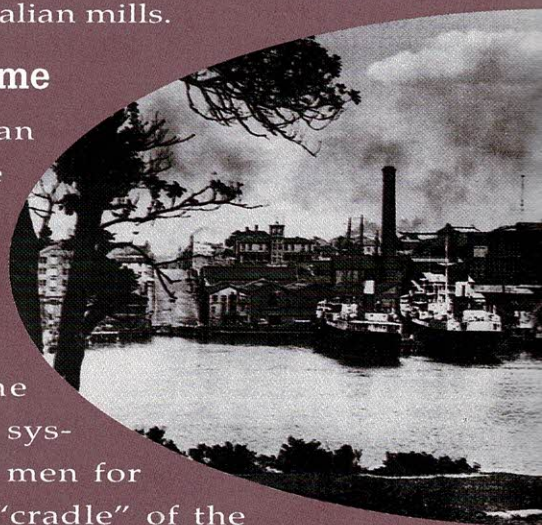
CSR acquired an interest in McCaffery's in 1923 and changed its name to Sugar Cartage Ltd.

Pymont Refinery played a key role in developing the Australian sugar industry, providing an assured market for sugar produced in the early Australian mills.

First training scheme

The Refinery also has an honoured place in the development of industrial education in Australia. It was probably the first industrial establishment in the country to introduce a system of training young men for the future. It was the "cradle" of the Australian apprenticeship training system.

Pymont was a large industrial installation in a colony which had little experience in secondary industry. Mr Knox found the educational standard of most young men entering employment at the Refinery was not high enough to enable them to take



places of responsibility. He set about remedying this by establishing an educational system which gained much respect and recognition.

This system changed in the 1930s when apprentices were required to study technical college courses. But the CSR training

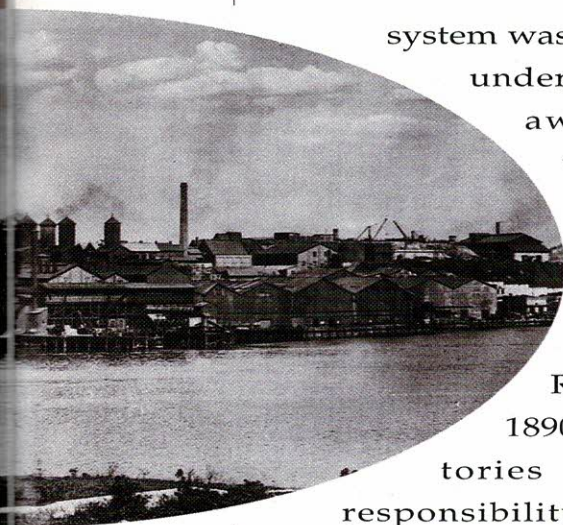


Above *The first apprentices at Pymont Refinery*

system was so well recognised that, under at least one industrial award, CSR apprentices were exempted from attendance at technical college.

The first CSR apprentice, believed to be Alf Robbins, was engaged in 1890, when engineers in factories took on the added responsibility to train these young men in the arts and skills of engineering. The Engineering Workshops at Pymont began operating in 1882.

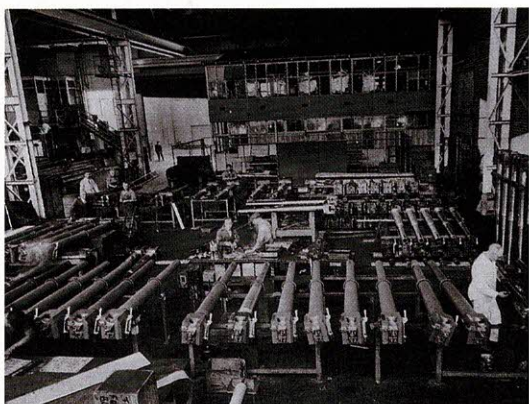
The educational status of the youths available for apprenticeships was low, so Mr Knox made it a requirement that any apprentice who wished to remain with CSR



Right **Construction of a temporary building shortly after the fire.**

Far right **'The Sun'**
Oct. 25, 1918

Below **Bag making-plant**



Above **The Refinery does its bit for the war effort, turning part of its operations over to munitions manufacture**

after they had served their time must be able to read and write, to work out problems in arithmetic, to understand how to work from drawings and to have a knowledge of plane mensuration.

In 1906 CSR appointed a tutor and introduced night classes at head office. These continued until 1956. The age of students varied from 16 to 22. The course covered theoretical mechanics and elementary drawing.

Students were required to attend one night a week for three years.

Elementary electricity was added to the course in 1909. In 1913 the course was extended to five years, two nights a week.

The concern CSR showed for the development of people at the Refinery in those early days carried through to the present day.

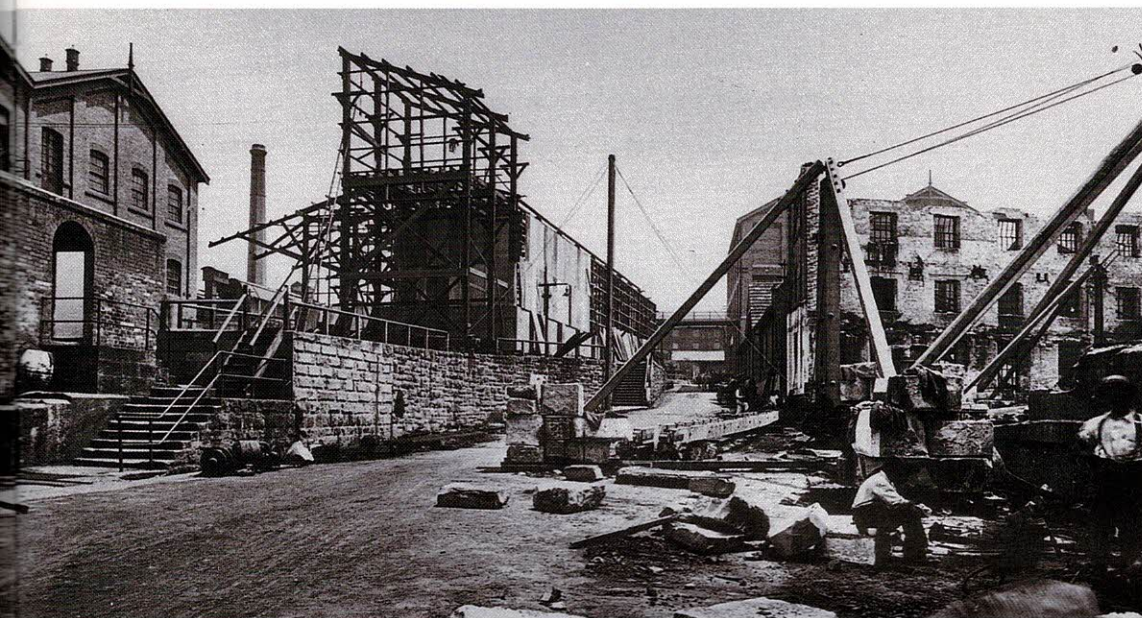
In 1918, engineering apprentices at Pymont formed a social club called The Seagulls. Two years later the engineer-in-chief of the company, Mr D. F. J. Harricks, saw the club as a means of providing opportunities for apprentices to develop self-expression and to demonstrate qualities of leadership. The club was reorganised on a formal basis as the Engineering Apprentices and Old Boys Club of the Colonial Sugar Refining Company Limited. The club continued to meet, with a reunion every year until the late 1980s.

Fire strikes

The most damaging incident in the refinery's history was the big fire of 1918. This was despite the fact that, at the time of the Refinery's building, it was considered that its largely brick and steel construction made it virtually fire-proof.

The fire was fuelled by sugar, the first flames spotted issuing from the fourth storey of the refined sugar store by a watchman at midnight on October 24, 1918.

Fire brigades from 10 stations rushed to the scene, together with the fire float Pluvius. The adjacent refining house, tablet house, boiler house and laboratory were saved. But the refined sugar store went up in flames, with damage estimated at 170,000 pounds.



Many CSR employees went off to fight in the two world wars and not all returned. The Refinery did its bit, too, during the Second World War, with part of its production facility turned over to manufacturing munitions.

Mr Knox died in 1933, at age 86, four months after retiring from the board of directors. His death came at the end of the Great Depression, when business was bad because few families could afford sugary treats.

The first half of the 20th Century had not been kind to Pyrmont Refinery, what with wars and fires and a world economy in tatters. But the efforts of men like Poolman, Knox and Walton had laid the groundwork for a golden age in the Refinery's development - the best was yet to come.

BIG FIRE

Sugar Store Burned

FLAMES IN GEYSERS

DAMAGE ABOUT £170,000

By a fire at Pyrmont this morning the refined sugar store of the Colonial Sugar Refining Company was destroyed. The total damage is estimated at £170,000.

The fire was remarkable for the velocity with which it spread and for the magnificently picturesque spectacle it provided.

It was the biggest fire that Sydney has had for years, and, considering this, the save of the adjacent buildings effected by the metropolitan fire brigades under Chief-officer Sparkes is a noteworthy one.

FLAMES SPREAD RAPIDLY

It was a few minutes after 1 o'clock when one of the watchmen employed at the works saw flames issuing from the top floor of the store—which is of four storeys—and gave the alarm. From the time at which he notified the brigade until the Pyrmont detachment arrived at the site at 1.15 the whole building, about 200 ft. by 160 ft., was alight.

Even the roof had been completely burnt through and had fallen in, the tops of the walls in consequence had become loosened, and thousands of bricks fell into the centre of the volcano within.

Loads of bricks fell outward also, and many of the firemen had narrow escapes from injury. One brick fell on the helmet of one of the men and dented it.

The fire brigades—a full turnout from 10 stations—were able to attack the flames from three sides, and as the store is situated not far from the Pyrmont Bay wharf, sea water was used. The fact, however, that the tide was very low handicapped the men, and none of the pumps drew mud.

The fire float Pluvius, under Captain Hildebrandt, was also requisitioned, and this, with the brigade motors, soon had an exceedingly strong supply of water running down the numerous fire hoses. On one hose which was used on the southern side of the building where the flames were most accessible the pressure from three pumps was used.

BRIGADE'S GOOD WORK

It was evident that the fire could quickly spread to adjacent buildings. At one end of the store there is the refining house; at the other, the tablet house, where the loaf sugar is prepared and packed. About 20 yards away, on the southern side, stands the bag store.

These buildings the firemen set out to save, and once, when flames were seen in the top floor of the tablet house, firemen entered the place, speedily extinguished them, and remained there in case of further outbreak.

A large laboratory nearly caught fire, and when the wall-tops fell the roof was considerably damaged.

The boiler house, too, was well watched, and the flames beaten back from it.

The fire was not extinguished until after 2 o'clock. All that now stands of the store are the remaining portions of the four walls, and these are leaning at an angle of almost 75 degrees.

GREAT GEYSERS OF FLAME

The fire blazed furiously. Sugar is most inflammable. It burns like tar, and as the stores contained large quantities of sugar, some idea may be gained of the density of the flames. When the roof fell in, and in its fall raked the flames, these leaped to a great height.

As the fire seized big slacks and bins of sugar, immense geysers of flame shot into the air, and then after the fashion of a rocket, broke into myriads of sparks and spray.

There was not a puff of wind. The flames leapt directly upward, illuminating the sky for miles, and casting brilliant reflections into the water. The walls burst with explosions which were heard a long distance off.

THE BLUE MOON

From the effect of the breaking geysers, the moon was colored a beautiful dark blue, and the stars above and around it were pale and surrounded with reddish and blue tints. The atmosphere was permeated with the odor of burnt sugar.

The fire was easily seen from the lookouts of the Auburn, Parramatta Fire Stations. Strange to say, however, there were comparatively few people at the fire. Only about 100 watched it from the company's gates.

LOSS OF SUGAR

The building contained refined sugar ready for the market. This was worth about £14,000.

A considerable quantity of machinery and packing and weighing plant was also destroyed.

The total damage is approximately £170,000.

SUPPLIES NOT AFFECTED

Managing Director's Statement

REFINERY UNDAMAGED

"The fire—though a serious enough matter for the company—is not so serious that we will not be able to maintain the supplies to the public," said Mr. E. Knox, the managing director of the Colonial Sugar Refining Co. this morning. "The refinery has not been damaged."

Mr. Knox intimated that supplies would be drawn from reserves, and raw sugar would be obtained—not easily—for treatment; but the work of maintaining supplies would go on.

The fact that the stores have been burnt down, he said, will not affect the employment of the men who had been engaged there.

Mr. Knox added that the property was completely covered by insurance.

"The public are not likely to be asked to pay for the damage," said Mr. Knox, with a smile.

COMPANY'S NOTIFICATION

The company notifies by advertisement that "delay will occur in the execution of orders, but it is hoped, that deliveries will be resumed early, next week." It is stated that orders cannot be received for A and IND sugar for some time to come.

STEPPING BACK IN TIME

Memories
from retired
employees of
Pymont

Who better to reminisce about times at Pymont than a group of retired employees who each served there for more than 30 years, beginning as early as 1925?

A special day was organised in July, 1992, to bring together seven people who collectively had 269 years of service to CSR.

It was a rare opportunity having such a group of past employees together to reflect on times at Pymont. Some of the group had spent time at other CSR facilities around Australia and in Fiji, but all had a very soft spot for the Pymont Refinery.

Upper right
Rocco Ferraro

Lower right
Mario Angelucci

A reunion for retired employees.

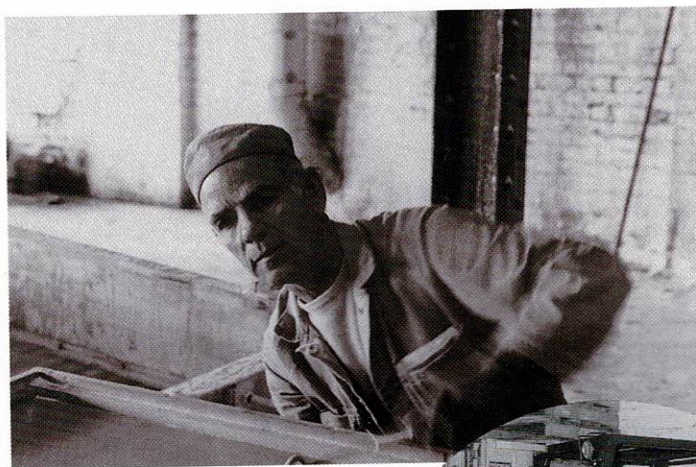
Left to right: Errol Bode, Gus Hooke, Arthur Murphy, Max Bell, Eric Hall, Cec Hendry, Frank Righetti



They all had enjoyed their days at Pymont and had strong memories of lasting friendships.

For most, Pymont had involved their entire working life and often included their families. For Cec Hendry it shaped his whole life. In 1931, two years after he began as an apprentice, he met his future wife who was working in the bag store. For Errol Bode, he was more than happy when his son, Steven, joined the company as an apprentice.

"There was always excellent support for all new apprentices and employees among fellow employees and management, along with a strong respect by everyone for the



jobs that their colleagues did," Errol said.

Gus Hooke, who started at Pymont in 1925, said that Pymont had been the training ground for the CSR company, producing many skilled people who went on to serve the company throughout Australia and overseas. Gus served as manager from 1964-69.

"Pymont had a very independent approach and it led the way for CSR in introducing new technologies or practices to improve processes and productivity. It was the people in the plant, including the foremen and leading hands, who made Pymont such a great refinery."



DATELINE



1946: The first of three boilers, a Babcock & Wilcox water tube boiler, is commissioned. It has a maximum continuous rating of 36,000kg steam/hour at 3100 kPa and 370 degrees Celsius.

Photo shows (L to R) Gaya Prasad, Tom Chedotal, Allan McLaughlin, Orazio Impala, John Williams, Eric Trezevant and Joe Sykora in front of No.3 Boiler

1954: US Vice-President Senator Richard Nixon visits Pymont as part of an inspection of Australian industry.



1955: The bulk raw sugar unloading system is installed involving two Stothart and Pitt overhead transporter cranes mounted on wharf rails and commanding the full length of the berth. Each crane is fitted with a 4.5-tonne capacity grab.

Photo shows unloading last sugar cargo from Ormiston, 1992