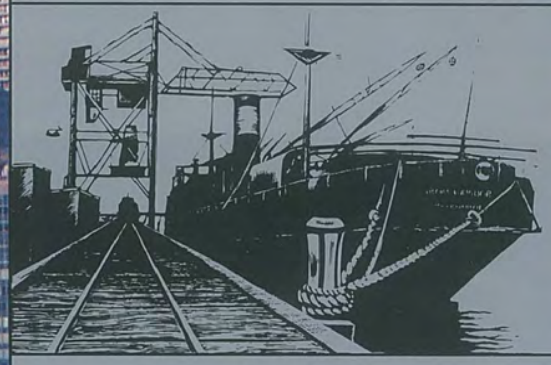
The Iron Ships

A Maritime History of BHP

1885 - 1992



BHP Transport

THE IRON SHIPS details the maritime history of The Broken Hill Proprietary Company Limited (BHP), Australia's largest company, and one of the world's most significant producers of minerals, energy and metals.

From the discovery of rich mineral ores in outback New South Wales in 1883, through the purchase of the Company's first ships in 1919, to the Australian-based, but increasingly international operations of BHP Transport in the 1990's, this work describes the role and influence of a merchant fleet, standing today at 38 strong.

The book examines the evolution of the BHP fleet in response to the changing demands of the Company's business, and to integrated developments in ship design, working conditions, industrial relations, cargo-handling techniques and commercial practices.

While primarily confined to the story of the Company's Australian-flagged trading fleet, THE IRON SHIPS also outlines the widening scope of BHP Transport's global marine and other activities.

The narrative is complemented by a comprehensive fleet list, prepared to the recognised standards of the World Ship Society.

It is published by BHP Transport Limited (A.C.N. 006 480 548), a subsidiary of The Broken Hill Proprietary Company Limited (A.C.N. 004 028 077).

COVER ILLUSTRATION

BHP Transport's 232,000 deadweight tonnes ***Iron Pacific*** *"shows the flag" at Sydney's Circular Quay, 15 May 1987.*

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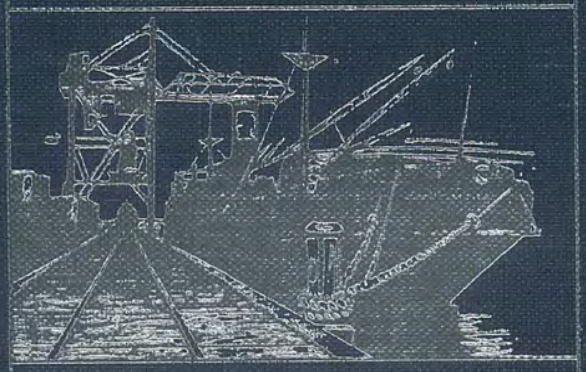
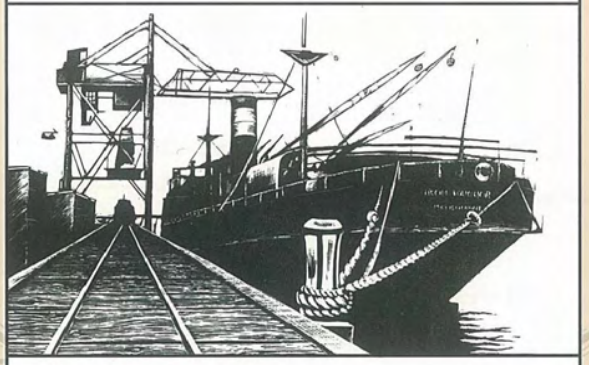


BHP Transport

THE IRON SHIPS

A MARITIME HISTORY OF BHP

1885 - 1992



BHP Transport

"Dedicated to the people who have contributed to BHP's maritime history."

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The decision to publish was made in January 1992. A Committee was established to direct the project under the management of the BHP Transport Public Affairs department headed by Kym Lynch. The Committee comprised:-

Narelle Crux: *Corporate Archivist - BHP Group*

Lance Hockridge: *Group General Manager BHP Transport (Chairman)*

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Kym Lynch: *Principal Public Affairs Officer BHP Transport*

Wayne Owen: *Project Superintendent BHP Transport*

Les Packman: *Master BHP Transport (ret.)*

John Paine: *Manager Fleet Operations BHP Transport*

Bill Volum: *Corporate Manager Accounting - BHP Group; Editor, The Log, The Nautical Association of Australia Journal*

The comprehensive collection of records and photographs at BHP Archives has been an invaluable resource to this publication. Senior Archivist Fiona Reid led the research team throughout the project.

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Bruce Baird: *ANL Port Kembla (ret).*

Bill Barber: *World Ship Society (Vic. Branch)*

Alana Birchall: *BHP Archives*

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Gail Chrisfield: *ex BHP Transport*

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FOREWORD

For more than a century BHP has grown and prospered from its beginnings at Broken Hill, through a lengthy period as predominantly a steelmaker, to being today an integrated international Company with major businesses serving worldwide customers with steel, minerals and energy. A truly critical success factor in that development has been BHP's superior ability to manage its maritime transport activities.

For more than seventy years BHP has operated a fleet of vessels to help provide that service – those vessels are known collectively as the 'iron ships'.

From their beginnings supplying the raw materials to feed the steel-making plants at Newcastle, Port Kembla and Whyalla, the role of the 'iron ships' has been a transportation task without parallel in Australian history. The fleet has grown and developed with BHP, to include now activities as extensive as the carriage of iron making feedstock and steel products, LPG and LNG, crude oil, petroleum products and mineral exports. All these tasks help generate wealth and jobs for Australians.

While certainly the role of the fleet has not been glamorous and, indeed, much of the time it has been performed in relative obscurity, over the years BHP has operated robust ships equal to any task. Their sizes have grown from the original 3,139 ton *Iron Baron* to *Iron Flinders*, which at 19,000 tonnes was considered in the 1950s too large ever to call at Newcastle, to the arrival of Australia's first 100,000 tonne bulk carrier *Iron Somersby*. Many of BHP's ships have been wide beam, shallow drafted vessels culminating in the 230,000 tonne *Iron Pacific*, flagship of the fleet today.

Size and shape, however, have not been the only innovations. Ship types have adapted to the trades of the day. Bulkers with and without lifting gear diversified into specialist vessels including roll-on roll-off vessels, tankers and gas tankers, with a newbuilding on order for a self-discharging vessel.

Other transportation services have grown to support the emerging tasks asked of our transport operations; chartering activities, foreign-flagged fleet ownership, bunkering, tugs, rail and road services, stevedoring, project consultancy and ship's agency.

Cargoes carried now read like a freight almanac, and have for the last ten years included non-BHP Australian and international trades.

BHP has been fortunate to enjoy the benefits of a loyal and dedicated workforce of men and women both at sea and shoreside whose combined skills have made BHP Transport the professional transport company it has been over time.

Governments, unions, international organisations, customers and the myriad of suppliers and contractors should also be recognised for the important role they all have played in ensuring BHP vessels deliver competitive and reliable shipping services.

This book is a fitting testimonial to a great sea-faring tradition. A tradition with roots originating in the BHP steel industry, but with an operating task in the 1990s far wider than any vision Mr. Barter, BHP's first Shipping Manager, could ever have dreamed.

As a trading nation, from colonial times to the present, Australia has relied on shipping. Commercial shipping remains a great contributor to this country's wealth. The BHP fleet has served proudly through time and so it is with well-deserved recognition I pay tribute to all those BHP ships, ship's complements and transport personnel who have served the Company.



J.B. Prescott
Managing Director and Chief Executive Officer
The Broken Hill Proprietary Company Limited

INTRODUCTION

When one of the world's largest bulk carriers docked at the Overseas Passenger Terminal at Sydney's Circular Quay in May 1987, literally thousands of people flocked to inspect a working giant whose proportions dwarfed everything but the nearby Harbour Bridge.

Yet when BHP Transport's Australian-owned and crewed *Iron Pacific* first entered local waters the previous year, on her delivery voyage from the builder's yard in South Korea, few were aware of either the actual or symbolic dimension of this 232,000 deadweight tonnes leviathan.

As they watched spectacular television footage of the ship's arrival even fewer would have been aware that *Iron Pacific* was the 53rd ship to carry BHP's colours, albeit not always today's smart scheme featuring the distinctive company logo.

For the BHP ships have never been glamour ships but workhorses; and until recent years the trades and out-of-the-way ports they served did little to place them before the public eye. Because for so long they were used exclusively to carry the parent company's own cargoes, their role and importance was not widely acknowledged, and the owners saw little point in projecting an image for its own sake.

This book sets out to redress the relative obscurity of these ships and the part they've played in the evolution of Australia's largest, and one of the world's most significant, companies.

From the earliest chartered steamships to the latest order for a sophisticated self-discharging bulk carrier, THE IRON SHIPS spotlights the BHP fleet in its uniquely Australian and increasingly international context.

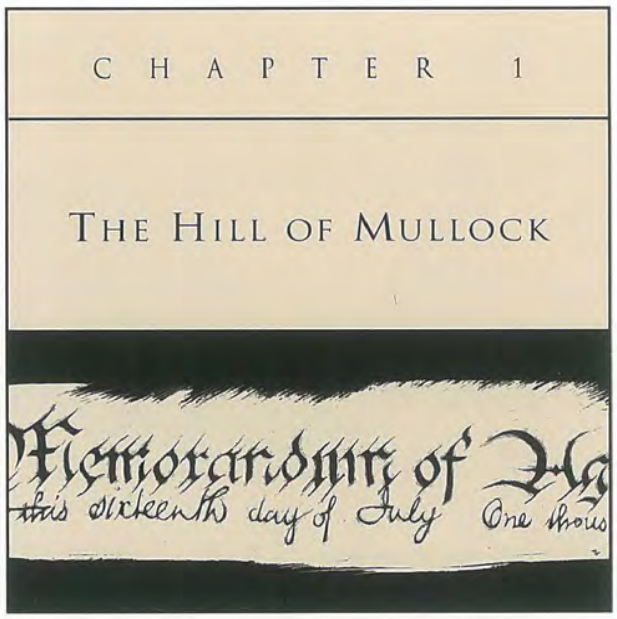
CHAPTER 1

THE HILL OF MULLOCK

The BHP story began not with iron, but with silver.

In the last quarter of the nineteenth century, gold was still the lure for Australia's frontier prospectors. But as the searchers moved further into arid country, towards the continent's interior and away from the gold-rich districts of Victoria and eastern New South Wales, glistening silver ores promised new fortunes and small mines began to pepper the harsh landscape.

On the drought-stricken Mt. Gipps pastoral run, just east of the aptly named Silverton in the Barrier Ranges of far western New South Wales, boundary rider Charles Rasp and two colleagues pegged out a claim on a broken hill some twelve miles from the station homestead. It was 1883, and Rasp believed the hill to be rich in tin. Though not convinced of an impending bonanza, station manager George McCulloch immediately proposed that all of the hill within the property, about 300 acres, should be claimed in the names of all seven men employed at Mt. Gipps. And so the original Broken Hill syndicate was formed.[1]



View of Broken Hill, from original sketch by J. Renowden, 1885. *BHP Archives BH28.*

Early shafts sunk on the claim revealed neither tin nor significant traces of silver, but carbonate of lead. This assessment, combined with the breaking of the drought in May 1884, saw some original syndicate members bought out by new shareholders, one of whom, fortuitously, was a Government surveyor, William Jamieson. At the behest of founder member Philip Charley (the Mt. Gipps jackaroo), Jamieson re-examined the shaft and found samples



assaying at a then remarkable 700-800 ounces of silver per ton – the first signs of an astounding treasure.

Soon after mining operations began in April of the following year, the syndicate realised additional funds were needed to develop the vast quantities of silver and lead, which far overshadowed everything else on the Barrier. In June a public company was floated, and with 2,000 £9 shares quickly snapped up in Sydney, Adelaide and Silverton,[2] The Broken Hill Proprietary Company Limited (BHP) was incorporated in Melbourne on Thursday 13 August 1885.

Within three years of the birth of BHP, the Big Mine at Broken Hill had produced seven million ounces of silver, and thirty thousand tons of lead – and after only six years of operation the Company was paying out over £1,000,000 annually in dividends.[3]

But the techniques needed to extract the most from the ores simply did not exist in Australia and, as the mine reached greater depths, increasing quantities of zinc and sulphur in the ore clogged the smelting furnaces and made separation of the silver and lead increasingly difficult.

In part the answer lay in the use of iron ore as a fluxing agent in the smelting process, and the Company's 1892 decision to purchase the foreign-owned British Broken Hill Proprietary Co. Ltd. proved prescient.

The British company had already established smelters at the small wheat port of Port Pirie, on the eastern shore of South Australia's Spencer Gulf, and in 1888 BHP had built coke bins and taken up a lease on a wharf at the port.[4] In 1896 BHP consolidated all its smelting operations there.

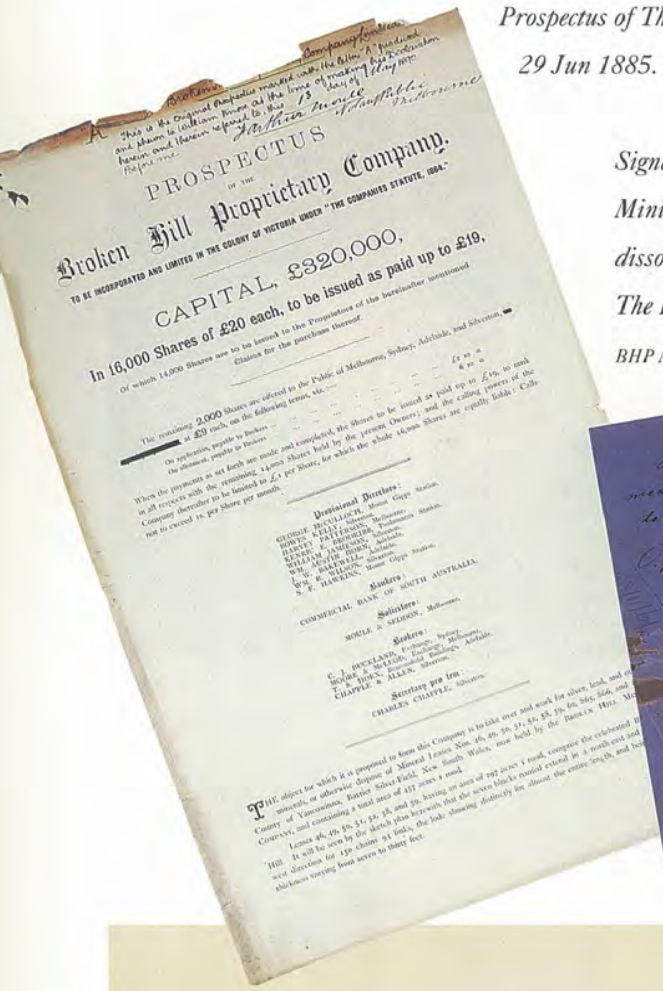
The town quickly became a dual focal point in BHP's burgeoning use of transport. Through the state rail system the port was linked to the privately owned Silverton Tramway, which was the main conduit for Broken Hill mine supplies and products;



Surface mining at Broken Hill, c. 1886. BHP Archives BH331.

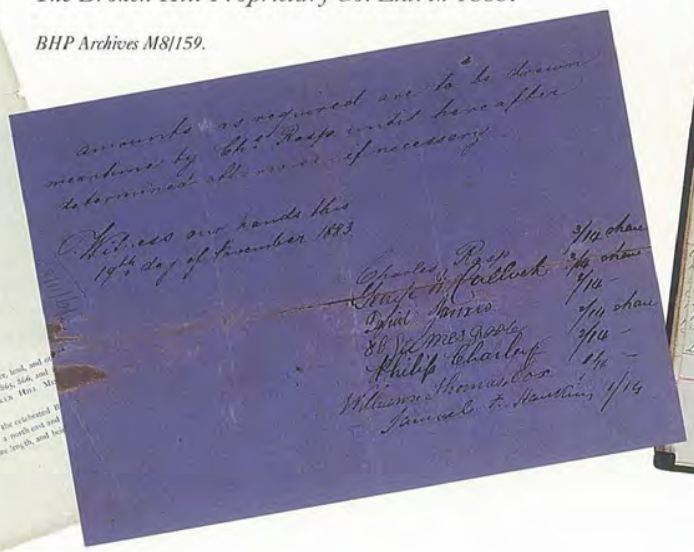


View of the Broken Hill township and dam looking NNW from the works, Jun 1887. Photographer: J. Duncan Peirce. BHP Archives BH294.



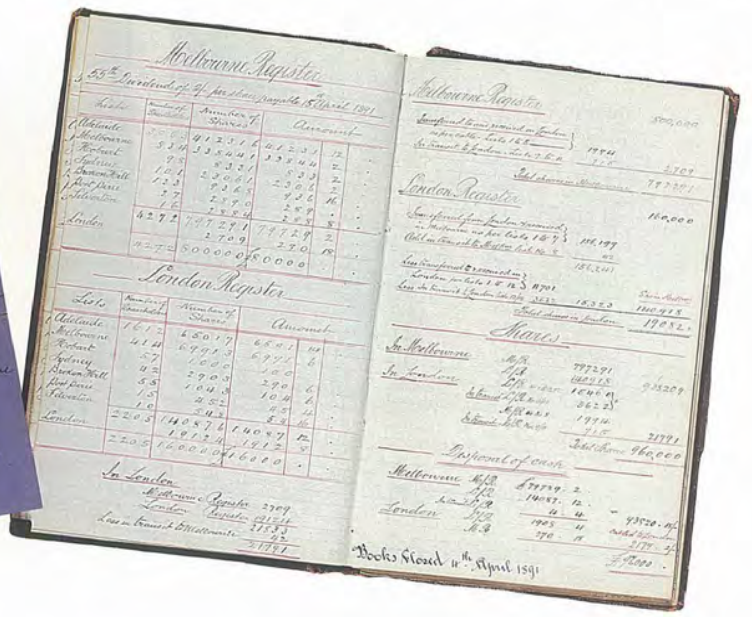
PROSPECTUS
OF THE
Broken Hill Proprietary Company.
TO BE INCORPORATED AND LIMITED IN THE COLONY OF VICTORIA UNDER "THE COMPANIES STATUTE, 1864."
CAPITAL, £320,000,
In 16,000 Shares of £20 each, to be issued as paid up to £19,
Of which 14,000 Shares are to be formed in the Proprietors of the hereinafter mentioned
Claims for the purchase thereof.
Provisional Directors:
GEORGE MCCULLOCH, Mount Gipps Station.
HENRY KAYE PARKES, Melbourne.
RICHARD LAMBERT JONES, Tasmanian Station.
WILLIAM CHAFFEY, Melbourne.
WM. ALEXANDER HORN, Adelaide.
WM. HAMILTON, Sydney.
WM. R. WILKINS, Mount Gipps Station.
H. F. HAWKINS, Mount Gipps Station.
Bankers:
COMMERCIAL BANK OF SOUTH AUSTRALIA.
Solicitors:
MOULE & SELDON, Melbourne.
Brokers:
C. J. BECKLAND, Exchange, Sydney.
THOMAS MCLEOD, Stock and Sharebroker, Melbourne.
TOWNS, ALLEN, Stock and Sharebrokers, Adelaide.
Secretary pro tem.:
CHAPPLE & ALLEN, Sharebrokers, Adelaide.
CHARLES CHAPPLE, Adelaide.
THE object for which it is proposed to form this Company is to take over and work for silver, lead, and other minerals, or otherwise dispose of Mineral Leases Nos. 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, and 108, situated in the County of Yancowinna, Province of New South Wales, now held by the [illegible] Mining Company, and containing a total area of 437 acres 2 roods, together with the machinery, plant, and effects thereon. Leases 98, 99, 100, 101, 102, 103, and 104, having an area of 297 acres 2 roods, comprise the celebrated Broken Hill. It will be seen by the sketch plan herewith that the seven blocks named extend in a north-east and south-west direction for 150 chains 92 links, the link showing distinctly for almost the entire length, and being of a thickness varying from seven to thirty feet.

Prospectus of The Broken Hill Proprietary Co. Ltd., 29 Jun 1885. BHP Archives D18/1.



Signatures to agreement for formation of the Broken Hill Mining Company, 19 Nov 1883. This company was dissolved when the syndicate decided to float The Broken Hill Proprietary Co. Ltd. in 1885.

BHP Archives M8/159.

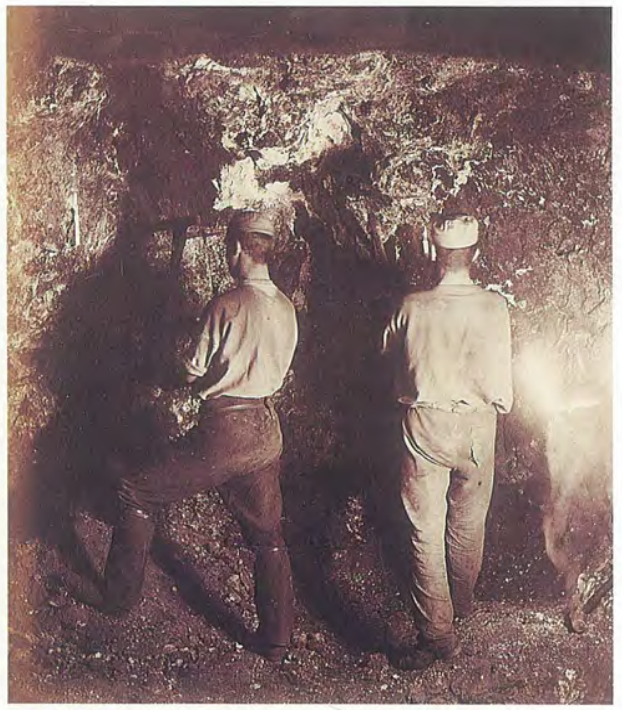


55th Dividend paid by BHP, Apr 1891. A dividend was paid every month from Nov 1890 to May 1892.

BHP Archives A14/7.

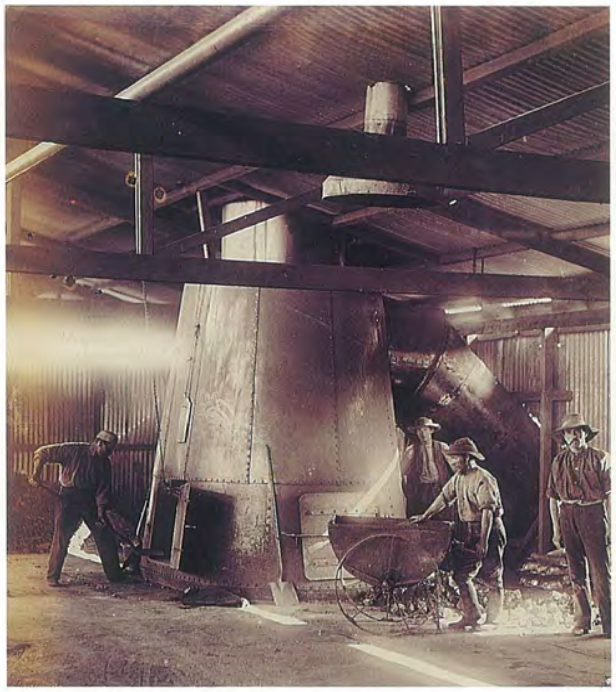


Rasp's Shaft, Block 13, the first shaft sunk at Broken Hill, Jun 1887. Photographer: J. Duncan Peirce. BHP Archives BH298.



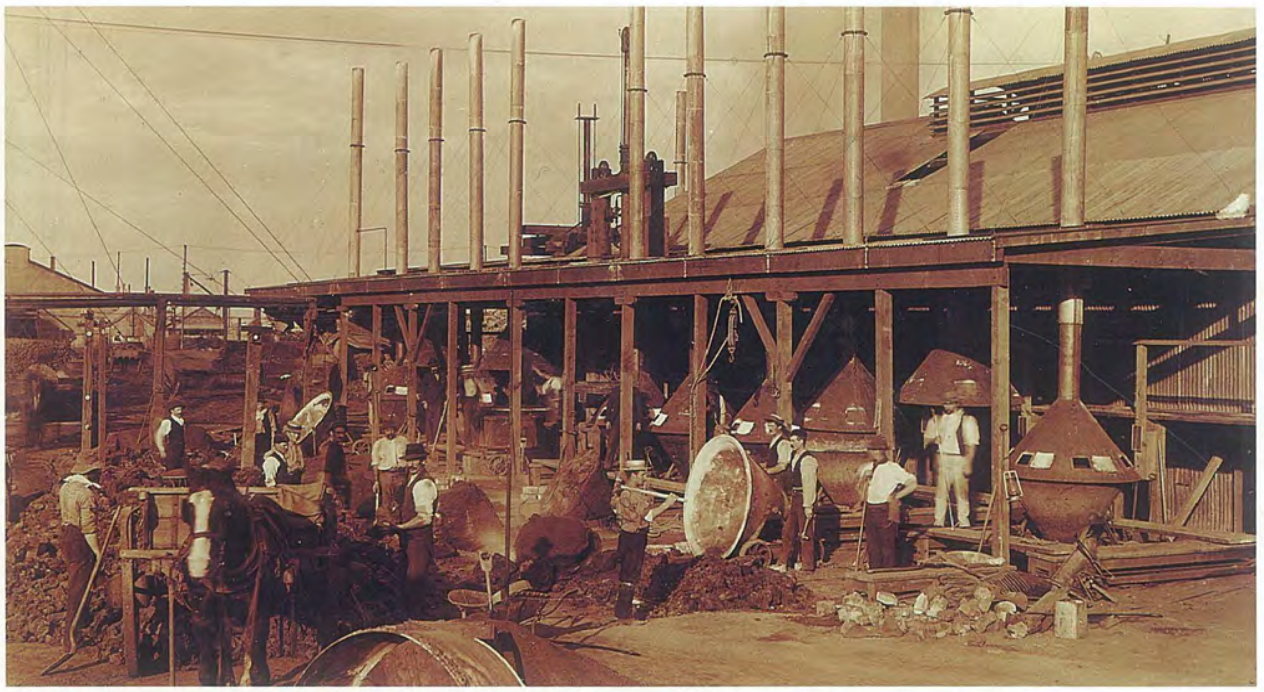
Working underground in Jamieson's Shaft, Jun 1887.

Photographer: J. Duncan Peirce. BHP Archives BH305.



Feeding No. 5 Smelter, Broken Hill, Jun 1887.

Photographer: J. Duncan Peirce. BHP Archives BH310.



Trials of the Huntington Heberlein Process at the Port Pirie Smelters, Jul 1901. BHP Archives PP31.



Water colour of Broken Hill township, mine and viaduct, from Block 11 by Ernest D. Stocks, 1890. BHP Archives BH318.

and as the demand for coal and coke to fuel the expanding smelters outstripped existing resources, the Company began to ship in large quantities from Newcastle in New South Wales.

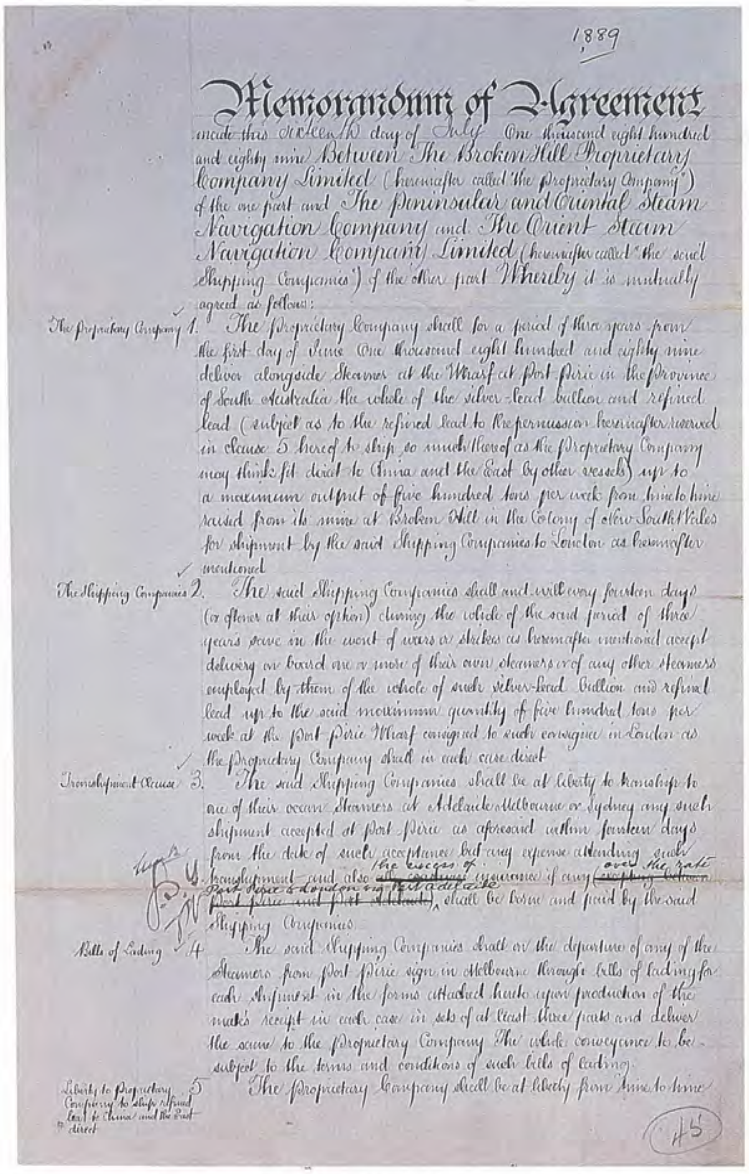
To accommodate its need for regular and suitable shipping tonnage, in 1889 BHP had contracted for The Adelaide Steamship Company to transport the necessary coke and coal from Newcastle and elsewhere. The Adelaide company despatched an officer to the shipyards of the Clyde in Scotland to acquire a 'spec-built' vessel for the trade, and he duly purchased a 2,036 GRT cargo steamer which was appropriately named *Barrier*.[5] In the same year BHP contracted with the famous Peninsular & Oriental Steam Navigation Company (P&O) for the overseas carriage of lead and silver bullion.[6]

Thus within a few years of its formation, and before embarking on the development of what was to become its core business, BHP had become a prosperous and successful mining company and a significant user of transport and shipping.

And all from the riches of an untidy ridge of weathered outcrops of stone, disparagingly referred to by the miners of Silverton as 'the hill of mullock'.



Pig lead awaiting shipment at Port Pirie wharf, c. 1890. BHP Archives PP17.



1889

Memorandum of Agreement

made this Sixteenth day of July One thousand eight hundred and eighty nine Between The Broken Hill Proprietary Company Limited (hereinafter called the Proprietary Company) of the one part and The Peninsular and Oriental Steam Navigation Company and The Orient Steam Navigation Company Limited (hereinafter called the said Shipping Companies) of the other part Whereby it is mutually agreed as follows:

The Proprietary Company 1. The Proprietary Company shall for a period of three years from the first day of June One thousand eight hundred and eighty nine deliver alongside Steamer at the Wharf at Port Pirie in the Province of South Australia the whole of the silver-lead bullion and refined lead (subject as to the refined lead to the permission hereinafter reserved in Clause 5 hereof to ship so much thereof as the Proprietary Company may think fit direct to China and the East by other vessels) up to a maximum output of five hundred tons per week from time to time raised from the mine at Broken Hill in the Colony of New South Wales for shipment by the said Shipping Companies to London as hereinafter mentioned

The Shipping Companies 2. The said Shipping Companies shall and will every fourteen days (or oftener at their option) during the whole of the said period of three years serve in the event of wars or strikes as hereinafter mentioned except delivering on board one or more of their own steamers or of any other steamers employed by them of the whole of such silver-lead bullion and refined lead up to the said maximum quantity of five hundred tons per week at the Port Pirie Wharf consigned to such consignee in London as the Proprietary Company shall in each case direct

Transhipment Clause 3. The said Shipping Companies shall be at liberty to tranship to one of their ocean Steamers at Adelaide Melbourne or Sydney any such shipment accepted at Port Pirie as aforesaid within fourteen days from the date of such acceptance but any expense attending such transhipment and also ~~all cartage~~ insurance if any ~~on the said Port Pirie and Port Adelaide~~, shall be borne and paid by the said Shipping Companies

Bills of Lading 4 The said Shipping Companies shall on the departure of any of the Steamers from Port Pirie sign in Melbourne through bills of lading for each shipment in the forms attached hereto upon production of the mate's receipt in each case in sets of at least three parts and deliver the same to the Proprietary Company The whole conveyance to be subject to the terms and conditions of such bills of lading

Liberty to Proprietary Company to ship abroad East of China and the East direct 5 The Proprietary Company shall be at liberty from time to time

Agreement between BHP and Peninsular & Oriental Steam Navigation Co. and Orient Steam Navigation Co. Ltd, for shipment of bullion, 16 Jul 1889.

BHP Archives M8/13.

As the first decade of the twentieth century drew to a close the directors of BHP realised that the Company's activities at Broken Hill were becoming uneconomic.

The quality of ore mined from the leases was deteriorating. Prolonged strikes also reduced the Company's returns, and when (in 1920) the miners won a 35-hour week, substantial wage increases and other gains, the situation worsened further. The Big Mine was substantially depleted, the operation considered marginal and full working never resumed.

When BHP finally ceased operations at the mine in 1939 it had yielded 189 million ounces of silver and more than two million tons of lead and other minerals.[7]



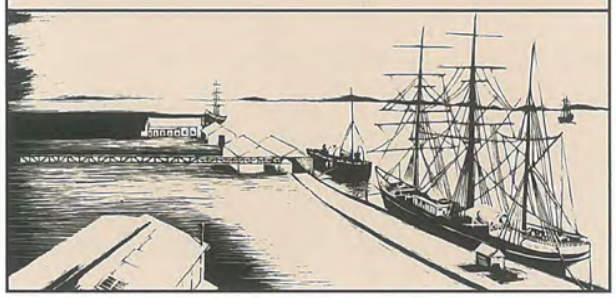
Port Pirie wharf, Jul 1901; (left to right) **Boveric** *discharging coal,* **Caithness** *discharging mine timber and* **Alala** *loading ore.* *BHP Archives PP19.*



Open cut mining at Broken Hill, c. 1892. *BHP Archives BH118A.*

CHAPTER 2

Of Hummock Hill and Hunter's River



With the ironstone reserves of the Broken Hill orebody inadequate for the growing needs of the Port Pirie smelters, in 1899 BHP successfully laid claim to two promising outcrops near South Australia's Middleback Ranges, a line of ridges running roughly parallel to the coast on the opposite side of the Spencer Gulf to Port Pirie.

While the Company was well satisfied with the deposits at the descriptively titled Iron Knob and its larger neighbour Iron Monarch, an entry into steelmaking was not yet in prospect. BHP valued the high grade ore – carrying up to 68 per cent pure iron – only as a fluxing agent for the smelters.[1]

Transportation of the ore around the head of the gulf was problematic, and in 1900 the town of Hummock Hill (later to become Whyalla), on the western shore of the gulf and 30 miles east of the ranges, was declared a port and chosen as the most convenient seaboard terminal for a rail line from Iron Knob. Construction of a tramway (only Governments could own railways) proceeded under the authority of the South Australian Government's 'Broken Hill Proprietary Company Limited's Hummock Hill to Iron Knob Tramways and Jetties Act 1900', and by 1901 a 34-mile, 3'6" gauge line had been laid on land leased from the Government.

By 1902 a loading jetty had been completed and ironstone was being carried down the line for shipment by barge across the gulf to the Port Pirie smelters, whence the barges returned to the scrubby, semi-desert shore at Hummock Hill with fresh water supplies for men and steam machines.

Seagoing transport was thus assuming increasing importance for BHP, and the Company's first direct involvement with rail was a symbolic portent of future directions.



Burchet's Camp at Iron Monarch, South Australia, c. 1901. BHP Archives.



Iron Monarch, c. 1901. BHP Archives.

The Broken Hill Proprietary Company LIMITED.

HUMMOCK HILL TO IRON KNOB TRAMWAY

Poster showing charges, conditions, tolls, by-laws and regulations made by BHP for use of the Hummock Hill to Iron Knob Tramway, 1905.

BHP Archives M195.



Iron ore for Port Pirie smelters being loaded onto a barge at the Hummock Hill jetty, c. 1910. BHP Archives.



Skips loaded with iron ore from Iron Knob, at the Hummock Hill jetty, c. 1910. BHP Archives.

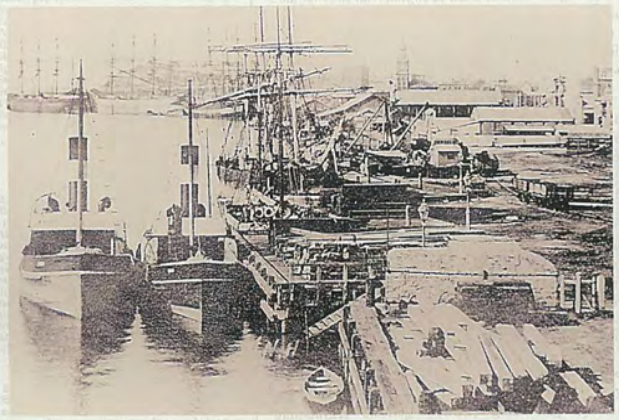


Newcastle township and harbour, c. 1880. BHP Archives N609.



Ships loading coal at Newcastle wharf, c. 1875.

BHP Archives N1277.



Loading coal at Newcastle wharf, c. 1875.

BHP Archives N721.



Reclamation of swamp and mudflats at the site of Newcastle Steelworks, 1913. BHP Archives N631.



Train carrying construction material for the landing jetty at Newcastle Steelworks, Aug 1913. BHP Archives N618.

Meanwhile, the unification of Australia through Federation in 1901 brought a burst of confidence and investment in the country, particularly in the states' railways. Until this boom, imported iron and steel, mostly arriving as pig iron ballast in foreign ships, was preferred as cheaper and better than the little being produced locally.

But by 1910, in order to meet demand, Australia was importing 423,000 tons of steel per annum (of which about 150,000 tons were rails) at a cost of some £6,000,000.[2]

At this time a series of rolling strikes at steelworks at Lithgow, New South Wales, caused the newly elected state Labor Government to reconsider the establishment of a state-owned iron and steel industry. However, a consultant steelmaster brought out from Scotland to ascertain the feasibility of such a plant at Port Kembla projected a cost of £1,500,000. This far exceeded the Government's estimates and in 1912 the proposal was shelved.[3] Opportunity's door remained open, however.



Anglo-Egyptian *discharging machinery and construction materials for Newcastle Steelworks, 20 Dec 1913.* BHP Archives N1291.

BHP's interest in steel-making was slow to awaken. Though in 1907 a trial parcel of the high-grade Iron Knob ore had been successfully smelted at Port Pirie, it was not until 1911, when the Board approved an overseas study tour by General Manager Guillaume Delprat, that serious consideration of steel manufacture began.

Decreasing returns from Broken Hill operations, signs of depleting silver and ore deposits, and an increasing demand for steel by a developing nation, persuaded the management to explore the potential of longstanding suggestions, bolstered by the prospect of a local industry guarded against foreign competition by a sympathetic Commonwealth Government.

Delprat visited 23 iron and steel works in Britain, Europe and the United States, and in Philadelphia engaged consultant engineer David Baker to come to Australia and assess the viability of establishing a steelmaking enterprise using iron ores from the Company's South Australian leases.

In the knowledge that the manufacture of high grade steel required three tons of coal to every ton of ore, Baker pinpointed Newcastle, with its developed harbour and nearby coalfields, as the ideal site and his findings were quickly conveyed to the New South Wales Premier. The Government moved rapidly and by November 1912 the 'Newcastle Iron & Steel Works Act 1912', which gave BHP the right to set up such an industry, was passed.

As early as 1896 BHP had acquired land along Newcastle's Hunter River, at Port Waratah, and with the impending commencement of steel manufacture the 24 acre holding (previously that of the copper smelters) was expanded in 1913 to 264 acres. The Company also gained a 50-year lease of 34 acres of waterfront land from the State Government, which undertook to dredge and maintain a channel 500ft. wide and 25ft. deep at low water between the works and the sea.

Reclamation of the Waratah swamp and mudflats, which at the time were three feet under water at high tide, began in January 1913 with Government dredges at the waterfront pumping sand from the channel into the swamp. Despite record floods at the

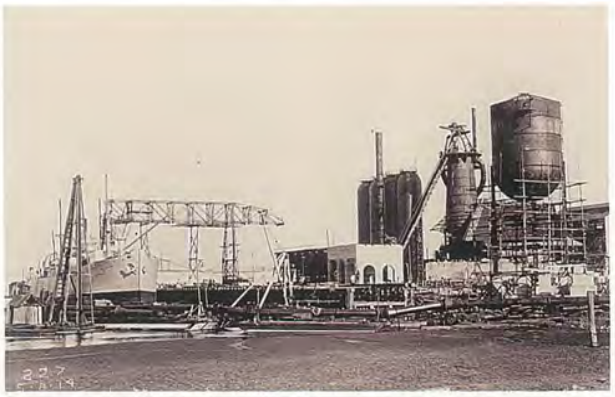


Partly reclaimed site and construction of Newcastle Steelworks seen from the top of No. 1 blast furnace, 1915. BHP Archives N139.

site during May work progressed steadily: a wharf, equipped with a 60 ton steam crane to receive the necessary plant, was constructed and a connecting rail line was laid to the works site. On 20 December that year the steamship *Anglo-Egyptian* arrived at the wharf and discharged 2,300 tons of construction material for the furnace. Subsequently a Hoover and Mason bridge-type unloader was erected on the wharf for the discharge of BHP's South Australian iron ore.

On 19 January 1915 the steamer *Emerald Wings*, chartered through shipping agents William Scott Fell & Co, arrived at the port with the first shipment of iron ore from South Australia, and a new era had begun.

Henceforth BHP's core business and the shipping world would be inseparably entwined, and the real story of *The Iron Ships* begins.



Newcastle Steelworks from the jetty, showing ore bridge and No. 1 blast furnace, Aug 1914. BHP Archives N1379.



The official party and guests walking past the blast furnace plant and blower house after the official opening ceremony of Newcastle Steelworks, 2 Jun 1915. BHP Archives N953.

Newcastle had by circumstance been given the name 'Coal River' after fishermen, driven into the mouth of what was later to be named Hunter's River, found coal lying on the surrounding ground.[4] The year was 1796, but it was not until June 1801 that the brig *Lady Nelson* was despatched to examine further the discovery. Later that year the first recorded cargo of coal left Hunter's River aboard the brig *Ann Josepha* bound for Port Jackson and transhipment to Bengal.

The name Newcastle was bestowed by Governor King in 1804, and the surrounding country was named Northumberland in honour of one of the great coal producing centres of England. All coal was then declared to be the exclusive property of the Crown, and the Governor decreed only Government men (convicts) would work the mines.[5] When not being worked mercilessly to extract coal from the developing mines the men were used on the construction of the breakwater that now joins Nobby's Island to the mainland.

When gold was discovered in 1851 Australian ports were inundated with sailing vessels from all parts of the world, diverted from many trades but still insufficient to carry the 'Clamouring Host of Adventurers'. After discharge many of these ships – if not deserted by their gold-entranced crews – sailed to Newcastle to load export cargoes, mainly of coal and wool. In the era of the visit of the famous clipper *Cutty Sark* (which loaded wool in Newcastle in 1883) the port could claim to have seen every commercial sailing vessel of any importance afloat at the time.

Meanwhile, the year 1832 had seen the first Australian-built ocean-going steamship, the wooden two-masted paddle steamer *William the Fourth*, begin weekly voyages between Newcastle and Sydney. Seven years later the first joint stock Australian steamship company, the Hunter's River Steam Navigation Company, was formed and quickly built up a fleet of six ships. (That company eventually became the Australasian United Steam Navigation Company, whose ships a century later would be regular Newcastle callers to load BHP products for Queensland ports.)

Trade grew so quickly that major harbour improvements were begun in 1860 with the construction of the northern breakwater, leading to the transfer of all coal shipping from the old wooden chutes at the town wharves to new facilities on reclaimed land at Carrington and Stockton. By 1872, 16 copper smelting furnaces were operating, many on a 24 acre waterfront site later purchased by BHP (and where the present steelworks now stands) and copper ingots were eagerly sought for shipment to England as deadweight for the wool cargoes.

Even the opening of a rail link with Sydney towards the end of the 19th century caused only a brief downturn in seaborne trade, as the flourishing interstate coal trade saw an ever increasing number of steam colliers, belonging to prominent owners such as Howard Smith, Huddart Parker, James Paterson, McIlwraith McEacharn and the Melbourne and Adelaide Steamship companies, loading under the Newcastle chutes.

The advent of such vessels caused the port authority to proceed with further expansion, and harbour extensions below Carrington and right into Wickham were undertaken; seven additional hydraulic cranes, rail mounted and of higher capacity, were ordered.[6]

Though already a busy port, Newcastle had barely felt the presence of the company which was to become its very heart. Within a few years Newcastle would be known as the birthplace of BHP's steel empire, and the first home of the BHP fleet.

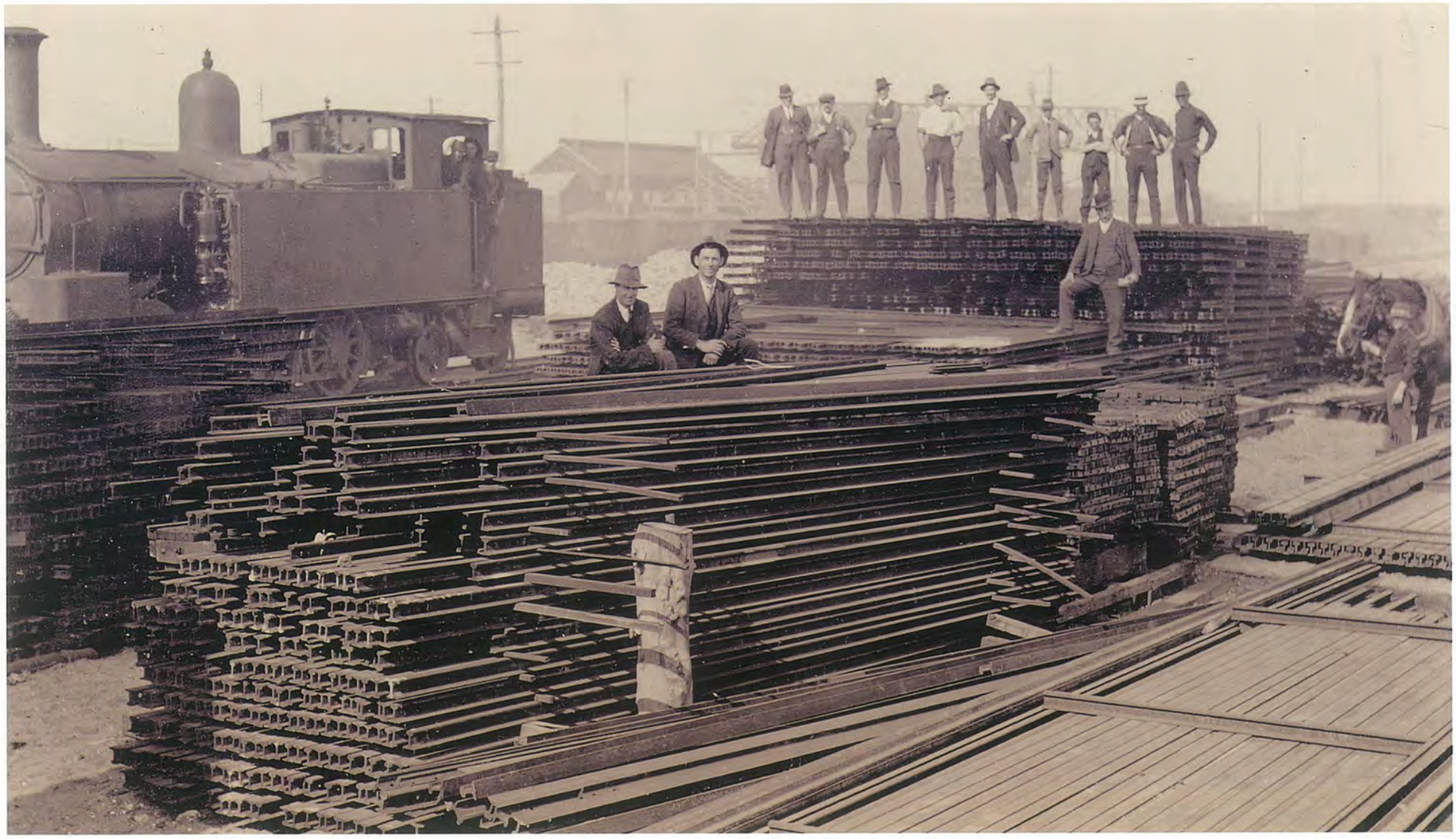
At the outbreak of World War I on 4 August 1914, BHP's Newcastle Steelworks project was already more than half complete, with all major equipment on site and wharves built; after a very short delay remaining work continued unhindered.

Indeed war was to guarantee the initial success of the steelworks, for it increased Australia's demand for steel at the very time imported supplies were cut by wartime requirements overseas and a scarcity of shipping.

The plant David Baker conceived consisted of one 350 ton blast furnace, three 65 ton open hearth steel furnaces, a bloom mill and heavy rail mill, with by-product coke ovens and all necessary materials-handling equipment. It was designed to produce over 120,000 tons of rail each year, as well as steel blooms and billets.

Notwithstanding the ambitious scale of the project, orders for rails were being placed in advance of completion and, when the steelworks were officially opened on 2 June 1915 by the Governor-General, Sir Ronald Munro Ferguson, the Company had full order books.

Within 12 months of the commissioning of the first blast furnace a second was being planned. BHP's future had been cast in iron and steel.



Rail mill stockyards at Newcastle Steelworks, 1918.

BHP Archives N1369.

CHAPTER 3

In Time, A Shipowner



In 1913, following disagreements over price and operational matters, BHP decided not to renew shipping contracts held for the past 25 years by The Adelaide Steamship Company. Instead, in March 1914, shipping agents William Scott Fell & Co. (of Sydney and Newcastle) were engaged to handle the Company's coastal shipping affairs,[1] beginning what was to become a long association.

With the opening of the Newcastle steelworks imminent Scott Fell arranged, on the Company's behalf, the charter of three British cargo steamers for a period of three years.

Emerald Wings, *Bright Wings* and *Southborough* all took Sydney as their port of registry upon arrival in Australian waters and, from the beginning of World War I, each became familiar in ports around the nation's south-eastern coastline.

The three formed the nucleus of a fleet, supplemented by single voyage charters of suitable interstate steamers as required, employed to service Newcastle with iron ore from South Australia and (from 1916) limestone from quarries at Melrose, near Devonport, Tasmania. They returned southbound with coke and coal for the Port Pirie smelters and, for the Transcontinental Railway then under construction across the Nullarbor Plain, supplies of steel rails and steaming coal for the locomotives. The ships also undertook the interstate delivery of the Company's finished steel products, and proved entirely satisfactory for the requirements of BHP's trade.

As World War I worsened, however, a growing worldwide shortage of shipping tonnage became the cause of considerable concern. Australia was not exempt from the need to regulate the minimal resources available and, from March 1916, the Commonwealth Government took control of all shipping in Australian waters, including the chartered British vessels.

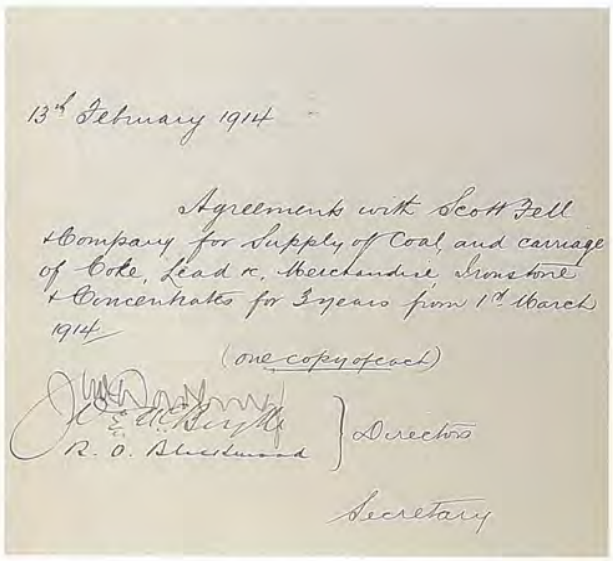
When the charters of the *Wings* steamers were nearing completion the owners, Norman Hallett & Co. of London, indicated they would not be renewing their contracts with Scott Fell. In fact they sold both vessels to the Limerick Steamship Co. of Limerick, Ireland, with ownership of *Emerald Wings* changing on 26 June 1917 and *Bright Wings* following on 3 July.

The Commonwealth Government, however, was not about to release these valuable ships from their control, and as the charters expired they were taken over and run by a board of management under the Commonwealth Controller of Shipping. By August all three charters had expired, but under board control the ships were retained in the BHP ore and steel trades.[2]



General view of Whyalla jetty showing crusher, storage bin and power house, Dec 1914.

BHP Archives W96.



13th February 1914

Agreements with Scott Fell + Company for Supply of Coal, and carriage of Coke, Lead &, Merchandise, Limestone + Concentrates for 3 years from 1st March 1914

(one copy of each)

J. W. Darling
D. McBryde
R. O. Blackwood
} Directors

Secretary

Seal Book entry documenting agreement between BHP and Scott Fell & Co, signed by BHP Directors John Darling, Duncan McBryde and Robert Blackwood, 13 Feb 1914.

BHP Archives S914.



Jetty and storage bins at Devonport, Tasmania, loading port for Melrose Quarry limestone.

BHP Archives DEV2.

(Inset) List of freight rates for BHP shipments by Scott Fell & Co's charter vessels. The anticipated increase in rates following the Commonwealth Government's move to take over the ships is also listed. BHP Archives A39/2.

THE BROKEN HILL PROPRIETARY COMPANY LIMITED

COASTAL FREIGHTS

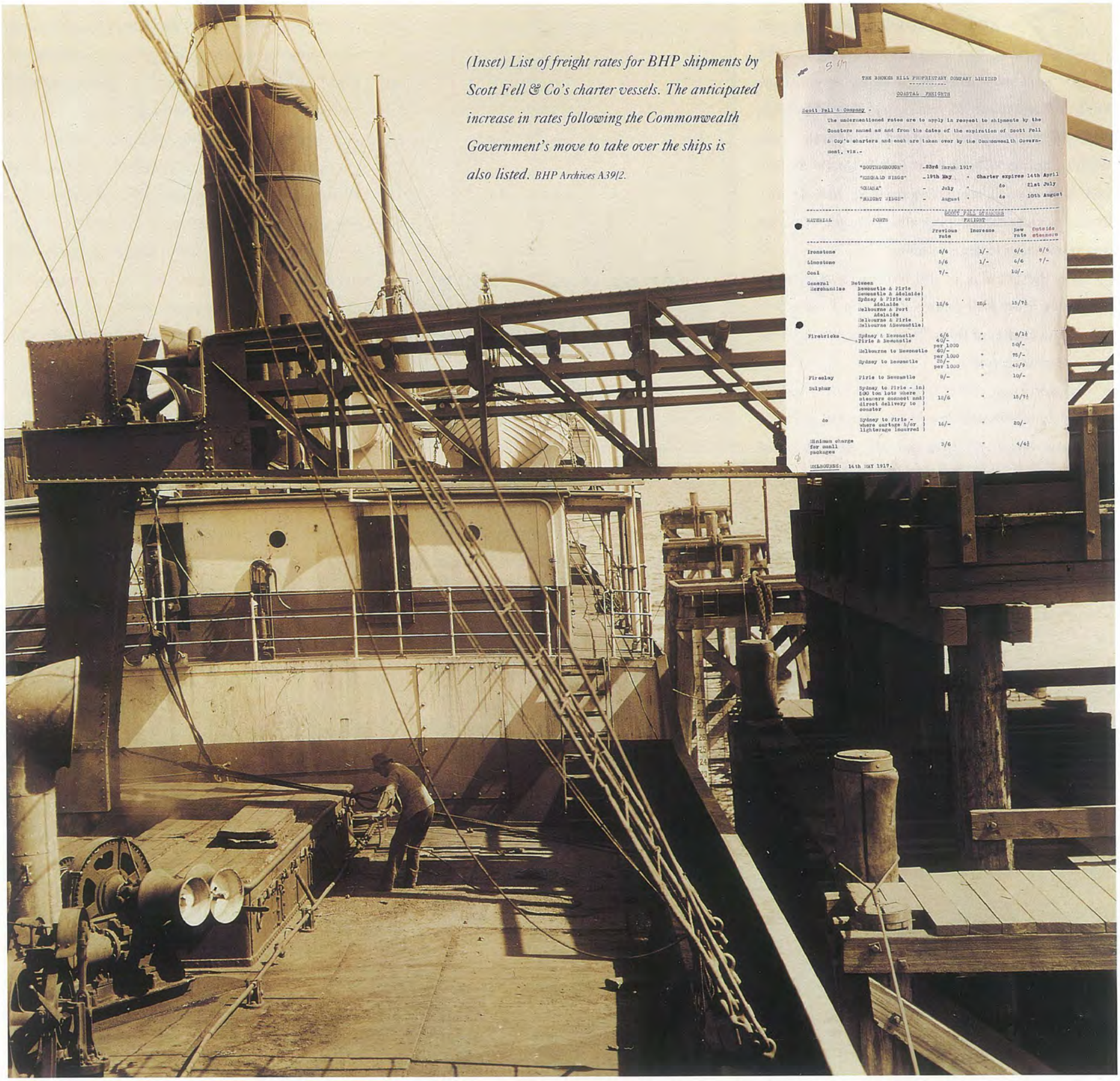
Scott Fell & Company -

The undermentioned rates are to apply in respect to shipments by the Steamers named as and from the dates of the expiration of Scott Fell & Coy's charters and each are taken over by the Commonwealth Government, viz.-

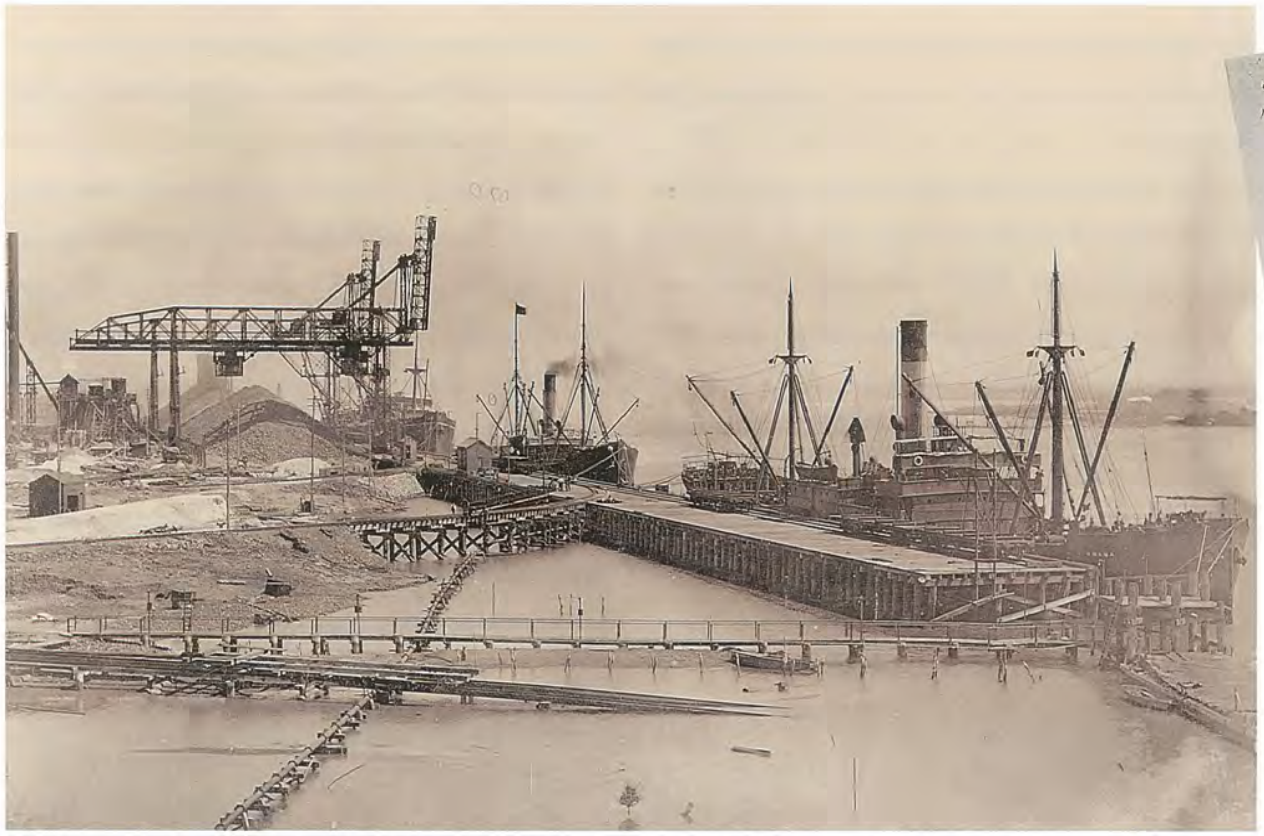
"SOUTHBOROUGH"	23rd March 1917		
"EMERALD WINGS"	19th May "	Charter expires	14th April
"OCEANA"	July "	do	21st July
"BRIGHT WINGS"	August "	do	10th August

MATERIAL	PORTS	SCOTT FELL STEAMERS FREIGHT Previous rate	Increase	New rate	Outside steamers
Ironstone		5/6	1/-	6/6	8/6
Limestone		5/6	1/-	6/6	7/-
Coal		7/-		10/-	
General Merchandise	Between Newcastle & Pirie / Newcastle & Adelaide / Sydney & Pirie or Adelaide / Melbourne & Port Adelaide / Melbourne & Pirie / Melbourne & Newcastle	12/6	2½	15/7½	
Firebricks	Sydney & Newcastle	6/6	"	8/1½	
	Pirie & Newcastle	40/- per 1000	"	50/-	
	Melbourne to Newcastle	60/- per 1000	"	75/-	
	Sydney to Newcastle	35/- per 1000	"	43/9	
Fireclay	Pirie to Newcastle	8/-	"	10/-	
Sulphur	Sydney to Pirie - inl 100 ton lots where steamers connect and direct delivery to counter	12/6	"	15/7½	
do	Sydney to Pirie - where cartage &/or lighterage incurred	16/-	"	20/-	
Minimum charge for small packages		3/6	"	4/4½	

MELBOURNE: 14th MAY 1917.



Emerald Wings *at Whyalla Jetty, loading the first shipment of iron ore for Newcastle Steelworks, Jan 1915. Note 'Wings' emblem on the funnel.* BHP Archives W99.



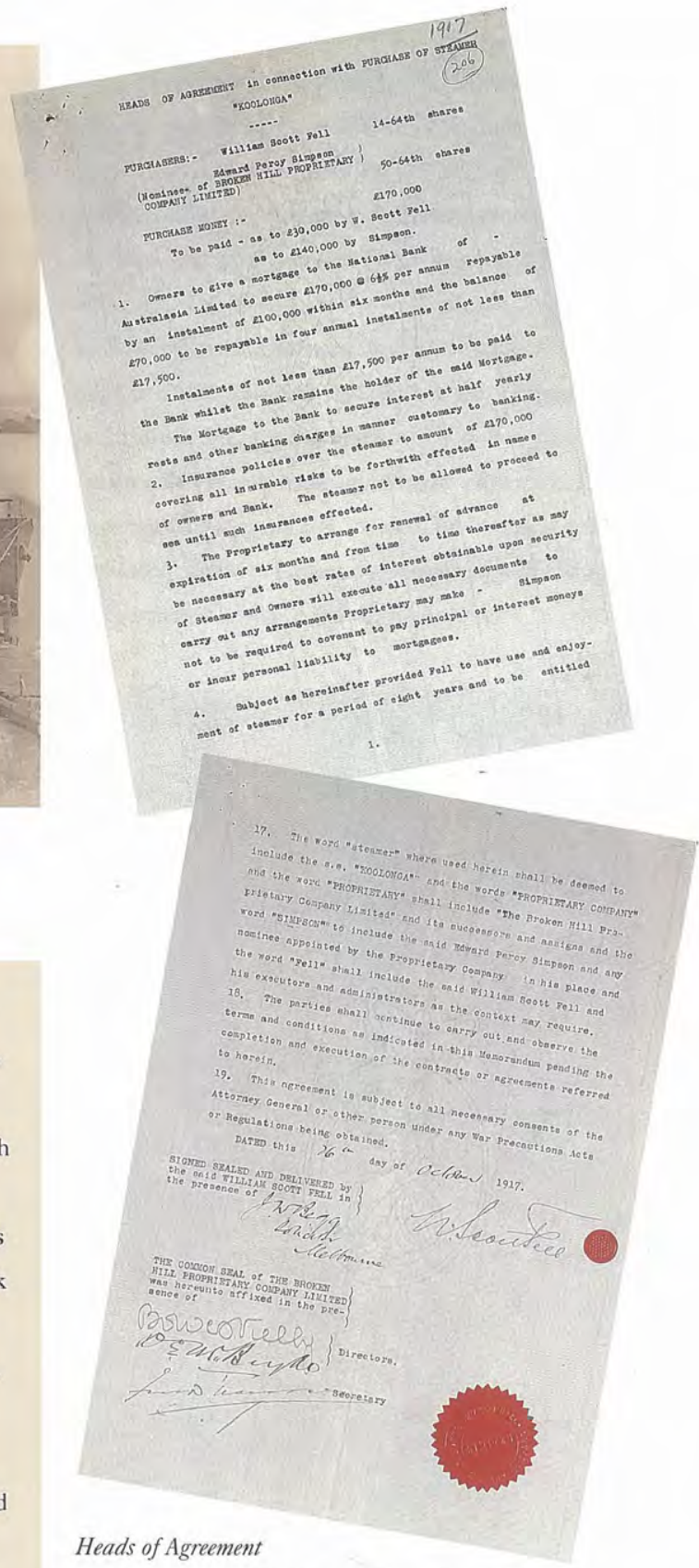
The Newcastle Steelworks wharf in 1917 with R. S. Lamb & Co. Ltd.'s **Omana** *2,550/15, under charter to the Company alongside.* BHP Archives N1749.

During 1913, informal proposals to obtain "…at least two specially adapted steamers for the carrying of iron ore… fitted with automatic loading and discharging appliances, so as to reduce transit charges to the very lowest cost…",[3] were discussed within the Company. However, BHP steelworks Manager David Baker did not favour such ships, preferring permanent shore-based cargo handling facilities at both Hummock Hill (Whyalla) and Newcastle.

Baker's views prevailed, and by 1914, under the direction of Essington Lewis (later to become BHP's General Manger and eventually Managing Director, then Chief General Manager) the jetty at Hummock Hill had been extended into deep water, for use by ocean-going vessels. An automatic belt system and loading head was fitted to the jetty, and a new power plant and crushing facility had been built on shore.

Emerald Wings, under the command of Captain W. H. Halley – subsequently to be appointed the Company's first Marine Superintendent – berthed at the Hummock Hill facility at 0500 hours on 8 January 1915. The trial loading of this first shipment of 2,800 tons of iron ore was successfully completed in 3 1/4 hours, and by noon that day the ship had completed preparations for sea and sailed for Newcastle, 1,170 miles away. On this inaugural voyage the ship also carried a large parcel of lead for overseas transhipment at Sydney, taken on board at Port Pirie after the discharge there of a cargo of Newcastle coal.[4]

Emerald Wings arrived at Newcastle on 19 January and was followed shortly after by *Bright Wings* and *Southborough*. These first loads of iron ore brought life to the Newcastle Steelworks.



1917

206

HEADS OF AGREEMENT in connection with PURCHASE OF STEAMER "KOOLONGA"

PURCHASERS:- William Scott Fell — 14-64th shares
(Nominee of BROKEN HILL PROPRIETARY COMPANY LIMITED) Edward Percy Simpson — 50-64th shares

PURCHASE MONEY :- £170,000

To be paid - as to £30,000 by W. Scott Fell
as to £140,000 by Simpson.

1. Owners to give a mortgage to the National Bank of Australasia Limited to secure £170,000 @ 6½% per annum repayable by an instalment of £100,000 within six months and the balance of £70,000 to be repayable in four annual instalments of not less than £17,500.

Instalments of not less than £17,500 per annum to be paid to the Bank whilst the Bank remains the holder of the said Mortgage.

The Mortgage to the Bank to secure interest at half yearly rests and other banking charges in manner customary to banking.

2. Insurance policies over the steamer to amount of £170,000 covering all insurable risks to be forthwith effected in names of owners and Bank. The steamer not to be allowed to proceed to sea until such insurances effected.

3. The Proprietary to arrange for renewal of advance at expiration of six months and from time to time thereafter as may be necessary at the best rates of interest obtainable upon security of Steamer and Owners will execute all necessary documents to carry out any arrangements Proprietary may make - Simpson not to be required to covenant to pay principal or interest moneys or incur personal liability to mortgagees.

4. Subject as hereinafter provided Fell to have use and enjoyment of steamer for a period of eight years and to be entitled

1.

17. The word "steamer" where used herein shall be deemed to include the s.s. "KOOLONGA" and the words "PROPRIETARY COMPANY" and the word "PROPRIETARY" shall include "The Broken Hill Proprietary Company Limited" and its successors and assigns and the word "SIMPSON" to include the said Edward Percy Simpson and any nominee appointed by the Proprietary Company in his place and the word "Fell" shall include the said William Scott Fell and his executors and administrators as the context may require.

18. The parties shall continue to carry out and observe the terms and conditions as indicated in this Memorandum pending the completion and execution of the contracts or agreements referred to herein.

19. This agreement is subject to all necessary consents of the Attorney General or other person under any War Precautions Acts or Regulations being obtained.

DATED this 26th day of October 1917.

SIGNED SEALED AND DELIVERED by the said WILLIAM SCOTT FELL in the presence of

THE COMMON SEAL of THE BROKEN HILL PROPRIETARY COMPANY LIMITED was hereunto affixed in the presence of } Directors.

Secretary

Heads of Agreement for the purchase of **Koolonga** *by Scott Fell & Co and BHP (E.P. Simpson was BHP's nominee in these agreements), signed by William Scott Fell, BHP Directors Bowes Kelly and Duncan McBryde and Company Secretary Frank Dickenson, 26 Oct 1917.* BHP Archives M8/112.

On 7 August 1917 Scott Fell advised BHP of an option to purchase both *Wings* steamers for a total of £205,000. The Limerick Steamship Co. was declining to sell one ship only and, as the option expired in London that day – a Friday – immediate action was required.

Because of the likelihood that the pair would be commandeered by the Commonwealth, the Company was not interested in outright acquisition. But rather than have Company operations blocked, should a sale elsewhere see the ships withdrawn at a time when replacements were scarce, BHP agreed to enter a joint arrangement with Scott Fell. Any purchase was, nevertheless, conditional upon the sanction of the Imperial and Commonwealth authorities.[5]

The National Bank of Australasia consented to finance the joint purchase agreement, for both steamers, between Scott Fell and Edward Percy Simpson, a Sydney solicitor and nominee for BHP. However, the bank did not guarantee settlement of the financial arrangement in London over the weekend. By the time the appropriate representatives were in position to effect settlement, five days had elapsed and it appears Scott Fell's option was lost.[6]

In September 1917 the Controller of Shipping, Admiral Sir William Clarkson, advised BHP that the British Government intended to withdraw a number of steamships from the Australian coast, including the *Wings* vessels. An urgent meeting was convened between the Company Chairman, Bowes Kelly, and the Prime Minister, W. M. Hughes. The latter accepted that the continuing transport of ore was essential for the maintenance of an industry upon which Australia depended for vital supplies of iron and steel, and the Board promptly advised BHP's London Chairman by cable that the two ships would not be allowed to leave the coast.[7]



***Emerald Wings** at Whyalla Jetty, loading the first shipment of iron ore for Newcastle Steelworks, Jan 1915.* BHP Archives W88.

Overall, however, uncertainty remained. When McIlwraith McEacharn's collier *Koolonga* (which had been in semi-regular use in the trade since May 1915) was offered for sale, a similar proposal to that advanced for the joint purchase of the other vessels was quickly agreed.[8]

The price was £170,000 and ownership was vested in Scott Fell (£30,000 and 11/64th shares) and the aforementioned Edward Percy Simpson (£140,000 and 53/64th shares). Simpson was again BHP's nominee as owner and held the shares on behalf of the Company. Once more financed through the National Bank of Australasia, the arrangement provided for Scott Fell to buy the whole of the shares over a maximum period of four years, with an initial payment of £100,000 and the balance to be paid in four equal annual instalments. During the period of purchase the ship was obligated to meet the chartering requirements of BHP.

Despite this purchase decision, the Company was not immediately willing to increase its investment in shipping. A Scott Fell recommendation that similar terms be accepted for the purchase of The Adelaide Steamship Company's *Urilla* (like *Koolonga*, the ten year-old steamer was also employed in Company trades and, with all engines and accommodation aft and a long forward well deck, was well suited to requirements) was declined. The Company also chose not to buy a number of coastal steamers tendered for sale in London, among them Howard Smith's *Era*, *Age* and *Gabo* and Huddart Parker's *Barwon* and *Werribee*.[9]

Koolonga was registered to the joint ownership on 22 November 1917[10] and, in a style which set a practice for both companies (and which BHP continues today), was renamed *Iron Monarch* (I), on 30 July 1918.

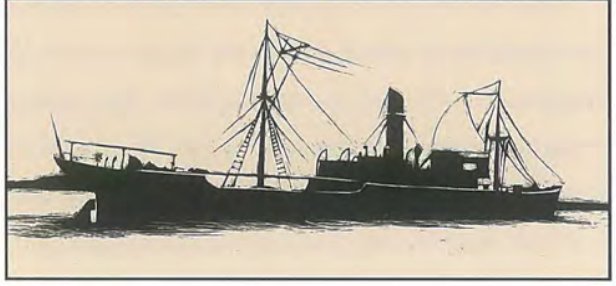
Under some pressure of circumstance, BHP had become shipowners.



***Bright Wings**, c. 1917. BHP Archives IPS1.*

CHAPTER 4

TOWARDS AN IRON FLEET



In January 1918 the owners of the *Wings* steamships again approached Scott Fell with an offer to sell both ships. With no consent for a transfer forthcoming from the Controller of Ships, however, BHP decided to cancel any further negotiations.[1] The following month both vessels underwent changes of name and registered ownership.

Emerald Wings became *Kilbaha*, with ownership changed in February to Carrington Steamship Co. of Cardiff, Wales while *Bright Wings* was renamed *Auchinish* and registered to Margam Abbey Steamship Co., also of Cardiff. The latter vessel's name was later officially modified to *Aughinish* at Sydney in August that year.

Efforts to bed the two ships down with BHP continued unabated. In March 1918 Captain J. R. Barter of shipping agents Birt & Co. forwarded correspondence to the Company proposing to arrange an extended charter of the vessels, for the duration of the war and for six months after peace was declared, with the new owners. The terms of the new offer were approved and Captain Barter was notified accordingly; however, the owners replied that the new offer was unacceptable.[2]

Meanwhile, *Southborough* was recalled to Britain in May 1918. Two months later on 16 July the vessel, still registered in Sydney, was torpedoed and sunk in the North Sea off Scarborough.[3]

With the signing of the Armistice on 11 November 1918 World War I ended, but steamships were still extremely difficult to obtain. The U-boats' crippling toll on the world's merchant fleet now made Australia's post war shipping position critical, and when in January 1919 the *Aughinish* was re-offered for sale BHP again declined, as the possibility the ship would be appropriated for overseas service remained strong. Nevertheless, both ships continued in the colours of Scott Fell (red funnel, black top, wide white band), in the ore and steel trade, under Commonwealth Government control.



Waterfront view of Newcastle Steelworks with ***Iron Prince*** *(I) and* ***Iron Baron*** *(I) at the wharf, 1921.* BHP Archives N1969.

However, by October of that year, it became clear that as soon as control was lifted – and at the time the entire Australian coastal fleet was so regulated – *Kilbaha* and *Aughinish* would be recalled to Britain by their owners. This time, when Scott Fell advised by cable from London that the steamers had again been offered for sale, BHP instructed its agents to arrange the purchase. The price was now £137,500 each and although aware that the price was much higher than previously asked, and that other steamers had also been offered, the Company's Board accepted Scott Fell's advice that "...at present nothing so suitable as these" was available.[4]

Again Scott Fell offered to assist by financing the purchase of one of the ships, but Admiralty advice that there was now no risk of the ships being taken for overseas service convinced BHP to buy them outright. The Company arranged with the National Bank for the total purchase price to be transferred to London, and authorised Scott Fell to organise, on BHP's behalf, the purchase and transfer of ownership.

Negotiations were completed and on 28 October, eight days after the transaction was registered, the Controller of Shipping informed BHP of his intention to release both *Kilbaha* and *Aughinish* from requisition upon their next arrival in Newcastle. The ships were officially handed over to BHP on 31 October 1919.[5]

With BHP moving to direct vessel ownership, early in 1920 Scott Fell incorporated Interstate Steamships Ltd., with a paid up capital of £200,000. The new company was formed with the purpose of taking over the business previously conducted by Scott Fell under the name Interstate Steamship Co. at Newcastle, Sydney and Port Pirie, and included BHP contracts and the steamship *Iron Monarch* (I). The purchase price was £101,595 for the business and £98,398 for the ship; formal ownership of the vessel was not transferred to the new company, however, until 1928.[6]

In the first recorded major mishap to a BHP-owned ship, on 5 April 1920 *Aughinish*, steaming north off the south coast of New South Wales at Narooma, struck a submerged object near Montague Island. The collision (with what was subsequently found to be an uncharted rock, later christened Aughinish Rock) holed the ship, but she was safely beached on the mainland at Corunna.

On 9 April, the salvage vessel *Bermagui* successfully dragged the stricken ship astern into navigable waters and she made Sydney, apparently under her own steam, on 13 April.[7] A drydock examination revealed the damage to be more



serious than first thought and repairs were to take approximately four months.

This was to be the last time the vessel was officially referred to as *Aughinish*. The BHP Annual Report for the year ended 31 May 1920 refers to the vessel(s) as "now known as the *Iron Prince* and *Iron Baron*".[8] In fact the name changes, to *Iron Prince* (I) (*Aughinish*) and *Iron Baron* (I) (*Kilbaha*), were recorded on 25 May and 23 June 1920 respectively, the former now carrying colours comprising a black funnel with red band and yellow diamond, while the latter remained for some time in Scott Fell livery.

BHP's shipping requirements continued to grow. As suitable foreign shipping became available Scott Fell, on behalf of the Company, arranged new charters: the British steamer *Grelwen* for a period of six months from August 1920, and one month later another Cardiff-owned steamer, *Westborough*, for three years. The latter was re-registered in Sydney. In May the following year the British collier *Maindy Lodge*, an engines aft steamer with four cargo holds and bridge superstructure between number two and three hatches, also entered BHP service on charter. The vessel was so suited to the trade that in 1922 Interstate Steamships Ltd. purchased her and renamed her *Iron Chief* (I).

In light of the ever increasing volumes of business and a desire to control its own affairs, by April 1921 BHP had decided to set up its own shipping department. Consequently, Captain J. R. Barter (previously involved in purchase negotiations for the former *Wings* steamers) was appointed as Shipping Manager at the Company's head office in Melbourne, on a salary of £1,700 per annum.[9] As his assistant Barter chose an accountant, Mr. T. R. Longney.

The position of Marine Superintendent at the fleet's operating base, Newcastle, was accepted by Captain W. H. Halley, previously master of *Emerald Wings*, at a salary of £500 per annum.[10]

Notwithstanding the establishment of a BHP Shipping Department, Scott Fell continued the management of the steamers *Iron Baron* and *Iron Prince* and the Company's stevedoring operations at Newcastle, Melbourne and Port Pirie.

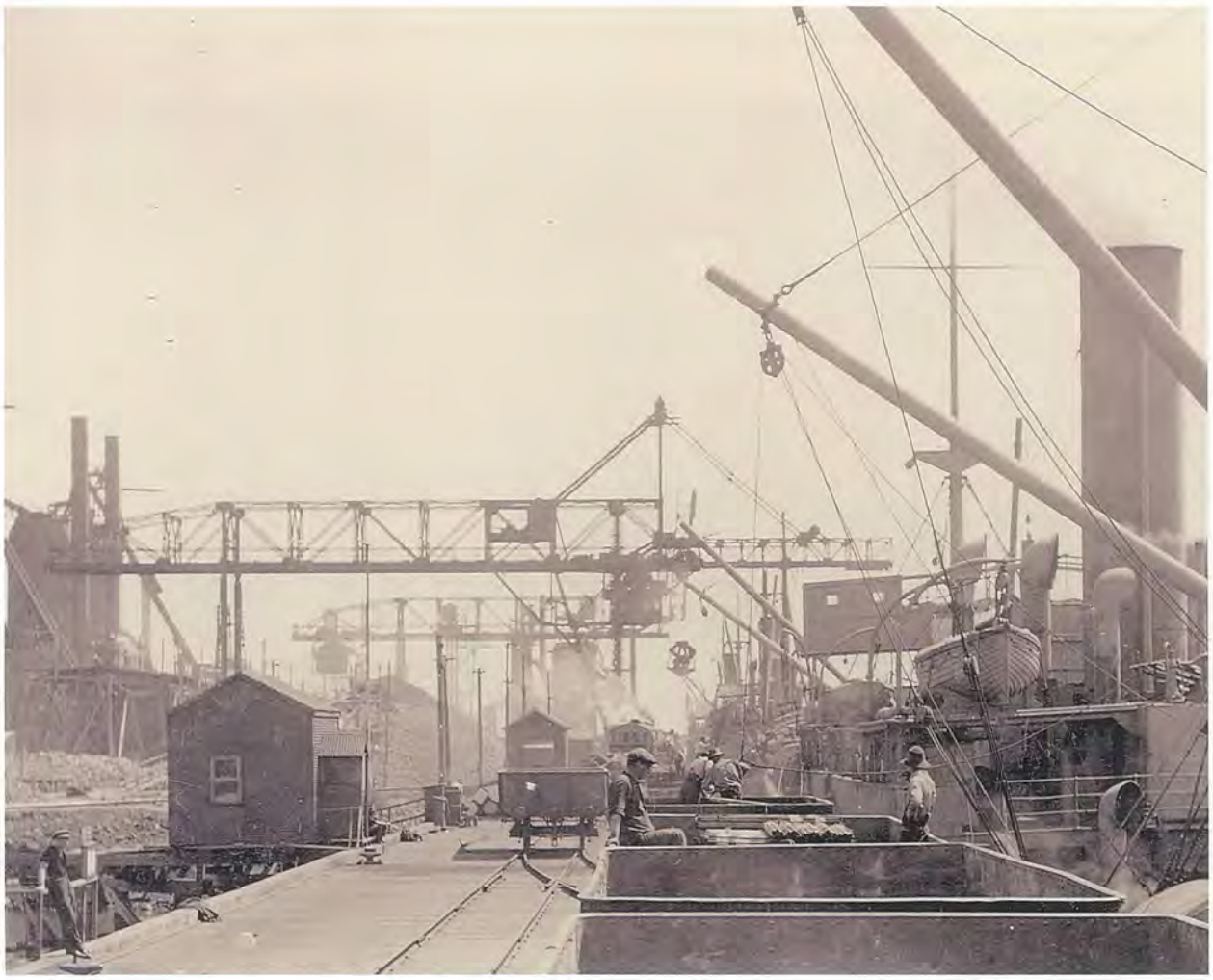
Just as the BHP Shipping Department was finding its feet, serious problems beset the fledgling steel industry. Between 1916 and 1920 domestic coal prices had tripled, employee wages almost doubled, and working hours had been reduced from 48 to 44 hours per week.

European steelmakers, freed from the necessity of furnishing the great demands of war, and faced with excess production capacity, began to compete with Australian steel.

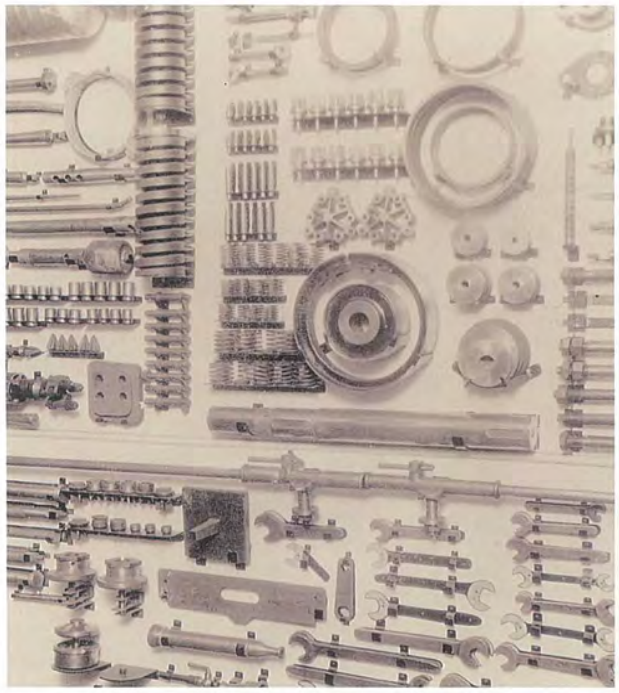
Despite the introduction of protective tariffs in 1921, the dumping of foreign steel gathered momentum until prices for the imported product were half those of BHP's own. The Company was unable to produce on a scale necessary to get its costs down, and drastic measures were necessary: Essington Lewis advised his Board to close steelmaking operations.[11]

In May 1922 the fires at Newcastle were drawn. Over 5,000 men were dismissed[12] (along with more than 1,000 at associated industries in that city alone) and for the next nine months the plant remained silent, the closure a calamity for the city.

Production at Iron Knob had ceased on 22 February 1922 and the steamers *Iron Baron* and *Iron Prince* were withdrawn from service and laid up alongside the BHP wharf at Newcastle. It was

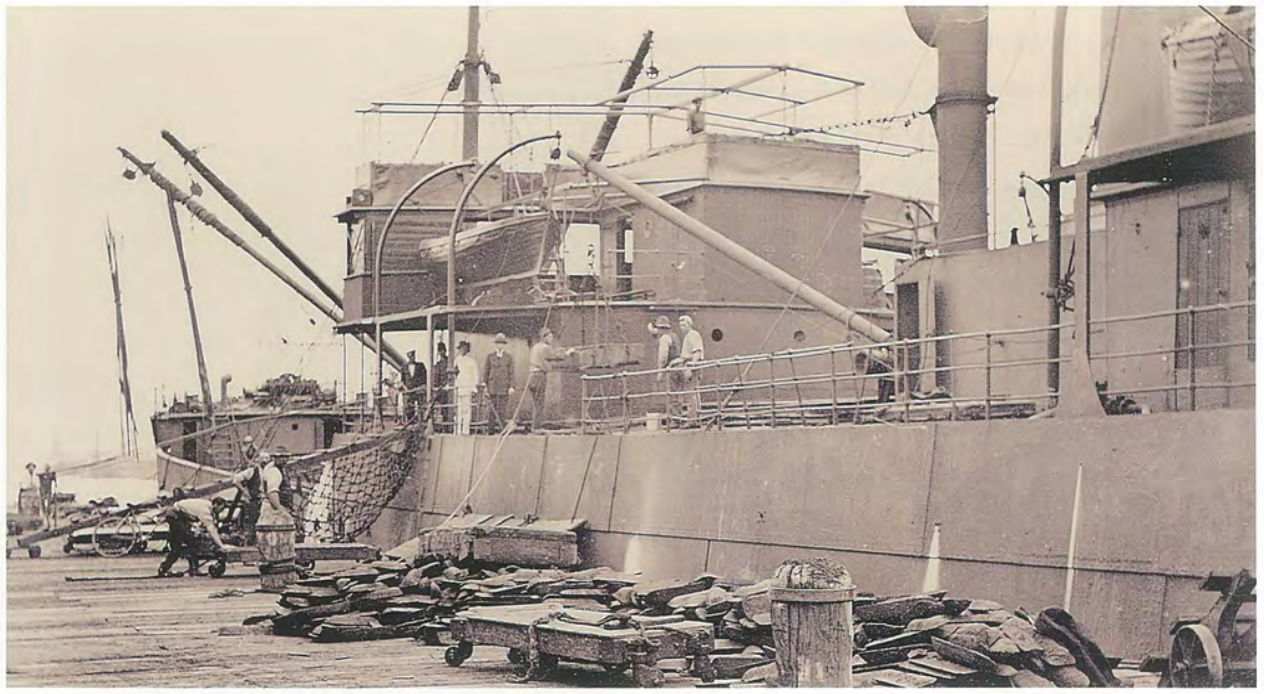


Newcastle Steelworks wharf, c. 1925. BHP Archives.



Shadow Board on ***Iron Knob****, Jun 1933.*

BHP Archives N1227.



Aughinish *discharging pig iron and structural steel at Melbourne, 6 Mar 1920.* BHP Archives AUGS4.



Iron Monarch *(I) loading ore at Whyalla, c. 1921.* BHP Archives.

decided to try and keep the chartered *Westborough* running as long as possible, but after unsuccessful enquiries for continuing employment it became obvious she could not continue in the trade and she too was laid up.[13]

When the Newcastle works finally reopened in March 1923, the Company's steamers were recommissioned, with *Iron Prince* leaving the port of Newcastle that month for what proved to be the last time. Within a matter of weeks the ship became a total loss, stranded and abandoned off the Victorian coast.

Following the loss, BHP applied to reserve the name *Iron Prince* for a possible replacement vessel. In the meantime arrangements were made to charter the steamer *Dilga*, owned by the Government's Commonwealth Line and built under the Government's own shipbuilding program (using steel plates manufactured by BHP), for a period of six months.

Though adventitious the charter presaged the awakening of BHP's interest in Australian-built tonnage, an interest which was soon to assume much greater prominence.



Iron Prince (I), c. 1921. *BHP Archives IPS2.*

BHP's first Shipping Manager, Captain John Barter, was born in Plymouth, England and went to sea at the age of 13, becoming Master of his own ship at 25. After commanding a troopship during the Boer War, he was transferred to the Federal Steam Navigation Co. Ltd.'s London office and was attached to Lloyd's of London studying marine underwriting and average adjusting.

He moved to the Sydney office of Federal Line agents Birt & Co. in 1906, and during World War I his work as liaison officer between the British Shipowners Committee and the naval transport authorities resulted in his appointment as an Officer of the British Empire. A Younger Brother of Trinity House, he was also a life member of The Honourable Company of Master Mariners.[14] His appointment to BHP carried a strong recommendation from the then Controller of Shipping, Admiral Clarkson.

During the 23 years Mr. Barter held the position of Shipping Manager, he was a regular visitor to the Company's ships in Melbourne, and introduced the 'shadow board' system for tools and stores (the matching of items to back-board silhouettes, first instigated by Essington Lewis at the Newcastle steelworks) to the deck and engineroom departments of all BHP ships. This standard was later adopted by other shipping companies on the coast.

Australia's Navigation Act, which had been held over at the behest of Britain for a period of nine years, was passed into law with Royal Assent in 1921. The act restricted the operation of overseas vessels on the Australian coast, requiring a Commonwealth Government permit for them to trade, and imposing a number of regulations on Australian shipowners. Minimum safety standards had to be met, marine wireless had to be installed and an enclosed wheelhouse was required on all vessels.

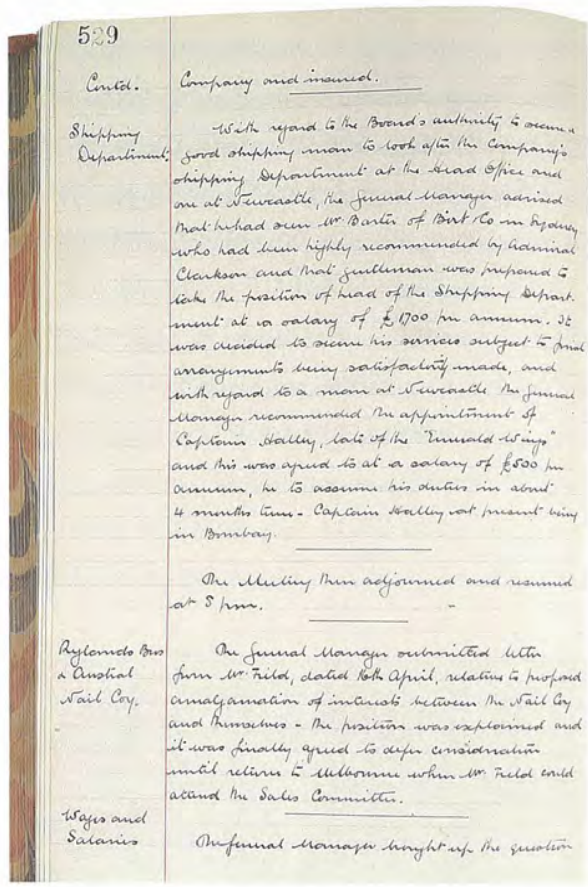
Moreover, statutory accommodation for each seaman had to be doubled, with provision for hot and cold water and the supply of mess utensils and bedding.[15]

Australian shipowners complained that the Navigation Act would lead to an enormous increase in their costs. Nevertheless, BHP withdrew its ships from service to permit the appropriate modifications including, after agreement was reached with Amalgamated Wireless (Australasia) on 8 July 1921, the fitting of wireless equipment.[16] The ships' masts were modified by the fitting of higher topmasts, and wireless shacks were also installed.

Iron Prince (I) left Devonport, Tasmania, on 17 April bound for Newcastle with a cargo of Melrose limestone. At 0135 hours on 19 April the ship grounded near Cape Howe in southern Victoria. Twenty-four hours later, with all attempts at salvage proving fruitless, the decision was made to abandon her, and the crew were safely transferred to The Adelaide Steamship Company's *Aldinga* which had been standing by.[17]

Iron Prince could not be recovered, and gradually broke up where she lay – to date (1992) the only Australian-flagged BHP vessel totally lost, other than as a result of war.

Until the late 1960s one of the ship's boilers remained visible on the sandy beach at Cape Howe.



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Contd. Company and insured.

Shipping Department. With regard to the Board's authority to secure a good shipping man to look after the Company's shipping Department at the Head Office and one at Newcastle, the General Manager advised that he had seen Mr. Barter of Birt & Co in Sydney who had been highly recommended by Admiral Clarkson and that Guillemin was proposed to take the position of head of the Shipping Department at a salary of £1,700 per annum. It was decided to secure his services subject to final arrangements being satisfactorily made, and with regard to a man at Newcastle the General Manager recommended the appointment of Captain Halley, late of the "Emerald Wings" and this was agreed to at a salary of £500 per annum, he to assume his duties in about 4 months time. Captain Halley not present being in Bombay.

The Meeting then adjourned and resumed at 8 p.m.

Rylands Bros & Austral Nail Coy. The General Manager submitted letter from Mr. Field, dated 18th April, relative to proposed amalgamation of interests between the Nail Coy and themselves. The position was explained and it was finally agreed to defer consideration until return to Melbourne when Mr. Field could attend the Sales Committee.

Wages and Salaries The General Manager brought up the question

Minute from the BHP Board of Directors' meeting of 28 Apr 1921, regarding the appointments of Mr. Barter and Capt. Halley to the Shipping Department. These appointments were on the recommendation of the new General Manager, Mr. Essington Lewis.

BHP Archives S1/25.



***Iron Baron** (I), c. 1920.* *BHP Archives IBS1.*

CHAPTER 5

COMMONWEALTH FOLLY: COMPANY FORTUNE



In the last months of World War I the increasing scarcity of shipping caused the Australian Prime Minister, Mr. W. M. Hughes, to initiate (without Cabinet approval) a major local shipbuilding program.

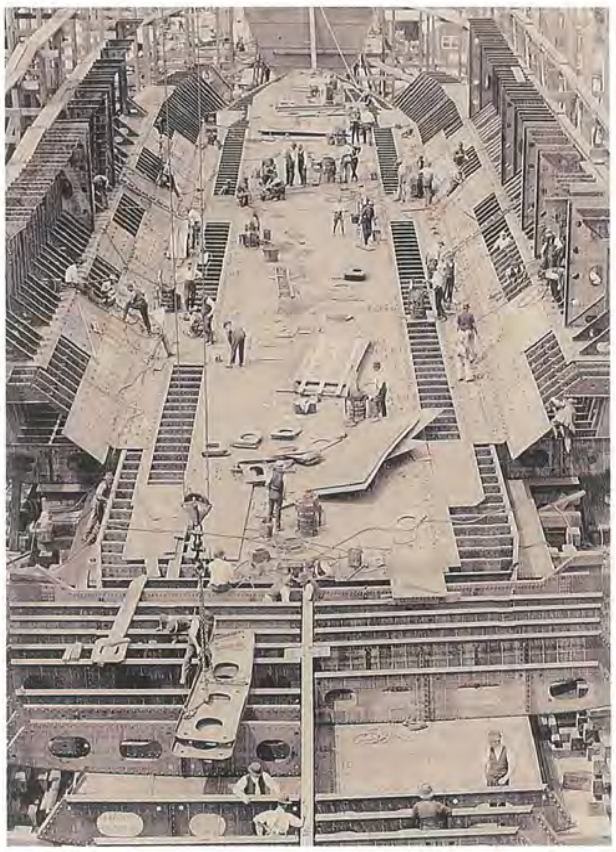
The Government's own yard at Cockatoo Island in Sydney Harbour, the Victorian Government's Williamstown yard, the New South Wales Government's facilities at Newcastle's Walsh Island (established opposite the BHP steelworks site just prior to the outbreak of war), Walkers Ltd. of Maryborough, Queensland, and a yard to be established by Poole & Steel at Osborne on the Port River at Adelaide, were chosen to fulfill the Commonwealth's orders, for what would eventually be a total of nineteen steamers designated the 'D' and 'E' classes.

With imported steel mostly unavailable the Government asked BHP to roll plates for the program at its Newcastle works, a timely request as the Company had been unable to procure plate from overseas to outfit its own second blast furnace. BHP duly modified the bloom mill to meet the Commonwealth's requirements, at the same time rolling plates for its own use. Having realised the steelworks could then produce all necessary materials, and not unaware of shipbuilding's business potential, the Company approached the New South Wales Government with a proposal to take over the Walsh Island shipyards. The offer was quickly accepted.[1]

The Prime Minister intervened, however, arguing that were BHP to build ships simultaneously with his Government, it would embarrass the authorities and interfere with the success of the shipbuilding program. In a move noted by the Directors as "wise and patriotic", on 12 February 1918 BHP accordingly advised the State Government of its intention to withdraw from further negotiations.[2] The supply agreement remained; the first plates for the shipbuilding scheme were rolled at Newcastle in January 1918 and used at Cockatoo Island Dockyard in the building of a Royal Australian Navy collier,[3] *Biloela*.

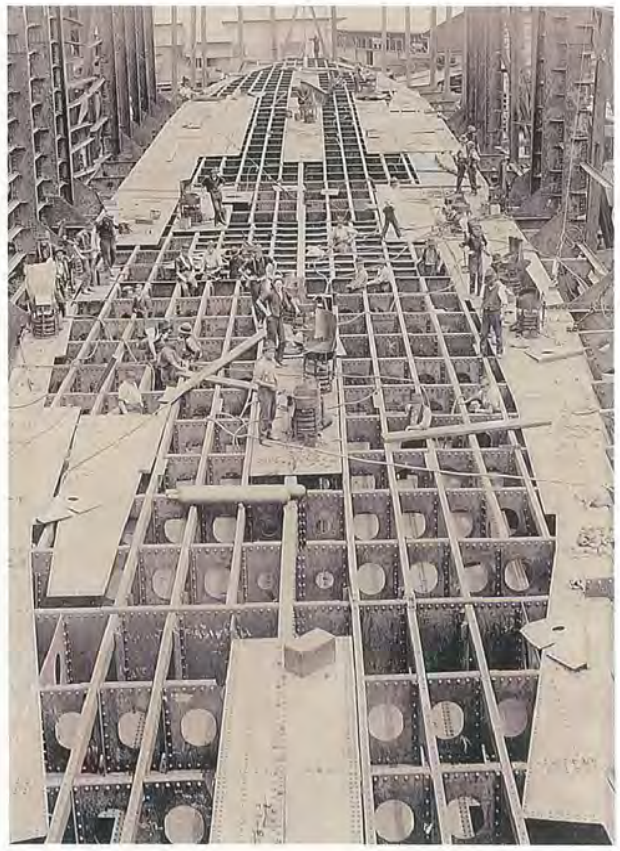
During 1918 the keels of the first ships meant to alleviate Australia's wartime shipping crisis were laid. In all six 'D' class and 13 'E' class cargo steamers were built between 1919 and 1923, all using the Isherwood system of longitudinal framing which, it was estimated, would save 110 tons of steel in the construction of each ship, as well as significantly increasing deadweight capacity.[4] At least half the ships built in the program would at some time or other be used in BHP's steel and ore trades.

The major difference between the two classes was the hull design. The 'D' class was a single-deck, three-island type with two well decks, while the 'E' class were flush deck ships with two continuous decks (shelter deck) and a tonnage opening abaft No. 5 hatch. Because of the lesser statutory freeboard



Shipbuilding at Cockatoo Island Commonwealth Naval Dockyard, showing construction of the collier ***Biloela*** *for the Royal Australian Navy, using BHP steel, Nov 1918.*

BHP Archives.



Shipbuilding using the Isherwood system at the Cockatoo Island Commonwealth Naval Dockyard, a feature of 'D' and 'E' class vessels, Nov 1918.

BHP Archives.

of the shelter deck 'E' class, they had a greater loaded deadweight than the 'D' class (6,100 tons versus 5,600 tons). Although early ships were built of imported plates, later examples used local materials; all angles and frames were manufactured by BHP at Newcastle.

Prime Minister Hughes, the architect of the Commonwealth shipbuilding program, stood down from office in February 1923, his Government replaced by a Nationalist/Country Party coalition led by Stanley Bruce.

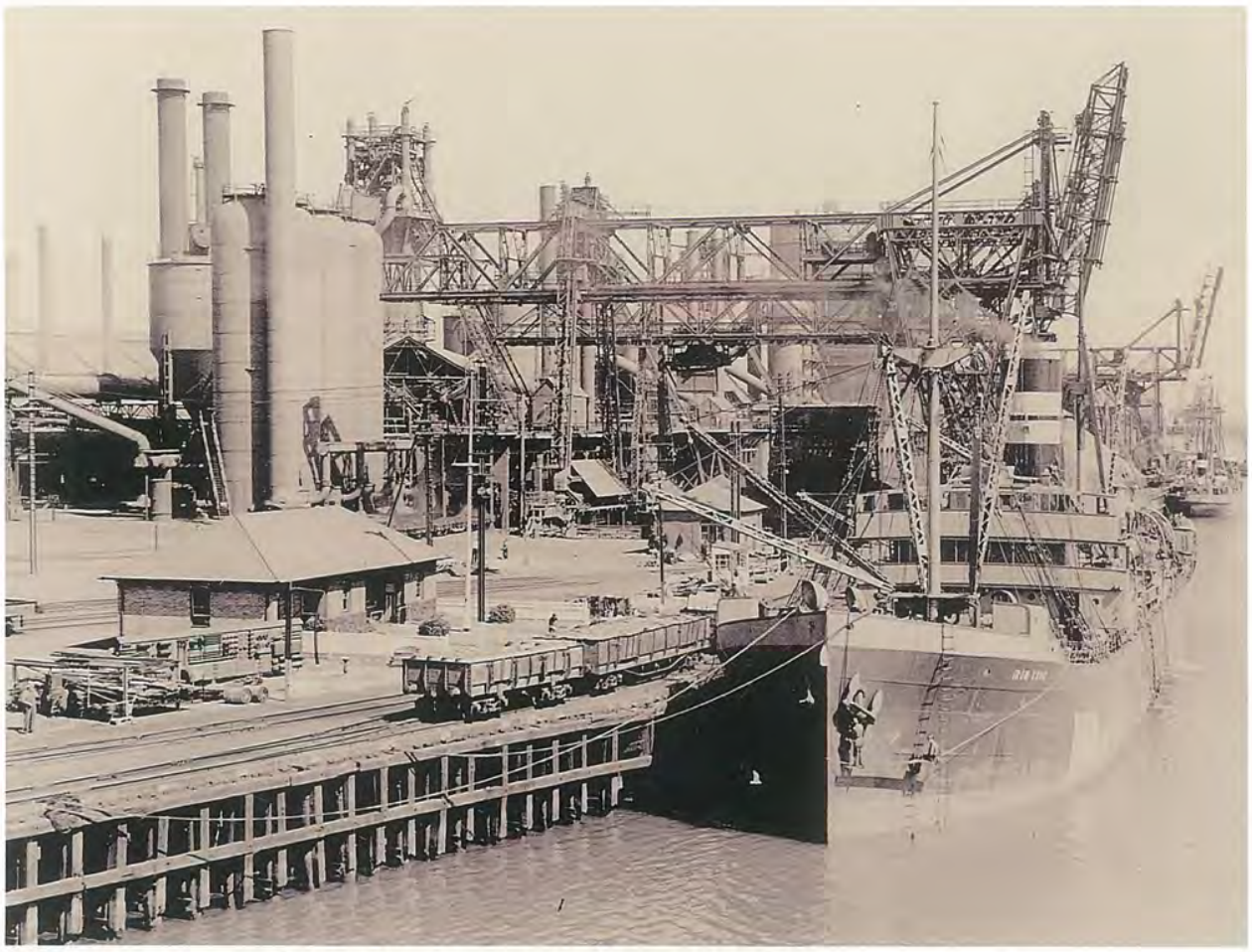
Bruce and Treasurer Earle Page immediately set about dismantling and selling off the Australian Commonwealth Line of Steamers. The fleet had grown to number 54 ships, including many captured German vessels, but most were unemployed and providing no return on the Government's investment.

The new Prime Minister felt none of the personal pride his predecessor had in the project and, a month after taking office, with the last of the line's Williamstown-built hulls ready for launching, Bruce, by personal decree, refused permission for any ceremony. Launched on 2 March 1923 *Elouera* was removed from Hobson's Bay to North Wharf on the Yarra to await her machinery and imported fittings from England.[5] She was completed on 7 September and registered in Melbourne, but never traded for the Government.

Meanwhile, at Poole & Steel's two Adelaide slipways a contract for four (subsequently reduced to three 'E' class) steamers had been let and the first, *Eurimbla*, had been launched on 1 April 1921. Commissioned on 3 December and registered in Sydney, she arrived in Melbourne on 19 January 1922 but once in port did not put to sea again under Commonwealth control.

The second and third Adelaide ships, *Euwarra* and *Eugowra* (launched as *Erina*) undertook only a few coastal voyages, under charter to Howard Smith and James Patrick respectively, before being offered for sale.

Meanwhile, at the conclusion of the six-month charter of the Commonwealth's *Dilga*, obtained as a replacement for the wrecked *Iron Prince* and proven as well suited to the Company's requirements, the BHP Board authorised the purchase of this and other vessels offered for disposal by the Bruce Government.



***Iron Knob** at Newcastle Steelworks, c. 1925.* BHP Archives.



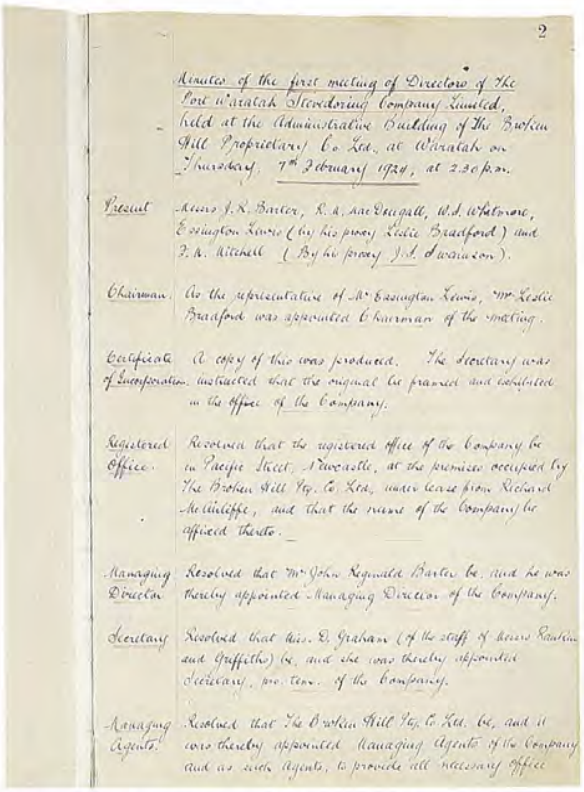
***Eugowra**, c. 1924.* World Ship Society (Vic. Branch).



***Iron Warrior** (I) unloading iron ore at Newcastle Steelworks, c. 1925.* BHP Archives.

On 19 October 1923, the Board approved the acquisition of one 'D' class and two 'E' class steamers up to the prices set by the Government, namely £35,000 for the former and £42,000 for each of the latter, with an option to purchase a fourth ship.[6] Shipping Manager Barter, however, advised against the purchase of *Dilga*, recommending instead *Elouera* as a more economical proposition[7] together with *Eurimbla* and the second of the Adelaide-built sisters, *Euwarra*.

The recommendation was accepted by the Board and, on 9 November 1923, BHP signed sale agreements for the purchase of *Euwarra* and *Eurimbla* from the Commonwealth Government at a cost of £39,000 each, followed on 16 November by the Williamstown-built *Elouera* at the same cost. The three ships were renamed *Iron Knob*, *Iron Master* and *Iron Prince* (II) respectively; in 1924, together with *Iron Baron* (I) (January 1925) the latter pair were transferred to the Newcastle register.



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Minutes of the first meeting of Directors of the Port Waratah Stevedoring Company Limited, held at the Administrative Building of the Broken Hill Proprietary Co. Ltd. at Waratah on Thursday, 7th February 1924, at 2.30 p.m.

Present — Messrs J. R. Barter, R. A. MacDougall, W. J. Whitmore, Essington Lewis (by his proxy Leslie Bradford) and J. A. Mitchell (By his proxy J. S. Swanson).

Chairman — As the representative of Mr Essington Lewis, Mr Leslie Bradford was appointed Chairman of the meeting.

Certificate of Incorporation — A copy of this was produced. The Secretary was instructed that the original be framed and exhibited in the Office of the Company.

Registered Office — Resolved that the registered office of the Company be in Pacific Street, Newcastle, at the premises occupied by The Broken Hill Pty. Co. Ltd., under lease from Richard McAuliffe, and that the seal of the Company be affixed thereto.

Managing Director — Resolved that Mr John Reginald Barter be, and he was thereby appointed Managing Director of the Company.

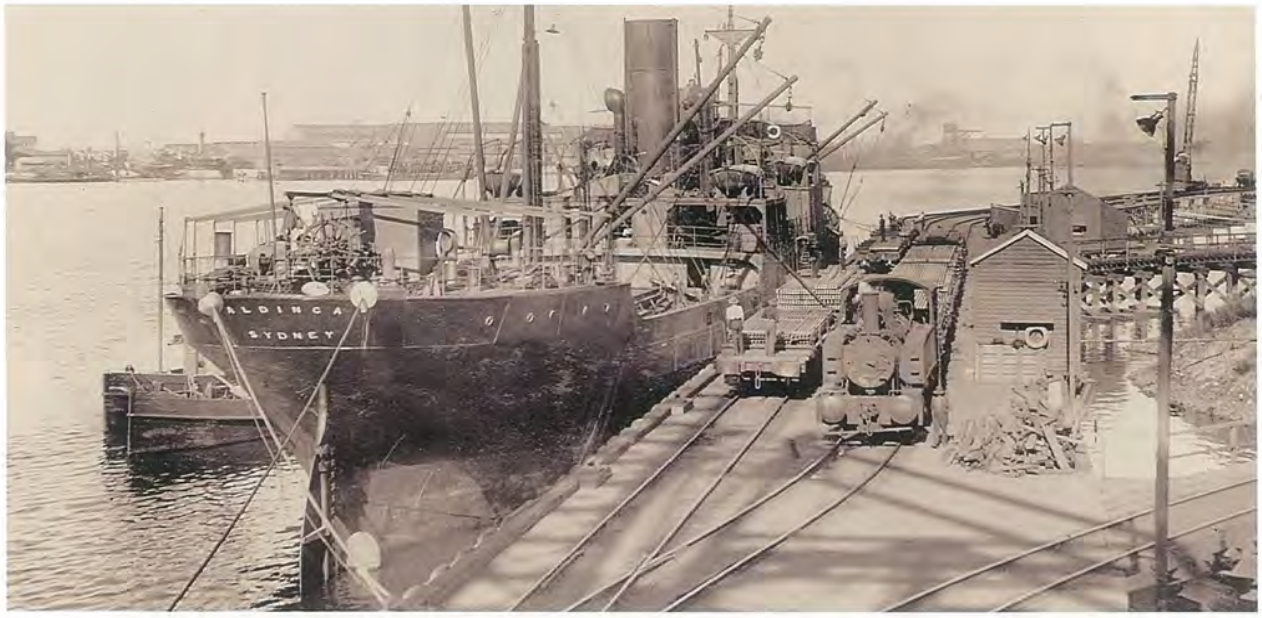
Secretary — Resolved that Miss D. Graham (of the staff of Messrs Rankin and Griffiths) be, and she was thereby appointed Secretary, pro tem. of the Company.

Managing Agents — Resolved that The Broken Hill Pty. Co. Ltd. be, and it was thereby appointed Managing Agents of the Company and as such Agents, to provide all necessary office

Minutes of first meeting of Directors of Port Waratah Stevedoring Co. Pty. Ltd., 7 Feb 1924. BHP Transport.

By the first half of the 1920s BHP found it necessary to undertake the stevedoring of its own products in Newcastle and, in December 1923, a subsidiary company, The Port Waratah Stevedoring Co. (PWS), was formed (with the associated Rylands Bros. (Aust.) Pty. Ltd. and Lysaghts Newcastle Works Pty. Ltd. as minority shareholders) for this purpose. Mr. Barter was appointed a Director of the new venture,[8] operations of which were later extended to Melbourne.

At the time of the foundation of PWS, the BHP wharf at Newcastle had been extended to 1,800ft., with 1,200ft. allocated for the discharge of ironstone and limestone and 600ft. for the loading of steel products. Five steamers could berth simultaneously.[9]



Loading rails on **Aldinga**, *an Adelaide Steamship Company vessel, at Newcastle, May 1922. The Walsh Island Government Dockyards can be seen in the left background, and the steelworks wharf extensions are shown in the right background.* BHP Archives N1283.



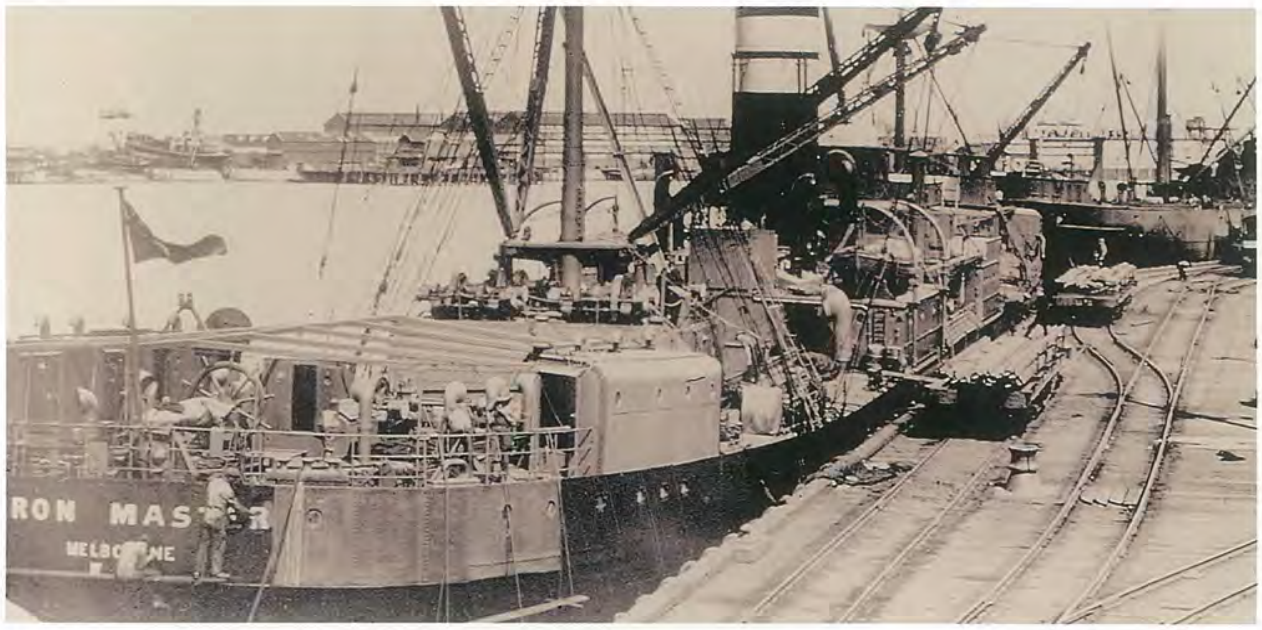
Iron Master *at Newcastle Steelworks, Nov 1928.* BHP Archives.

The Company's first Superintendent Engineer was appointed at Newcastle in 1925, the position filled by the Chief Engineer aboard *Iron Master*, Mr. Alan Dalziel. Born in Dumfriesshire, Scotland he undertook a five year apprenticeship with David Rowan & Co. before serving as an engineer with Clan Line, gaining his Second and First Class certificates.

In June 1912 Dalziel first visited Australia aboard *Clan Campbell* and returned in 1919 to take up a position with engineering firm Thompson & Co. of Castlemaine, then manufacturing engines for the Commonwealth's shipbuilding program. While there he supervised the installation of the machinery in *Elouera*, later to become *Iron Prince* (II).[10]



Deck of ***Iron Warrior*** *(I), c. 1945.* Ken Wriedt.



Iron Master *at Newcastle Steelworks wharf, c. 1926.* BHP Archives IMTS19.

Also in that year BHP decided to terminate the agency agreements with Scott Fell, by then acting as agents for only *Iron Baron*. This brought the handling of all BHP-owned ships directly under Company control and concluded an historic arrangement.

Eugowra was subsequently added to the fleet as the fourth option in March 1925 and renamed *Iron Warrior* (I).[11] None of the ships was fitted with wireless when built; the equipping of the fleet was complete when *Iron Warrior* was so fitted in 1925.

Scott Fell also bought two of the Commonwealth steamers for use in BHP trades: the former British vessel *Australport*, renamed *Iron Age*, and the 'E' class steamer *Euroa* (launched from the Williamstown yard on 22 January 1922), renamed *Iron Crown*. *Iron Age* lasted only 15 months in the fleet and was replaced in February 1925 by a second 'E' class, *Echunga*. Built at Maryborough and launched in December 1921,[12] she was the only one of the thirteen of her class to retain her original name.

With the new steamers in service and the charter of *Westborough* completed in March 1924 the Company's fleet was working to a regular timetable. Loaded with finished product, the ships would sail from Newcastle, one for Adelaide and one for Melbourne each alternate week, arriving where possible in the destination port on the Monday morning following departure. Following discharge the ships sailed in ballast to Whyalla, where a full cargo of ironstone (about 5,500 tons) was loaded for the five-day return voyage to Newcastle. Bunkers and stores would there be replenished and a new cargo loaded, the round trip occupying around 21 days. Under similar voyage arrangements limestone was back-loaded in Devonport.

In November 1926 Barter recommended an oil firing system be tried in one of the Company's steamships. Following board approval *Iron Master* was selected and, in July 1927, fitted with a Babcock



***Iron Prince** (II) at Newcastle Steelworks wharf.* BHP Transport.

The BHP 'E' class vessels each survived to a ripe old age, despite a reputation for poor sea-keeping abilities. Captain Les Packman recalls:

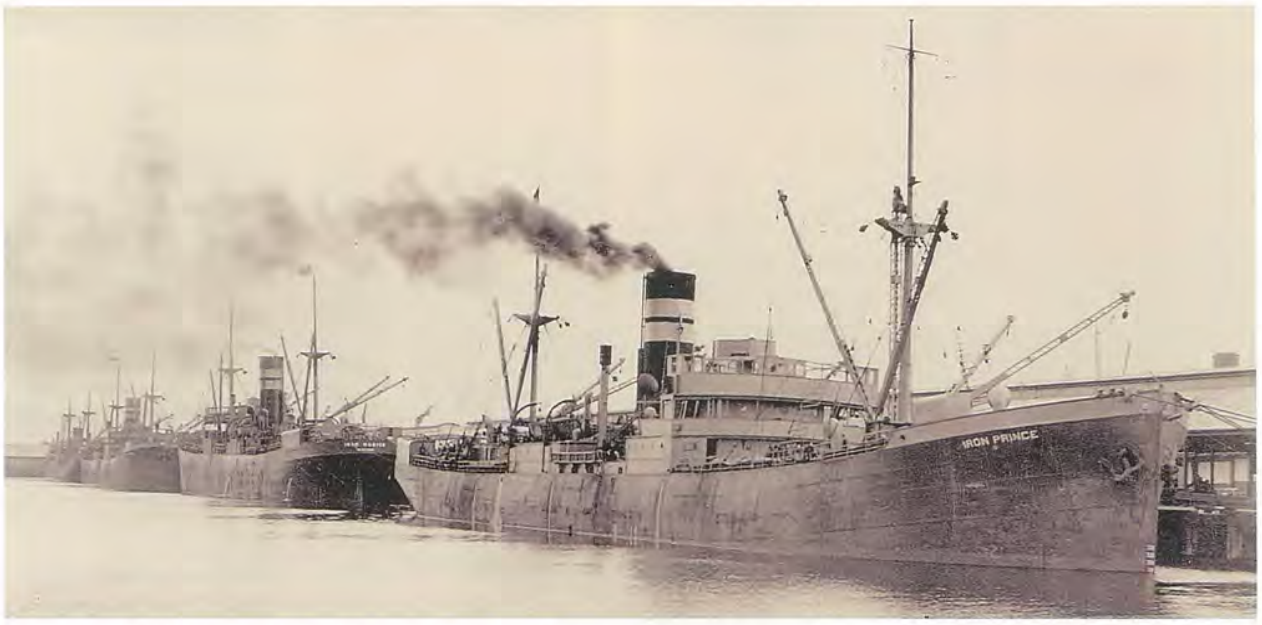
"In the loaded condition they could best be described as a 'half tide rock' in heavy weather. When fully laden with iron ore or pig iron they had an excessive metacentric height which made them roll continually in anything like heavy weather ... the decks were continually awash and frequently the sea would smash doors and enter the accommodation, particularly in the midships area. In all they were not comfortable ships in the stormy waters of Bass Strait and the Southern Ocean... the coal-fired galley abaft No. 3 hatch was swamped on many occasions and the crew messrooms, which were on the after deck between Nos. 4 and 5 hatches, were often made unbearable by storm conditions.

"In addition the mainmast passed through the centre of the crew messrooms, above which four steam winches were mounted on the deck. When these winches were operating the noise inside the messrooms was incredibly loud.

"A necessary feature, peculiar to BHP's 'E' class ships, was the provision of sails, with a trisail for the mainmast most commonly used. Because of the extremely small ballast capacity of these steamers (a ballast draught of approximately 8ft. forward and 12ft. aft) they had a very small propeller immersion. In gale conditions steering became very difficult; when heavy pitching occurred, the propeller raced as only the blade tips were touching the water, and the rudder also came clear.

"Such conditions were frequently experienced during westerly winter gales on the ballast passage to Whyalla. To enable the vessel to keep her head to the wind and avoid being blown on to a lee shore, the trisail was used, particularly in the vicinity of Victoria's Cape Otway. This was extremely effective, once even enabling a vessel to keep her head to the wind after one of the steering chains had broken.

"A staysail for the foremast was also used when the vessels were in a loaded condition and running before a gale, in order to prevent broaching and falling into the trough of a heavy swell." [13]



Three of the BHP fleet berthed at Victoria Dock in Melbourne (right to left ***Iron Prince (II)***, ***Iron Master*** *and* ***Iron Knob****), pre World War II.* BHP Archives IPS3.

and Wilcox oil firing system at Newcastle. The conversion took 21 days (at a cost of £5,000) and was carried out by steelworks labour, assisted by BHP apprentices; the ship's own Engineers were unwilling to assist when, at the time, their colleagues employed at the steelworks were on strike.[14]

With some of the ship's ballast spaces converted to take oil fuel, in unladen condition the already lightly-ballasted vessel became more so as fuel was used, causing serious problems. In poor weather conditions at sea the situation became so critical as to endanger the ship and eventually *Iron Master* reverted to coal firing. The oil firing equipment was never removed.

It had been hoped oil-firing would prove advantageous in several respects: two tons of oil was expected to take a ship as far as three tons of coal, bunkering was simpler and faster, stokehold manning could be reduced as coal trimming was not required, full and regular steam pressure could be maintained, and the engineroom could be kept clean without constant saltwater wash-downs.[15] Though *Iron Master* burned 18 tons of fuel oil per steaming day (after modifications, 15.7 tons) as against 33 tons of coal, the experiment was regarded as neither successful nor economical and no other conversion of the early ships was tried.

Ironically, the 'E' class ships were principally designed for the carriage of Australia's bulk wheat and wool exports. Yet all of the BHP-owned examples gave more than 30 years of reliable service carrying heavy, demanding cargoes – a record reflecting credit on the local naval architects and workmen responsible for their design, construction and maintenance.

Thanks to a well-intentioned but ultimately ill-founded Prime Ministerial pursuit, BHP had obtained a near-new fleet of very useful ships, which served as the backbone of the Company's transport resource as expansion continued apace.

CHAPTER 6

STRENGTH THROUGH ADVERSITY



Throughout the 1920s, BHP continued to expand its involvement in steel manufacture and downstream processing, diversifying through a series of timely initiatives, joint ventures and takeovers. This was to provide much needed strength during the years of the Great Depression and, in its aftermath, help deliver the Company a rapid and prosperous recovery.

But the Company was not alone in its pursuits. Since the late nineteenth century, the family company of George & Charles Hoskins had been manufacturers of iron and steel products, becoming a major industry player upon the purchase of failing competitors' interests at Lithgow, just west of the Blue Mountains of New South Wales, in 1908.

In the early 1920s, with raw materials growing scarce and more expensive to transport, and tough competition from imported products and those of BHP's Newcastle Steelworks, Charles Hoskins determined that survival meant re-establishing the business near the coast. Having established a new colliery and coke ovens on the Illawarra coalfields at Wongawilli on the state's south coast by 1918, Hoskins chose nearby Port Kembla, a deepwater and partially developed harbour south of Sydney, as the new steelworks site and purchased 380 acres of land in 1921.

In 1926 the Hoskins company bought leases of iron ore deposits on Cockatoo Island in Yampi Sound in the far north-west of Western Australia, in order to secure supplies for the new Port Kembla Steelworks. The leases, held since 1920 by the Queensland Government in prospect of the development of a state steel industry at Bowen, were however, completely undeveloped. Until such time as financial resources could be obtained to work the deposit, an alternative supply had to be found.

Hoskins therefore negotiated a 10 year contract with BHP for the supply of high grade iron ore from Iron Monarch in South Australia and on 11 July 1928 *Iron Warrior* arrived at Port Kembla's newly constructed No. 2 Jetty with the first cargo of iron ore for the port.[1] It transpired that the 10 ton grab fitted to the bridge unloader was too big for the after hold of the ship – unable to fit between the shaft tunnel and the ship's side – and as a result *Iron Warrior* had to sail to Newcastle to complete discharge. A smaller grab was hurriedly sent from that port before the next cargo arrived. BHP ships were shortly to become as familiar in Port Kembla as they were in Newcastle and Whyalla.

Meanwhile, Hoskins had found a stronger financial structure was needed to complete the Port Kembla project, and early in 1928 joined with British companies Dorman Long & Co. and Baldwins Ltd.,



Wire manufacture at Lysaght Brothers & Co. Ltd., c. 1930. BHP acquired a majority interest in this company in 1929, as part of a substantial program of vertical integration. BHP Archives AWIUP1.



Coal train leaving the John Darling Colliery, BHP's first coal mine, Jan 1929. BHP Archives JDC120.

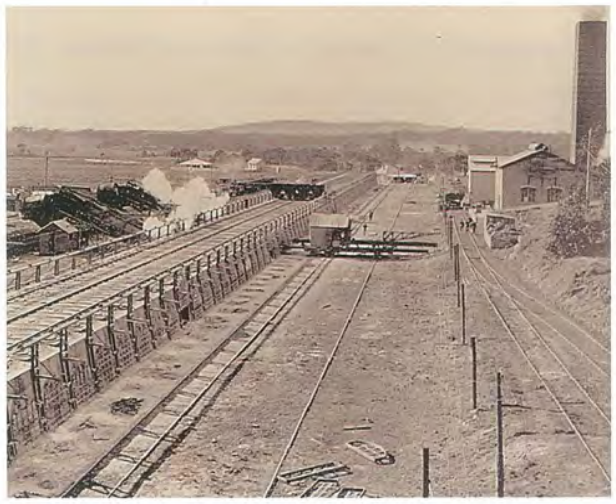


The blast furnace of William Sandford Ltd. at Lithgow, c. 1907. BHP Archives LG15.



Cover of BHP's staff magazine, ***The BHP Recreation Review****, Jul 1929.*

BHP Archives PE3215.



Eighty newly constructed coke ovens at Wongawilli Colliery, 1918. *BHP Archives PK32.*



Construction of the No. 1 blast furnace at the Port Kembla Steelworks of Australian Steel & Iron Ltd., Apr 1928.

BHP Archives PK269.

Production had begun at the Illawarra coalfields in 1849 with the opening of the Mount Keira colliery, coal initially being shipped from a number of points on the coastline.

Following representations from producers, designs for a deep sea port were prepared and Port Kembla, then an open roadstead, was selected. Under the 'Port Kembla Harbour Act 1898' construction of an eastern breakwater commenced in 1901 and, by 1912, an area of 334 acres was enclosed by two breakwaters. Two Government-built general purpose jetties had replaced earlier privately owned high-level coal-loading jetties.

At the No. 1 Coal Jetty, completed in 1915, coal was brought by rail to the base of the jetty and discharged into concrete underground hoppers, thence by belt to either, or both, of two travelling loaders and into ships' holds. This obviated the need to shift ship to load various holds, as was necessary in South Australian ore ports, particularly Whyalla.



The employment office at Newcastle Steelworks, 1935.

BHP Archives N1894.

and Australian coal and shipping firm Howard Smith, to form Australian Iron & Steel Ltd. (AIS). The company's blast furnace was built under the brow of a harbourside hill and, via a three-mile rail line, linked directly to the port.[2] (The No. 2 Jetty was commissioned by AIS, and built under a 50 year lease from the New South Wales Government.)

Despite high hopes, the AIS plant encountered a myriad of difficulties from the start, and the onset of the Great Depression only compounded the problems.

If Australians thought the Wall Street crash of 1929 would not affect the nation, rude reality awaited them. Dramatically falling prices made much of the country's primary production uneconomic, and in the depths of the Depression BHP's Newcastle Steelworks were operating at barely one-quarter capacity. By 1930 an estimated 60 per cent of the Australian merchant fleet was tied up; by 1931 unemployment had reached 28 per cent of the workforce.

Inevitably the BHP fleet too felt the effects. In November 1929 the Company sold the steamer *Iron Baron*, no longer considered economic to run, to Norwegian owners. The four remaining ships were rotated, where possible, by keeping three in operation while one was laid up; as a further economy measure the ships regularly ran on two boilers instead of three.

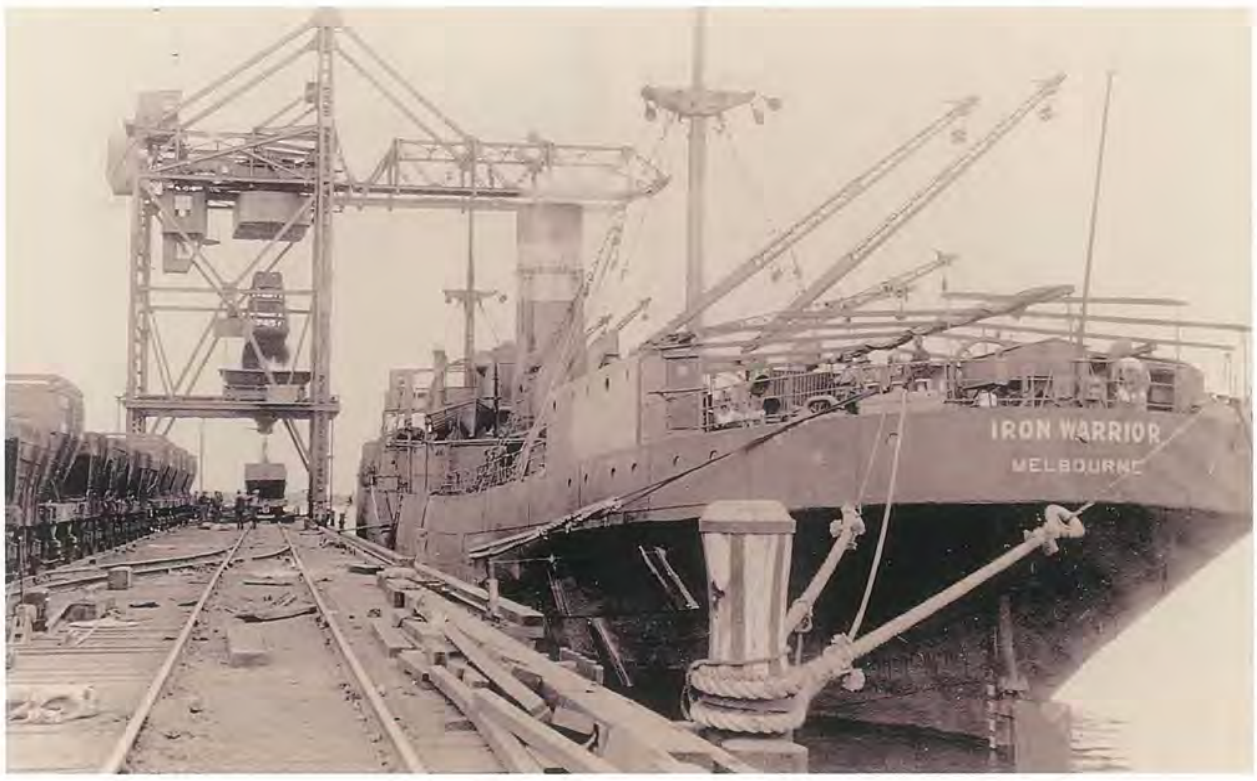
Iron Master, the least economical of the fleet and plagued by industrial troubles stemming from the unsuccessful oil-firing experiment, was laid up for 145 days in 1929, for 132 days in 1931, and for the first six months of 1932. *Iron Knob* was idle for 61 days in 1929 and 106 days in 1931, while *Iron Prince* had 89 days laid up alongside at Newcastle in 1931. Only *Iron Warrior* continued to trade throughout the depression years, a consequence of her 'most economical' status.[3]

Scott Fell's steamers were also affected, being tied up at Stockton (Newcastle) for lengthy periods during this time. *Iron Chief* (II), purchased in 1930 to replace her namesake lost through stranding in 1928, spent most of her career laid up until sold to British owners in 1934.

As the nation pulled out of the Depression, BHP began to reap the rewards of its strategies. The Company's reserves were at an all-time high; there were over 10,000 employees and a similar number of shareholders, and total investment in the steel industry exceeded £10,000,000. By 1935 a new annual production record had been set (some 552,710 tons of ingots), and the task for the Company's fleet of ships was rapidly exceeding its capacity.

But for AIS it was a different story: the opening of the Port Kembla plant had coincided with the onset of the Depression, the company was over-extended and no financial help was at hand. Unable to compete effectively with BHP on one hand and imports on the other, the Hoskins brothers (Charles' sons and successors) sought a meeting with Essington Lewis in July 1935 to negotiate a merger.

On 18 October 1935, stock exchanges were notified that AIS was now a BHP subsidiary. The Australian steel industry had become a monopoly.

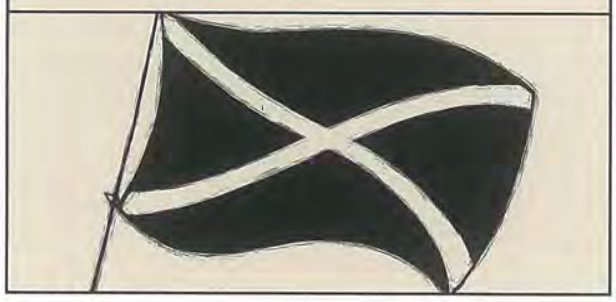


***Iron Warrior** (I) unloading the first cargo of iron ore at Port Kembla's newly erected No. 2 Jetty, 12 Jul 1928.*

BHP Archives.

CHAPTER 7

FOREIGN ORDERS



By the time the economy began to improve in 1934 it was becoming increasingly evident to BHP management that the four 'E' class steamers, together with the remaining Scott Fell ships, sisters *Echunga* and *Iron Crown*, and *Iron Monarch* (registered to Interstate Steamships since 1928) were no longer able to meet trade requirements.[1] The problem was compounded by the dwindling number of vessels available for charter, as coastal ships had been sold off during the depths of the Depression and not replaced.

In January 1935 Shipping Manager Barter, recognising the need for increased tonnage, wrote to Managing Director Essington Lewis to express his concern at the situation, noting in particular the likely impact should one of the Company's fleet meet with an accident necessitating a lengthy lay-up for repairs. He recommended that in order to continue to provide an efficient and economic service – and without providing for very much expansion in the trade – BHP should have at least one more steamer capable of carrying 8,000 tons of ore and able to maintain a speed of 11 knots.[2]

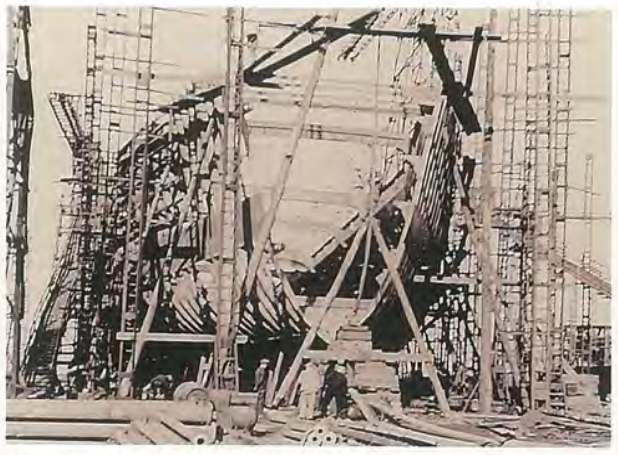
This recommendation was accepted. Negotiations began on the most suitable type of vessel for the Company's requirements, but after a conference with Cockatoo Docks & Engineering Co. Pty. Ltd., of Sydney, it was revealed that the price of building in Australia would be twice that of the lowest quote from United Kingdom builders (approximately £105,000).[3]

As a result, an order for two 8,000 ton deadweight ships was placed with the Scottish firm, Lithgows Ltd. of Port Glasgow.[4] (When known as Russell & Co., the Lithgows yard had been the builders of the Company's early steamers, *Emerald Wings* and *Bright Wings*.) The decision, however, provoked a hostile reaction in Australian Labor Party ranks and on 2 October 1935 the Member for West Sydney, Mr. A. J. Beasley (Labor), launched a bitter attack in Federal Parliament on BHP, highlighting the decision to place the orders overseas.[5]

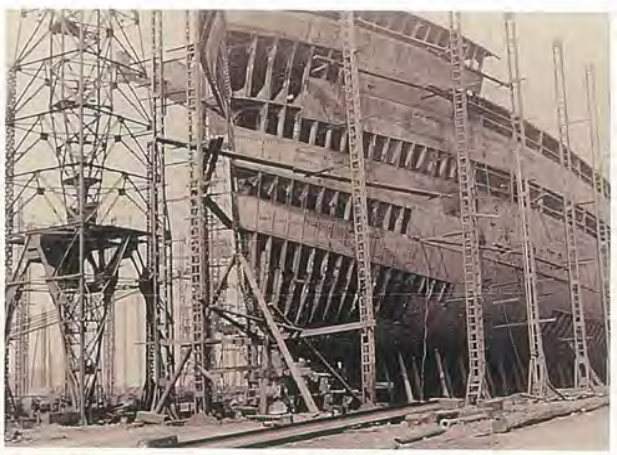
Responsibility for preparation of the plans and specifications for the new class was given to famous naval architect Sir Joseph Isherwood (inventor of the Isherwood framing system employed in the 'E' class vessels) and the ships were built under his supervision. Before plans were finally adopted, paraffin wax models of the vessels were tank tested at the National Physics Laboratory at Teddington, near London, to ensure maximum efficiency.

The 'Chieftains', as the new class became known, were an improvement on the earlier type of vessel, and were built on a composite sytem of longitudinal and transverse framing. Of tanker appearance with a prominent teak-varnished bridge and wheelhouse amidships, the ships had seven bulkheads, shelter decks and a profile enhanced by a large funnel and cruiser stern. With engines aft the problem of the shaft tunnel, for so long a nuisance in the discharge of ore cargoes in other fleet ships, was alleviated.

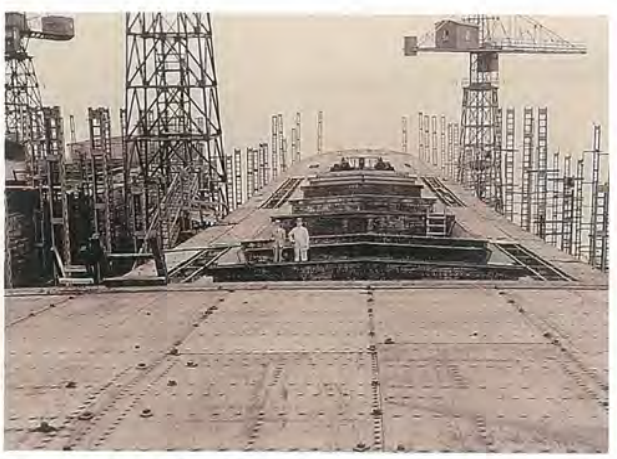
In 1935-36 lengthy strikes by seamen caused serious depletion of iron ore stocks at Newcastle, from more than 177,000 tons to a low of 44,500 tons,[6] a situation the Company regarded as critical. Essington Lewis told BHP Chairman H. G. Darling



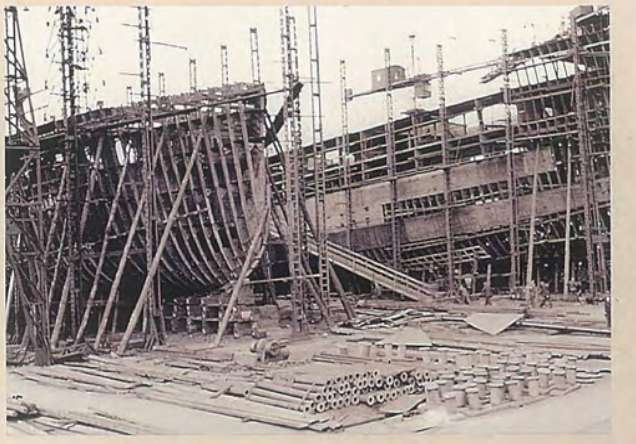
Construction of ***Iron Knight*** *(I) at Lithgows, Port Glasgow, showing stem bar being placed in position, 23 Feb 1937.*



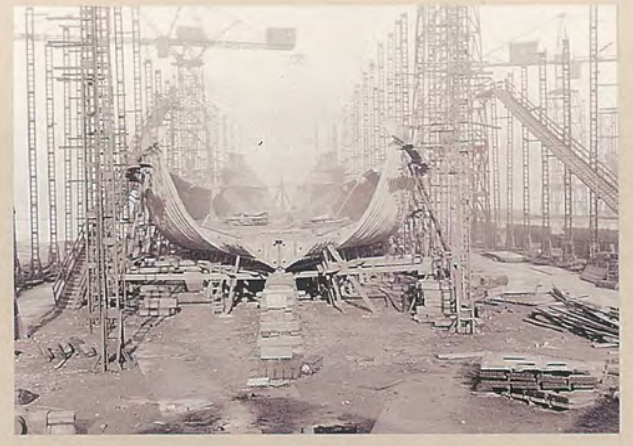
Iron King*, three parts plated, under construction at Lithgows, 18 Jun 1936.* BHP Archives IKGS9.



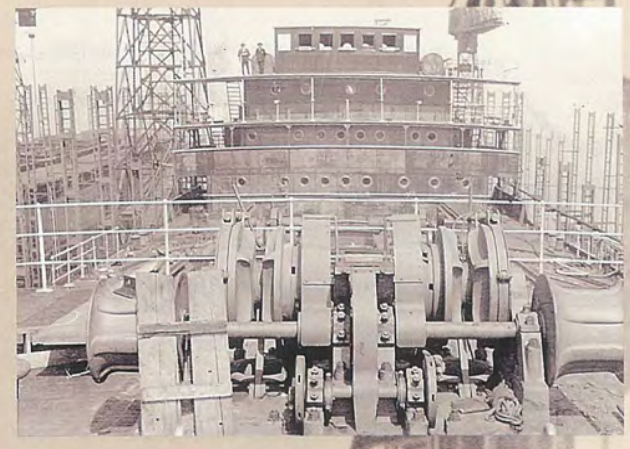
Construction of ***Iron Chieftain*** *(I) at Lithgows, showing view aft from forecastle, 9 Jun 1937.* BHP Archives ICFS9.



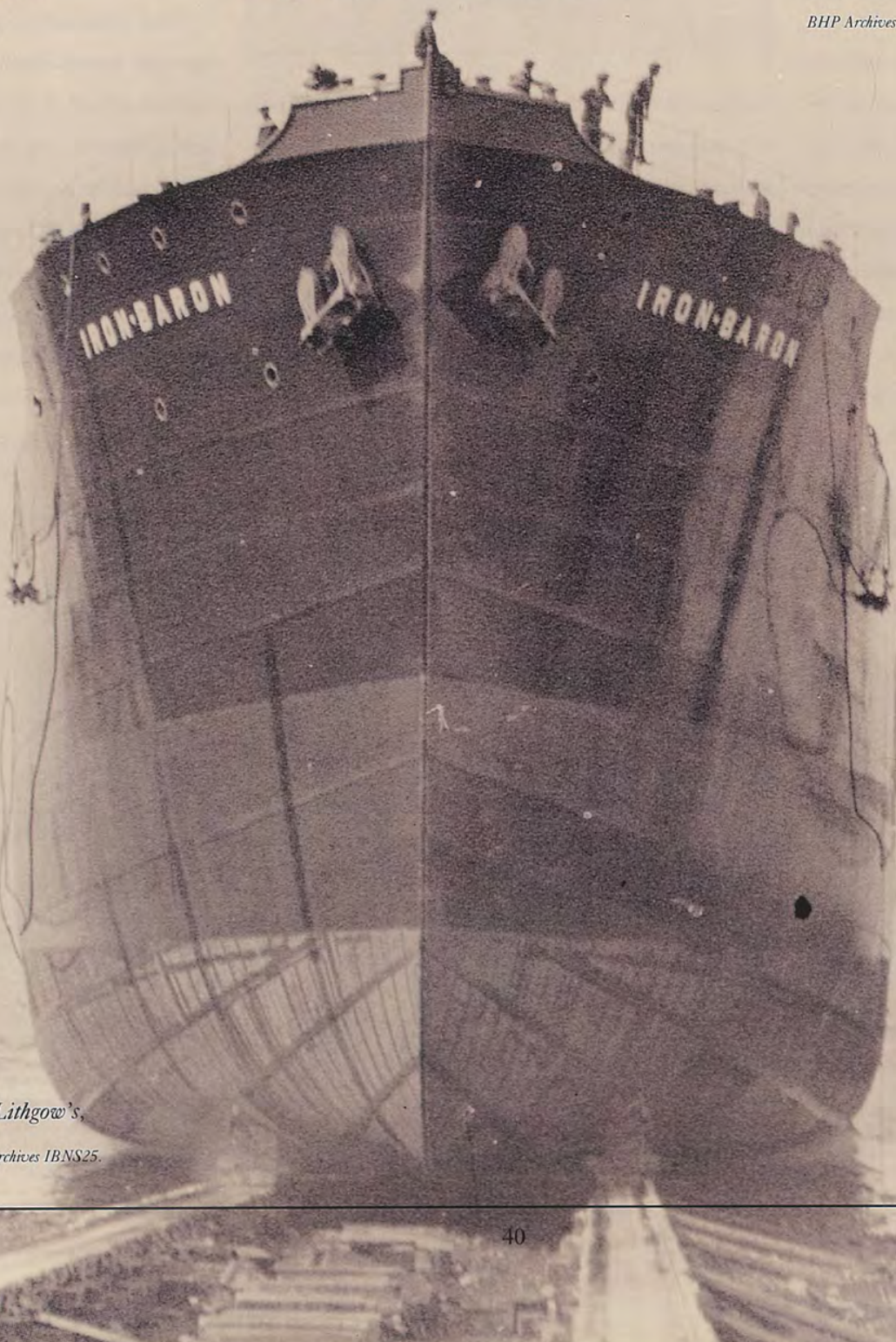
Iron King and Iron Baron (II) under construction at Lithgows, 22 Apr 1936. BHP Archives IKGS6.



Fore end of Iron Knight (I), under construction at Lithgows, 9 Feb 1937. BHP Archives IKTS8.



Looking from forecastle to bridge of Iron Baron (II), under construction at Lithgows, 18 Jun 1936. BHP Archives IBNS22.



Launching of Iron Baron (II) at Lithgow's, Port Glasgow, 24 Jun 1936. BHP Archives IBNS25.



***Iron King** in the hands of tugs after being launched from Lithgow's, Port Glasgow, 31 Aug 1936.* BHP Archives IKGS17.

In August 1935 the Dethridge Award, the first new industrial award for Australian seamen since 1924, was handed down. In general, wages were set some 2 per cent lower than those prescribed 10 years earlier (wages had also been cut by 10 per cent during the Depression).[7]

Seamen immediately walked off ships, initially in Sydney and then at other east coast ports, until 112 ships lay idle. The Federal Government moved quickly against the strikers and Attorney General R. G. Menzies gave them until 5 December to return or face a requirement for all seamen to be licenced (at a cost of one shilling each) for employment.

The seamen refused and the licensing provisions of the Transport Workers Act – which became known by seamen as the 'Dog Collar Act' – were invoked on 31 December 1935. On 3 January 1936, 3,000 seamen Australia-wide went on strike; the licensing system was in operation and non-union crews were being engaged.

The non-unionists were a mixed bunch. Many were naval reservists, others were seamen serving prison sentences who were offered freedom in exchange for manning strikebound ships. Many of the displaced seafarers took up shore jobs, with hundreds becoming employees at the Newcastle and Port Kembla Steelworks.

The strike lasted until 26 February, but the licensing system remained until 1940.[8] One major consequence of the strike was the employment of seamen henceforth through the Mercantile Marine Office. This regulated the method of engagement: previously the men presented themselves for selection by the ship's officers wharfside at the ship's gangway.[9]

that had the Company not had the reserve the steelworks would have been shut down for five weeks, a 'catastrophe'.[10]

Desperately short of ore, BHP pressed the Australasian Steamship Owners (an association formed in 1899 and representing Howard Smith, Huddart Parker, The Adelaide Steamship Company, AUSN, McIlwraith McEacharn, Union Steamship Co. and the Melbourne Steamship Co.) for extra ships.

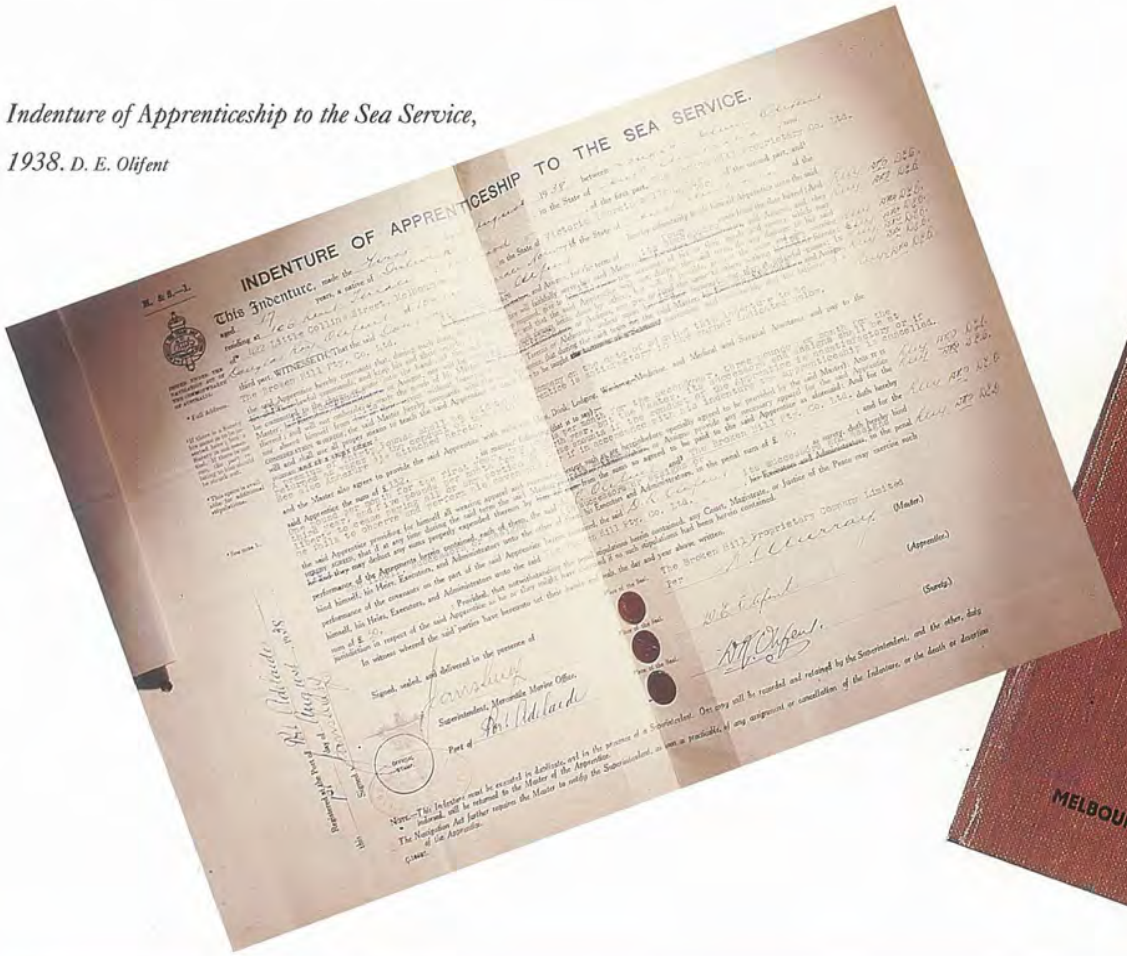
As a first step, in March 1936 the Company arranged a charter of the Melbourne Steamship Co.'s *Ellaroo* (formerly the Norwegian *Aslaug Haaland*), a 6,780 deadweight tons cargo ship with a forward well deck, suited to loading limestone out of Devonport.

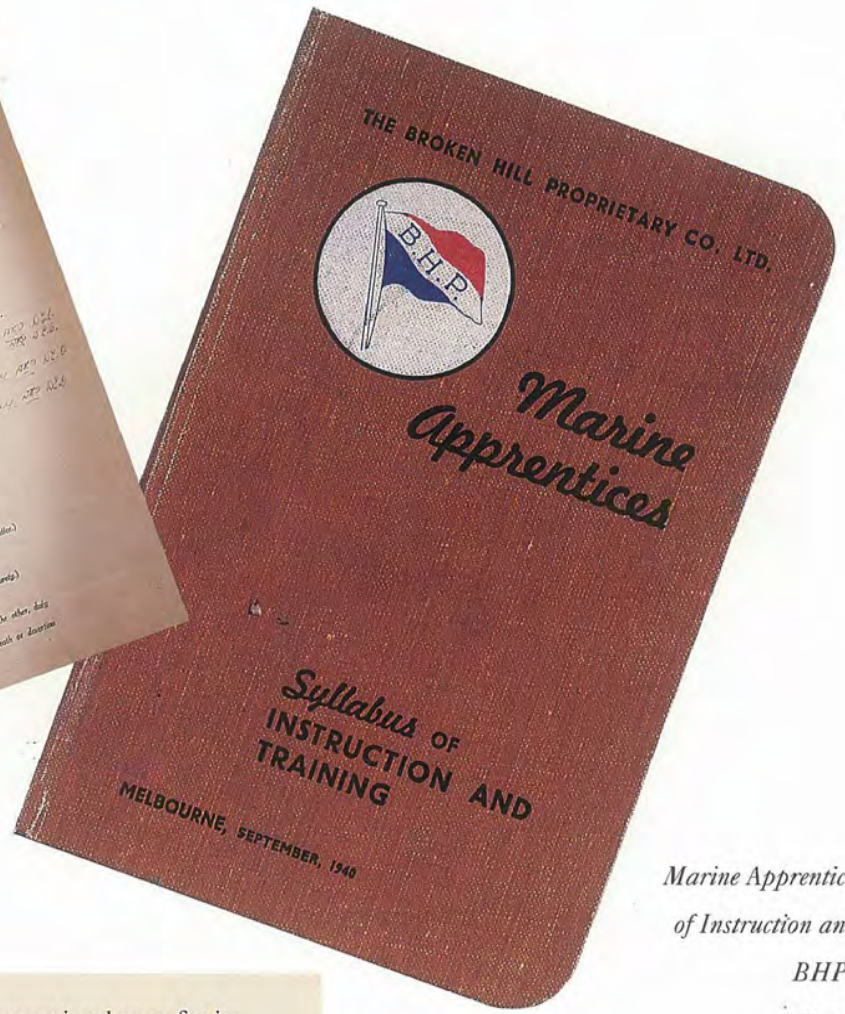
By July 1936 up to 16 non-BHP Australian ships were also carrying Company cargoes, in order to ensure stocks were replenished. In addition to Interstate Steamships' (Scott Fell's) *Iron Monarch*, *Iron Crown* and *Echunga*, as well as *Ashridge* (McIlwraith McEacharn), *Colac* (Huddart Parker), *Murada*, *Mungana* (AUSN), *Dumosa* (James Paterson), *Macedon* (Howard Smith) and The Adelaide Steamship Company's *Aldinga*, *Arkaba* and *Dilga* were also engaged.

At the same time the Company negotiated for overseas tonnage to carry ironstone cargoes, resulting firstly in two London-owned ships, *Welcombe* (5,122/1930) and *Zouave* (4,256/1930), being employed for coastal voyages.[11] Subsequently, also through Andrew Weir & Co. of Britain, *Lindenbank* (5,057/1930), *Birchbank* (5,151/1924) and *Thistleford* (4,764/1928) were similarly employed, under special permits from the Navigation Department.[12]

But these could only be short term solutions. The foreign-flag permits were for single voyages only. The Associated Steamship Owners had a very profitable trade in sugar and were, generally, very reluctant to make their ships available for iron ore,

Indenture of Apprenticeship to the Sea Service, 1938. D. E. Olifent


INDENTURE OF APPRENTICESHIP TO THE SEA SERVICE.



Marine Apprentices: Syllabus of Instruction and Training, BHP, Sep 1940.
BHP Archives PM/1267.

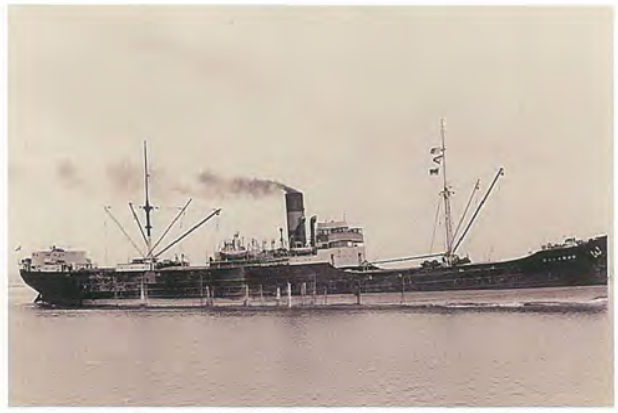
In the mid 1930s the Australian shipping industry was still dependent on overseas-trained men for its Deck Officers and Engineers. Though crews included a fair proportion of Australians, few avenues existed whereby young locals could qualify as merchant service officers.

Thus the extension of BHP's Staff Training Scheme to cover marine deck apprentices was a development of considerable significance. The first apprentice, D. E. Olifent, was indentured on 26 July 1938 joining *Iron Knob* a few days later. He was followed at short intervals by others until the four 'E' class and, later, after the necessary accommodation was made ready, the four 'Chieftain' class each had an assignment of two apprentices, making a total of 16 boys in training.

The apprentices undertook a four year course of training and instruction incorporating the subjects of mathematics, seamanship, ship construction and engineering progressively arranged over the period to cover the entire curriculum for the Second Mate's Certificate.[13]

Wages at the time for indentured marine apprentices were £1 per month in the first year, £2 for the second, £3 for the third and £5 for the fourth and final year – a total wage over the period of £132. During 1944 apprentices' time was reduced to three years due to a shortage of junior officers. Trainees were allowed to sit for their Certificate provided the Company felt they were sufficiently trained to do so (this wartime measure was rescinded in 1948).

This scheme, together with a Marine Engineering Apprentice Training Scheme instituted in 1945, provided a fruitful source of suitably qualified officers for the BHP fleet.



Ellaroo. *W.G. Volum.*



***Iron Baron** (II) berthing at Whyalla on her arrival from the Clyde, 25 Oct 1936.* BHP Archives IBNS38.



***Iron Knight** (I) approaching Whyalla jetty, c. 1937.* BHP Archives IKTS46.

preferring to return from the southern states to load ports in ballast.[14] Although The Adelaide Steamship Company, Howard Smith, McIlwraith McEacharn and Huddart Parker each had ships under construction overseas, BHP believed that upon their arrival the older ships currently available would be sold. It was obvious the Company's ore shipping requirements would only satisfactorily be met by having more of its own tonnage.

On 28 July 1936, Essington Lewis wrote to Chairman Darling suggesting the Company consider buying another two steamers.[15] One month later the Board approved the building of another two 'Chieftain' class vessels, and in September the orders were placed with Lithgows (at prices which had risen almost 20 per cent since the first contracts were signed the previous year).[16] In October, the charter of *Ellaroo* was extended for three months, then for a further 12 months, and subsequently until 28 January 1940.[17]

Iron Baron (II), the first of the new 'Chieftain' class, arrived at Wallaroo, South Australia, from the Clyde on 25 October 1936, and was followed at the same port on 11 December by her identical sister *Iron King*.[18] *Iron Knight* (I) arrived at Port Pirie a little over a year later on 19 December 1937 while *Iron Chieftain* (I), the name vessel of the class and the last to be built on the Clyde, proceeded via Fremantle to Newcastle where she arrived on 3 March 1938.[19]

Despite a decided tendency amongst contemporary shipowners towards diesel-engined ships, steam was still judged to be the most economical and suitable for BHP's coastal trades.[20] The 'Chieftain' class was fitted with a quadruple expansion steam engine, manufactured by David Rowan & Co. Ltd. of Glasgow, which worked in conjunction with a Rowan Gotaverken exhaust turbine driving a steam turbo compressor.[21]

The engines of two subsequent Australian-built sisters, *Iron Monarch* (II) (1942) and *Iron Duke* (I)

(1943) were of similar dimensions but were not fitted with exhaust turbines. Construction of these engines was shared between the BHP Newcastle Steelworks, Commonwealth Steel (Newcastle), AIS (Port Kembla) and Cockatoo Dockyard (Sydney), with final erection taking place at the Newcastle Steelworks machine shop.[22] Because of problems with excess soot emission from the funnels of *Iron Baron* (II) and *Iron King*, the four later ships were modified to include 14ft. taller funnels, and those of the first two were heightened at BHP's Whyalla Shipyard.

As with the older vessels in the BHP fleet, the normal pattern of employment saw the 'Chieftains' carry iron ore from Whyalla to Newcastle and Port Kembla, returning with steel products and/or coal for Melbourne and Adelaide.

However, as the first ships purpose-built for the Company's trades, the 'Chieftains' were designed to maintain reasonable speed in the often rough conditions of south-eastern Australian waters, in a service which called for frequent ballast voyages. Accordingly, the ships had a large capacity for water ballast (2,950 tons carried in double bottoms, forward deep tank and fore and aft peak tanks) thus increasing the draft and making the ships better able to withstand poor conditions during the voyage to Whyalla. In order to supplement the fresh water needs of the town (at that time still without a water supply of its own) six topside cantilever tanks were fitted under the main decks, complete with pumps capable of discharging 2,300 tons of freshwater ballast in eight hours, while ore was being loaded.

Amongst modern equipment of the day installed in the ships were amplifiers from the bridge to the forecastle and after end for use during berthing; a Hughes 'Husun' Echometer depth recorder, and a refrigerated chamber for highly perishable goods.

Accommodation for Officers and Engineers was located in the 'midships house with the dining saloon, pantry and victualling store. Interestingly, the portholes throughout the accommodation of the four Lithgow-built ships were of solid and highly polished brass, recovered from the French luxury liner *L'Atlantique* which, having burned out in 1933 whilst on passage from Bordeaux to Le Havre, had been salvaged and sold to Port Glasgow breakers in 1936.

The cost to BHP of the four Clyde-built ships, delivered in Australia, was £113,000 each for the first pair and £144,000 each for the second. All were registered in Melbourne, continuing a practice adopted in 1926.[23] Their trade-specific design was quickly proven: the average length of ballast/ironstone voyages (Newcastle/Whyalla/Newcastle) for the 'E' class was 14 days 15 hours; for the 'Chieftains', 11 days one hour.



A steam shovel loading iron ore into rail cars at Iron Knob, 1935. BHP Archives IK162.



Harbour dredging and blast furnace construction at Whyalla, 1939. BHP Archives W228.

In 1937 the year the Iron Knob and Iron Monarch leases came up for renegotiation, BHP reached agreement with the South Australian Government to build a blast furnace and associated plant at Whyalla.

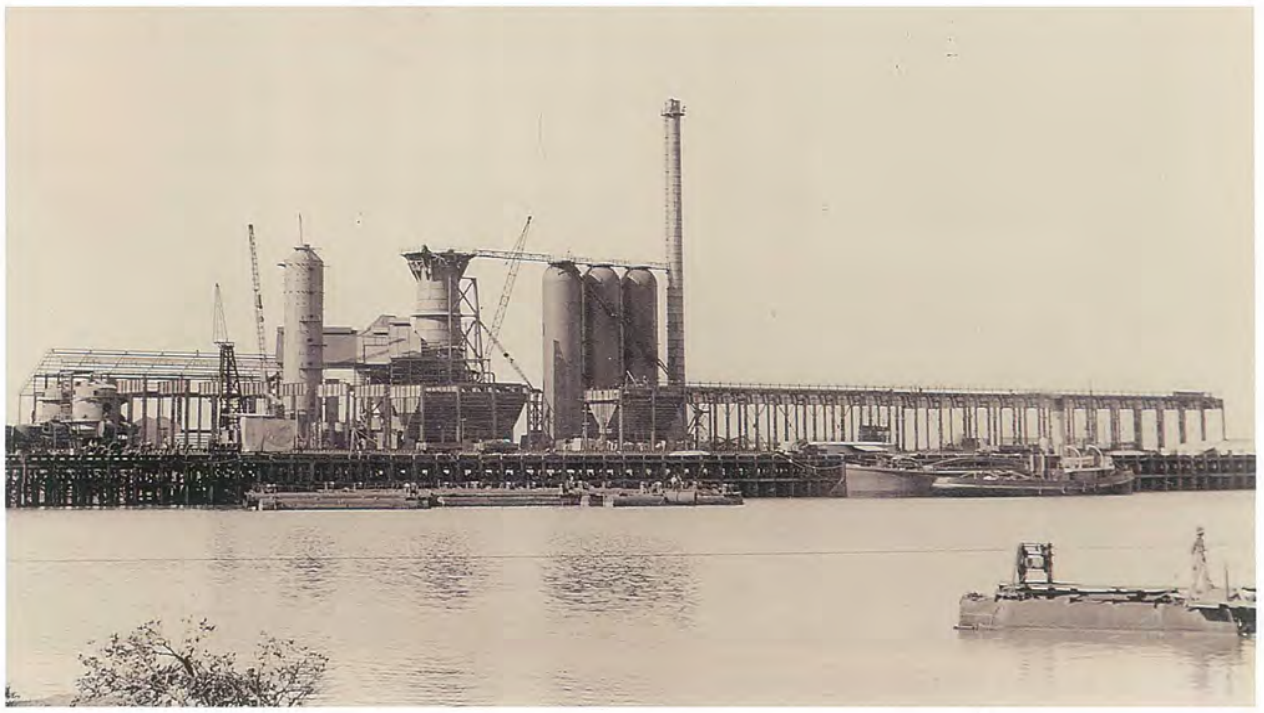
Under the agreement all leases then held or under application were extended for 50 years at a moderate royalty (threepence a ton until December 1939, thereafter sixpence a ton[24]). In return the Company readily bowed to pressure from State Premier Richard Butler to undertake the new investment, and indicated it would also consider the future construction of a steelworks at Whyalla. In 1934 Essington Lewis had returned from Japan with warnings of war, and the Company saw the wisdom of a strategy of not placing "all its eggs in the baskets of Newcastle and Port Kembla".[25] Furthermore, the Company saw Whyalla as a site which could be more easily defended from enemy air and ground attack than the existing plants on the New South Wales coast.[26]

BHP also won from the S.A. Government the right to expand wharf and harbour facilities at Whyalla. Little time was lost in getting the project under way and the suction-cutter dredge *GFH* was hired from the Melbourne Harbour Trust, reconditioned in Melbourne and brought to Whyalla under its own steam (by BHP Master Captain J. Miles) to carry out dredging of the harbour basin.[27] In July 1939 arrangements were made with the South Australian Harbours Board for the hire of the bucket dredge *Adelaide*, together with the tug *Morglay* and barges necessary to dredge a 240ft. wide outer channel from the gulf to a 25ft. deep, 600ft. wide swinging basin.

The blast furnace was sited on 74 acres of land virtually reclaimed from the sea, and a 1,000ft. berth was located on the northern shore.

Iron Prince, under the command of Captain F. W. Tellick, was the first arrival, berthing safely in September 1939.[28]

In that same month World War II broke out.



Construction of the blast furnace at Whyalla, 17 Apr 1940. BHP Archives W3709.

CHAPTER 8

A Timely Launch Into Shipbuilding



In 1939 with war preparedness in mind, the Commonwealth Government again moved to encourage shipbuilding in local yards. Just months after World War II broke out, the Secretary of the Naval Office in the Australian Department of the Navy (in correspondence dated 15 December 1939) requested that the BHP Board consider construction of a shipyard at Whyalla to build ships for the British Admiralty.[1]

BHP replied the same day advising that the Company was prepared to embark on shipbuilding in Australia.[2] Work began immediately on three slipways capable of handling ships of up to 15,000 DWT, and within a year a fourth and fifth were under construction.[3]

The various departments and facilities necessary for the complexities of shipbuilding operations were all extremely well equipped, incorporating the best features of overseas shipyards. Included were an administrative and drafting office, where the vessels' preliminary general arrangements, lines, plans, power and cost estimates were prepared; a power house providing energy for all the yard's requirements; a joiner's shop (probably the best-equipped in the southern hemisphere) where all interior linings and furnishings were made, and the loft, where lines were faired and the stem and stern sections set out. A plate and bar shop carried out the fabrication of plates and the structural steelwork of the hull, in conjunction with the angle shop where the steel was shaped. A shipwrights' shop covered the preparation of the heavier woodwork items, including wooden decks and lifeboats, as well as keel blocks, launching ways and staging.

When a hull was complete the part-finished ship was launched and moved to the 600ft. Fitting Out Wharf, where a 150 ton fixed tower crane and a 15 ton travelling luffing crane were installed. Adjacent to the wharf was the southern store, housing the machine shop, electrical shop, boiler assemblies, plumbers and coppersmiths, sheetmetal shop and blacksmiths' shop. At this site the ship would receive the finishing touches.



The launching of HMAS **Whyalla**, *12 May 1941. She was the first ship to be built at Whyalla.* BHP Archives WYS1.

The keel plates for the first vessel were laid on 12 July 1940,[4] guided by a small band of skilled operators brought from Scotland's Clyde to form the nucleus of the shipbuilding force. These men passed on their expertise to Australians recruited from all walks of life to become carpenters, boilermakers, welders, shipwrights, fitters, turners, blacksmiths, coppersmiths, machinists, electricians, pipe-fitters, riggers, sheet metal workers and painters. The result was an army of skilled shipyard workers, capable of turning out quality ships at Whyalla faster than any other yard in Australia.

The new yard's maiden launching, that of the fittingly named HMAS *Whyalla* (the first of four BHP-built 'Bathurst' class minesweepers delivered to the Royal Australian Navy) took place on 12 May 1941. The project proved an excellent precursor to the later construction of large cargo steamers.

In July and August 1941 the keels of two new ore carriers for the Company's own service were laid. With an overall length of 425ft., the fifth and sixth 'Chieftain' class vessels were generally similar in design to the earlier Scottish-built examples, though with a slightly larger deadweight of 8,030 tons. *Iron Monarch* (II) was launched by Mrs. Essington Lewis on 8 October 1942 and entered service in April 1943; *Iron Duke II* (the name was at the time also carried by a British warship – after the Royal Navy decommissioned that ship in 1946 BHP dropped the suffix) was launched by Lady Gowrie, wife of Australia's Governor-General, on 3 May 1943 and commissioned on 1 August of the same year.

In March 1942 work began on the first of five 10,000 DWT 'River' class freighters to the order and specification of the newly constituted Australian

Shipbuilding at Whyalla brought a sharp lift to the town's population, from 1,400 in 1939 to 8,000 in 1945 at the end of World War II.

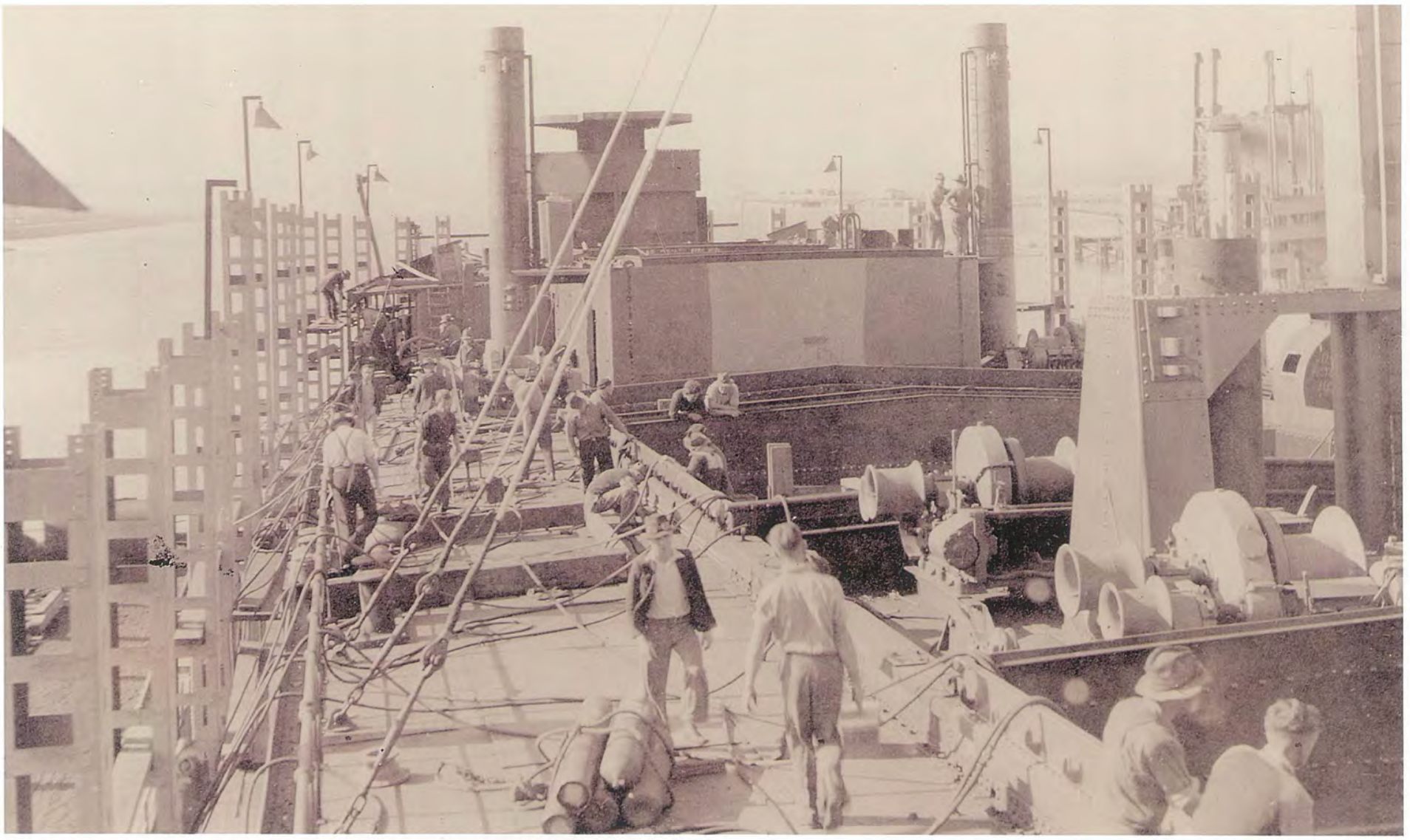
With the nearest natural source of fresh water some 200 miles away at Morgan on the Murray River, in 1940 Whyalla still relied on supplies barged across the Spencer Gulf from Port Pirie, or brought in by BHP ships from Newcastle and Port Kembla.

On 19 August 1940, an agreement was sanctioned between the Company and South Australia's Commissioner of Waterworks for the construction of a pipeline between Morgan and Whyalla; the project reached completion in 1944.[5]

Meanwhile, BHP undertook the construction of a T-head wharf with conveyor belt and loading head at Rapid Bay, on the south-eastern shore of South Australia's Gulf St. Vincent. Quarrying of limestone began there on 13 August 1942 and the first cargo was lifted by *Iron Knob* on 5 September 1942. This facility supplemented the Company's previous sources of limestone, Melrose in Tasmania and Marulan, N.S.W.



Rapid Bay township, jetty and quarry, looking west, c. 1942. BHP Archives RB297.



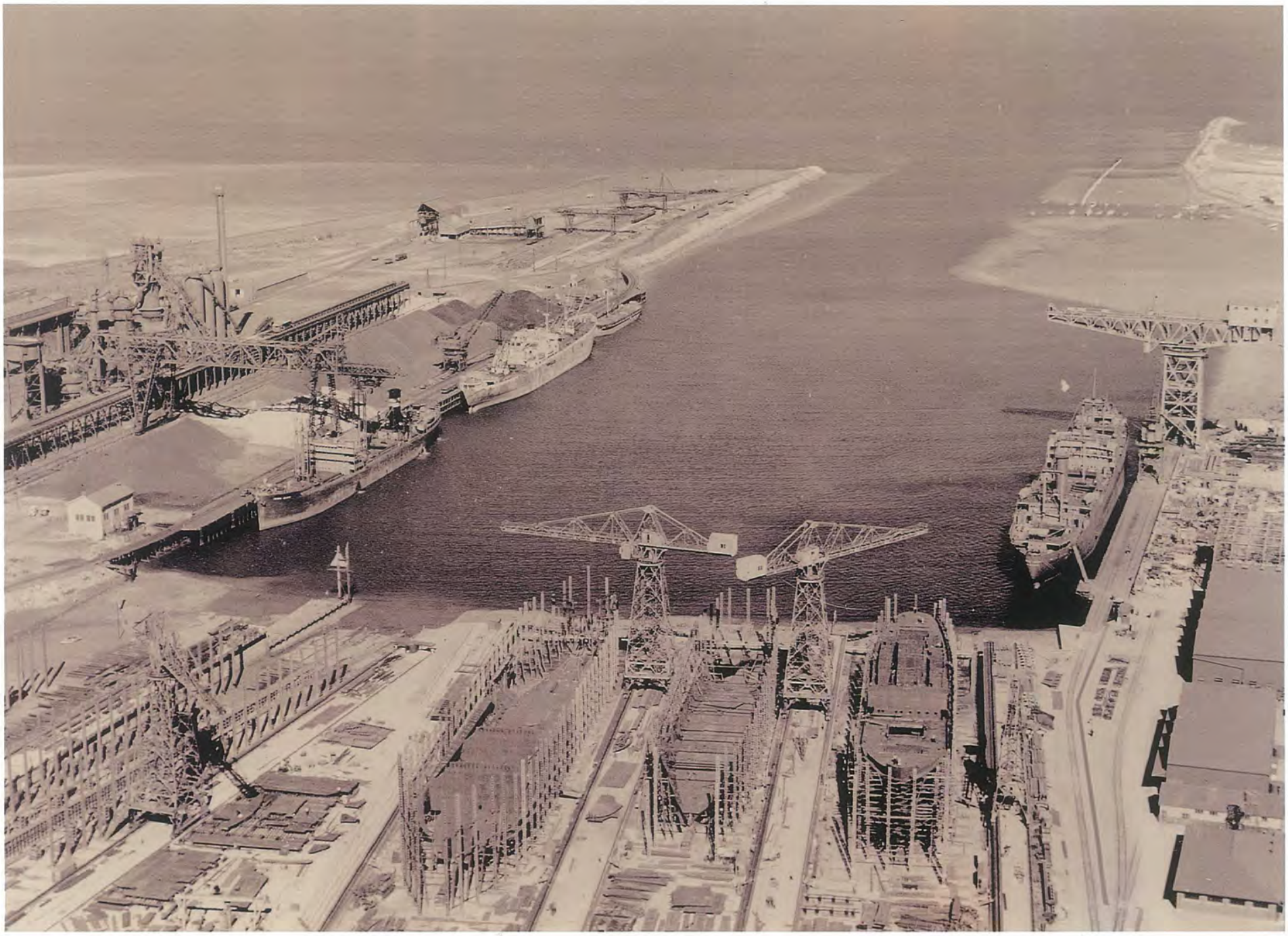
***Iron Duke II** prior to launching, looking aft. She was the sixth 'Chieftain' class vessel and the second to be built at Whyalla, 27 Apr 1943.* BHP Archives W3738.

Shipbuilding Board (formed to co-ordinate wartime production of urgently needed standard merchant ships). By war's end *River Glenelg*, *River Derwent*, *River Murchison* and *River Murrumbidgee* had been completed. The fifth of the class, *River Murray*, was completed by the end of 1945.

This revival of shipbuilding in Australia brought new and valuable experience to the local engineering industry. The manufacture of engines, crankshafts and stern frame castings for the Whyalla-built vessels was shared by a number of outside firms, but the majority of the work was carried out at the BHP Newcastle Steelworks and the AIS Port Kembla works.[6]

By the time World War II ended, BHP possessed the Commonwealth's largest and best-equipped shipbuilding yard. Each week the Company gained the services of an increasing number of experienced tradesmen arriving as new settlers from the shipyards of Britain, in particular the Clyde.

Though initially driven by the needs of wartime, BHP's Whyalla shipbuilding venture became an established part of the Company's operations, and played a leading role in the post war development of the Australian merchant fleet.



The Whyalla blast furnace (left), shipyard and fitting out wharf (right), 1948. BHP Archives W853.

CHAPTER 9

ACTS OF WAR



For Australia, the particular involvement of Japan in World War II brought the horrors and realities of international conflict right to the country's doorstep, and it was inevitable that BHP's fleet and seamen would be affected.

In the early days of the war the Company's ships sailed the coast unescorted, with only their names painted over for security reasons. But between December 1940 and December 1944, German and Japanese submarines, mines and bombs sank 29 Australian and Allied merchant ships within 500 miles of the coast, and damaged 11 more. The first casualty, the British steamship *Cambridge* (10,846/1916) was sunk south of Wilson's Promontory (Victoria) on 7 November 1940. The U.S.A. motorship *City of Rayville* (5,883/1920) followed the very next day, 150 miles to the west.[1] Both losses were the result of mines laid by the captured Norwegian tanker, *Storstad* operating under German command.

BHP was already prepared for action. Work to strengthen the 'Chieftain' class to bear gun platforms had begun in early 1939, and similar work on the rest of the fleet was completed in 1942. From early 1942, three-inch 12-pound guns (some from the Boer War) were mounted aft, along with Oerlikons and Vickers machine guns around the bridge.[2]

A Defensively Equipped Merchant Ship (DEMS) naval gunner was put aboard each ship to work in conjunction with gun crews – usually four seamen and the two apprentices – selected from the ship's company.[3] The Navy requested that accommodation also be made available for Naval Signal Ratings. The forward store on the 'E' and 'Chieftain' class vessels was duly fitted with hammock hooks, while accommodation was provided amidships for a Signals Officer.[4]

At the same time, paravane booms (designed to protect vessels from moored mines) were fitted to the ships' bows and all ships were equipped with degaussing gear as a further anti-mine precaution. Lifeboats were normally swung out ready for use whilst at sea (weather permitting) and four large, rigid liferafts were fitted on sloping ramps at the foremast and mainmast rigging. Each of these rafts was supported by six 44 gallon drums and had food, watertanks and rescue equipment accessible whichever way up the raft entered the water. (These rafts were the means by which seamen from *Iron Knight* and *Iron Chieftain* would later survive the sinkings.)

The Navy further requested that BHP consider fitting depth charges to vessels with accommodation amidships and capable of speeds greater than nine knots, and to those with accommodation aft, capable of speeds over 11 knots. The Company advised that the



SECRET

6 MAR 1939

DEFENSIVELY EQUIPPED MERCHANT SHIPS - GUN PLACEMENTS.

Dear Sir,

The Naval Board have brought to my notice your letter of 7th February last, wherein you advised the Board of difficulties in connection with the placement of gun platforms for vessels of the Company as no expense to the Navy.

This very generous and patriotic offer, coming at a time when the Government is faced with an unprecedented expenditure on defence preparations, is deeply appreciated, and, on behalf of the Government, I have pleasure in accepting, on behalf of the Company, your Board the grateful thanks of the Government therefor.

Yours sincerely,

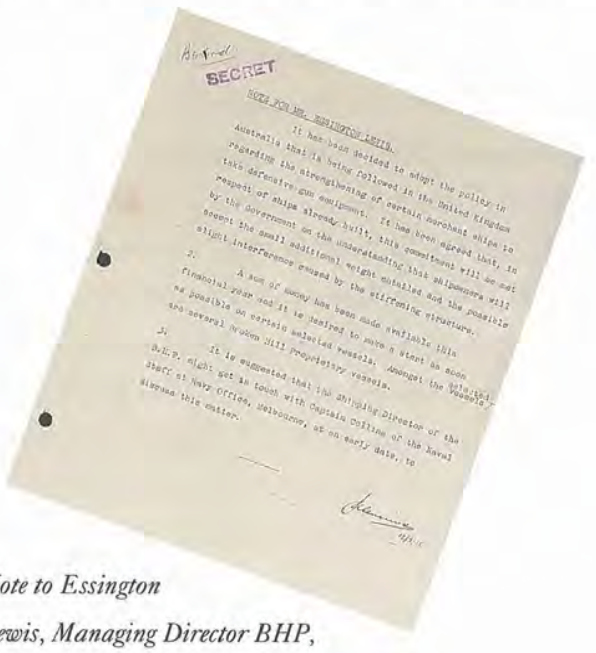
(G. A. STREET),
Minister for Defence.

Managing Director,
The Broken Hill Proprietary Coy. Ltd.,
and Little Collins Street,
MELBOURNE C.1.

Letter from G. A. Street, Minister for Defence, to Essington Lewis, Managing Director BHP, regarding defence preparations for BHP vessels, 6 Mar 1939. BHP Archives A9/5.

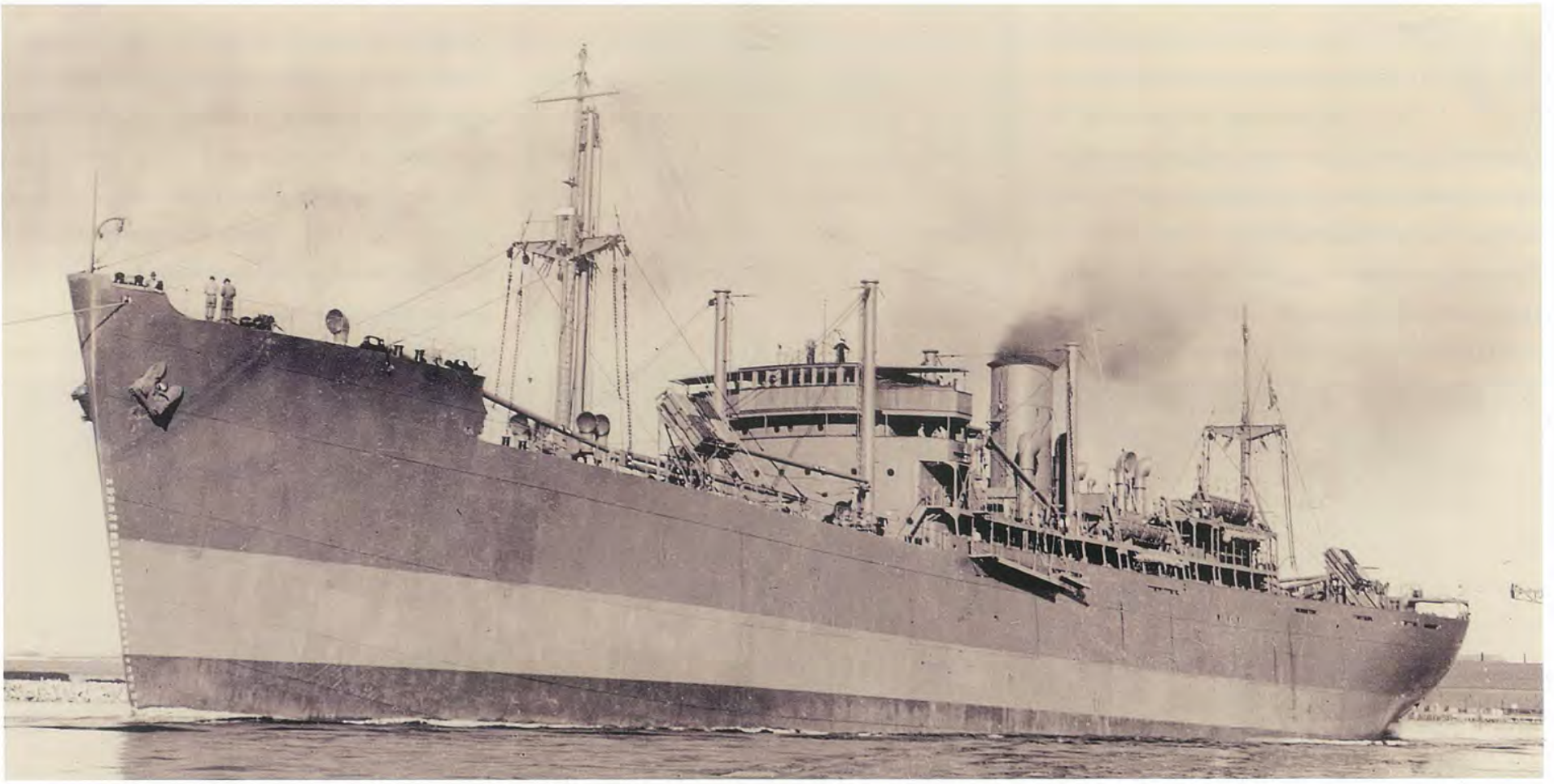


***Iron Warrior** (1), being strengthened for installation of defensive equipment, May 1940. Chieftain class ships had been strengthened in Feb/Mar 1939.* BHP Archives.



SECRET

Note to Essington Lewis, Managing Director BHP, regarding the policy of strengthening merchant ships for gun emplacements, 12 Sep 1938. BHP Archives A9/5.



The BHP-built ***River Murchison*** *in wartime livery: name painted out, with rafts and defensive equipment, 1945.* BHP Archives RMS4.

ships were so close to the minimum safety margin the proposal did not appear wise. Consequently no further action on this was taken.[5] However, in response to another recommendation, early in 1942 the ships of the fleet were painted in two shades of grey.[6]

Following their defeat at the Battle of the Coral Sea in 1942, the Japanese positioned submarines in eastern Australian waters, concentrating on the crowded shipping lanes off the New South Wales coast, in what was intended to be the large scale destruction of commercial shipping.[7]

At 2034 hours on 16 May a message came from the Russian steamer *Welen* off Newcastle that she was being attacked by gunfire. At sunset on 31 May, the Japanese submarines *I.22*, *I.24* and *I.27* launched midget submarines five miles off Sydney Heads, in what transpired as a futile attempt to destroy Allied battleships and cruisers in the harbour. On 3 June, at 2218 hours, the Howard Smith coaster *Age* reported being under gunfire near Norah Head, north of Sydney.

For BHP it was only a short time before tragedy struck. At 2230 hours on 3 June, *Iron Chieftain* was torpedoed and sunk by the Japanese submarine *I.24* (Commander Hiroshi Hanabusa) approximately 35 miles east of Sydney, while en route from Newcastle to Whyalla with a cargo of coke and materials required for the new shipyard.

It was later established that the submarine had been sighted off the steamer's port side, but (apparently) before she could be swung to starboard, the torpedo struck *Iron Chieftain* on the port side amidships. She sank with the loss of her Master, Captain L. Haddelsey, Chief Engineer M. Gunn and 10 others of the crew.[8] Twelve survivors were taken from a raft at 0330 hours on 4 June by HMAS *Bingera*, and the remaining survivors, 25 in all, landed on the beach at The Entrance, Tuggerah Lakes (N.S.W.) at 0600 hours on 5 June, in the ship's starboard lifeboat.[9]

On 4 June, the day following the sinking of *Iron Chieftain*, Huddart Parker's *Barwon* was attacked, without casualties, near Gabo Island off the N.S.W. south-west coast. On the same day, Scott Fell's *Iron Crown*, on passage from Whyalla to Port Kembla with BHP iron ore, was torpedoed by the Japanese submarine *I.27* off Cape Howe (Victoria) and sank with the loss of 38 lives, only five crew members surviving. Though the crew of *Iron King*, which was steaming in company, opened fire on the submarine



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WITHOUT SHIPS—NO VICTORY

The Steel Industry's Part in Australia's Efforts to Meet the Demand for Shipping

By F. G. D.

IN this truly global war one paramount requisite for Allied victory is shipping. Despite the amazing development of aerial transport services, the task of moving men and munitions, maintaining supplies and communication and transporting and conveying precious cargoes of life-sustaining foodstuffs devolves upon ships of many types and tonnages.

SHIPS will also be the need of the post-war era. They will be required in the transport of food and materials for the rehabilitation of war-devastated areas, for the return to their own countries of the hundreds of thousands of prisoners in Allied hands, and the repatriation of our own prisoners of war. Resumption of international trade, with its wealth of import and export traffic, and the expected resurgence of tourist travelling are activities sure to make a heavy call on shipping.

All these factors encourage the belief that the shipbuilding industry should enjoy a busy post-war period. Here in Australia during the war years a shipbuilding industry of generous proportions and proven ability has been developed. Possibly not so economically based to battle for business as certain American and Far Eastern shipyards, the Australian shipbuilder nevertheless can confidently look forward to gaining all the customers he can comfortably handle.

Back in the dark days of 1918, the U boat menace brought England uncomfortably close to starvation. That experience carried its dire lesson: a lesson so obviously patent to the Nazis that they based much of their grand strategy on the successful resumption of their submarine campaign in World War II. Bigger and better ocean-going submarines operating from scores of bases on the Nazi-held European coastline combined to make the enemy onslaught on Allied shipping a most formidable danger.

The significance of the enemy's devastating attacks on our shipping was brought prominently before us by Mr. Winston Churchill, who, on many occasions in the early stages of the war, singled out the U boat menace as the Allies' greatest peril. Fortunately, praiseworthy co-operation by sea and air power, plus several inspired scientific discoveries, notably radio location, materially







Three fine examples of the Australian shipbuilding industry's productivity are illustrated on this page. Above is H.M.A.S. "Bataan," a Tribal class destroyer, shown after launching at Cockatoo Dockyard, Sydney. Inset above is H.M.A.S. "Whyalla," a naval patrol vessel and the first ship built at Whyalla shipyard. At left is s.s. "Iron Duke," 8,000 ton freighter photographed just prior to launching at Whyalla.

The B.H.P. Review, 1944.

it escaped unscathed.[10] This was to be the greatest loss of life in any of the coastal casualties of World War II.

On 5 June Scott Fell's *Echunga*, also on passage from Whyalla to Port Kembla, was chased by a submarine 17 miles south-east of Wollongong, but made good her escape. Three days later, with both Newcastle and Sydney subject to bombardment from the Japanese submarines *I.21* and *I.24* respectively, coastal convoys were introduced. The first was formed off Gabo Island on 8 June for the trip up the coast and thereafter convoys operated on a weekly basis, with all vessels of more than 1,200 gross tons and a speed of less than 12 knots required to join.

The convoy system was not a guarantee of security, however. On 12 June, the Panamanian registered *Guatemala*, time chartered to the Commonwealth Government Ships Chartering Committee (CGSCC), was in convoy bound from Newcastle to Whyalla with 4,200 tons of coke. When 40 miles north-east of Sydney she was struck by a torpedo from I.21 and sank about an hour later. The full crew was picked up by HMAS *Doomba*.

On 20 July the similarly chartered Greek vessel *G S Livanos* (Melbourne-Sydney) was torpedoed, without casualties, 15 miles off Jervis Bay (N.S.W.).[11] On 23 July at 0515 hours a torpedo struck the stern of The Adelaide Steamship Company's *Allara* (Cairns-Sydney with sugar). Five men were killed and the ship abandoned, but when she did not sink she was reboarded by the crew and towed into Newcastle.

The Japanese attacks on east coast shipping ceased on 23 August 1942 but resumed dramatically on 18 January the following year when the Union Steamship Co. steamer *Kalingo* (Sydney-New Plymouth, N.Z.) was torpedoed and sunk in bright moonlight 105 miles east of Sydney, also by *I.21*.[12]

At 0230 hours on 8 February 1943 disaster struck the BHP fleet again.

In February 1940, a war risk bonus was awarded to ships' crews and made retrospective to 5 December 1939.[13]

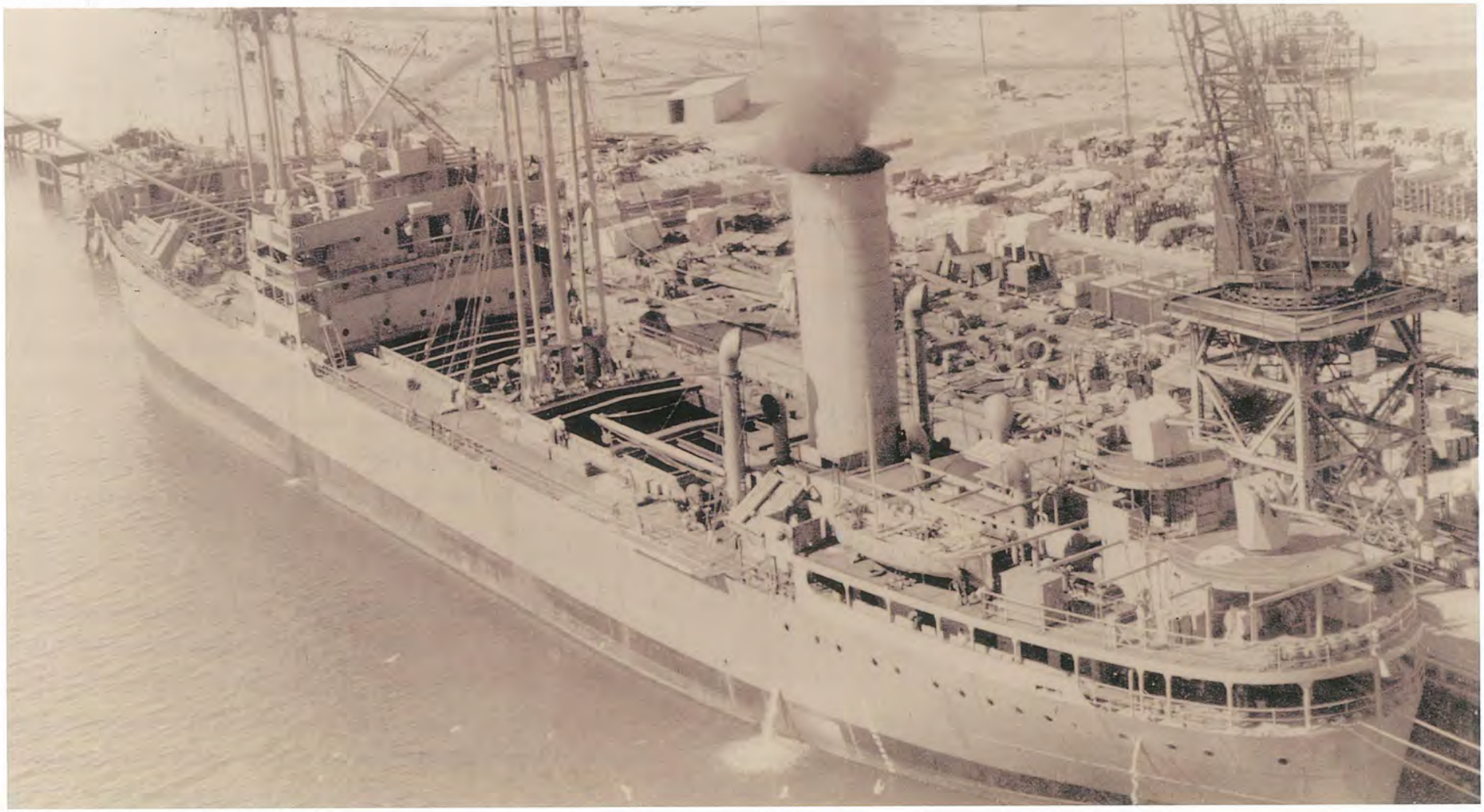
Throughout the war, however, Newcastle (where most of the seagoing traffic was in BHP's ore and steel products) remained a centre of constant shipping disputes. Seamen conferred the title 'death ships' on vessels engaged in the Company trades because of the rapidity with which they sank if torpedoed when loaded with iron ore. The seamen also believed that Japanese submarines had the ability to select the ore carriers as targets, even in the middle of a convoy.[14]

On passage from Whyalla to Newcastle, *Iron Knight* was the leading ship in the starboard column of convoy OC68 (Melbourne-Newcastle). This comprised 10 ships, *Macedon, Mangola, Ellaroo, Iron Warrior, Aeon, Dumosa, William Macarthur, Recina* and *Michael L Embiricos*, accompanied by the Naval escorts HMAS *Townsville* and HMAS *Mildura*.

When sailing about 15 miles north-east of Montague Island (N.S.W.) *Iron Knight* was struck under the bridge by a torpedo from the Japanese submarine *I.21*. Fully laden with iron ore, the ship sank in approximately two minutes with the loss of 36 lives, including the Master, Captain D. Ross.

The French destroyer *Le Triomphant* left Sydney at 0536 hours the same day and proceeded to the area where, at 1140 hours, a raft with 14 survivors was found, taken aboard and returned to Sydney.[15] The Captain of the French ship noted that because of its smoke, the convoy was sighted at a distance of 40 miles.

Bofors guns were now fitted to some of the ships in the fleet. A greater variety of armament was added to *Iron Monarch* and *Iron Duke II*, including a four-inch Mk. 7 high altitude/low altitude gun and an improved three-inch HA/LA gun, both designed to repel air or surface attacks. Each ship also mounted three Oerlikon guns, two sets of 15 rockets and a set of anti-aircraft fast aerial mines on the bridge. This outfit was further supplemented by two Vickers machine guns, mounted on the boat deck, and a huge anti-aircraft kite flown from the head of the mainmast.



Iron Monarch (II) in wartime livery at Whyalla Shipyard, Mar 1943. *BHP Archives IMS19.*

On 11 April 1943 the CGSCC's Yugoslav-owned *Recina*, bound Whyalla-Newcastle with ironstone, was torpedoed and sunk by *I.26* off Cape Howe, the ship disappearing in a cloud of dust with the loss of 22 lives.

Fortunately this would be the last vessel in BHP's trades to be lost through enemy action.

Throughout the war coastal vessels from The Adelaide Steamship Company, AUSN, McIlwraith McEacharn, Huddart Parker, Howard Smith and James Paterson, as well as the Melbourne Steamship Co.'s *Ellaroo* and the Scott Fell ships, continued to supplement the Company fleet.

But from 1941 onwards BHP also utilised a number of overseas ships made available by the Commonwealth Government's Shipping Control Board. After Greece and Yugoslavia were overrun by the Germans in 1941, the Greek Government in exile concluded an agreement with Britain that allowed Greek ships of over 4,000 gross tons to be chartered by the British Ministry of War Transport for the duration of the conflict. Similar arrangements were made by other governments in exile.

The CGSCC in turn sub-time chartered vessels for Australian trades and many were deployed in the BHP ironstone, coke, limestone and steel trades. Amongst those most regularly used were the Greek-owned *Elisavet, Doris* and *Illisos;* the Yugoslav *Olga Topic, Zvir* (until sunk) and *Recina* (until sunk); the British *Kenilworth*, and the Panamanian *Honduras* and *Guatemala* (until sunk).[16] Another of the Greek ships, *George M Embiricos*, sank while anchored in Port Phillip Bay on 4 March 1943. Awaiting a convoy in order to continue her voyage from Whyalla with BHP ironstone, she was struck by the small coaster *Koonda* (McIlwraith McEacharn) and quickly settled on the bottom. *George M Embiricos* was subsequently refloated, repaired and returned to service.[17]

Mr. P. J. E. Brady, *Iron Chieftain*'s Second Officer at the time of her sinking, and later to become the Company's Marine Superintendent, forwarded the following report to BHP on 25 June:

"On June 3rd we cleared Newcastle at 10.17am bound for Whyalla, taking the usual outside course as directed. Owing to a fresh south-east wind and considerable sea, the ship only made between six and seven knots during the day. I had turned in about 8pm, my watch below, and was awakened about 10.30pm by a loud explosion and severe concussion, the vessel heeling slightly to starboard.

"I immediately [donned] my lifejacket and arriving on deck I saw a cloud of smoke rising on the port side aft about abreast of the funnel and a strong smell of powder, which confirmed my suspicion that the ship had been torpedoed.

"The whistle was blown to abandon ship and I then made my way to the starboard boat, my station, accompanied by the Chief Engineer, Mr. Gunn, who however remained on the lower deck whilst I went up onto the top deck to supervise the lowering of the boat.

"The boat was being cleared away by the carpenter and some of the crew, and after swinging her out I went to the after fall and after lowering the boat I felt the stern of the ship sinking under me, but clung to the boat fall until submerged, then let go and came to the surface near the lifeboat, being pulled into it by some of the crew.

"The bow of the ship sank shortly after, swamping the boat as it went down, but we bailed the boat out and pulled around the wreckage for about one hour and picked up five survivors. Our search was most thorough and I am confident we picked up everyone possible and as we commenced to pull towards the land, one fairly large submarine surfaced about 50 yards from us.

"We all kept low in the boat in case he fired on us, but after inspecting us he sheered away again. We saw an aeroplane later, but not knowing whether it was hostile or not, we made no signal. To keep the men warm we decided to keep the oars out and as we could not see any of our rafts, I made a course for land.

"At daylight a sail was hoisted and set and about 11am on that day, June 4th, land was sighted ahead. A good lookout was kept throughout the day but no sign of aircraft or surface craft searching for us was observed.

"We reached the vicinity of the land as night was coming on, but rather than risk a landing on an unknown beach in the dark I decided to wait until daylight. Between 5 and 8pm we sent up eight flares, but the only response was an orange coloured flare sent from ashore between us and Norah Head light; the origin of this flare I have not been able to discover.

"At daylight on June 5th we beached the boat, and as soon as I could get ashore I rang Naval Control, also the owners in Newcastle, and reported that I had landed with 24 others of the crew. The position of the ship when torpedoed was I estimate Lat. 33.56 S and Long. 151.46 E. With regard to the Chief Engineer, Mr. Gunn, who I last saw waiting on the lower boat deck, I regret I can give no information as to what happened to him.

"As the vessel sank in about five minutes, I had very little chance to observe any details as my time was fully occupied with getting the boat away.

"Yours faithfully, P. J. E. Brady, Second Officer".[18]

On the afternoon of 16 August 1950, at the Steelworks Wharf, Newcastle, Essington Lewis unveiled a memorial to the men of *Iron Chieftain* and *Iron Knight* who lost their lives through enemy action.

In his address to those present, who included more than 100 relatives and friends of the fallen, Lewis said:

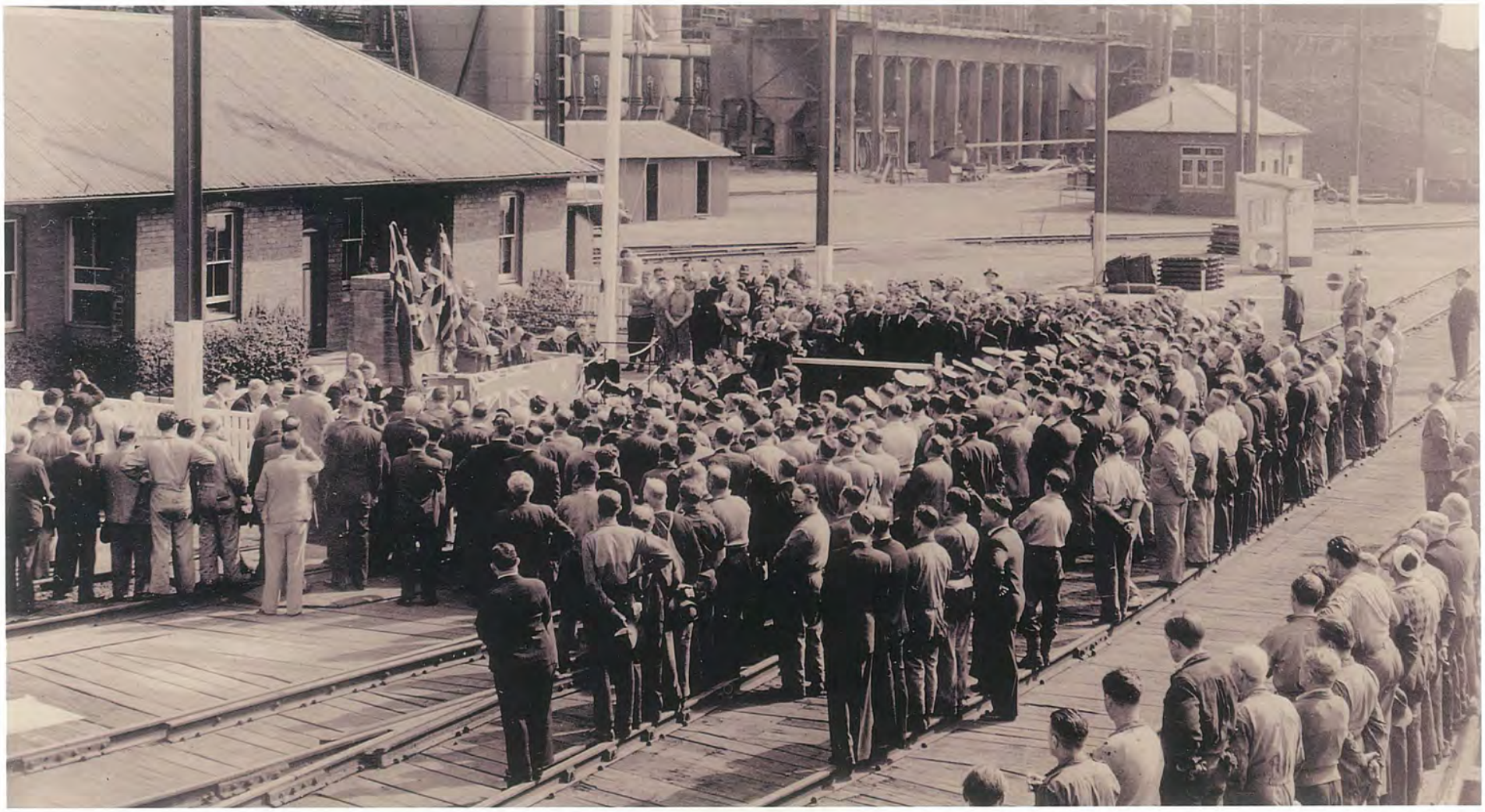
"These men died as the result of enemy action. Their duty was to bring iron ore and limestone to the Works so that steel could be made to enable us to make munitions for the war. It was a very important duty... without the effort of these mariners the work of the Steel Works could not have gone on. They transported during World War II some 13 million tons of iron ore and limestone.

"We all have a sense of loss in the magnificent ships that went down, but we have been more or less able to replace them.

"...Unfortunately, no act of ours can replace the valiant men who went down with the ships. They did their duty very well indeed."[19]



Memorial plaque at Newcastle Steelworks, unveiled 16 Aug 1950. BHP Archives N687.



Essington Lewis speaking at the unveiling ceremony for the memorial plaque at the shipping office, Newcastle Steelworks wharf, 16 Aug 1950. BHP Archives N693.



Five of BHP's ore carrying vessels, with names painted out, at Newcastle Steelworks wharf, 29 May 1945; (left to right) ***Iron Prince*** *(II),* ***Iron Knob****,* ***Iron Monarch*** *(II),* ***Iron Warrior*** *(I) and* ***Iron Duke II****.* BHP.

Beginning in 1943, however, crew troubles plagued many of the Greek vessels. In April, the Masters of seven of them warned BHP that "...in order to maintain harmony amongst crews it will be advisable not to send vessels on consecutive voyages for discharge at Port Kembla. You will realise that when a vessel discharges at Port Kembla and then has to proceed to Newcastle, the time in each port is limited and no leave can be given to the crew."[20]

Difficulties continued during 1944, apparently in part as a result of the civil and political situation in Greece, and, in April 1945 more crew trouble delayed at least four ships for several weeks. In June that year the Commonwealth sought to replace the Greek ships with 'good class British' tonnage, and began redelivering those of other flags.[21]

After 23 years as BHP's Shipping Manager, Mr. Barter retired in 1944 and was succeeded by Mr. T. R. Longney, the accountant who had been his assistant since the founding of the Shipping Department in 1921.

The third of the trio inseparably linked to the development of BHP's shipping interests, Mr. A. Dalziel (Superintendent Engineer of Shipping since 1925), now became Superintendent of Shipbuilding at Whyalla.

With the departure of the foreign-owned vessels (except for the British) and a new era of domestic expansion imminent, BHP looked once more to expansion of the fleet.

CHAPTER 10

YAMPI AND BEYOND



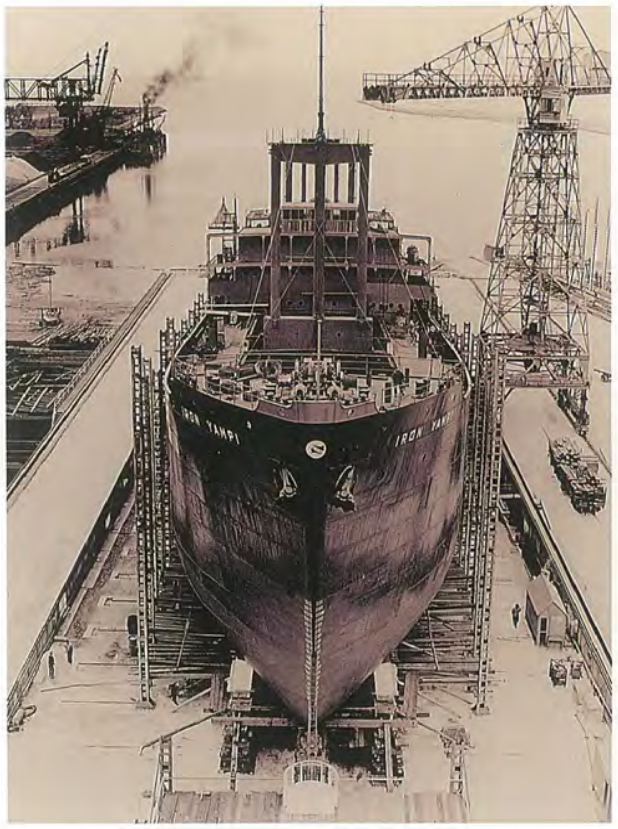
Upon the takeover of Australian Iron & Steel (AIS) in 1935, BHP had arranged the resumption of limited work on the extensive iron ore deposits of Cockatoo Island in Western Australia's Yampi Sound. But the proximity of war caused the evacuation of the site in 1942, and it wasn't until 1944 that this mammoth resource – then estimated, with South Australia's Middleback Ranges, to comprise the majority of Australia's total iron ore reserves – became the focus of intensive development.

If the transport of the Yampi ores to the eastern seaboard steelworks was to be an economic proposition, it was clear that larger and faster ships would be needed. BHP Directors decided these would be designed and built at the Company's Whyalla Shipyards, and approved the construction of four 12,500 tons deadweight vessels, to be known as the 'Yampi' class, for the carriage of the ore from Yampi Sound to Newcastle and Port Kembla.[1] The keel for the first of the class, *Iron Yampi,* was laid on 30 November 1945.

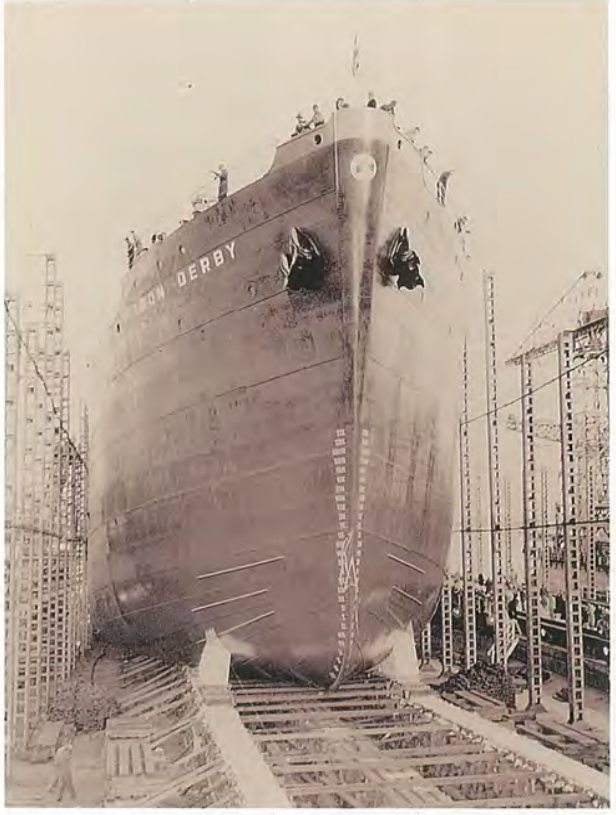
The new ships were designed by the Company's Naval Architect, Mr. R. A. Preshaw, and the Whyalla Shipyard Superintendent, Mr. A. Dalziel, and all plans and specifications were drawn up at the yard.



Ore haulage bridge and crushing plant at Cockatoo Island, Apr 1950. The island's main ore body lies to the right, and the posts seen in the water are part of early construction on the jetty dolphins. BHP Archives C76.



***Iron Yampi** ready for launching at Whyalla Shipyard, 1948.* BHP.



*Launching of **Iron Derby** at Whyalla Shipyard, 3 Nov 1949.* BHP Archives.

The inaugural voyage of a 'Yampi' class vessel to Cockatoo Island was fittingly taken by *Iron Yampi*, under the command of Captain J. W. Miles, with Captain F. W. Tellick of *Iron Kimberley* assisting. (Also on board was William Bolitho, then a fourth-year apprentice with the Company, but later to become Chairman of the Australian National Line and the Australian National Maritime Association).

The ship left Newcastle at 1600 hours on 11 July 1951 loaded with some 26 tons of general cargo (also perishable stores such as meat, fruit and vegetables), 158 tons of oil in No. 2 sidetank, 566 tons of fresh water in the forepeak tank and 1,708 tons of bunkers.

The Master's report on the voyage states that good progress was made up the coast with the Torres Strait pilot, Captain Clay, taking over from Danger Point (1700 hours on 12 July) until disembarking at Goods Island pilot ground at 2300 hours on the 16th.

Course and speed was resumed for Yampi and the vessel made her best day's run in the following 24 hours, when she covered 324 miles at an average speed of 13.75 knots. Coal consumption was 64 tons at 103.4 revolutions. The vessel arrived without incident at the Cockatoo Island berth at 1100 hours on 21 July, the steaming distance from Newcastle to the anchorage (2,892 nautical miles) having occupied 9 days, 3 hours and 38 minutes. Daily coal consumption averaged 64.6 tons with engine revolutions at 104.7. Total coal consumed, jetty to jetty, was 612 tons.

Following the discharge of the perishables and general cargo using the 10 ton cargo gear rigged on the starboard No. 3 derrick, and the completion of loading of ore, departure was taken from Cockatoo Island jetty at 1530 hours on 24 July. For the return voyage, the vessel had on board 10,613 tons of ore, 1,024 tons of bunkers, 100 tons of fresh water and approximately 20 tons of general cargo.

The Torres Strait pilot was taken at 0300 hours on 29 July for the run south, *Iron Yampi* arriving at the Port Kembla anchorage at 0600 hours on 4 August. The total time for the return voyage, including 12 hours at reduced speed, was 10 days, 12 1/2 hours; total distance 3,026 nautical miles; total coal consumed 681 tons.

The round voyage Newcastle-Yampi-Port Kembla occupied 23 days 14 hours, including 3 days 4 hours alongside Cockatoo Island jetty. Total distance steamed was 5,974 nautical miles and coal consumed 1,337 tons, including 44 tons used while alongside at Cockatoo Island.[2]

This then would be the trade with which the 'Yampi' class was synonymous for a quarter of a century. Seafarers with long memories will recall serving 9 to 12 months straight on the run, with 24 hour turnarounds at either end, open-air movies on the No. 3 hatch, and a swimming pool, made up of hatchboards and canvas tarpaulins, between the No. 3 hatch and the starboard bulwark.

In the early days Yampi really was 'The Last Frontier' and the beauty, loneliness and grandeur of the Buccaneer Archipelago was perhaps lost on many of the seafarers assigned to these vessels.



Bulk Carrier **Iron Yampi** *loading the first shipment of ore at Cockatoo Island, 24 Jul 1951.* BHP Archives C105.



***Iron Wyndham** on builder's trials near Whyalla, 1953.* BHP.

Shelter deck-type general cargo steamers with longitudinal framing at bottom, topsides and deck, the 'Yampi' class featured rivetted steel construction of both frames and plates, one bulkhead to the shelter deck and six bulkheads to the upper deck. As in the 'Chieftain' class, all upper accommodation decks were sheathed with timber planking, and the wheelhouses and toprails around all upper decks were of teak.

Introducing turbine propulsion to the fleet, *Iron Yampi* was fitted with a three stage Parsons turbine consisting of high, medium and low-pressure cylinders, all three pinions meshing with one single reduction gear wheel to the propeller shaft and developing 5,500 SHP at 115rpm. The first engine was built at Wallsend in the United Kingdom while the following three, of the same design, were built at the BHP Newcastle Steelworks machine shop.[3]

Though primarily fired with coal, the three Babcock and Wilcox boilers of each of the 'Yampis' were arranged so that oil fuel could also be used as a secondary means of firing.[4]

Through a combination of steel shortages and competing deployment of shipyard resources (Whyalla built three 'D' class and four 'B' class of new post war designs between 1945 and 1952) completion of the 'Yampis' was unhurried. *Iron Yampi* was commissioned on 9 June 1948, followed by *Iron Kimberley* on 30 September 1949, *Iron Derby* on 19 April 1951, and *Iron Wyndham* on 26 February 1953.

Pending the completion of the Cockatoo Island facilities, the ships were employed carrying iron ore from Whyalla to Port Kembla, backloading coal and coke for the Whyalla blast furnace. But from mid 1951, the class moved to its designated trade, a round trip of 21 days featuring a ballast leg around the north of the continent via Torres Strait to Yampi, and a return leg over the same route with approximately 11,400 tons of ore for Newcastle or Port Kembla. The 'Yampis' also had the capacity to carry up to 2,740 tons of fresh water as Cockatoo Island, like Whyalla before it, had no assured water supply for either domestic or industrial use.

In the immediate post war period, BHP experienced considerable difficulty in matching wartime production peaks, thanks to a combination of labour shortages, industrial disputes and, perhaps ironically, the rationing of coal. Fearing another Depression, management opted for under-production, despite the pressures on output created by consumer demand flowing from high levels of immigration.

Suitable shipping too remained in short supply and the problem was exacerbated when, in 1947, the Commonwealth Government expressed its intention to refuse re-registration of all steamers engaged in interstate trade as they reached 25 years of age. Because this plan could not be implemented until new vessels were obtained, BHP's 'E' class ships (by then over the age limit) were granted a trading life extension until the expiry of the second No. 3 surveys, between 1950 and 1952.[5]

In fact the Government further extended the ships' trading licences by an additional four years on the proviso BHP had laid the keels for at least two replacement vessels and had plans in hand to cover the replacement of the remaining two.[6] Fortunately the Company already had the 'Yampi' class under construction and these vessels came under the agreement with the Commonwealth.

Nevertheless the burgeoning demand for steel in a country experiencing a post war boom exceeded the capabilities of the coastal fleet, and BHP was once again forced to look for new means to meet its constantly growing requirements.

CHAPTER 11

THE FLEET AUGMENTED



With the departure from the coast of many foreign-flagged ships operated under the auspices of the Commonwealth Government Ships' Chartering Committee (CGSCC), the Government arranged to charter a number of wartime-built 'Empire', 'Fort', 'Park' and 'Ocean' class cargo ships from the British Ministry of Transport.

Between 1948 and 1956 approximately 45 vessels, considered by BHP to be satisfactory for the ore and steel trades, came under this arrangement.[1]

In 1950, however, a change of Federal Government policy saw non-government enterprises able to arrange the time-charter of overseas vessels (for employment in coastal trades) without direct reference to the Australian Shipping Board (ASB).

The revised policy was fortuitous for BHP. Major expansion was under way at Port Kembla Steelworks. In September 1950 new Company dolomite quarries at Ardrossan in South Australia replaced earlier N.S.W. sources. The Cockatoo Island development at Yampi Sound commenced production in late 1950, and under a 1952 agreement with the Western Australian Government, for the lease of additional iron ore deposits on Koolan and Irvine Islands in Yampi Sound, the Company was preparing to build a steel rolling mill at Kwinana, near Fremantle.

These projects, and the general shortage of tonnage on the coast, placed additional strain on BHP's shipping resources. In particular there were insufficient steamers to enable regular services to Yampi to be maintained.[2]

Accordingly, the Company arranged direct 'time' charters, for periods of 18 months, of a number of the overseas-registered oil-burning vessels which had been employed on the coast by the Government and were due to return to their British owners. Included were *Levenpool* (owned by Ropner), *Cedarpool* (also Ropner-owned), *Culross*, *Amicus*, *Pine Hill*, *Culter* and *Gryfevale*.[3] The addition of the first three to Company services allowed the release of the 'Yampi' class ships from the Whyalla run and their transfer to their intended Yampi Sound service.

Until 1953 the British ships were required to return to Britain every two years to allow crew changes. That year, for the first time, relief crews were flown out to Australia in converted World War II bombers.

During 1953 and 1954, several additional ships were engaged to load pig iron on single overseas charter voyages, after first being directed to Yampi Sound to load iron ore for the Port Kembla Steelworks. The charters included *King James*, *Royal William*, *Spero*, *Sterling Victory*, *Olimpia*, *Saint Gregory*, *Bedford Earl* and *King Alfred*.

In addition, in December 1953 the Commonwealth Government directed that five 5,000 GRT vessels be chartered by their owners, Westralian Farmers Transport Ltd. (WFT), to the ASB. In turn, the ASB made them available to carry BHP cargoes.

London-registered, the ships had been acquired by WFT in 1951, for use in the import coal trade from India to Australia during the period of chronic coal shortages. (The purchases were underwritten by the Australian Government, for which WFT had acted in London in key commercial shipping matters since the establishment during World War II of the



***Heronspool** at Adelaide, Mar 1952. J. Y. Freeman.*



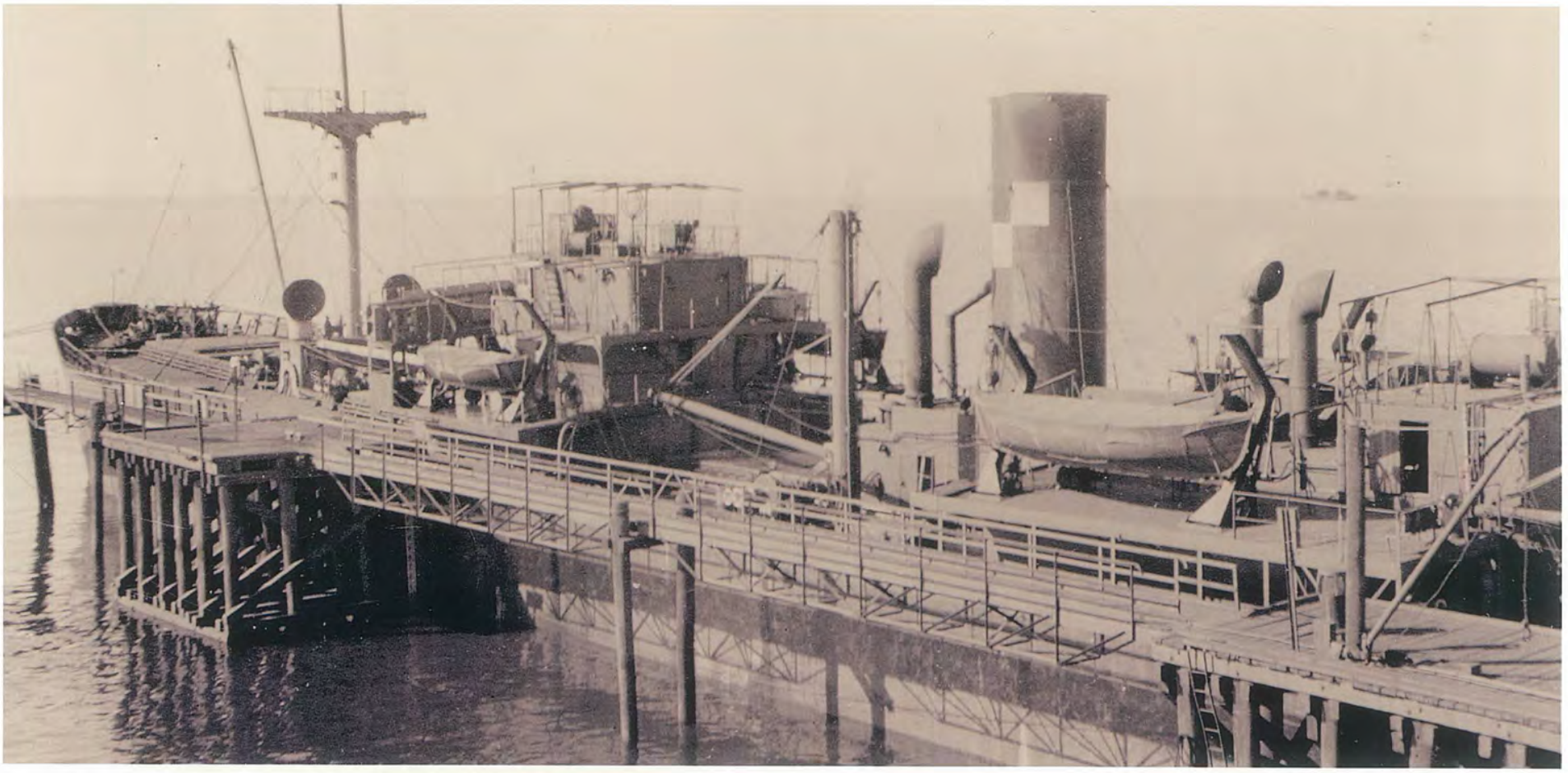
***Firby** at Adelaide. T. Rayner.*

Of the British war-built vessels which carried Company cargoes in the immediate postwar years, several were noteworthy.

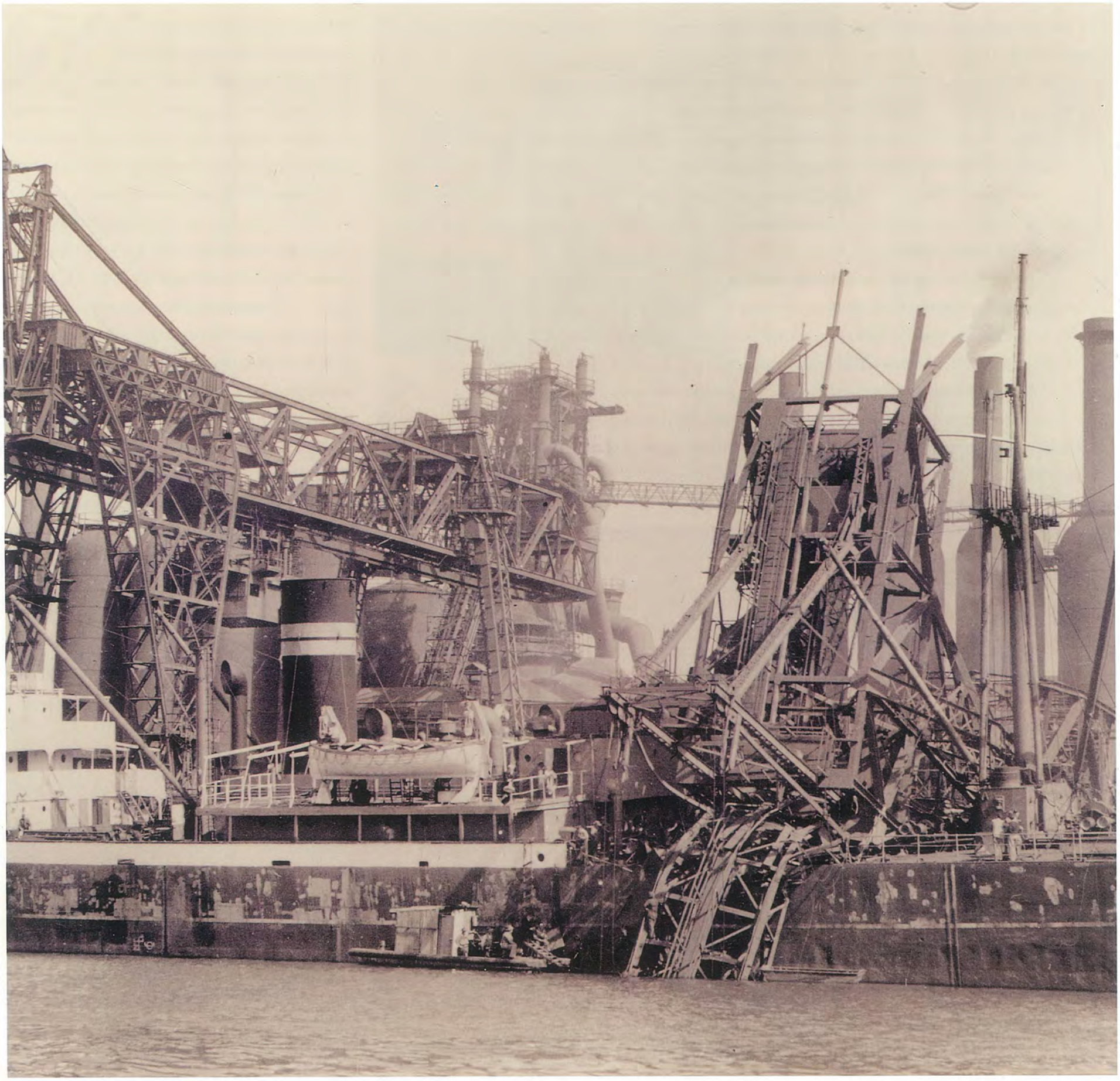
Under the ownership of Sir R. Ropner & Co., a company destined for future close association with BHP, *Firby* (7,173/1942, ex *Ocean Fame*) arrived on the coast in September 1947. She was followed by her sistership *Ocean Valour* (7,173/1942) which, although acquired by Ropners in early 1947, was not renamed *Heronspool* until 1948. The pair was to become the most extended of the Government charters, remaining on the coast until late 1954.[4] Interestingly, Ropners' *Stagpool*, originally Scott Fell/Interstate Steamships' *Iron Chief* (II) (1930-34), also operated in coastal trades during the first half of 1948, but is not recorded as having carried Company cargoes.

Firby made her mark on BHP in more ways than one. On 9 March 1950 the vessel collided with the ore loading jetty at Whyalla, immobilising the loading belt for 15 days. As an emergency measure 24,000 tons of ore was loaded by grab from the Whyalla basin coke wharf while repairs were carried out.[5]

Another casualty occurred later that year on the night of 5 September. The British tramp steamer *Empire Gladstone* (7,090/1944), steaming too close to the south coast of N.S.W., ran aground on Haystack Rock near Merimbula during a voyage from Whyalla via Adelaide to Sydney. The ship eventually became a total wreck. While her cargo of BHP ore was lost, a number of car bodies carried on deck were recovered.



***Heronspool** at Whyalla jetty, 21 May 1954.* T. S. Stevens.



***Garryvale** beneath the collapsed ore bridge at Newcastle Steelworks wharf, 24 Aug 1953.* BHP Steel.

The Australian Shipping Board was constituted on 1 January 1946 to take over the functions of various wartime committees and to operate the fleet of Government-owned ships.

Included amongst these were the thirteen 5,000 GRT Australian-built 'A' or 'River' class ships (five of which had been built at Whyalla), and several of these, along with *Tyalla* (7,343 GRT), were chartered through Australian shipping companies to BHP. These vessels remained in the coal and ore trades until 1959 when seven were sold.

Occasionally the ships would be withdrawn to carry other cargoes of 'national importance', including supplies to the British Commonwealth Occupation Force in Japan. Also shipped were overseas gifts of wheat and sugar and, in one instance in 1951 (*River Fitzroy*), stores and scientists to the Macquarie Island Antarctic Research Station.

These ships would often load South Australian ore in the lower holds and in Port Adelaide, Holden car bodies for delivery to Sydney and Brisbane in the 'tween decks and on the hatches.

Originally painted entirely in wartime grey, the vessels gained black hulls at war's end (retaining the grey upperworks) and later adopted the purple-brown hull and stone colour superstructure of the BHP fleet. Funnels, black with two yellow bands under ASB ownership, were altered from January 1957, upon the establishment of the Australian Coastal Shipping Commission (Australian National Line), to ANL's blue/white/red/white/black arrangement.

In August 1953, the time-chartered Scottish steamer *Garryvale* was discharging ironstone from Whyalla at Newcastle when one of the ore bridge unloaders collapsed across her decks, killing the crane driver. As a history of the vessel's owners, Andrew Crawford & Co. Ltd., reported:

"With a roar like an exploding bomb, the giant ore bridge collapsed across the 10,000 ton freighter *Garryvale* at the Steel Works Wharf. The crane, weighing about 300 tons, collapsed suddenly on its last run before a meal break at 3.40 am. A hatchman, Stanley Barnes, had an astonishing escape from death as sections of twisted steel crashed about him on the deck. It fell around and over him, but he was able to crawl out safely with only bruised ankles.

"Adams, the crane driver, had no chance of escape as the cabin section was thrown clear across the vessel into the water beyond. There was a terrific crash as the steel framework crumpled and fell across the deck.

"Considerable damage was also done to the *Garryvale*... the ore bridge collapsed across No. 4 hatch, damaging the coamings and a winch and bending the starboard crane, the main deck and the stanchions. The ship's port side frames are warped, the huge mass of the ore bridge resting partly on the shore, some over the vessel, the rest trailing over the side into the river... part of the crane was within a foot of the harbour bottom, 25 feet down."[6]

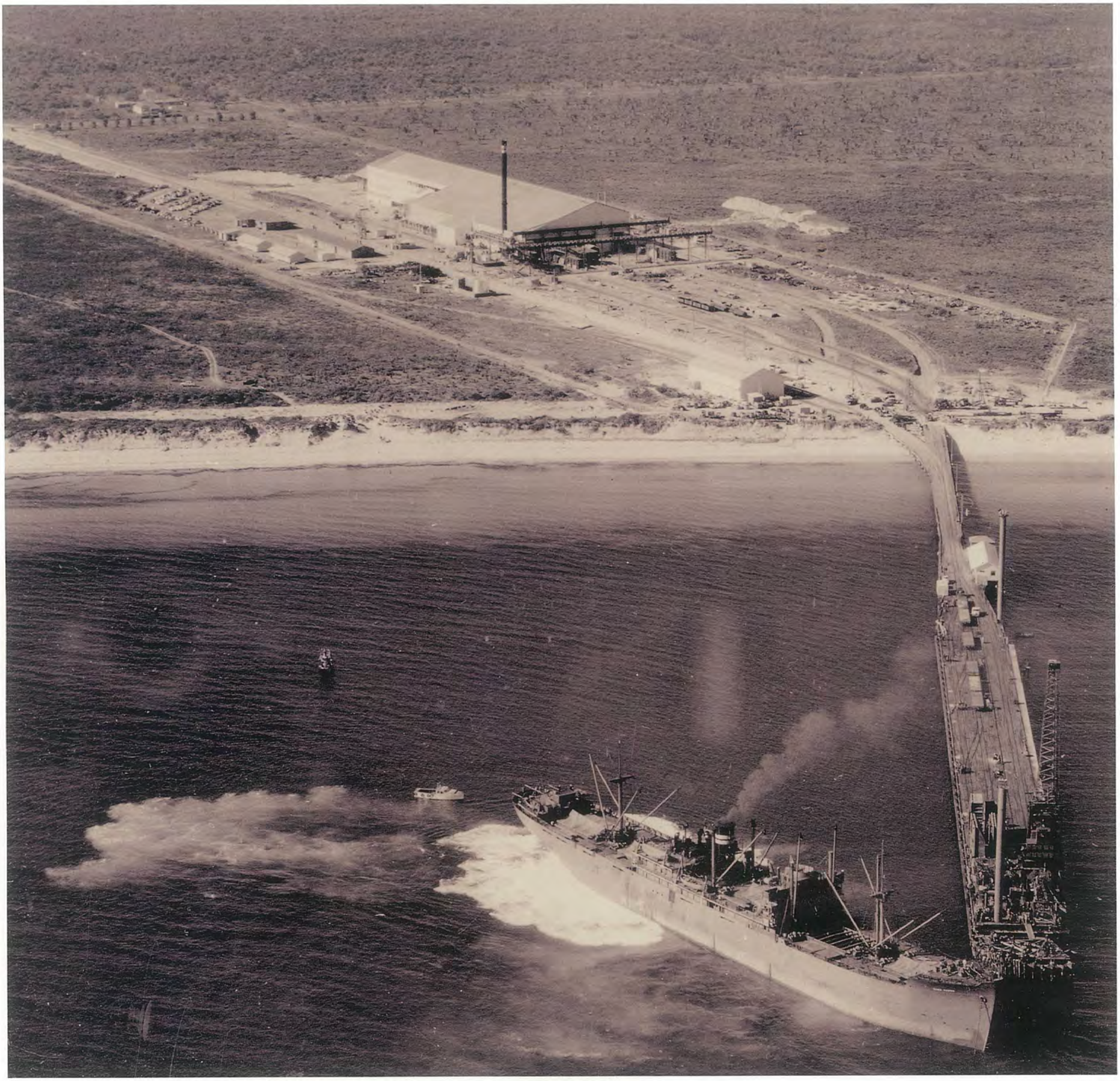
Australian Wheat Board and the CGSCC.) But by September 1952 the coal situation had been reassessed, and the ships had been progressively redeployed by WFT in a variety of trades.[7]

The five ships were *Swanriver* (used in the Australian ore trade from 1952 until 1955), *Swanstream* (1953-57), *Swanvalley* (1953-55) and *Swanhill* and *Swanbrook* (1954-57).[8]

These were to be the last British-registered or 'Home Boats' of that era to operate in the coastal ore trade.

In the first half of the 1950s, BHP controlled four pre-war 'E' class ships, four 'Chieftains', four 'Yampis' and *Ellaroo*. It was also maintaining a total of 12 charters of locally-owned vessels, spread between the Associated Steamship Owners and the ASB.

Though the Company was preparing to enlarge its own fleet the BHP transport task had now become a major employer of Australian tonnage, and both the private owners and more particularly the ASB (and subsequently Australian National Line) were to become increasingly dependent on the Company's ore, coal and steel business.



***River Hunter** berthing at Kwinana jetty with first shipment of billets for BHP's new rolling mill, May 1956.* BHP Archives KA35.

CHAPTER 12

ADVANCING TECHNOLOGIES AND EXPANDING TRADE

With the frustrations and uncertainties of the aftermath of World War II giving way to dynamic national development, Australia was entering what would come to be looked upon as a golden age of prosperity.

The centrepiece of BHP's post war expansion was a one million tons per annum hot strip mill and associated plant at Port Kembla, opened in 1955 at a cost of £40 million. For the first time the Port Kembla works' steelmaking capacity exceeded that of Newcastle. The New South Wales Government, recognising the need to accommodate the expanding industry, commissioned a new harbour at Port Kembla.

Such port development was of primary importance to the No. 2 steelworks project, as the ore handling plant, sinter plant, No. 4 blast furnace and open hearth were all positioned within easy reach of the water frontage. In January 1956, the dredging of a pilot channel began and the completed Inner Harbour, with a depth of 36ft. and a wharf 1,200ft. in length, was opened on 28 November 1960 when *Iron Yampi* arrived with a full load of ore.[1]

Meanwhile, at Newcastle, older plant units were replaced, land was reclaimed from the river channel to provide much needed space and, in the early 1960s, new basic oxygen furnaces were installed to replace the ageing open hearths.



***Iron Yampi** entering Port Kembla for the opening of the newly constructed Inner Harbour, 28 Nov 1960.* *Photographer: Arthur Cratchley. BHP Archives PK168.*

Mr. W. W. Sweetland was appointed Executive Officer in charge of shipping in 1954 and Shipping Manager (Newcastle) in 1956. He was an engineering graduate from Sydney University and had previously held the position of Assistant Chief Engineer at the Port Kembla works.[2] On 31 October 1958 Mr. T. R. Longney resigned as General Shipping Manager and on 1 December was succeeded by Mr. Sweetland.



***Iron Knight** (II) berthed at Port Kembla, 1956.* BHP Archives IKTS49.

The rapidly changing face of the parent Company's activities caused regular revisions to fleet strategies.

In January 1951, with the four 12,500 DWT 'Yampi' class soon to be fully utilised transporting ironstone from north-west Western Australia, the BHP Board had decided that a new series of four gearless bulk ore carriers of 10,000 DWT would be built at the Whyalla Shipyard. Their primary employment was to be the carriage of coke and coal from Port Kembla and Newcastle to Whyalla, returning with iron ore and fluxes from South Australia.

The keel of the first, *Iron Whyalla* (I), was laid in March 1951 and that of the second, *Iron Spencer* (I), in June 1952. But both took several years to complete. *Iron Whyalla*, delayed by late delivery of machinery, was not finished until June 1954. *Iron Spencer* was given a low priority, while the yard concentrated on 'Lake' and 'Y' class vessels for the ASB, and was not delivered until February 1957. Overtaken by changing circumstances, the pair became the only two of the class ever built, and indeed the last for the Company with the conventional arrangement of engines and accommodation amidships.

In August 1955, the general purpose fleet was boosted when BHP purchased an oil burning steamship, *Venissieux*, from the Societe Nationale des Chemins de Fer Francais (French Railways). After being refitted at Newport, South Wales, the vessel joined the fleet in 1956 as *Iron Knight* (II). She was engaged in carrying iron and steel products, coke, iron ore, limestone and steel scrap between New South Wales, Victoria and South Australia.

Meanwhile, before construction of the intended third and fourth 'Whyalla' class vessels had begun, management realised that with the imminent return of the last of the chartered British ships to their

In 1955, important alterations were made to The Seamen's Award. The old system, whereby ships' Officers selected crews from a line-up of available men at Mercantile Marine Offices, was replaced by one which required employers to notify the Union of labour requirements prior to 'pick-up' time each day. In turn, the Union had to ensure that sufficient members attended the 'pick up' to meet those requirements. Numbers had to be adequate to cover rejections of seamen regarded as unsuitable by employers, and rejections by seamen of unsuitable jobs. As well as the traditional 'pick-up' in Newcastle and Port Kembla, the Company now chose to draw labour from Sydney, if necessary. As a result, for the first time many Sydney seamen became acquainted with the 'Yampi Sound Run'.

Later that year shipping was seriously disrupted when the Merchant Service Guild – the body representing Deck Officers – imposed a ban precluding Masters from utilising their pilotage exemptions. This was in support of a long-standing claim that such Masters should receive substantial additional payments for using their exemptions (which saved employers the costs associated with port and Barrier Reef pilots). The industrial action lasted for six weeks, from 3 December 1955 until 16 January 1956, when a set number of hours were allocated, by award, for the performance by Masters of pilotage at all Australian ports.[3]



Sisterships **Iron Dampier** *(I) and* **Iron Flinders** *(I) at Port Kembla Steelworks wharf, Jul 1963.* BHP Archives IFS51.



The Master's sleeping cabin aboard **Iron Flinders** *(I), 1959.* BHP Archives IFS24.

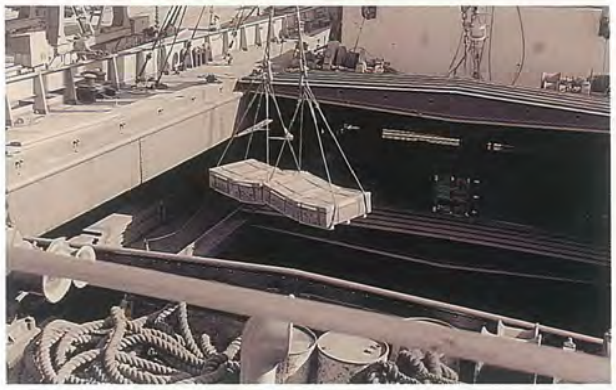


Ship's cook at work in the galley of **Iron Flinders** *(I), 1959.* BHP Archives IFS25.



Officers' lounge with dining saloon in background aboard **Iron Flinders** *(I), 1959.* BHP Archives IFS26.





Loading finished products on ***Iron Wyndham*** *using the pre-slinging method, Port Kembla, 1962.*

BHP Archives PK2097/1&2



Iron Dampier *(I) in rough seas on passage to Kwinana, c. 1965.* *J. S. Ellyett.*

owners, more tonnage was needed to service the Yampi Sound deposits. In September 1955, BHP General Manager Ian McLennan received Board approval for an increase in the capacity of the remaining 'Whyallas' to 12,500 tons.[4]

But by May 1956, the situation had again been reassessed. With harbour improvements planned for Port Kembla expected to make the use of larger ships possible, the Board accepted a new proposal for 19,000 DWT vessels. The remaining 'Whyallas' (to have been named *Iron Rapid* and *Iron Ardrossan*) were cancelled.[5]

As a consequence two new and specialised ore carriers, particularly suited to the trade from Yampi to Port Kembla, were designed by the Company's Naval Architects and built at the Whyalla yards. The Parsons engines originally ordered from the UK for the cancelled ships were fitted to the replacements instead.

The first of the 19,300 DWT 'Explorer' class, *Iron Flinders* (I), was completed in August 1959 – at that time the largest ship to have been built in Australia[6] – and was followed by her sister *Iron Dampier* (I) in June 1961.[7] The two were the first in the BHP fleet of what was coming to be regarded as standard 'bulk carrier' appearance (i.e. engines and all superstructure aft). They were also the first designed from the outset to burn oil rather than coal as fuel, and the first fitted with air-conditioned accommodation.[8]

Though the pair proved adaptable to non-ore trades, they were the only BHP ships ever to be built specifically as ore carriers. As the low cubic capacity of the hold configuration limited backloading abilities, subsequent ships built to Company order were designed as bulk carriers, for greater versatility. Nevertheless, the 'Explorers' were variously used to carry Port Kembla billets and steel products to Kwinana, occasionally returning east with pig iron. From May 1961, they carried pre-fabricated homes, building materials, stores and fresh water from Brisbane, Port Kembla, Newcastle and Kwinana to Koolan Island in Yampi Sound, returning with Cockatoo Island ore.

As fleet changes were evolving during the 1950s, the Company was also expanding its stevedoring interests and improving cargo handling methods. In August 1953, through Port Waratah Stevedoring, BHP acquired a 50 per cent interest in the Port Kembla Stevedoring and Agency Company Pty. Ltd. On the other side of the country, the Kwinana Stevedoring Company Pty. Ltd. was incorporated in January 1956. That year the latter supervised the discharge (at a rate of 122 tons per hour) of the first cargo of pre-slung Kembla billets (1,749 tons in all) from the ANL steamer *River Hunter*.[9]

In late 1957, two additional luffing cranes were brought into operation at the Newcastle Steelworks



***Iron Spencer** (I) at No. 21 South Wharf, Melbourne, 1972.* *Photographer: Brian Lloyd. BHP Archives.*

From 1956 pre-slinging (or pre-bundling) of shipments of steel product was undertaken at BHP's steelworks, in line with a system conceived by Newcastle Production Superintendent, Mr. J. Richards. The bundles of product, each weighing five tons, were loaded directly onto ships from rail wagons or road trucks, and the wire or chain slings left in place for discharge. The combination of new wharf cranes and pre-slinging greatly reduced ships' turnaround time in port.

However, while the pre-slung method suited large deliveries, if several customer consignments were parcelled in the same bundle separation of the cargo from the slings caused delays. Thus the clearance of cargo from the wharves was a greater problem than the actual discharge.[10] The slings were returned to the steelworks, where they were subjected to rigorous inspection and re-certification before being re-used.

wharf, bringing the total number to six. In August of the following year, new crane berths at 21 South Wharf, Melbourne, and the steel discharge wharf at Port Adelaide were commissioned.

In 1957 the Company also moved to improve the appearance of the fleet. Ships' upperworks were altered from the traditional mast colour to a light stone shade; *Iron Spencer*, commissioned that year, was the first vessel to carry the new livery.

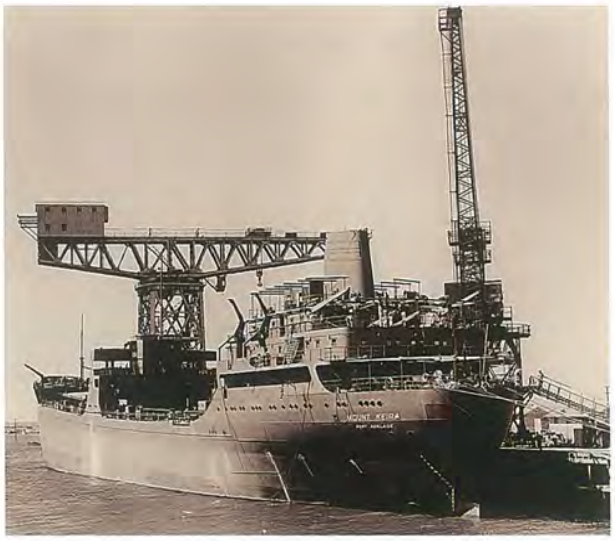
Between 1955 and 1958 the four 'E' class steamers, *Iron Knob* (I), *Iron Prince* (II), *Iron Master* and *Iron Warrior* were withdrawn from service after an average of 35 years in Company trades. Having reached the end of their economic lives in Australian waters, all were sold to overseas buyers.

A significant expansion in the Company's use of land-based transport occurred from 30 June 1959, when a 12 month contract was signed with New South Wales Railways for the carriage of 100,000 tons of steel from Port Kembla to Victoria. Agreement was also reached on the transport of product to Brisbane, although at the time terminal facilities there were inadequate for anything but small parcels of steel. A further contract was concluded with Victorian Railways for the railing of 40,000 tons of scrap per annum from Melbourne to Port Kembla, beginning in February 1960.[11]

At this time the Company determined to continue sea transport of its products in order to avoid dependence on the railways.[12] Nevertheless, the move was a portent of future trends. By May 1962 scrap was also being railed from Adelaide to Port Kembla, with only material emanating from Kwinana and Tasmania still carried by sea.[13] By 1971 the quantity of steel products leaving Port Kembla by rail would exceed one million tons.

At sea new technology was gradually making its mark. Coal-burning steamers were increasingly restricted by dwindling bunkering facilities around the country, but with a complement of highly experienced engineers (and plentiful Company-owned coal supplies in N.S.W.) BHP was reluctant to abandon a mode which served it so well. Conversion to oil-firing had begun in late 1953 with *Iron Duke*, but it was the advent of *Iron Flinders* and *Iron Dampier* which hastened the process of switching fuels. On 1 January 1960 the Company commenced a contract with BP Australia Limited for the supply of oil bunkers at Melbourne, Sydney, Brisbane, Newcastle and Adelaide.[14] In 1961, oil fuel lines were also fitted to Inner Harbour berths at Port Kembla to facilitate the bunkering of fleet vessels.[15]

Notwithstanding, coal supplies on the east coast remained plentiful; it was not until scarcities elsewhere and the resultant cost of stockpiling coal bunkers at Kwinana, helped focus attention on heavy fuel oil – cheap and increasingly available worldwide



***Mount Keira** at fitting-out wharf, Whyalla Shipyard, 1959.* BHP Archives.



Age berthing at Geelong with steel products, c. 1965.

W. G. Volum.

The reduction in capacity resulting from the return overseas in the mid 1950s of the chartered British vessels and, later, from the sale of the 'E' class, was covered by the increasing use of Australian flag ships from non-BHP fleets.

By 1957 the ASB/ANL had added the 10,220 DWT geared bulk carriers *Talinga* and *Timbarra,* the 7,100 DWT gearless bulkers *Inyula, Illowra* and *Iranda* and the 4,650 DWT bulk/general cargo *Yanderra* and *Yarrunga* (the latter pair built at Whyalla) and all were being used in BHP trades.

Additionally eight Australian-built 'Lake' class bulk carriers of 10,400-11,300 DWT joined the ANL fleet between 1956 and 1959 (one coal-fired steamer, *Lake Eyre*, two oil-fired steamers, *Lake Torrens* and *Lake Illawarra*, and one motor ship, *Lake Macquarie*, were from the Whyalla yard),[16] and progressively relieved the ageing 'River' class which was laid up throughout Australian ports and sold from 1959. (Interstate Steamships Pty. Ltd. purchased *River Derwent* that year, renaming her *Echunga* (II) after their 'E' class steamship, sold in 1957.)

In 1960, the 13,700 DWT Whyalla-built ore carriers *Mount Keira* and *Mount Kembla*, specifically designed for use between Yampi Sound and Port Kembla, entered service for ANL.

Though it was the Government-owned line which had shown most interest in the Company's cargoes, the private owners belatedly realised the potential of bulk carriers[17] and in June 1958 AUSN, Huddart Parker, McIlwraith McEacharn, The Adelaide Steamship Co., Howard Smith and Melbourne Steamship Co. formed Bulkships Ltd.

The following year Bulkships placed an order with the Whyalla yard for two 16,400 DWT ore carriers, delivered as *Wollongong* (May 1962) and *Mittagong* (April 1963). Both operated in BHP trades and were later to join the Company fleet on bareboat charter.

In June 1965, Bulkships commissioned the motor ship *Gerringong*, the second of two 21,500 DWT, improved 'Explorer' class ore carriers (strengthened tank-tops and sides brought revised hold profiles). She had been preceded in November 1964 by ANL's *Musgrave Range*; both ships were BHP-built and employed.

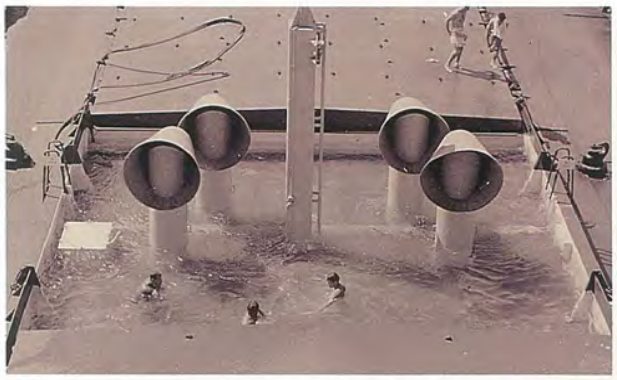
– that motor ships found favour in the BHP fleet. Coal-firing persisted in the older ships – *Iron Spencer* was the last to be converted to oil, in 1968.

As BHP's activities and clientele continued to expand and diversify, an increasing variety of ships in Company employment sailed ever further afield.

The Australian Steamships' (Howard Smith) 6,310 DWT collier *Age* was time-chartered in July 1959, initially for a 12 month period but subsequently for four, and eventually nine, years. She joined *Ellaroo* (time-chartered for a further 15 months from 10 October 1959, from new owners Scott Fell Shipping Pty. Ltd.) to provide a regular product service from Newcastle and Port Kembla to Melbourne and Adelaide, returning with scrap, limestone and dolomite, as required.[18] In December 1960, after operating under continual BHP charter since 1936, *Ellaroo* was returned to her owners[19] which, in the intervening years, had changed from the Melbourne Steamship Company to Scott Fell (1959), then to Hai An SS Co. of Hong Kong (to whom she was pre-sold pending re-delivery).

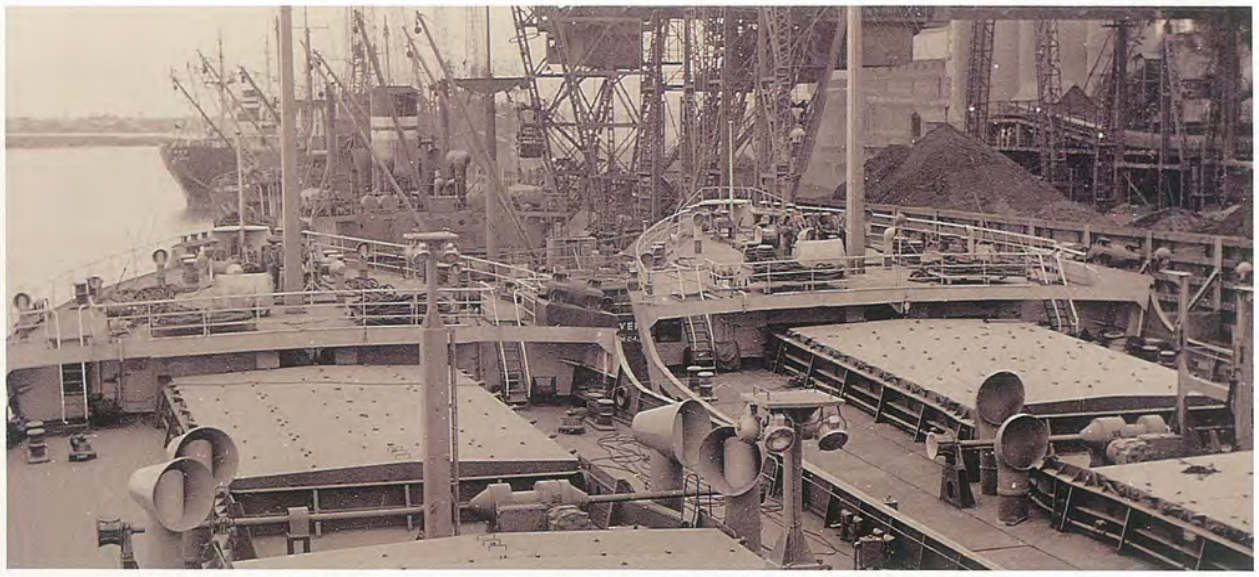
The former Adelaide Steamship Co. vessel *Mundulla,* sold in 1959 to New Hebridean owners, carried a part cargo of 2,874 tons of steel from Kwinana to Indonesia in December 1959 and March

Iron Spencer (I) westward bound to Whyalla, 1960. I. F. Wright.



Swimming pool between hatch Nos. 2 and 3.

Iron Spencer (I), Oct. 1957. G. Bevis.



Sisterships ***Iron Spencer*** *(I) (left) and* ***Iron Whyalla*** *(II) tied up at No. 5 berth Newcastle Steelworks, 1958.* C. Palmer.

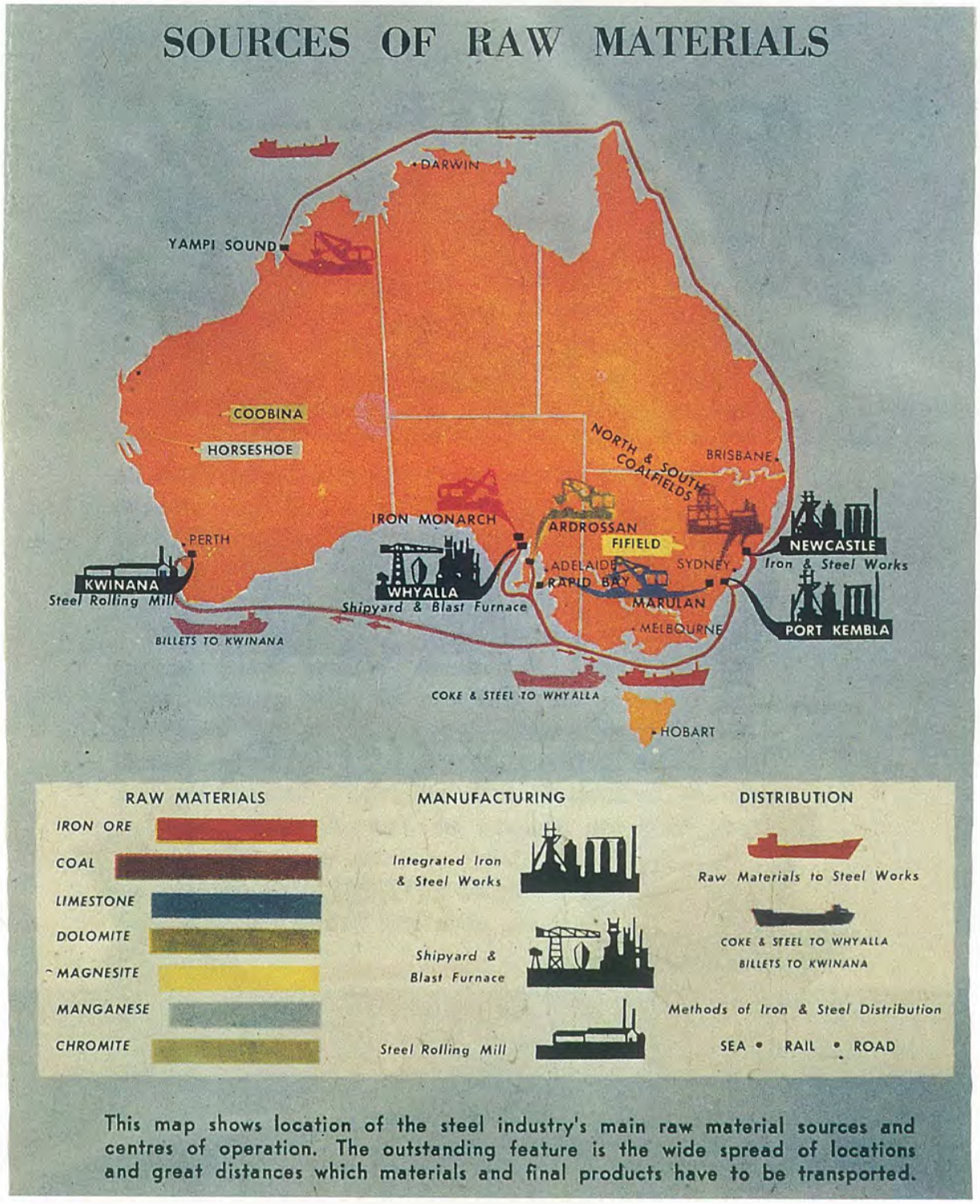
Two on-board innovations appeared on BHP vessels around the turn of the decade. During April 1959, VHF radio equipment was placed aboard *Iron Baron* (II) to assist in mooring operations and, proving successful, was installed on other vessels of the fleet as sets became available. (At that time only Melbourne and Whyalla were equipped with VHF base stations,[20] although tugs at other ports had VHF radio telephones.)

In 1960 the first television set officially appeared on a BHP ship when, on the basis of 50/50 cost sharing between the Company and *Iron Monarch*'s (II) social club, a set was installed in the crew's recreation room and another in the officers' smokeroom. A change to the financial arrangements, which saw BHP bear the installation costs and 25 per cent of the set rentals, followed reports that "a generally beneficial effect resulted from the installations". A similar arrangement followed shortly after aboard *Iron Whyalla* (I).[21]

***Iron Warrior** (II) leaving Newcastle Harbour.*
BHP Archives.



When cyclonic conditions struck Port Kembla on the night of 12 July 1960, ANL's *Bulkwarra* was driven ashore at the No. 6 jetty, and the tug *Hero* capsized and sank. *Iron Flinders*, *Iron Kimberley* and *Iron Knight* cleared the port for the safety of the outer anchorage; *Iron King*, under the command of Captain R. Corbett, managed to leave No. 6 jetty and run successfully for the safety of the newly completed, but yet unopened, Inner Harbour. It was five days before the port was re-opened.[22]



c. 1962. BHP Archives.

1960, while the ANL 'B' class vessel *Bilkurra* loaded two cargoes of 5,000 tons each of magnesite and chrome ore in New Caledonia for Newcastle.[23]

Following the lifting of Commonwealth Government export embargoes, during 1960 three ANL vessels and a similar number of overseas vessels – *Riseley*, *Moraybank* and *Rio Doro* – were chartered to lift pig iron to Japan, under single voyage charters. In the first half of 1961 a total of 11 ships made single voyages in this trade. In the course of that year, chartered ships carried Company cargoes to Hong Kong and Formosa, Japan, Philippines and Nauru, Malaya, Indonesia, Thailand, North Borneo, India, Pakistan, Italy, U.S.A., Canada and New Caledonia.[24]

With such a demand for tonnage, the Company was quick to seize an opportunity when, in 1961, the Australasian United Steam Navigation Company withdrew from shipping. BHP quickly acquired its steamship *Caloundra*, completed as *Balook* at Whyalla in 1950 for the ASB. Renamed *Iron Warrior* (II) on 8 March, the ship was immediately employed on the southern run carrying products from Newcastle and Port Kembla to Melbourne, Geelong and Adelaide, backloading limestone or dolomite from South Australia.[25]

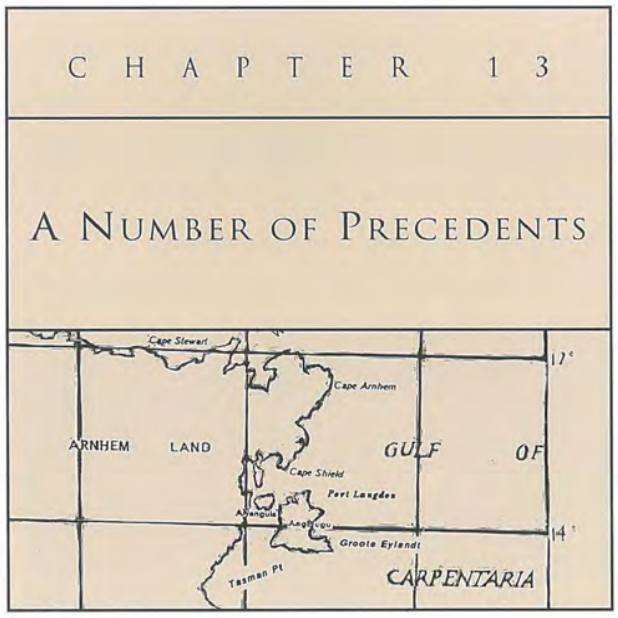
Except for a change in the colour of the funnel bands – from white to BHP blue – and the removal of the white line around her hull, *Iron Warrior* (II) retained her original black hull/white superstructure scheme for her life with BHP. As such she became the model for the later BHP fleet livery.

CHAPTER 13

A NUMBER OF PRECEDENTS

On 9 October 1961, the chartered steamer *Age* arrived at Bell Bay in northern Tasmania with 5,720 tons of manganese ore from Geraldton, Western Australia, the first cargo of raw material for a new and important BHP venture.

With the demand for higher quality steels growing, the Company set up the Tasmanian Electro Metallurgical Company Pty. Ltd. (TEMCo) to manufacture ferro alloys using an electric smelting process, replacing the small Newcastle furnace. Attracted primarily by the island state's cheap hydro-electric power, BHP established the new Bell Bay plant adjacent to that of another major power user, the Commonwealth Aluminium Corporation (Comalco) and quickly found that cargoes for the latter added a complementary and profitable dimension to fleet employment.



Age was followed by *Iron Knight* and other vessels with further cargoes of manganese ore, coke and limestone as materials were stockpiled for the opening of TEMCo the following year. *(Iron Knight* also carried the first shipment of ferromanganese from Bell Bay to Newcastle in May 1962.)

Initial shipments were handled by Comalco at their Bell Bay wharf pending the completion of a new No. 3 berth close to TEMCo.[1] Commissioned in 1963 and owned by the Launceston Marine Board, the new berth was leased as required by the Company, which erected a 12.5 ton Kangaroo-type luffing crane for use in handling incoming and outgoing cargoes.

Coincidentally, at the other end of the country, a BHP geologist was investigating the scope of what appeared to be a major manganese deposit at Groote Eylandt, just off the eastern shore of Arnhem Land in the Northern Territory. By 1963, the promising ore body had been confirmed and BHP concluded a lease agreement with the Church Missionary Society (a body of the Anglican Church) and the Northern Territory Government. The agreement included royalty payments to the local Aboriginal community.



Bell Bay, Sep 1973. The ANL wharf is in the right foreground, and TEMCo's Bell Bay wharves at left. Beyond the wharf area is an industrial estate, then TEMCo's operations (far right). Photographer: L. Jensen. Port of Launceston Authority.



GEMCo's jetty at Milner Bay, Groote Eylandt. BHP Archives.



***Iron Cavalier** at Sasebo, Japan, soon after joining the BHP fleet, Nov 1965.* R. G. Martin.

In 1964 BHP formed the Groote Eylandt Mining Company Pty. Ltd. (GEMCo) and began construction of a port, township and a crushing and screening plant to treat manganese ore. On 25 July that year GEMCo was granted special mining leases totalling 20.5 square miles.

The steamer *Iron Wyndham* arrived at the new jetty on 6 March 1966 to discharge general cargo and load an estimated 10,774 tons of manganese ore[2] – the first shipment from GEMCo to TEMCo at Bell Bay. Thereafter, BHP ships would be constantly employed on the run. In the previous year Australia's import bill for manganese ore had risen to £2 million, but dropped away to nothing after Groote Eylandt opened.[3] In September 1966 the first export shipment of manganese ore was despatched to Japan; within a short time GEMCo was a significant producer of metallurgical grades for world markets.[4]

In 1964 BHP's portfolio of activities was expanding at such a rate that the pressures of increased demand upon the fleet could not be quickly or easily relieved by the building of new ships. In order to increase the supply of iron ore from Yampi to Newcastle and Port Kembla, approval was sought and received from the Commonwealth Department of Shipping and Transport to employ a number of overseas charter vessels to cover eight single voyages.[5] But this could be only an interim measure.

The long-term solution was to arrange a bareboat charter of a suitable overseas-owned ore carrier and, with the completion of harbour deepening at Port Kembla, the Company was able to seek larger tonnage. Consequently, in November 1964, the three year old 35,441 DWT *Naess Clipper*, owned by Anglo-Pacific Shipping Co. Ltd. and managed by Naess Denholm Ltd. (both of Britain) was taken on charter for four years.

Refitted at Sasebo, Japan, to meet Australian crew accommodation standards, the ship arrived in Yampi

At Bell Bay, one of the Commonwealth Aluminium Corporation's key requirements was for pencil pitch, a volatile material used to make carbon blocks to line the base of the aluminium furnaces. The pitch was regularly shipped in bulk aboard *Iron Knight* (and later *Iron Spencer*).

Vessels would be part-discharged by grabs at Comalco's wharf before moving to No. 3 berth, where BHP stevedoring staff from Melbourne supervised the trimming and discharge of remaining TEMCo cargoes. (Pencil pitch was later to be shipped in containerised form aboard roll-on roll-off ships and would eventually be carried in liquid form by a specialised BHP Transport-managed vessel, *Seakap*.)

The early and mid 1960s was a period of considerable change for Australian seagoing personnel.

On 2 December 1963, following a long period of chronic shortages of engine room staff (dating back to World War II), a compulsory conference was convened between shipowners and the Australian Institute of Marine and Power Engineers, before Mr. Justice Gallagher.

Proposals considered for overcoming the problem included the lifting of the requirement that qualified tradesmen had to possess at least Part A of the Second Engineers Certificate, prior to the Institute's acceptance of their membership (which was required if persons were to be permitted to serve at sea for a limited period).[6] Following a ballot conducted by the Institute, the proposal was accepted, with junior engineers granted a two year period in which to pass Part A.

Meanwhile, a bitter and prolonged dispute was under way between the Seamen's Union of Australia (S.U.A.) and employers, over a range of issues arising from the 1955 Seamen's Award. In one instance, BHP blamed the Union (in the Commonwealth Conciliation and Arbitration Commission) for constantly withholding labour, from 'Yampi' class vessels in particular. The Union, in turn, claimed that seamen did not want to join the Company's ships – especially those without air-conditioning, engaged on the Yampi run.

During the long-running struggle a variety of tactics was employed by both sides. BHP, for example, moved outside the established system by advertising in the Sydney *Daily Telegraph* (through agents Interstate Steamships) for seamen – the first time an Australian shipowner had sought to employ seagoing staff directly. The move was largely unsuccessful. However, in due course there was an eventual turn for the better in relations when, in December 1964, the Seamen's Stabilisation Scheme was established between coastal shipowners and the S.U.A.

Under the provisions of this system, seamen were:

- registered by an independent authority immediately on becoming unemployed;
- paid attendance money while so registered;
- free to offer to fill vacancies, but subject to allocation to vacancies not filled,[7] and
- assured of continuity of employment during incapacitation through illness or injury.

This heralded a new era of industrial harmony and, in its creation of a status of permanency of employment for seamen, was a welcome departure from previous industrial agreements.

No longer would seamen's employment terminate every six months with changes in ship's Articles or whenever a ship laid up. As a result more seamen were prepared to join ships on a long-term basis, and the Company enjoyed a substantial reduction in delays.[8]

With the introduction to the BHP fleet of the motorships *Iron Clipper* and *Iron Cavalier*, a program for the retraining of Company engineers, almost all of whom had only steam qualifications, began. The delivery Chief Engineer of *Iron Clipper*, Mr. D. Campbell, and his Second Engineer, Mr. B. Walsh, turned that ship and later *Iron Cavalier* into training ships for the conversion of steam certificates to motor.

The requirement at the time was that steam engineers spend six months in a motor ship for the appropriate endorsement, and for motor engineers, a period of nine months in a steamship. The next progression was a First Class Combined Certificate.

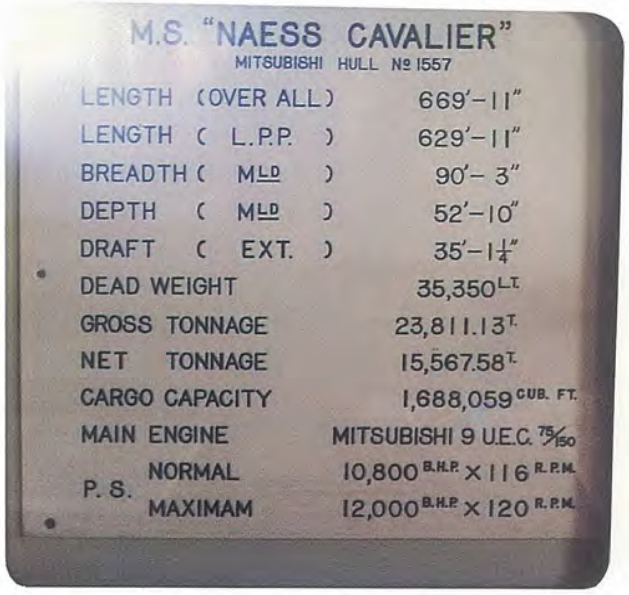
Sound on 19 December 1964[9] as *Iron Clipper*. At the time she was the largest vessel on the Australian coast.

So successful was the charter that when a second of the class, *Naess Cavalier*, became available, she was taken into the fleet on a similar basis (on 4 November 1965) and joined as *Iron Cavalier*. Interestingly these two ships, the last of the world's bulk carriers built with an island bridge, were originally designed to accommodate Norwegian officers and Chinese crews. However, to meet prevailing Australian standards the crew accommodation had to be upgraded while that of the officers was so luxurious it had to be reduced, in order to obtain a balance.

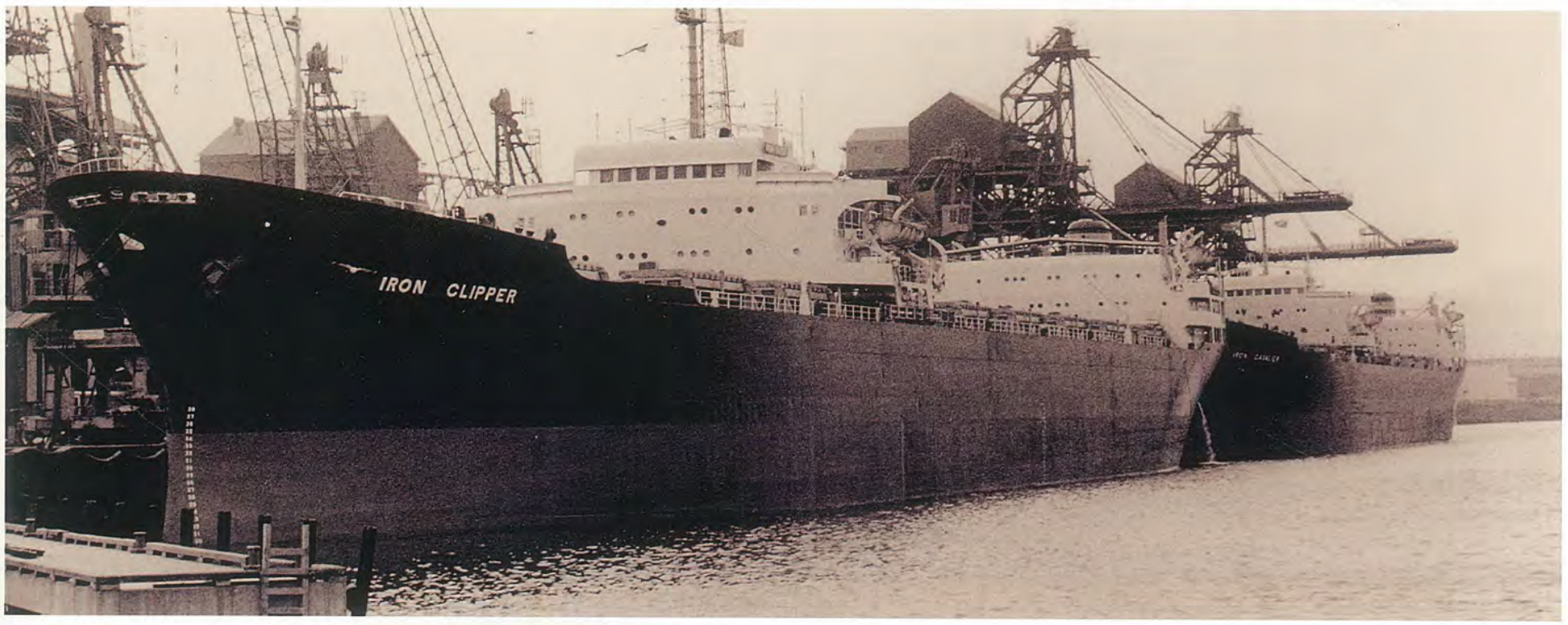
Both *Iron Clipper* and *Iron Cavalier* retained their original London registry and the colours of their owners – black hull, green boot topping and white superstructure – but with the blue-banded black BHP funnel. The charters of both ships were subsequently twice extended.

The introduction of *Iron Clipper* set a number of precedents in fleet operations. She was the first motor vessel in the BHP fleet; the first overseas-owned ship to operate as a full fleet member, and the first chartered ship to carry an 'Iron' name.

These were to prove significant milestones in the development of BHP's shipping activities and a pointer to future policies.



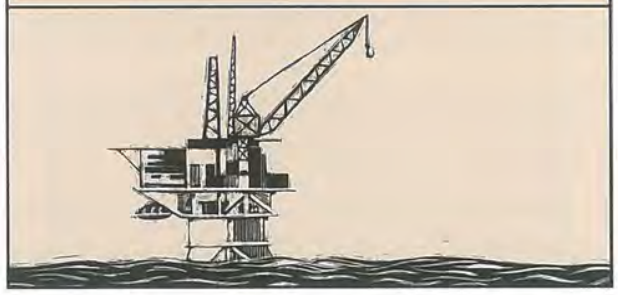
Name plate of ***Iron Cavalier****, Oct 1969.* R. J. Lynch.



Iron Clipper *and* ***Iron Cavalier*** *berthed at Port Kembla, c. 1968.* BHP Archives.

CHAPTER 14

WORLD-SCALE DISCOVERIES



In the 10 years to 1965, the BHP Group's equity base had expanded by five times, net profits were 4 1/2 times higher and steel output had more than doubled.[1] In the first half of the 1960s a combination of financial success and management strength imbued the Company with the confidence and ability to grasp divergent opportunities. By the middle of the decade, BHP's interests were broadening on many fronts.

At Whyalla Steelworks in South Australia a rolling mill was commissioned in 1964, followed by a Basic Oxygen Steelmaking plant and second blast furnace in 1965. The Union Steamship Co.'s Australian coaster *Karoon* was time-chartered for a period of two years, for the Whyalla-Sydney steel products run.[2]

On 29 March 1966, a new ore loading jetty was brought into service at Whyalla, capable of loading 3,000 tons of iron ore per hour and accommodating vessels of up to 50,000 DWT. The first ship to use the new facility was, appropriately, *Iron Whyalla*.[3] In May of the same year, Port Waratah Stevedoring took over work in the port from BHP. At Coffin Bay, near Port Lincoln on the Great Australian Bight, a loading facility for limesand (used as a flux) was commissioned.

In Western Australia, shiploading operations commenced at Yampi Sound's Koolan Island ore deposit (where quarrying had begun in 1964) in January 1965, with *Iron Dampier* the first vessel to load at the new berth. For the first time cargoes from Yampi were separated as originating from Cockatoo or from Koolan,[4] depending on the grade of the ores.

At Kwinana that year, construction of a blast furnace began under an agreement with the State Government for leases over new iron ore reserves (at Koolyanobbing and Mt.Bungalbin). At Koolyanobbing, in south-eastern Western Australia, ironstone quarries were subsequently opened in 1967. The ore was transported on the nearby east-west rail line to Kwinana, where the furnace and a sinter plant were opened in 1968. These works were serviced by the 'Yampi' and 'Explorer' class ships, with ironstone from Yampi Sound and coke from Newcastle and Port Kembla.

Other major moves were afoot in Western Australia. In 1957 in the Pilbara region of the far north-west, a prospector had discovered ironstone outcrops at a geological feature which became known as Mt. Whaleback. Located about 240 miles inland, and 12 miles south of Mt. Newman, the deposits assayed at a remarkable 68.8 per cent iron. However, with a Federal Government ban on iron ore exports in place until 1960, it was only in 1963 that U.S.A. mining company AMAX took up the project. Australia's CSR Ltd. (best known as sugar refiners) joined as partners in 1964.



Whyalla integrated steelworks, c. 1966. BHP Archives W412.



***Iron Whyalla** (1) approaching the newly completed No. 2 ore loading jetty at Whyalla, 29 Mar 1966.* BHP Archives IWS4.



***Iron Spencer** (I) loading limesands at Proper Bay, Coffin Bay, 1966.* BHP Archives CB37.



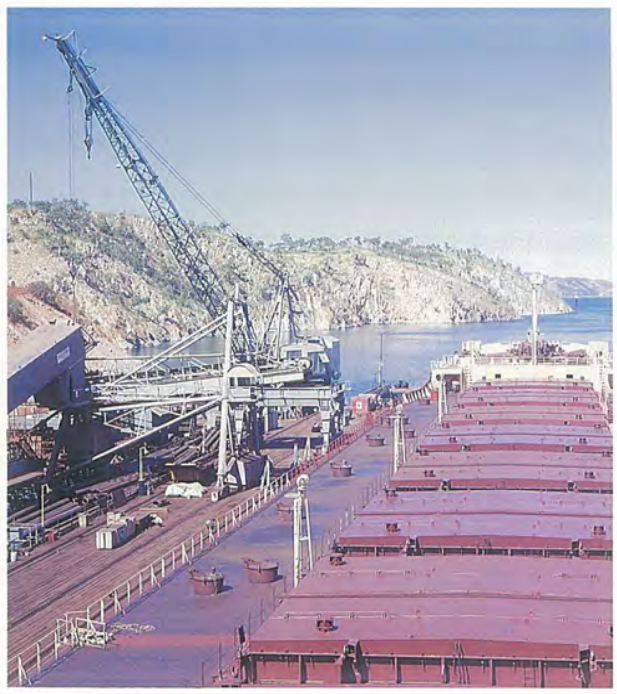
***Iron Flinders** (I) unloading products for the construction of the blast furnace at Kwinana, Sep 1967. The partially-completed furnace can be seen in the right background.*

BHP Archives KA483.



*Bulkships' **Bogong**, built and chartered by BHP, being loaded with iron ore at Koolan Island, May 1967.*

BHP Archives KN51.



***Iron Flinders** (I) alongside Koolan Island, Jun 1969.*

R. J. Lynch.



Mount Newman Mining Co. Pty. Ltd.'s Mount Whaleback iron ore mine, 9 Apr 1971. BHP Archives MN151.



Sleepers for Mount Newman railway being loaded onto ***Iron Warrior****, Jun 1967.* BHP Archives PH37.



Ore train leaving Mount Whaleback for Port Hedland, Jan 1976. BHP Archives MN159.

By 1965, reserves of 242 million tons of high grade ore had been proved, and under contracts with eight Japanese steel manufacturers, more than 100 million tons was to be shipped over 22 years.[5] But the capital demands of such a project were enormous and additional partners were needed. In 1966 BHP took a 30 per cent interest in the Mt. Newman Joint Venture and became its managers.

In 1967 the Project Manager Bechtel Pacific began the construction of a port and ore handling facilities at Port Hedland, and commenced laying a railway to the mine, setting track construction records in the process. In June 1967 the first cargo of construction materials for the latter project – a load of railway sleepers from Bunbury in the far south of the state – arrived on BHP's *Iron Warrior*. The ANL vessel *Illowra* was taken on time-charter on 5 August to assist,[6] and *Age*, already under charter, was employed shipping sleepers and steel rails to Port Hedland. When the requirement for sleepers was filled in November 1968, *Age* was returned to her owners after nine continuous years on charter to BHP.

Locomotives, trucks and machinery aboard two overseas chartered ships preceded the final project cargoes, railway ore cars delivered by *Iron Wyndham*.

On 18 February 1965 the drillship *Glomar III*, drilling Australia's first offshore well, discovered natural gas in the Gippsland Basin area of Bass Strait.

The discovery at the Barracouta well was surprising; expectations had been centred on oil. But for the joint discoverers, BHP and Esso Exploration Australia Inc., the find was the first small treasure in what was to become an oil and gas bonanza.

It was in 1960 that BHP, at the urging of Mr. Lewis G. Weeks, retired Chief Geologist of Standard Oil of New Jersey, U.S.A., had taken up title to areas of the continental shelf in Bass Strait between Victoria and Tasmania. Mr. Weeks was sure oil would be found there and, during aero-magnetic, marine seismic and basin surveys over the next three years, the promise of the Gippsland Basin was confirmed.
In February 1964, BHP invited 10 potential partners (amongst the world's largest oil companies) to join the proposed development program.

Esso, a subsidiary of Standard Oil of New Jersey, made the most attractive bid and became a 50 per cent partner with BHP in a process which was later to be repeated for the Bass and Otway basins. (BHP was the investment partner, Esso the operating partner.)

Though oil was not found until March 1966, by 1969 the partners had overcome the enormous engineering hurdles of constructing production platforms in stormy Bass Strait. Gas processing and crude oil stabilisation plants had been built at Longford, near Sale in south-eastern Victoria; pipelines were in place, and a fractionation plant (to treat liquefied petroleum gas [LPG] extracted from gas liquids) was completed in 1970. That year the partners commissioned a shipping terminal, next to the fractionation plant, at Long Island Point in Western Port Bay.

By July 1970, the first shipment of LPG had left for Japan (aboard *Bridgestone Maru* 25,222 DWT) under a $100 million long-term contract.

The Bass Strait oil and gas discoveries substantially reduced Australia's dependence on imported energy sources. Yet, perhaps strangely, it was to be 20 years before a tanker joined the BHP-owned fleet.



Tanker ***Hemiglypta*** *arriving at Long Island Point jetty to take the first cargo of Bass Strait crude oil, Mar 1970.*

BHP Archives OUP2.



Tanker ***Bridgestone Maru*** *(also referred to as* ***Bridgestone Maru No. 1****) loads Bass Strait LPG for export at the Long Island Point petroleum liquids jetty, c. 1972.* *BHP Archives O54.*

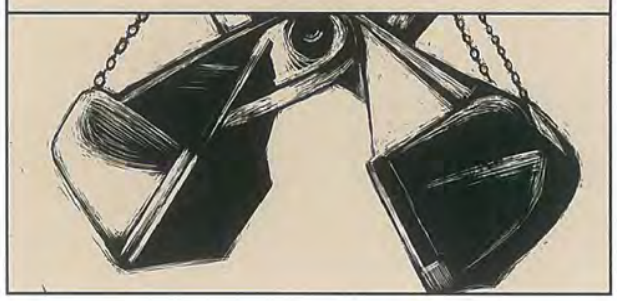
In order to test the Port Hedland loading equipment, on 22 March 1969 *Iron Cavalier* took on a trial shipment of 33,750 tons of Mt. Newman iron ore for Newcastle.[7]

By April 1969, the joint venturers, including BHP subsidiaries Mt. Newman Mining Co. Pty. Ltd. (as manager) and Dampier Mining Co. Ltd. (shareholder) had built the town of Newman, developed Mt. Whaleback into the world's biggest single pit iron ore mine, completed the 265 mile privately-owned railway to Port Hedland, and shipped the first ore to Japan.[8]

Through the Mt. Newman Joint Venture BHP was now a raw material exporter on a grand scale. The dimensions of the total undertaking were to impact heavily on the composition of the owned and chartered BHP fleet.

CHAPTER 15

JOINING THE BIG LEAGUE



To BHP management in the late 1960s it must have seemed that no matter what fleet plans were conceived, the Company's mushrooming interests outstripped them before they could be properly realised.

In May 1966, ANL's 49,375 DWT Whyalla-built steam turbine bulk carrier *Darling River* entered service, the largest ship then to have been constructed in Australia and the first of four to be built to specification for BHP's iron and coal trades. She was followed by Bulkships' *Bogong* in 1967, BHP's own *Iron Hunter* in 1968 and a second ANL ship, *Yarra River*, in 1970 (following amendments to international loadline regulations, the latter pair were measured at around 55,000 DWT).

Though these ships were intended to relieve pressure on fleet resources, no sooner had *Iron Hunter* entered service in October 1968 – the last of the Company's steamships and the last to wear the traditional purple brown hull and stone-coloured accommodation synonymous with the iron ore trade – than she was diverted to an overseas route.

In 1967 BHP had secured an eight year, $104 million contract to supply 5 million tons of pelletised iron ore from Whyalla to Japan. The Japanese buyers did not have a ship suitable for the trade, and accepted an arrangement whereby BHP would provide tonnage for (initially) five years. *Iron Hunter* was pressed into service.

But the Company knew she alone could not fulfil the contract, and turned to Britain where the bareboat charter of a brand new 70,000 DWT wide-beam bulk carrier was arranged. Completion of the ship, building at Sunderland for the Nile Steamship Co., was supervised by a BHP Superintendent sent from Newcastle (N.S.W.). Named *Iron Endeavour*, the ship was handed over at Hebburn-on-Tyne and sailed on 10 February 1969,[1] arriving on the Australian coast in May 1969.

The two ships operated a schedule that proved to be the precursor of the so-called 'triangulation', which would play such a major role in the fleet development of the 1980s; from Whyalla to Japan with pellets, ballasting back to Yampi where iron ore was loaded for Port Kembla and, later, Newcastle.[2]

Meanwhile, developments were also occurring in the patterns of distribution of steel and other BHP products.

After 30 years in the Company's service the 'Chieftain' class *Iron Baron* was sold to overseas buyers in August 1966 followed, in March 1967, by her sister *Iron King*. 'Yampi' class ships were partly employed in carrying steel exports to the Philippines,



***Darling River** on sea trials, 1966.* BHP Archives.



***Iron Hunter** at Newcastle Steelworks.* BHP.



***Iron Endeavour**'s first entrance into Newcastle Harbour, Oct 1972.* D. W. Owen.



***Iron Knight** (II) and **Iron Monarch** (II) being towed from Newcastle to breakers' yards in Taiwan, Aug 1972.*

BHP Archives IKTS52.

Taiwan, Japan and Singapore. The vast majority of export pig iron cargoes was carried in single voyage chartered ships (though *Iron Flinders* took two cargoes in 1969, and Bulkships' *Gerringong* was also employed for two voyages in 1970).

Greater use was made of the ANL 'Lake' and 'Mount' class vessels, together with Bulkships' *Wollongong* and *Mittagong*, in the carriage of steel cargoes, mostly from Whyalla and Kwinana to N.S.W.

However, in the late 1960s a road operation from Whyalla to the Port Augusta railhead of the transcontinental line commenced, and in 1970 a direct Port Augusta-Whyalla rail link was opened. This mostly alleviated the need to charter ships to carry Whyalla products to the eastern states, and affected the Company fleet as well. With the downgrading of the 'Whyalla corridor', the Australian-built 'Chieftain' *Iron Duke* was decommissioned after 27 years and sold in 1970; her sister, *Iron Monarch*, and the Canadian-built *Iron Knight* were together towed from Newcastle for the breakers' yards in Taiwan in August 1972. The 'Yampi' class vessel *Iron Kimberley* was sold in September 1972.

In the long-haul bulk trades, the operating experience of *Darling River*/*Iron Hunter* class vessels, together with *Iron Endeavour*, confirmed that the emerging maxim 'the larger the ship the greater the economies in carrying bulk cargoes' was equally applicable on the Australian coast as it was internationally.

In obtaining its next ship the Company endorsed and extended this finding by bareboat chartering the 108,174 DWT bulk carrier *Somersby*, owned by Ropner Shipping Co. Ltd., direct from the yard of builder Harland & Wolff at Belfast. The ship was renamed *Iron Somersby* and arrived at Port Kembla with Mount Newman ore, loaded at Port Hedland (her designated trade), on 21 January 1972 at the conclusion of her maiden voyage.

Iron Hunter proved to be a very successful fleet member, but suffered two serious, expensive and unrelated accidents in her early years with the Company.

On 5 November, 1970, while returning in ballast from Port Kembla to Yampi, a severe engineroom fire broke out when the ship was about 25 miles off the coast of Victoria, between Cliffy Island and Port Welshpool. The fire erupted on the starboard side of the engineroom, following the changeover of a Duplex lubricating oil filter for the main engine.

Iron Hunter was completely immobilised as a result of the fire. Assistance was received from the oil rig supply vessel *Lady Lorna*, *Victoria Tide* and *Smit-Lloyd 12*, which towed the ship to Melbourne where she arrived on 6 November. After temporary repairs *Iron Hunter* sailed for Newcastle on 13 November, under emergency power (at a speed of six knots), accompanied by the Geelong tug *Sir Roy Fidge* and the Melbourne tug *Elton Griffin*. The vessel was out of service for over four months while permanent repairs were effected; the entire Unmanned Machinery Space (UMS) system had to be replaced.

It was later established, an ill-secured lid on the stand-by filter had allowed oil to issue in a fine mist, spraying directly onto the superheated steam pipes which caused ignition. A junior engineer was killed in the incident.

On Sunday 17 June 1973, *Iron Hunter* came to grief again, this time at the entrance to Newcastle Harbour. The vessel was making a routine entry, carrying about 55,000 tons of iron ore.

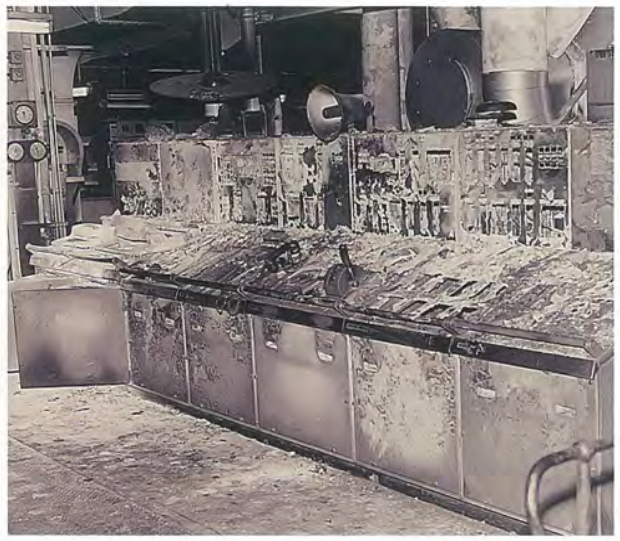
Disaster struck the *Iron Hunter* as her bow entered the calm waters between the breakwaters whilst her stern was struck be a succession of heavy swells. She became unmanageable and hit a submerged rock shelf near the southern breakwater.

An attempt was made to free the ship under her own power and steam as far into port as possible before the ship settled. Laden with about 55,000 tons of iron ore, she quickly grounded again to port of the channel.

With the channel blocked – and thus the port of Newcastle closed – emergency salvage attempts began immediately. Two grab-equipped mobile cranes were barged out to the ship and commenced discharging the iron ore cargo into barges. More than 5,000 tons were removed and dumped at sea. Meanwhile, air compressors were placed aboard the ship and work began to pressurise side tanks, many of which were open to the sea as a result of the vessel's combined bottom tank/side tanks design. All the time *Iron Hunter* kept moving and shifting on the channel bed.

Late on 21 June the ship was refloated, thanks to the combination of the lightened cargo, the pressurised tanks and a rising tide, and moved immediately to the discharge berth for the removal of the rest of her cargo. On 2 July, after temporary patching, *Iron Hunter* left for drydock in Brisbane, where further examination found that the bottom was set up from bow to engine room, with four tanks open to the sea on the port side and three on the starboard side.

On 17 July the ship sailed for Sasebo, Japan, for permanent repairs. It was fortunate that she had been built to an IHI hull design – which meant detailed construction plans for the damaged steelwork sections were readily obtainable.



Engineroom console of ***Iron Hunter*** *following the fire, Nov 1970.* B. Manning.



***Iron Hunter** in Cairncross Dock, Brisbane, showing set up bottom damage following grounding, Jul 1973.* N. Wilson.



***Iron Hunter** in Cairncross Dock, Brisbane, showing ruptured shell plating damage caused by the grounding, Jul 1973.* N Wilson.



***Iron Somersby** (left) at Port Hedland, at the conclusion of her maiden voyage, Jan 1972. Although the hull colours are those of owners Ropner Shipping Co. Ltd., the funnel is in BHP fleet colours.* BHP Transport.



Ore carrier **Tolga**, *chartered from Wilh. Wilhelmsen by ANL for BHP's trade.*

C. L. Mackey.



Ore carrier **Mount Newman**, *chartered from owners Furness Withy by ANL for use in BHP's trade, at Port Kembla Steelworks, c. 1977.* *BHP Archives PK1662.*

In the late 1960s there were considerable advantages for BHP in chartering large British tonnage. The ships enjoyed a 25 per cent building subsidy from the British Government as long as they retained British registry, notwithstanding the fact that they now employed Australian crews. The ships could thus be fixed to charterers at more economical rates.

As well, the high price of steel plate made the building of further BHP-owned tonnage unattractive (although plans to build two vessels to service the Company's pellet contract were considered). Even with the cost of converting vessels to meet Australian accommodation standards, the financial worth of employing the British-owned ships was clearly measurable.

BHP found the arrangements most attractive and was to make substantial use of British-registered tonnage in coming years; ANL, too, discovered the benefits as it added larger vessels.

However, the introduction to coastal trades of a ship with a carrying capacity many times that of most existing Australian bulk carriers raised fundamental problems in the eyes of the S.U.A. *Iron Somersby*'s arrival had taken place shortly after six smaller ore carriers, including ANL's *Musgrave Range, Mount Keira* and *Mount Kembla*, had been laid up and their crews discharged.

For some time the S.U.A. had been drawing attention to the number of overseas vessels operating in the ironstone trade on single voyage permits. (The S.U.A. Journal of September 1968 had listed *Graigwerdd, Orotava, Pacmerchant, Phaedra, Northern Naiad, North Breeze, Thalassoporus, Chennai Jayam, Andrea Brovig* and *Serafin Topic*, some of which had made several voyages.) The Union saw the hovering spectre of significant job redundancies, as BHP projected the possible use of a further four 100,000 DWT vessels on the coast. Additionally, it was clear that the Australian shipbuilding industry had been bypassed, albeit due to its incapacity to build that class of vessel. The S.U.A. was, at the time, also conducting a campaign to have a so-called 'two-crew' system of manning introduced.

The Company responded to the S.U.A. objections by declaring that as it had no immediate use for *Iron Somersby* or *Iron Cavalier* in coastal trades, and in view of the maritime unions' attitude, it would lay the ships up and discharge the crews. The latter was indeed laid up on 3 February.

As a result the unions (with the exception of the Merchant Service Guild) kept the *Iron Somersby* tied up at Port Kembla for five months. She sailed on 6 June 1972 for Dampier, W.A., where together with *Iron Cavalier* (recommissioned on 16 June), *Iron Somersby* was fixed to Nippo Kisen Co. Ltd. of Japan for two time-charter voyages from Dampier-Japan. However, after arriving off Port Hedland on 8 August, and without any forward loading for Japan, BHP proposed that *Iron Somersby* should be allowed to trade on the coast (if work was also provided for three decommissioned vessels).

The unions rejected this proposal and the vessel lay off Port Hedland, denied the use of tugs, until 25 August when she proceeded to Yampi Sound to load ore for Port Kembla, arriving there on 9 September. Further denied tugs the ship remained at anchor while the matter was resolved in the Commonwealth Conciliation and Arbitration Commission.



***Iron Somersby**, port of registry Newcastle-upon-Tyne, 1972.* R. J. Lynch.



***Iron Sirius** was notable for her short bridge wings.* BHP Archives.

The outcome of the Commission hearing was that *Iron Somersby* would trade between Port Hedland and Port Kembla without union interruption; in return BHP agreed to find work for *Mount Keira*, *Mount Kembla* and *Wollongong* without affecting existing Australian bulk tonnage charters. (In order to occupy these ships various BHP vessels were switched, at some cost, into international trades such as steel exports to the Philippines, replacing more economic foreign-flag voyage charters.)

As September 1972 drew to a close *Iron Somersby* finally berthed at Port Kembla to discharge.[3] Though the Company had won the right to operate 100,000 DWT vessels in the coastal trades, it was not until May 1975, when further deepening of the Port Kembla Inner Harbour and entrance channel was completed, that the ship loaded a full cargo.

In June 1973 the Company bareboat chartered the seven year old 105,779 DWT motor vessel *Chelsea Bridge* (built as *Sigsilver*, the world's first bulk carrier of over 100,000 DWT).

Hired for ten years from Carnegie Shipping Co. of London, through Denholm Ship Management, the ship was renamed *Iron Sirius* (after a Royal Navy escort to the First Fleet, *HMS Sirius*). She joined *Iron Somersby* on the Port Hedland-Port Kembla ore trade[5] and would prove one of the fleet's most successful units.

In July 1973, during a worldwide shortage of the by now popular large bulk carriers, BHP entered an agreement which soon came to be regarded as the least successful in the fleet's history.

The Company turned again to Naess Denholm Co. Ltd., the ship managers through whom *Iron Clipper* and *Iron Cavalier* had been chartered, in search of additional tonnage for the iron ore trade between Port Hedland and Newcastle/Port Kembla. The seven year old 72,000 DWT *Naess Parkgate*, built by the Furness Ship Building Co. Ltd. of Haverton Hill on Tees was accepted for a five year bareboat charter by BHP and taken over in Japan. Although registered in the ownership of Turnbull Scott Shipping Co. Ltd. of London, *Naess Parkgate* was controlled by the P&O Group through their 50 per cent-owned associate, Anglo Nordic Shipping Ltd.

Since July 1956, ships' Masters had been on a fixed salary, a status accorded Engineers in January 1960. Though it was inevitable that all departments aboard ship would eventually gain this stability of employment, it was not until the introduction of the Aggregate Wage in October 1970 that all seafarers achieved salaries, regular leave arrangements and retirement provisions.

Under the wage, which formally established pay relativities on board ship, seamen received wages ranging from $2,625 per annum for deck boys to $6,880 per annum for Bosuns, in conjunction with work/leave conditions of 32 weeks on/20 weeks off.

All junior industry entrants gained pre-sea training at the Newcastle Training School, run under the auspices of the Newcastle Technical College.

On 2 May 1973, a voluntary contribution scheme, the Seafarers' Retirement Fund, became available to all seamen registered at the 1968 introduction of employment schedule 'C'; the Company deducted amounts of $5 or $10 dollars weekly from the pays of participants.[4]

To service its major iron ore freight contract with BHP, in 1969 ANL had bareboat chartered the 57,000 DWT Wilh. Wilhelmsen-owned bulk carrier *Tonga*, which was re-registered in Australia and renamed *Tolga*.

In the following year, 1970, the Government line withdrew *Darling River*, which had been engaged in the Yampi Sound-Newcastle/Port Kembla trade since commissioning in 1966, and transferred her to the Weipa-Gladstone bauxite trade. ANL replaced her with the newly completed *Yarra River*. However, BHP management was unhappy about the loss of a well-specified, trade-suited vessel to another, non-BHP, route.

Although ANL subsequently introduced the British-owned 119,500 DWT *Mount Newman* (bareboat chartered from the Furness Withy group, and an evolutionary sister of *Iron Somersby*) in December 1973, the 109,900 DWT *Alnwick Castle* (bareboated from Bamburgh Shipping Co. Ltd., jointly owned by W. A. Souter and, ironically, the British Iron & Steel Corporation) in April 1974, and another Wilhelmsen ship, the 64,500 DWT *Tambo River* (ex *Takasago*, also on bareboat charter) in September 1975, BHP would ultimately cease using the line's tonnage.



***Iron Parkgate** berthing at Newcastle Steelworks, c. 1973.* BHP.

At the time of her maiden arrival in Newcastle, in September 1973, the renamed *Iron Parkgate* was the largest vessel to have entered that port.

In the course of the following 15 months, *Iron Parkgate* completed only five round voyages to Port Hedland. Following lengthy legal discussions, the charter contract was repudiated and the ship returned to her owner's care in Newcastle in October 1974, and thence sailed to Singapore, arriving on 3 December.[6]

The legal ramifications of the repudiation of the charter were not resolved until 1979 when, after a team of senior BHP fleet and corporate staff and senior barristers had spent some six months in court in London, an out-of-court settlement was reached.

BHP had moved from a predominantly Australian coastal environment towards a more international shipping operation.

CHAPTER 16

A Shift in Power and Method



In April 1970, the BHP Board gave approval for the design and construction of two radical, gas turbine powered roll-on roll-off vessels which, it expected, would revolutionise the Company's distribution of steel products to key markets in southern Australia.

However, delivery of the new ships from the Whyalla yard was not due until 1973-74 and in the interim a program of general fleet modernisation continued, with the focus on product trades.

On 21 December 1971, two weeks after the commissioning in Belfast of *Iron Somersby*, a 16,107 DWT general cargo ship, launched as *Banbury*, was taken on bareboat charter for a four year period from the Furness Withy group's Alexander Shipping Co. Ltd.

Re-named I*ron Banbury* while fitting out at Scott's yard at Greenock, the ship reached Australia early in 1972. Though not designed for the transport of ore cargoes, she was equipped with 12.5/25 ton cranes and proved admirably suited to the carriage of steel products on the coast and overseas. Indeed soon after her arrival she loaded a cargo of billets at Whyalla for the Middle Eastern port of Abadan.[1]

That same month (February 1972) the brand new, 11,050 DWT *Iron Baron* (III), built in the East



***Iron Banbury** at Newcastle, Sep 1975.* BHP Transport.



***Iron Baron** (III) (voy. 1) loading 105 ton locomotive in Sydney for Mount Newman, 1972.* J. S. Ellyett.



Steam locomotive Pendennis Castle, one of the many heavy lifts for ***Iron Baron*** *(III), loaded at Newcastle.* A. H. Taylor.

German yard of VEB Neptunwerft at Rostock, joined the BHP fleet on a bareboat charter for five years, with options to a total of nine.

Iron Baron was owned by West German Barthold Richters but re-registered at Newcastle, U.K., to a British subsidiary, Baron Shipping Co. Ltd., before beginning BHP service. While basically a general cargo ship, she was distinguished by long hatches and a 150 ton capacity Stülcken heavy lift derrick. The latter was complemented by three 16 ton and four 10 ton guyed derricks, the total package proving ideal for the carriage of heavy lifts and construction equipment, rolling stock and machinery to the developing mining centres in Australia's north-west.

On her first coastal voyage she loaded locomotives, heavy lifts and steel at Port Kembla, Sydney and Newcastle for Melbourne, Kwinana, Port Hedland and Cape Lambert. She was the only Australian ship self-sufficiently capable of carrying locomotives and, for a period of time charter to Hamersley Iron Pty. Limited, transported up to six at once. These were welded onto railway lines in the lower holds and on the foredeck, and were accompanied by as many as 53 rail ore cars.

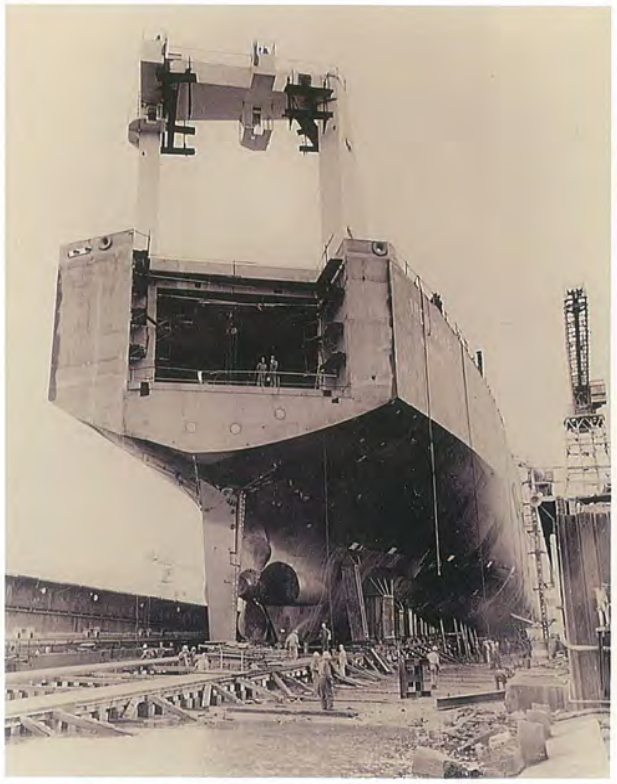
During the 1970s and (less so) the early 1980s, *Iron Baron* was kept busy with cargo for infrastructure development projects around the nation, some totally unrelated to BHP's own business. As such activity fell away, the ship was utilised in general Company services including the steel trade to New Zealand.

In part, *Iron Banbury* and *Iron Baron* also took up the roles of the 'Yampi' class which was nearing the end of its economic life. *Iron Kimberley* was sold to Far Eastern buyers in October 1972, followed by *Iron Derby* in January 1973, *Iron Yampi* in October 1975 (all for demolition) and, finally, *Iron Wyndham* to Taiwanese shipbrokers in October 1976, for further trading under the Panamanian flag.

In September 1973, the newly completed gas turbine-driven, roll-on roll-off steel product carrier *Iron Monarch* (III) was delivered by BHP's Whyalla Shipyard. Sister *Iron Duke* (II) was delivered in March 1974.

The two ships were amongst the first merchant vessels to be powered by heavy duty gas turbines. These were selected for their very high power-to-weight ratio and their ability to burn what was, at the time, a 'bargain' fuel, derived from Esso-BHP's Bass Strait waxy crude oil and regarded as a virtual waste product.

The ships were the centrepiece of a $32 million plan to transform the traditional methods of BHP's steel product trade.[2] The aim was an efficient, tightly organised, rail competitive, sea distribution service; a completely integrated steel transport system, the first of its kind attempted anywhere in the world. Key features included specialised terminals at ports of call, ship and shore-based straddle carriers, on-board overhead gantry cranes in the vehicle deck, and a folding, angled Navire stern ramp fitted to the starboard quarter of each ship.



***Iron Duke** (II) being built at Whyalla, 1974.* BHP.



*Construction of roll-on roll-off carrier **Iron Monarch** (III) at Whyalla, 1973. The stern ramp is being fitted.* BHP Archives.

Steel products, pre-stowed in international (20 foot) half-height bolsters, were port-marked and customer-marked before despatch. The system was regarded as state-of-the-art and, along with the propulsion arrangements, was written up in transport and maritime journals around the world.

Designed to operate at up to 23 knots, *Iron Monarch* and *Iron Duke* were introduced in a 19 day round trip cycle of two voyages between Port Kembla, Melbourne, Adelaide and Whyalla. Each could handle 600,000 tonnes of steel per year and, with both ships in operation, Melbourne could expect two deliveries of steel per week.

Unfortunately, changing circumstances, not the least of which was an enormous rise in the price of the 'waste' fuel, were to cut short the two ships' careers in their dedicated trade and effectively render uneconomic the entire operation.

Meanwhile, fleet renewals continued and, in September 1974, a 37,650 DWT Greek-owned



***Iron Monarch** (III) loading at Whyalla, 1976.* BHP Archives.

geared bulk carrier, *World Achilles*, was purchased from Niarchos interests and registered to a wholly-owned BHP subsidiary, County Shipping Co. Ltd. of Hong Kong. The 18 month old ship, already on time-charter to BHP, was renamed *Iron Cumberland* in November 1974 and deployed in general bulk and product trades.

In April 1975 she was joined by *Iron Capricorn*, a 34,670 DWT geared bulk carrier purchased five months earlier while fitting out in Japan (as *Bergnes*, for Norwegian owner Kristian Jebsen Rederi). *Iron Capricorn* was registered to another Hong Kong-based BHP subsidiary, Capricornia Pacific (Shipping) Co. Ltd. and, as with *Iron Cumberland*, was delivered in Sasebo, Japan, after modification to meet Australian standards. In the case of *Iron Capricorn*, the accommodation was almost entirely stripped out and replaced with arrangements which met Australian officer and crew requirements. The ship was used to assist in the carriage of Blackwater coal from Gladstone, Queensland, to Whyalla, returning with ironstone to N.S.W.

Both vessels had been placed under offshore subsidiaries to take advantage of certain provisions of British registry (Hong Kong at the time remained a full British territory).

In October and November 1974 respectively, BHP purchased outright two 8,400 DWT general cargo ships, *Cape Arnhem* and *Cape York*. These had been built in Adelaide in 1972-73, under a substantial Government subsidy, for Australian Territory Liner Services Pty. Ltd. This company, a Norwegian/Australian joint venture, had previously operated chartered vessels between N.S.W. and Queensland ports and Gove in the Northern Territory, where a project to develop a bauxite mine and associated facilities was under way. However, almost as soon as the new ships were delivered, shipments of project cargoes ceased, upon completion of the Gove



***Iron Cumberland** washing down and closing hatches before departing from Cockatoo Island, Nov 1983.* H. Dunn.



***Iron Whyalla** (1) sailing under the new funnel marking, 1974.* M. R. Dippy.

The increasing involvement of BHP ships in overseas trades led to a concern that similarity between the Company funnel colours and those of Wilh. Wilhelmsen might cause confusion. Accordingly, a version of the then current BHP symbol, a circular logo device representing a tilted steel ladle, was affixed to the funnel of *Iron Whyalla* (I) in 1974 as an experiment.

Response to the change, however, was rather less than positive and, while *Iron Whyalla* retained the device for some time before it was eventually removed, no other ships of the fleet were similarly adorned – although enough 'ladles' were made at the time to fit all vessels.

No further attempts were made to alter the fleet funnel markings until the current BHP corporate logo and colour scheme was adopted throughout the Company in 1985.



Loading rolled strip onto ***Iron Arnhem****, at Port Kembla, 1984.* BHP Transport.



Iron Capricorn *at Clinton Point, Gladstone, Queensland, Apr 1980.* BHP Transport.



Cargo of finished products in the hold, ***Iron Arnhem****.* BHP Transport.

development. Other service proposals failed to eventuate and *Cape Arnhem* and *Cape York* became surplus to requirements.

With these ships available at a time when BHP was seeking new, small tonnage, the Federal Government was reluctant to grant licences for the Company to buy ships overseas. Though not perfectly suited to Company requirements, they were equipped with 12 tonne twin cranes and were of twin hatch configuration, and proved reasonably appropriate for the carriage of BHP products coastwise and to New Zealand. They were renamed *Iron Arnhem* and *Iron York* respectively.

In December 1974 and February 1975, the sisterships *Star Kestrel* and *Star Kerry*, each of 27,298 DWT and London-registered, were bareboat chartered from companies in the UK-based Rethymnis & Kulukundis group. Renamed *Iron Kestrel* and *Iron Kerry*, the pair were used initially to carry pig iron overseas returning with limestone from Japan. They were also employed shipping iron ore from Yampi and Port Hedland to east coast steelworks and manganese ore from Groote Eylandt to Bell Bay. Under a subsequent understanding with maritime unions, one ship was used on overseas trades while the other worked the coast. (In 1982, halfway through their 15 year charters, the pair were bought by Ropner Shipping Co. Ltd. While this had no effect on operational arrangements, in the following year *Iron Kerry* was renamed *Iron Kirby* at the new owners' behest.)

After 14 years with the fleet *Iron Warrior* (II), the last of the reciprocating steam-engined ships, was sold to Taiwanese shipbreakers in February 1975. By then Associated Steamships' *Mundoora* and R. W. Miller's *Rickie Miller* had been engaged on time-charter to carry steel products on the coast, for 12 and at least 18 months respectively.

The future of sisters *Iron Clipper* and *Iron Cavalier* was also reviewed. The former was returned to her owners in June 1975 at the completion of her extended charter. At the same time BHP purchased the latter outright, in order to retain her in the coal trade[3] pending the delivery of two new 43,700 DWT gearless bulk carriers, ordered at Whyalla in mid 1974. (*Iron Cavalier*'s original charter had expired in December 1973 but had been extended for a further two years.) *Iron Banbury* was returned to her owners at the conclusion of her four year charter in December 1975.

As 1976 drew to a close, the Australian-flagged bulk carriers *Bogong, Gerringong* and *Mittagong*, all of which had been operating on a freight basis in Company trades, were taken on bareboat charter from Bulkships for periods of seven years, three years and three years respectively. All were renamed with 'Iron' prefixes.

This arrangement saw the transfer to BHP employ of many of the Deck and Engineer Officers of the three ships,[4] and brought the fleet total in early 1977 to 21 vessels, 10 owned and 11 on bareboat charter.

BHP now had the largest privately-owned fleet, in tonnage terms, on the Australian coast;[5] but full employment for all Company ships, and for other ships carrying BHP cargoes, was about to decline.

Due to depressed domestic steel demand and reduced production levels, ore stocks at Port Kembla and Newcastle were high. *Iron Cavalier* was withdrawn from service and laid up in Newcastle at the end of June 1977, pending sale; all of the Company fleet, as well as ANL's *Mount Newman, Alnwick Castle, Tolga* and *Tambo River* were operating at reduced speeds.[6] *Iron Sirius* was laid up in Port Kembla for a month, *Iron Bogong* at Geelong and *Iron York* at Newcastle. To avoid decommisioning the ships, the crews were sent on four weeks' leave,[7] the lay-ups timed to coincide with the Christmas-New Year period.



***Iron Kestrel** at Newcastle Steelworks.* BHP Transport.

A number of long-term charters of overseas vessels, undertaken in 1973-74 when domestic demand was strong and Company vessels required on the coast, were not renewed. *Maersk Commander* and *Apollodorus*, employed in carrying Kwinana pig iron to mainland China and steel products to South East Asia, had already been redelivered to owners, and *Jarl R Trapp, Seiho Maru* and *Golden Oriole* followed. Fleet ships took over; *Iron Capricorn*, for example, loaded export steel for Manila and Iligan in the Philippines.

With delivery of the new Whyalla-built ships imminent the two 'Explorer' class vessels, *Iron Flinders* and *Iron Dampier*, were no longer required and were sold overseas in January and February 1978 respectively.[8] On 26 May, the bareboat-chartered *Iron Gerringong* was returned to Bulkships[9] and, in June, a buyer was found for *Iron Cavalier*, which had spent a year on the sale market while laid up at Newcastle.

On 15 December 1977, the 45,430 DWT gas turbine bulk carrier *Iron Carpentaria* was handed over at the Whyalla Shipyards but, with no work available, did not enter BHP service until April 1978. Similarly, sistership *Iron Curtis* was completed on 10 August 1978 but did not commence trading until December that year.

When delivered, *Iron Carpentaria* and *Iron Curtis* were the world's first bulk carriers to be powered by gas turbines. At the time of ordering, the machinery (similar to, but less powerful than, that employed in *Iron Monarch* and *Iron Duke*) was still favoured by



***Mittagong**, Newcastle Steelworks, 1976.* BHP.

In 1976 deliveries of steel to Adelaide by conventional shipping methods ceased and significant tonnages were moving elsewhere by rail.

As a result of attractive rates, distribution frequency and delivery convenience, steel products were now being railed into Queensland from Newcastle, Port Kembla and Whyalla; from Kwinana to Adelaide; from Whyalla to Kwinana, Sydney and Newcastle, and from Newcastle to Melbourne.

By 1977 BHP had entered into long-term agreements with the railways for guaranteed nominated annual tonnage from Port Kembla and Newcastle in return for guaranteed supplies of rail wagons.

At the time, different Company plants and operations negotiated individual arrangements with the various rail systems – co-ordination of BHP's rail usage would not come until 1981 – but the growing rail use did not bode well for the continuing sea carriage of products in general, nor for the increasingly expensive roll-on roll-off ship operation in particular.

BHP fleet management – for reasons of speed, compactness and cheap fuel. However, regrettably, by the time of the bulk carriers' delivery, evidence was growing that the faith in gas turbines had been misplaced.

Nevertheless, it was too late to rue the propulsion decision – that would come later – and the ships took up their designated service, hauling Blackwater coal from Gladstone to Whyalla and backloading with ore and tar (carried in No. 4 port and starboard tanks with a total capacity of 2,764 tonnes) to the east coast steelworks.



Steel product ex Newcastle being discharged at Acacia Ridge Rail Siding for local road distribution, 1981.

BHP Transport.



***Iron Curtis** after launching at Whyalla Shipbuilding and Engineering Works, 27 Jan 1978.* BHP Archives.

The delivery of the gas turbine bulk carrier *Iron Curtis* in August 1978 brought an important era in Australian shipbuilding to a close.

Seven years earlier the Commonwealth Government's Tariff Board, in examining the country's shipbuilding industry, had determined that the production of larger vessels was relatively inefficient and expensive, and likely to become more so. Additionally, there was no foreseeable primary defence requirement. The Board accordingly recommended that there be no further increase in assistance for production of large vessels in Australia, and that assistance be provided instead for a move into "more economic areas" of shipbuilding.[10]

Given the long lead time required for the building of ships, this decision effectively signalled the end for major shipbuilding in Australia. In June 1976, the South Australian Premier's Department advised a Federal Parliament sub-committee that it was clear that the local industry could not "successfully compete with overseas producers, and no true parity has been maintained between the cost of locally produced vessels and imports... Some overseas yards, in order to service their heavy capital investment and maintain their skilled labour resource, are tendering for ship construction at or below full absorption cost".[11]

At the time of that report, the Whyalla Shipyard – five shipbuilding berths with a maximum length of 760 ft., capable of building vessels ranging from 3,500 DWT to 55,000 DWT and, depending on the dimensions of the vessel, up to 70,000 DWT – had only four major ships under construction. Two were 14,000 DWT roll-on roll-off ships for the Union Steamship Company, due for delivery in August 1976 and March 1977, and two were BHP's bulk carriers, due to be completed in September 1977 and April 1978. There were no further orders in hand.[12]

In August 1976, the then Federal Minister for Transport, Mr. Peter Nixon, observed: "The simple fact is that ANL can buy... ships overseas for approximately $9.5 million each but it would cost over $20 million each (before subsidy) for them to be built in Australia." [13]

A senior management memo, dated 18 August 1976, made the situation plain. "Now that the Government has announced its intention not to continue the present level of assistance for the shipbuilding industry, it can be safely assumed that our yard will not receive orders in the near future... I would propose that we announce that under present circumstances shipbuilding will finish when the present orderbook is extinguished..." [14]

The BHP Board could reach only one conclusion. Shipyard workers were offered redundancy packages or alternative employment at the Whyalla Steelworks and other Divisions of the Company and, following the delivery of *Iron Curtis*, the yard was wound down and closed.

In August 1978, after building 66 vessels of almost 1.2 million DWT, 18 of which would fly the BHP house flag and a further 26 be employed in BHP ore and steel trades, The Whyalla Shipbuilding and Engineering Works – Australia's major shipbuilding yard – slipped quietly into history.

CHAPTER 17

MADE IN JAPAN



Although the economic efficiencies of large bulk carriers were now well proven, BHP's willingness to operate vessels of greater than 100,000 DWT had been in part stifled by physical constraints. The harbour at Newcastle, for example, could not accommodate fleet members *Iron Somersby* and *Iron Sirius*, nor ANL's *Mount Newman* or *Alnwick Castle*, when they were fully laden.

However, with the Maritime Services Board of New South Wales putting in place a harbour deepening and channel widening program at Newcastle, the Company placed an order in February 1978 with the Kure yard of Ishikawajima-Harima Heavy Industries (IHI) of Japan for a 107,000 DWT gearless bulk carrier which would be able to take advantage of the improvements.[1]

Costing $18.5 million, the new ship was the first of her type to be built for direct Company ownership. She also marked the formal beginning of a long relationship between BHP and IHI (though in fact the Whyalla twins *Iron Carpentaria* and *Iron Curtis* and, earlier, the 'Darling River' class vessels, were built to IHI hull designs; a technical co-operation agreement had existed between the Japanese builder and the Whyalla yard since the early 1960s).

Named *Iron Shortland*, she was delivered on 20 April 1979 and arrived in Port Kembla with her first load of north-west Australian iron ore on 13 May. The ship immediately took her place on the Port Hedland trade, where she effectively replaced ANL's *Tolga* (withdrawn in February) and *Tambo River* (October).

Completed at the same yard, in the same month (April 1979) was *Iron Sturt*, a much smaller, gearless bulk carrier of 22,000 DWT, built to BHP specifications but to the order of Bulkships Finance Pty. Ltd. for long-term charter to the Company.[2]



Construction of **Iron Sturt** *at Ishikawajima-Harima Heavy Industries' Kure yard, Japan, 1979.* R. J. Lynch.

Iron Sturt was broadly similar to, though larger than, other new generation small bulk carriers built in Japan for Australian owners (ANL's second 'Lake' class of four 16,000 DWT ships, CSR's 16,000 DWT *Ormiston*).

However, apart from her greater deadweight, *Iron Sturt* was designed with another distinguishing feature – two unusually long holds, Nos. 2 and 3, so specified as to accommodate 27 metre steel rails by then being rolled at the Whyalla works. (These could also be carried by *Iron Baron*, but had to be loaded and stowed diagonally across her holds.[3])

Iron Sturt took up service between Whyalla and Newcastle carrying limestone and dolomite, plus pencil pitch to, and ferro-alloys from, Bell Bay. With her introduction the steamship *Iron Whyalla* was sold to Hong Kong buyers, for resale to Taiwanese breakers, and was towed from Newcastle by the Panamanian tug *Progress Rover* (formerly the Melbourne tug *Batman*) in June 1979. Her sister *Iron Spencer* was sold to Singapore interests in November,[4] also for demolition in Taiwan and left Newcastle, behind the same tug, at the end of that month.

The second half of 1979 found the BHP fleet and its operations in good shape. A strengthening demand for steelmaking raw materials, a good balance in cargo patterns and good industrial relations with maritime unions resulted in a period of high utilisation of the fleet. *Iron Carpentaria*, *Iron Cumberland*, *Iron Hunter*, *Iron Kerry* and *Iron Kestrel* were all trading to South East Asian ports and the two new Japanese-built vessels were performing well.

In this climate, BHP initiated extensive discussions with IHI, in Japan and in Australia, over the specifications and financial details of additional new tonnage.[5] The negotiations culminated in the ordering, in October 1979, of two 140,000 DWT



Construction of **Iron Shortland** *at Ishikawajima-Harima Heavy Industries' Kure yard, Dec 1978.* BHP Transport.



***Iron Sturt** loading at Port Kembla Steelworks, 1992. The hold configuration can clearly be seen.* A. Oh.

bulk carriers, larger versions of *Iron Shortland* and both to be built at the Kure yard. In July 1980, a further contract was signed, again with IHI Kure, for a 21,500 DWT bulk carrier, similar to *Iron Sturt* but with lengthened hatches and three 40 tonne cranes.

In March 1980, the Company purchased *Iron Baron* (III) following the bankruptcy of her West German owners, and in May chartered *Myarra* (16,785 DWT, ex *Wollongong*) from Alcoa of Australia Limited to cover an upsurge in coastal requirements. She was renamed *Iron Myarra* the following month and, after two years' BHP service, returned with sistership *Iron Mittagong* in 1982 to their respective owners.

In 1980 problems arose with fatigue cracking in the regenerators of the gas turbine plants of *Iron Monarch* and *Iron Duke*, not because of the machinery but due to thermal stress of the stop and start operation onboard.

Industrial relations between BHP and the maritime unions remained at times strained in the mid 1970s and all parties were spending a significant amount of time before the Australian Conciliation and Arbitration Commission.

'Lost time' statistics showed that it was not unusual for Company ships to be losing up to 10 per cent due to disputes and matters were coming before the Commission regularly every week.

The era of the Aggregate Wage (1969-72) had been followed, in 1973, by the Maritime Industry Seagoing Award (or five union common cause award case) but, upon the expiry of that Award in 1975, shipowners split over leave arrangements, with tanker operators agreeing to a 1:1 roster (one day of leave for every day worked) while the rest refused, and formed a breakaway quasi-industrial relations representative body, the Australian Maritime Employers' Association (AMEA). It was not until 1979 that BHP (and other AMEA companies) and the unions agreed on a ratio of .926 days' leave for each day on Articles, as part of the Industry Award settlement.

A key set of work value cases intended to establish absolute salaries and relativities on board ship involved an extended, Australia-wide study by the Commission under Deputy President Mr. K. C. McKenzie, and was finally concluded in 1978 – only to be appealed by Radio Officers. It was 2 1/2 years after commencement before total agreement was reached.

Fortunately, this proved to be the last of the old-style maritime industrial cases in Australia.



***Iron Myarra** at Newcastle, c.1981.* BHP.



Steel products discharging from rail to road transport at Acacia Ridge, Brisbane 1983. BHP Transport.

Air leakage in the regenerators was causing a 35 per cent loss in efficiency at a time when fuel costs had skyrocketed. In an effort to address the ballooning operating expenses and problems with the regenerators, the engines of first *Iron Monarch* and then *Iron Duke* were converted at Newcastle in late 1980 to simple cycle operations which bypassed the regenerators.

In a then unrelated but subsequently significant development, however, in 1981 the Company established a stand alone Rail and Road Department, charged with collating, analysing and acting upon the existing arrangements and future requirements of the various Divisions. The Department's task was to apply its findings to the improvement of levels of service provided to BHP by the railways, and to minimise rail and associated road freight costs to the Company.

Within five years of the Department's formation, all coastal sea transportation of BHP steel products (except to Tasmania and between Port Kembla and Western Port) had ended.

On 14 November 1980, the first of the 140,000 DWT bulkers, *Iron Whyalla* (II), was launched at Kure; she was delivered on 2 March 1981. However, due to a dispute over manning which lasted more than 100 days (between BHP and the Marine Stewards and Pantrymen's Association) the ship remained idle, at considerable expense to the Company. With all Officers and Engineers on board – and also manned by Japanese watchmen – she lay at special moorings in the harbour at Kure until finally beginning her maiden voyage on 9 June.

When sistership *Iron Spencer* (II) (launched on 3 March) was similarly affected, the Company arranged for that vessel to remain in the care of the shipyard until the dispute was settled. Though a naming ceremony was held on 14 July 1981, the Master, Officers and Engineers had already been

sent back to Australia and did not return until 18 August. *Iron Spencer* finally commissioned on 29 August and sailed the following day for Port Hedland.

Iron Whyalla and *Iron Spencer* took the title of largest Australian ships and were employed on the Port Hedland-Port Kembla/Newcastle run.

With the introduction of the new pair, ANL's *Alnwick Castle* was withdrawn from Company routes in April 1981, thus finalising a seven year freight agreement, and was followed later that year by *Mount Newman*. By May 1982, for the first time in 40 years, no Australian Government tonnage was employed in the BHP iron ore trade.[6]

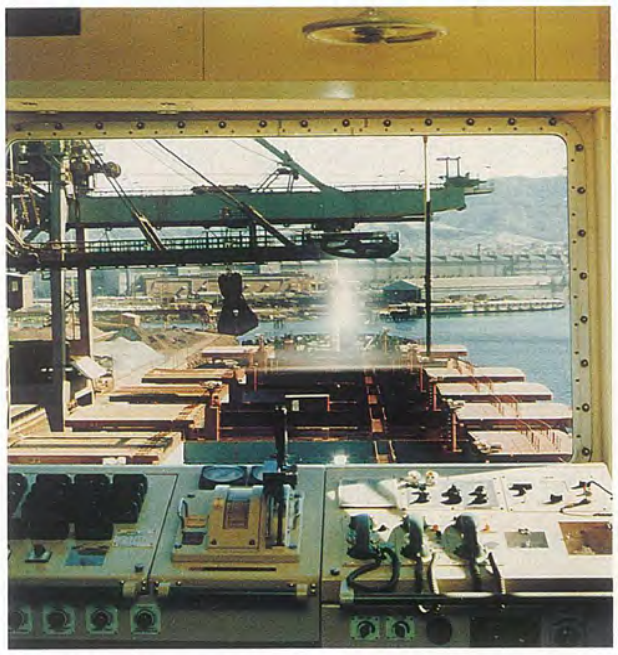
In Kure on 6 October 1981, the 21,740 DWT bulk carrier *Iron Prince* (III) was handed over to BHP by builders IHI.[7] She became the fiftieth vessel to sail under the Company's flag.

The 1981 dispute over shipboard manning levels, which delayed the introduction into service of *Iron Whyalla* and *Iron Spencer*, was something of a watershed in industrial relations for both Company and unions.

Ostensibly about reductions in the number of Marine Stewards carried on board ship, the episode set the scene for what would be significant manning reductions which flowed from the reform programs later in the 1980s. The stewards' tactics in this dispute contrasted with those of other unions, which had a policy of first bringing ships into Australian waters; there problems could be 'ironed out' in a political climate where the possibility of support from fellow unionists was always strong.

However, in this case the Marine Stewards and Pantrymen's Association decided to keep the ships in Japan. The Company, not withstanding the cost involved, had made a conscious decision to bear the costs of achieving a certain result. Eventually, in a proposal agreed under the auspices of the Conciliation and Arbitration Commission, *Iron Whyalla* was able to sail for Australia. On arrival the Commission undertook to investigate the union's claims.

Nonetheless, this was the last protracted dispute to involve shipboard unions and the Company's ships before the reformation of the industry was brought about by the Crawford Report of 1982.



***Iron Whyalla** (II) discharging at Port Kembla Steelworks, seen through the wheelhouse windows.* BHP Transport.



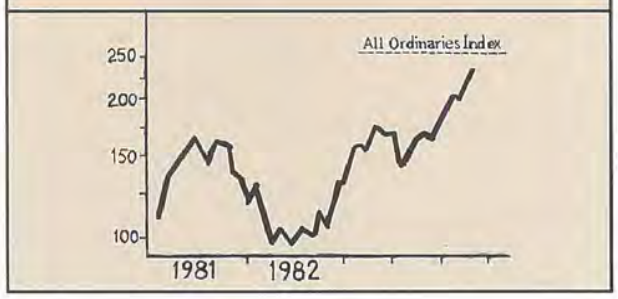
***Iron Whyalla** (II) entering Port Kembla Harbour on her maiden voyage, Sep 1981. The navigation flags flying on the stern signal mast display the message 'The Big One'.* BHP Archives.



***Iron Prince** (III) arriving at Risdon, Tasmania, Oct 1991.* C. I. Barr.

CHAPTER 18

FORCED ALTERATIONS TO COURSE



Though the 1970s had been difficult years, the latter part of the decade saw domestic steel markets on the rise and new levels achieved for export sales. Record profits, however, masked a low rate of return on capital invested, and a major restructuring of the steel industry was looming. The turmoil would bring momentous changes for BHP's fleet and transport activities.

Of most immediate concern in the early 1980s, however, was a downturn in the national economy which, in 1982-83, led to the dramatic collapse of the domestic steel market. Only five of BHP's blast furnaces Australia-wide were now operating, compared to 12 in the late 1970s. Old plant was taken out of service and Steel Division employee numbers were cut by around 12,000, or one third.[1]

BHP fleet numbers reflected this climate. At the time of delivery of *Iron Prince* (III), in October 1981, the fleet stood at 23 vessels (owned and bareboat chartered); in May 1983 the number was just 13 operational, with five laid up.[2] By May 1982, *Iron Mittagong* and *Iron Myarra* had been returned to their owners and a decision made to sell *Iron Hunter*,[3] by now considered too small and uneconomic for the Company's requirements. In October, *Iron Bogong*, *Iron Somersby* and *Iron Sirius* were decommissioned and laid up, the first at Sydney and the others at Geelong.


IRON SHIPS

The Journal of BHP Fleet Operations

DECEMBER 1981

IRON PRINCE — 50th VESSEL TO FLY THE BHP FLAG

The Iron Prince (21,800 d.w.t.) was handed over to BHP on October 6 after successfully completing her trials.

The Christening ceremony was performed by Mrs. Brian Loton, wife of Mr. B. T. Loton, Chief General Manager.

Also in attendance were Mr. Ross Hawke (General Manager Transport) and Mrs. Hawke, Mr. Ken Farrell (Supt. Engineer) and Mr. Darryl Jones (Assistant Superintendent Engineer).

The official handing over was carried out at 9.00 a.m. on October 6 and BHP was represented by Mr R Hawke and Mr D Jones.

The Iron Prince is fitted with three single 40-tonne capacity cranes to facilitate the discharging of products.

A special feature is the lengthening of No. 2 and No. 3 hatches. No. 2 hatch (28.8m x 12.8m) and No. 3 (27.2m x 12.8m).

They have been designed for the carriage of long parcels of cargo such as rails and structural steel.

Vessel details: Length O/A 166.33 metres; beam 22.86; draft 9.95 metres; powered by 1 HJ Sulzer 6RND68 9969 B.H.P. MCR; depth 13.56 metres.

Our new vessel is the 50th vessel to sail under the BHP Flag and the second Iron Prince in our Fleet's history.

In command during her maiden voyage is Captain John Hammond with Leon Thornton the Chief Engineer.

The original Iron Prince joined our Fleet in the mid 1920's and gave sterling service in a 35 year career before being sold to overseas interests.

The BHP Fleet now has 23 vessels with a total deadweight tonnage of 1,114,440 tonnes.

Merry Christmas and a Happy New Year

1981 began as a year of good expectations but unfortunately events proved otherwise. Three fine ships joined our fleet, the Iron Wyralla, Iron Spencer and Iron Prince. However, the extensive delays suffered in seating the two 140,000 tonners from Japan, followed by more delays in our industry was frustrating. Also, the Chairman's Report at the Annual General Meeting relating to the economic situation, deteriorating export market opportunities, inroads into our domestic market from newly commissioned offshore sources and the losses posted by the steel industry indicate that there is no room for complacency in the coming year. The best use of our resources and the co-operation of all in our industry will be needed to meet the challenges ahead. Congratulations to those officers who gained promotion during the year and my thanks to those who retired for their valuable service. Thank you for your continued support during what has been a difficult year and I would like to extend my sincere best wishes for a Merry Christmas and a happy New Year.

R. H. Stephenson
Manager Fleet Operations

Fleet Operations . . . Shipping Service to THE BIG AUSTRALIAN

Cover of ***Iron Ships****, The Journal of BHP Fleet Operations, Dec 1981. BHP Transport.*

The gas turbine bulk carrier *Iron Carpentaria* was also decommissioned, on 10 May. (*Iron Curtis* had similar problems and was out of service from December 1981 until June 1982.[4])

In March 1983, *Iron Endeavour*, after most successful service with the Company, was handed back in Japan to her British owners who immediately sold her.[5] *Iron Baron* was decommissioned and laid up at Newcastle on 13 March, pending sale. *Iron Shortland*, *Iron Whyalla* and *Iron Spencer* were all experiencing lay-up periods between voyages due to the high stocks of ore at Newcastle and Port Kembla. A program of voluntary redundancy for Deck and Engineer Officers, as well as Chief Stewards over the age of 55, was implemented; a number of officers were retrenched.[6]

More tellingly, cargoes carried by the roll-on roll-off twins had slumped to less than half the service's capacity. The Company had to decide whether to keep the ships in operation slow-steaming, or lay them up and transfer the product to rail. The high cost of maintaining the PWS terminals' waterside labour, on a 24 hour, seven days a week basis, also came into consideration.[7]

In the prevailing circumstances rail won out. It was now cost efficient, compared to the fuel-hungry roll-on roll-off vessels, and overnight delivery was available from the Newcastle and Port Kembla Steelworks into the vital Melbourne market (two to three days into South Australia).

Accordingly, *Iron Monarch* was decommissioned and laid up at Newcastle on 10 March 1983 and Iron Duke followed at Sydney on 29 May.[8] The land-based support operations also ceased, with terminals at Bell Bay, Port Kembla, Whyalla, No. 29 Berth Adelaide and 21 South Wharf Melbourne all closed by 1 June.

The two ships, complete with all associated equipment, were offered for sale worldwide. The

In the end it was the depressed steel market which proved the last straw for BHP's expensive and ambitious sea/land product distribution system. In the main, the efficiency and effectiveness of the concept remained valid; what the Company's planners did not – could not – foresee was the burden the innovative gas turbine propulsion system would become.

At the time of the original evaluation of the system (1970) the cost of the waxy crude residue fuel, readily available from Esso-BHP's Bass Strait operations, was $15 per tonne. Though the price had risen to $30 per tonne when the first ship, *Iron Monarch* (III) was commissioned in 1973, the various equations still made good sense.

But the fuel price continued to rise, partly driven by the Government's Resources Rent Tax and import parity pricing policy, and partly because the two ships proved that waxy crude residue could be used as a fuel, thus increasing demand.[9] With no solution to the technical problems of the regenerators of the General Electric Frame V turbines, *Iron Monarch* and *Iron Duke* became caught in a circumstantial pincer. To meet the service demands, the pair had to be operated at 21-23 knots, at which speed they burned up to 82 tonnes of fuel per day. After conversion to simple-cycle operation, consumption rose to 90 tonnes per day but service speed was only 17 knots. At the time of the ships' withdrawal, the price of the 'bargain' fuel was more than $300 per tonne.[10]

New Zealand armed forces showed some interest in taking over *Iron Monarch* as a rapid response ship. Suggestions were also made that the Australian Government might acquire her as a helicopter carrier to replace the aircraft carrier HMAS *Melbourne*. But the overtures came to nothing and both ships languished in lay-up for several years.

The General Electric Frame III gas turbine engines of *Iron Carpentaria* and *Iron Curtis* had proven no more successful than those fitted to the roll-on roll-off vessels. In early 1982 a comprehensive study was undertaken to determine the short and long-term future of each of the five/six year-old bulk carriers.

A decision was made to re-engine totally one ship and, in August 1983, Newcastle engineering firm



Sisterships ***Iron Curtis*** *and* ***Iron Carpentaria*** *alongside Port Kembla Steelworks wharf, 1992.* BHP Transport.



***Iron Prince** (III) (with cranes) loading wheat and **Iron Sturt** loading gypsum at Thevenard, South Australia, 1989.*

BHP Transport.



***Iron Kestrel** discharging wheat at Lumut, Malaysia, c. 1975. D. Glasspool.*

G. H. Varley began work on *Iron Carpentaria* (which had remained in lay-up since May 1982). The gas turbines were removed and replaced by twin Wartsila medium-speed diesels, with work under the $4.576 million contract complete by 8 February 1984 when the ship was handed back to BHP.

In the interim, the Company had decided to proceed with work on the second vessel. The following day, 9 February 1984, *Iron Curtis* commenced decommissioning and took her sister's place at No. 1 Western Basin, Newcastle, where re-engining was, with the benefit of Varley's growing experience, more quickly effected. She rejoined the fleet on 31 July.[11]

Meanwhile, under a gradual corporate reorganisation which had begun in 1981, BHP's many interests were being divisionalised. This process included the transformation of the shipping/transport activities, from an off-shoot of the steel business, to a stand alone department reporting to executive management.

Following his appointment as General Manager Transport in 1982, Mr. J. B. Prescott had watched closely the effects of the recession on fleet operations. He believed that the lesson to be learned was vital: the shipping division had to make a break from its historical role as purely a support player, carrying only the product of the parent company. Mr. Prescott determined the fleet should seek work outside its traditional trades.

This decision precipitated immediate and far-reaching change. For the first time the Company sought and carried non-BHP cargoes to complement core operations. The smaller ships diversified into hauling copper concentrates, sugar and grain, avoiding additional lay-ups.

As a matter of operational policy, cargoes were targeted for what would otherwise have previously been ballast legs. For example, ships returning from South Australia to east coast steelworks, loaded gypsum at Thevenard for Melbourne and Sydney, or diverted to Bell Bay to load ferro alloys. Ships carrying steel to New Zealand began backloading containers, a change which proved to be the forerunner of a scheduled liner/breakbulk service. Fleet deployment was carefully and constantly reviewed as the policy of finding smarter and better ways of doing business evolved.

Thereafter, though the direction taken by the parent company continued to provide the major impetus for expansion, BHP Transport (the name was not officially registered until August 1984) would chart a more independent and increasingly international course.

In March 1983, BHP entered a new phase of business when it commenced the management of a liquefied petroleum gas tanker on behalf of Boral Limited.[12]

The 6,033 DWT *Island Gas* was the first Australian-registered gas carrier and the first to be operated by a full Australian complement (the Company secured the contract after other local companies had been unable to reach agreement with maritime unions). BHP Officers and ratings attended training courses during 1982, following which selected Officers were seconded for 30 day periods to small UK-operated LPG carriers trading across the North Sea.

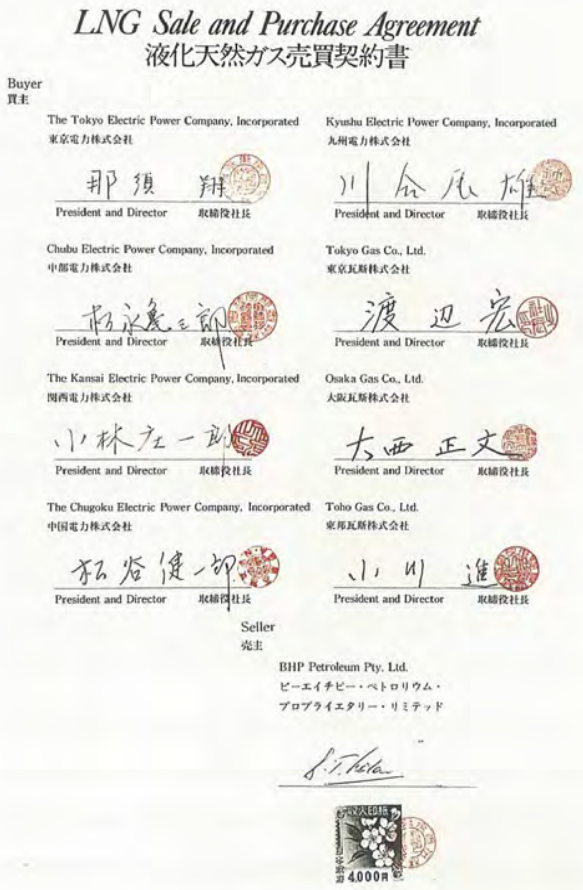
The ship entered service between Western Port, Townsville, Gladstone, Brisbane, Bell Bay and Devonport, initially retaining a British Master and Chief Engineer while the appointed BHP Master and Officers carried out the duties of one grade below their appointments.

While the management contract in part reflected the aspirations of BHP Transport to become a more diversified ship operator, it was also a key platform in a strategy to prepare for a major shipping role in another of the parent company's interests: the huge North West Shelf gas project.

The prospects of gas discoveries on the continental shelf had first excited a small Victorian-based company, Woodside (Lakes Entrance) Oil Co. N.L., in the early 1960s. By 1971, in association with four multi-national partners, the company, now restructured as Woodside Petroleum Ltd., had found very large gas fields in waters off the north-west of Western Australia. But, as with other resource projects in the area, the development costs were enormous and no markets then existed large enough to deliver adequate investment returns. (By 1984, when first sales were made to the domestic market, the total cost of the venture was estimated to be $11 billion.[13])

Nevertheless, in 1976, when one of the venturers in the project (and major shareholder in Woodside) Burmah Oil withdrew, BHP quickly purchased its holdings. This prompted the first of what became a series of restructurings of the Joint Venture, which eventually saw BHP become one of the major partners.

In 1981 a Memorandum of Intent was signed with eight Japanese power utilities for the sale of up to six million tonnes of liquefied natural gas per year. To service this contract, the Joint Venturers planned a (then) fleet of seven giant LNG carriers. While various project alterations meant that the first of the ships would not enter service until 1989, the experience gained in the operation of *Island Gas* saw BHP Transport well equipped to participate.


LNG Sale and Purchase Agreement
液化天然ガス売買契約書

Buyer
買主

The Tokyo Electric Power Company, Incorporated
東京電力株式会社
President and Director 取締役社長

Kyushu Electric Power Company, Incorporated
九州電力株式会社
President and Director 取締役社長

Chubu Electric Power Company, Incorporated
中部電力株式会社
President and Director 取締役社長

Tokyo Gas Co., Ltd.
東京瓦斯株式会社
President and Director 取締役社長

The Kansai Electric Power Company, Incorporated
関西電力株式会社
President and Director 取締役社長

Osaka Gas Co., Ltd.
大阪瓦斯株式会社
President and Director 取締役社長

The Chugoku Electric Power Company, Incorporated
中国電力株式会社
President and Director 取締役社長

Toho Gas Co., Ltd.
東邦瓦斯株式会社
President and Director 取締役社長

Seller
売主

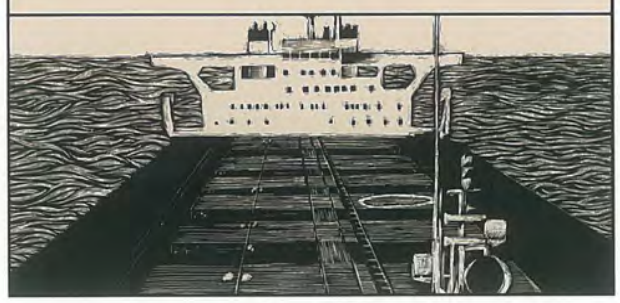
BHP Petroleum Pty. Ltd.
ビーエイチピー・ペトロリウム・
プロプライエタリー・リミテッド

Signature page, LNG Sale and Purchase Agreement, North West Shelf LNG Project, 31 Jul 1985. BHP Petroleum.


***Island Gas**, Jan 1983.* R. Larbey.

CHAPTER 19

AUDACIOUS MOVES



In the mid 1980s came a series of events which would alter forever the personality and dimension of BHP Transport.

On 2 April 1984, at ceremonies in New York and Brisbane, formalities were completed for the largest business transaction in Australian corporate history: BHP's purchase of mining and resources multi-national Utah International Inc., for $2.4 billion.

Confidential discussions had begun in August 1982 when executives of Utah's owners, General Electric of the U.S.A., indicated they saw no place for their famous subsidiary in the group's future. Would BHP be interested?

Despite the magnitude of the proposed deal – later described as among the top 10 takeovers worldwide – BHP found the offer irresistibly attractive. Utah held substantial Australian interests, foremost amongst which were large holdings in the massive coal deposits of central Queensland, where BHP had first begun limited mining operations in 1970. (By 1983, foreign buyers had developed an almost insatiable appetite for Australian coal and BHP was despatching shipments from mines in Queensland and New South Wales totalling nearly six million tonnes per annum.[1])

Included in the purchase were Utah's share of six fully or partly-owned Queensland coal mines, three in the U.S.A., an iron ore mine in Brazil, a copper/molybedenum producer in Canada and two undeveloped properties: the Escondida copper in Chile and the Delmas Eloff steaming coal deposits in South Africa.[2] Also included, though not of priority interest, was Utah International's shipping subsidiary, Utah Marine (U.M.). In one 'single bound', BHP had become a fully-fledged multi-national.

At the time of the takeover, U.M. owned and/or operated six large Liberian-registered bulk carriers (under the umbrella name Utah Shippers Inc., of San Francisco) and maintained a substantial dry bulk chartering division at its U.S.A. west coast headquarters.



Utah Marine's ***Quatsino Sound*** *berthed at Los Angeles, c. 1986.* BHP Minerals.

Initially BHP Transport and Utah Marine continued operations independently with, however, Utah gradually disposing of most of its ships. In early 1985 the mining and minerals interests of the parent companies were merged, as were the ship management functions of the respective divisions. In April 1987, BHP formally merged Utah Marine operations with BHP Transport in Melbourne. Six staff were transferred from San Francisco.

In due course the infusion of U.M. thinking would contribute to further diversification at BHP Transport.

Meanwhile, revolutionary changes were under way in Australian shipping, with direct impact on the BHP Transport fleet. In 1984 a Federal Government Task Force adopted the findings of the Crawford Report, a tripartite (Government, shipowners, unions) examination of what was needed to restore commercial viability to Australian shipping.

In the early 1980s, Utah was the focus of an Australian maritime union campaign to gain a greater foothold in the export of the nation's raw materials.

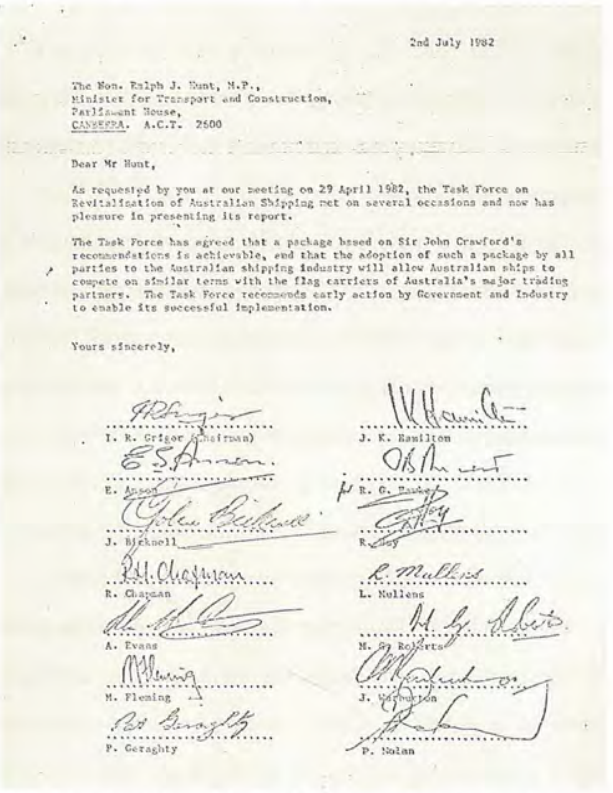
The unions wanted Australian manning of some or all of a fleet of six second-hand bulk carriers acquired by Utah to service the Queensland coal export trade. At the coal loading port of Hay Point, a long period of industrial disputes (involving crews of tugs assigned to handle Utah-owned and chartered ships) came to a head when Utah brought action under Section 45 of the Federal Trade Practices Act for unlawful restraint of trade. The boycott was subsequently lifted prior to legal action. The Company, meanwhile, had operated the six bulk carriers elsewhere.[3] Following this, S.U.A. members began a daily picket of the Utah Brisbane office, which lasted 3 1/2 years, and occasional pickets in Sydney and Melbourne. It was not until ANL entered Australian-owned ships into the coal export trade with India in the early 1980s that the issue was put to rest. The six Utah vessels were then re-scheduled to trade to Australia in 1982.

(In an ironic twist of fate, on 1 August 1992, BHP Transport took over the Hay Point towage operations, previously managed by J. Fenwick & Co., on behalf of Central Queensland Coal Associates, the joint venturers in the central Queensland mines.)

The report, compiled in 1982 as a response to the then sharp contraction in the Australian maritime industry, made a number of key recommendations, many of which dealt with issues BHP had been canvassing since the introduction of *Iron Somersby* 10 years earlier. These included the reduction of the depreciation period for bulk carriers; the lifting of restrictions on investment allowances for Australian



***Orco Trader**, c. 1986. This vessel carried Queensland coal for Utah Marine.* BHP Minerals.



2nd July 1982

The Hon. Ralph J. Hunt, M.P.,
Minister for Transport and Construction,
Parliament House,
CANBERRA. A.C.T. 2600

Dear Mr Hunt,

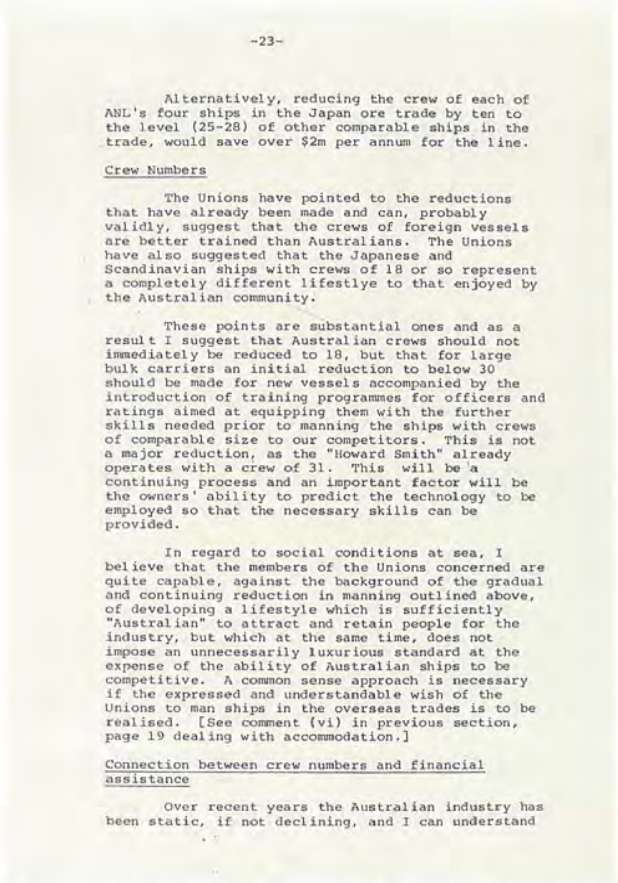
As requested by you at our meeting on 29 April 1982, the Task Force on Revitalisation of Australian Shipping met on several occasions and now has pleasure in presenting its report.

The Task Force has agreed that a package based on Sir John Crawford's recommendations is achievable, and that the adoption of such a package by all parties to the Australian shipping industry will allow Australian ships to compete on similar terms with the flag carriers of Australia's major trading partners. The Task Force recommends early action by Government and Industry to enable its successful implementation.

Yours sincerely,

I. R. Grigor (Chairman)
J. K. Hamilton
E. [illegible]
R. G. [illegible]
J. Bicknell
R. [illegible]
R. Chapman
L. Mullens
A. Evans
M. G. Roberts
M. Fleming
J. [illegible]
P. Geraghty
P. Nolan

Covering letter from the Task Force on Re-vitalisation of Australian Shipping to the Minister for Transport and Construction, 2 Jul 1982. BHP Transport.



-23-

Alternatively, reducing the crew of each of ANL's four ships in the Japan ore trade by ten to the level (25-28) of other comparable ships in the trade, would save over $2m per annum for the line.

Crew Numbers

The Unions have pointed to the reductions that have already been made and can, probably validly, suggest that the crews of foreign vessels are better trained than Australians. The Unions have also suggested that the Japanese and Scandinavian ships with crews of 18 or so represent a completely different lifestlye to that enjoyed by the Australian community.

These points are substantial ones and as a result I suggest that Australian crews should not immediately be reduced to 18, but that for large bulk carriers an initial reduction to below 30 should be made for new vessels accompanied by the introduction of training programmes for officers and ratings aimed at equipping them with the further skills needed prior to manning the ships with crews of comparable size to our competitors. This is not a major reduction, as the "Howard Smith" already operates with a crew of 31. This will be a continuing process and an important factor will be the owners' ability to predict the technology to be employed so that the necessary skills can be provided.

In regard to social conditions at sea, I believe that the members of the Unions concerned are quite capable, against the background of the gradual and continuing reduction in manning outlined above, of developing a lifestyle which is sufficiently "Australian" to attract and retain people for the industry, but which at the same time, does not impose an unnecessarily luxurious standard at the expense of the ability of Australian ships to be competitive. A common sense approach is necessary if the expressed and understandable wish of the Unions to man ships in the overseas trades is to be realised. [See comment (vi) in previous section, page 19 dealing with accommodation.]

Connection between crew numbers and financial assistance

Over recent years the Australian industry has been static, if not declining, and I can understand

Excerpt from Crawford Report on manning levels, 1982.

BHP Transport.

ships in overseas trades, the abolition of duties on imported ships; and a significant reduction in vessel manning levels.[3]

The latter was particularly crucial and began a process which, in 1992, is still continuing. Before adoption of the Crawford formulae, most BHP vessels carried crews averaging 38-40, although new ships entered service with a standard complement of 32. Post Crawford, the existing ship average was cut to 31-32 and the new ship standard to 26, though it would not be until 1986 that such levels were actually achieved.[4]

As the BHP Transport fleet sailed towards new horizons, the reforms under way in Australian shipping grew in importance. Other owners in other countries were combining advanced technology and revised manning arrangements to produce ever more cost efficient operations. The increasingly international BHP Transport had to be competitive, or fail.

The Federal Government's acceptance of the findings of the Crawford Report substantially contributed to an environment in which the revitalisation of the Australian maritime industry became possible. Amalgamation of seagoing unions was a key part of this process. In January 1983 Marine Cooks, Butchers and Bakers amalgamated with the S.U.A., while from 1986 Radio Officers were, effectively, represented by the Merchant Service Guild. Marine Stewards and Pantrymen joined the S.U.A. in May 1988.

Though BHP and the S.U.A. had enjoyed a consistent if adversarial relationship since the mid 1960s, constructive moves to improve rapport had begun in 1982, when the Company commenced regular union briefings on a wide range of issues affecting the fleet. A tripartite overseas study mission in 1985, on which the Company was represented by Manager Fleet Operations Mr. R. H. Stephenson, provided a good setting for the further strengthening of those bridges. All parties reached common ground in agreeing that there would be no winners without full co-operation.

From that mission evolved the Maritime Industry Development Committee's (MIDC's) 'Moving Ahead' strategy (October 1986), under the auspices of which further manning reductions for new vessels were negotiated; a maximum of 21 aboard standard ships and 23 on coastal tankers.

In MIDC's wake came the Shipping Reform Task Force (1988), which developed a crew reduction program for so-called pre-Crawford ships and introduced a benchmark crew level of 18 for new vessels.[6] In turn this three year scheme was managed by the Shipping Industry Reform Authority, established in 1989; in 1992 an agenda for further reform is under discussion by Government, shipowners, unions and shippers.

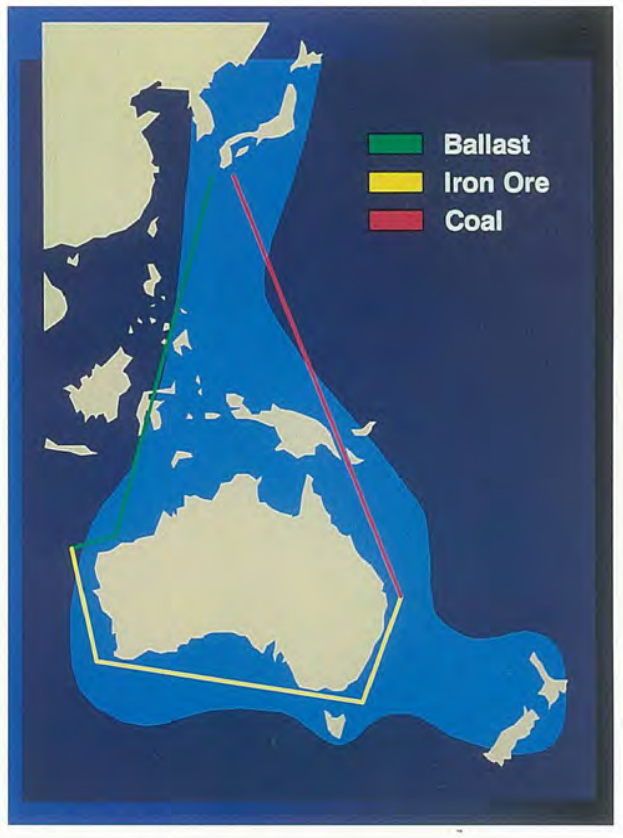
Though it was ultimately the will of all parties that made manning reductions possible, new technology played a major role in overcoming the practical difficulties of ship operation with fewer personnel.

Fewer crew were needed for one-man gangways and automatic cleating of hatches, for example, while Shipwrights, important members in the days of wooden hatch boards and wedges, were no longer needed following the introduction of steel hatchcovers and the automatic sounding of ballast tanks. Pilot ladder arrangements were improved; automatic tension winches, with all lines on drums, were introduced, as was automatic wash-down of main decks. The automation of enginerooms permitted unattended night-time operation, thus eliminating the need for 24 hour watch-keeping by ship's Engineers. This also enabled significant maintenance to be undertaken during normal working hours.[7]

Seamen, traditionally trained for either deck or engineroom duties, were retrained for both, joining new Australian Maritime College-trained industry entrants as Integrated Ratings. Common messing and laundry facilities (for Officers and ratings) reduced the workload of catering staff. By 1991 ship's Electricians had been replaced by Engineers retrained to hold electrical qualifications, and in 1992 the final Radio Operator in the BHP fleet was withdrawn following the installation of Global Maritime Distress and Safety Systems (GMDSS) on all ships.



***Iron Whyalla** (II) approaching Kurushima Strait, Japan.* D. Glasspool.



The triangulation route. BHP Transport.

Mr. Prescott had been holding earnest discussions with overseas buyers in an effort to secure the involvement of Australian shipping in the export coal trade. (The background to these discussions stretched as far back as 1967, when BHP first secured contracts to ship iron ore pellets to Japan in *Iron Hunter*, and began 'triangulation').

He was keen to expand the Company's business, primarily in order to provide a component of regular 'outside' work to increase the probability of full fleet employment during downturns. The Company also saw advantages in foreign work as an opportunity to broaden personnel exposure to international work practices, operational techniques and technology, and to improve the fleet's cost effectiveness.

Accordingly, design work was undertaken for 140,000 DWT wide-beam, shallow-draft bulk carriers, planned as capable of lifting Port Kembla maximum cargoes in excess of 130,000 DWT.[8] Although Newcastle was limited to 110,000 DWT, the additional deadweight would be utilised on other legs of triangulation voyages.

After numerous marketing trips to Taiwan, Japan and Korea in 1982-83, BHP secured limited freight business from clients based in the last two and performed efficiently at very low rates, using the existing ships larger than 100,000 DWT. The Company then sought to build on this foundation by proposing to have two new ships built in those countries, seeking to have interested shipyards or trading houses help secure freight contracts for them on the basis that the ships would be fully competitive.

As a result, on 23 July 1984, orders for two 147,000 DWT bulk carriers were placed with IHI in Japan, with Nippon Steel Corporation awarding a three year contract of affreightment. This took effect immediately, using existing BHP ships, with the newbuildings expected to replace *Iron Somersby* and *Iron Sirius* (though with greatly enhanced capacity).

Mr. Prescott went further, however, and on 2 August ordered a massive 220,000 DWT bulk carrier at Samsung Shipbuilding and Heavy Industries Co. Ltd. of South Korea.

POSCO agreed to commit, upon completion, to about half the ship's annual carrying capacity, transporting coal from N.S.W. and Queensland to South Korea. As with the two IHI ships, the other part of the capacity would be utilised to carry Pilbara iron ore from Western Australia to Port Kembla and Newcastle.

The Company's aim of establishing a more substantial, permanent presence in Australia's raw material export trades was set to be realised.

CHAPTER 20

FLEET MANOEUVRES



In 1970 BHP had purchased 50 per cent of John Lysaght (Australia) Ltd. (JLA), a diversified steel product manufacturer which, since 1960, had been the single largest consumer of the Company's steel output. The purchase, from JLA's British parent, Guest Keen and Nettlefold Ltd., resulted in an agreement to build a steelworks at Western Port in Victoria and, in March 1978, BHP commissioned a hot strip mill[1] next to JLA's galvanising line and cold rolling mill (established in 1973). In 1979 BHP moved to 100 per cent ownership of JLA.

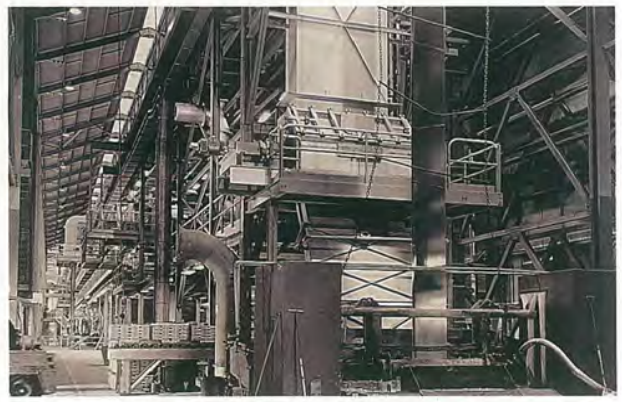


BHP Steel Western Port Hot Strip Mill during construction, 1976. BHP Sheet & Coil Products, Western Port.

From 1973, feed for the mills was obtained from BHP's slab caster at Port Kembla, shipped by a pair of purpose-built, ANL-owned roll-on roll-off ships. *Lysaght Enterprise* and *Lysaght Endeavour*, both originally 8,098 DWT, were lengthened in 1978 and 1980 respectively to increase capacity to 11,900 DWT.

In 1983 as ANL's contract approached its conclusion, the Company decided to rationalise the service by replacing both ships with a re-engined *Iron Monarch* (III). On 15 July 1985, the previously unwanted ship moved from her Newcastle lay-up berth to No. 1 Western Basin, where engineers G. H. Varley repeated their successful work on *Iron Carpentaria* and *Iron Curtis* by replacing the roll-on roll-off ship's gas turbines and regenerators with twin Wartsila diesels.

Re-fitted to carry steel slabs, *Iron Monarch* took up her new service in July 1986. The vehicle deck had been modified, new slab-handling Valmet straddles purchased, and magnets attached to the internal gantry system. Service speed was now



BHP Steel Western Port galvanising line during commissioning trials, 1972. BHP Sheet & Coil Products, Western Port.



***Lysaght Endeavour** berthed at Western Port after her maiden voyage carrying raw coil from Port Kembla, Oct 1973.* BHP Sheet & Coil Products, Western Port.



Iron Monarch *(II) berthed at Port Kembla loading steel slabs for Western Port, 1987.* BHP Transport.

Insets: Top – Valmet straddles secured to vehicle deck of **Iron Monarch** *(II) in readiness for sea voyage Western Port-Port Kembla, 1987.* BHP Transport.

Bottom – Slab pre-stacking yard, Port Kembla, 1987. BHP Transport.



***Iron Duke** (II) being towed from Sydney en route to the breakers, Feb 1986.* J. Y. Freeman.



***Iron Carpentaria** loaded the last iron ore cargo ex Cockatoo Island, Nov 1986.* BHP Transport.

18 knots, compared to 23 knots in the gas turbine days. Nevertheless, *Iron Monarch* thereafter maintained the Port Kembla-Western Port run alone. While her estimated annual carrying capacity was 600,000 tonnes – about equal to the combined capacity of the two ANL vessels – she has regularly lifted 750,000 tonnes per annum.[2]

If *Iron Monarch* had found profitable employment, no such fortune attended *Iron Duke* (II). After three years laid up at Sydney's Snails Bay mooring dolphins, *Iron Duke* was towed away from Sydney in February 1986, en route to China for scrap.[3]

Meanwhile, other changes to fleet composition and deployment were taking place. In November 1984, *Iron Baron* (III) had been sold from lay-up to Cypriot buyers and, in May 1985, *Iron York* was also sold – to Singapore owners.

On 25 November 1986, *Iron Cumberland* left the fleet and was delivered at Kwinana. With a deft flick of the paintbrush the new overseas owners renamed the ship *Cumberlande*.[4]

Also in that year an historic era closed when, on 26 May 1986, *Iron Carpentaria* loaded the last cargo of iron ore from Cockatoo Island in Yampi Sound, the resource finally worked out after 32 million tonnes had been shipped out.[5]

In part, the sale of BHP vessels during this period reflected the ongoing changes to the distribution of BHP's products. Customers were demanding better performance, leading to the negotiation of new land transport contracts.

By June 1987, Company ships had been withdrawn from the Western Australian products run in favour of rail. While the rail systems had made previous bids for the business, it was declining westbound tonnages, the virtual disappearance of backload cargoes and strong competition from South East Asian producers in the W.A. market that eventually combined to force the decision. Rail

Customer delivery of the Company's products was changed in May 1985 from 'Free on Truck', at the wharf or rail terminal, to 'Free into Store', with the price of the goods now incorporating the delivery component.

BHP Transport assumed responsibility for the road delivery of products from rail terminals in major cities: Acacia Ridge in Brisbane, firstly Clyde and later Sandown and Rozelle in Sydney, Dynon in Melbourne, Islington in Adelaide, and Kewdale and Kwinana in Perth.

Initially these deliveries were undertaken by major hauliers under contract to BHP Transport. However, from 1989 the work was moved progressively to sub-contractors at Dynon, Acacia Ridge and Kwinana, with BHP Transport providing the necessary specialised trailers for the full range of deliveries.



BHP Transport's quad-axle low loader moves 30 tonne steel coils, Acacia Ridge, 1992. BHP Transport.



Portable taut liner units ensure dry delivery for weather sensitive products, Dynon Road, 1992. BHP Transport.



The funnel of **Iron Whyalla** *II being repainted with the new colours and logo, Apr 1985.* BHP Transport.

provided a regular service four or five times per week; this compared more than favourably with a once-monthly sea delivery by *Iron Kirby*.

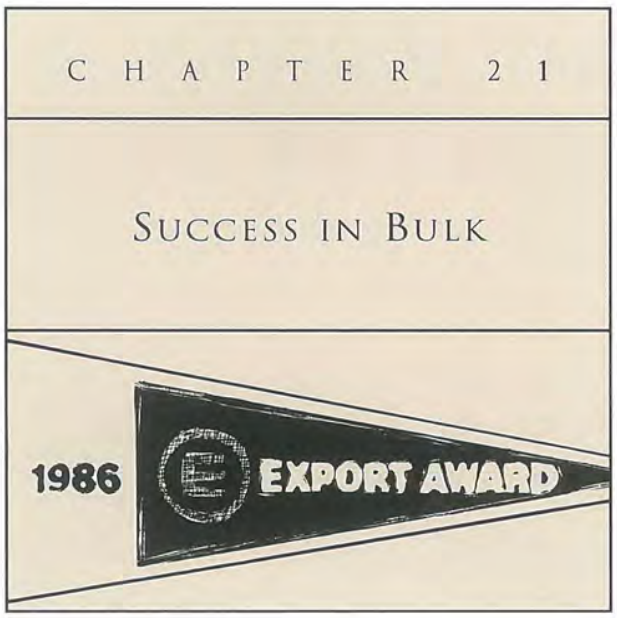
Even Tasmanian deliveries of 25,000 tonnes per annum (where no land transport alternative existed) were shifted to existing Bass Strait services provided by other lines (ANL, Union Shipping), in the interests of efficiency. *Iron Monarch*, maintaining the Port Kembla-Western Port service, became the last bastion of BHP-operated sea delivery of steel on the Australian coast.

Changes, too, had been made to the livery of the fleet. In 1985 BHP Transport vessels took on a fresh appearance, as part of a 'new corporate image' for the BHP Group . The familiar black funnel with two blue bands was replaced with Transport's version of the new corporate scheme – a charcoal and turquoise logo, based on an abstract map of Australia and the letters BHP, on a black capped white funnel. *Iron Whyalla* (II) was the first to receive the new look, in April 1985, and *Iron Capricorn* the last, in October 1986.

The year 1985 also marked 100 years of BHP – incorporated on 15 August 1885 – and 64 years since the inception of BHP's Shipping Department in Melbourne in 1921. By November 1986, the BHP Transport fleet numbered 18 ships[6] with a total capacity of more than one million tonnes – a far cry from the first steamers *Iron Monarch* (I), *Iron Prince* (I) and *Iron Baron* (I).

CHAPTER 21

SUCCESS IN BULK



On 3 December 1986, in a ceremony held at Port Kembla, the Federal Treasurer, Mr. Paul Keating, presented the General Manager Transport, Mr. John Prescott, with the Australian Trade Commission's '1986 Austrade Award for Outstanding Export Achievement'.

The Award resulted primarily from the increase in freight returns from the employment of BHP Transport's large bulk carriers in overseas trades. In the 12 months prior to the presentation the Company fleet had grown by more than 500,000 deadweight tonnes. The newest IHI-built ships, the 148,140 DWT *Iron Newcastle* (delivered 27 December 1985) and *Iron Kembla* (27 March 1986), took up triangulation service carrying Australian coal to Japan, backloading iron ore in Western Australia for Newcastle and Port Kembla. The Samsung-built *Iron Pacific*, of 231,850 DWT, entered service on 30 May 1986 (too late for inclusion in the Austrade Award considerations) trading to South Korea rather than Japan.

With the introduction of the new ships, *Iron Sirius* was returned to her owners (at Mizushima, Japan) on 7 July 1986 and *Iron Somersby*, the last of the bareboat-chartered large bulkers, was handed back on 14 December that year, at Sasebo.[1]

One fundamental reason for the success of the new bulk carriers was their uncommon designs. All had wide-beam, shallow-draught hulls which allowed greater liftings of iron ore into draft-limited east coast ports.[2] Additionally, the IHI-built pair could load close to their full deadweight in coking coal out of Newcastle and Port Kembla. At Newcastle, the vessels' capabilities exceeded the best performance by foreign-flag visitors by more than 7,000 DWT,[3] while at Port Kembla their introduction effectively opened up the coal loader to regular use by larger ships.[4]

If, however, *Iron Newcastle* and *Iron Kembla* were essentially larger, more fuel efficient versions of *Iron Whyalla* (II) and *Iron Spencer* (II), *Iron Pacific* was of a new generation. The largest twin-screw bulk carrier in the world at the time of her commissioning, *Iron Pacific* was designed with exceptional manoeuvrability, despite her size. Special consultation with port authorities and extensive simulator testing was undertaken during the design process, in order to gain necessary approvals for the berthing of such a large ship.

Though always attended by tugs, the ship is capable of negotiating the difficult Port Kembla Outer and Inner Harbour entrances unaided, thanks



***Iron Kembla** under construction at IHI's Kure yard, Japan, 1986.*
BHP Transport.



***Iron Newcastle** preparing to discharge iron ore at Newcastle Steelworks, Voyage 1, Jan 1986.* *BHP Transport.*

to the catamaran stern, twin-rudder, twin-screw configuration. Despite a 55 metre beam, *Iron Pacific* has the handling characteristics of a 45 metre wide single-screw bulk carrier.

Iron Pacific was dedicated to the Australia-South Korea-Australia trade, frequently setting new cargo lifting records on voyages from Queensland coal ports such as Hay Point, Dalrymple Bay, Gladstone and Abbott Point to Pohang and Kwang Yang Bay in South Korea. It is pertinent to note that for an alternate hold loading, the iron ore capacity of just one of the ship's nine holds – 46,000 tonnes – is more than double the full deadweight capacity (19,000 tons) of *Iron Flinders* (I) of 1960, then the largest ship suitable for Port Kembla.[5]

During *Iron Pacific*'s first three years, she made 14 voyages in the trade, carrying a total of 2,419,722 tonnes of coal.[6] On 1 July 1989, BHP Transport's contract was renewed for a three year period (with Korea Line Corporation) and, in August 1992, for a further five years (with Keoyang Shipping Co. Ltd.).

For builders Samsung, *Iron Pacific* proved to be a fine reference for their shallow-draught ship portfolio. Amongst other vessels of similar design characteristics, the yard went on to build three broad-beam, shallow-draught tankers for Australian owners.

Meanwhile, changes were being made to BHP Transport's business management. In early 1989, a decision was taken to establish the Company's third party and break-bulk chartering activities as a separate organisation, building on BHP Transport's experience in handling BHP's large cargo base. Opportunities were seen in the Pacific Basin 'niche' markets in bulk and break-bulk trades.

Given the new subsidiary's expected sphere of operations, a suitable operational base was sought away from Melbourne and offices in Oakland, California, were selected.

International Marine Transport (IMT) began by concentrating on handy-size ships of 20,000-40,000 DWT. Early in 1990, however, BHP IMT (as it is now known) established a breakbulk/liner service, under the name International Marine Transport Lines, between the Pacific coast of North America (British Columbia and U.S.A. Columbia River ports) and east coast Australia.[7] The new service – which filled a void created by the withdrawal of Norwegian operator Hoegh Lines – employed up to four time-chartered 30,000 DWT container-fitted box-hold, open-hatch bulk carriers (*Barkald* 19,359/1984, *Frinton* 14,584/1978, *Packing* 20,627/1983 and *Wani Lake* 18,977/1985). Initally, the vessels lifted mainly forest products southbound and returned with steel, mineral sands and other cargoes. (A contract of affreightment for the carriage of BHP Steel products northbound was obtained in January 1991, while in 1992 a contract with what is now BHP New Zealand Steel saw monthly calls at Tauranga added to northbound schedules.)

In March 1991, BHP IMT seized another opportunity when Dutch-owned Nedlloyd Lines withdrew from the U.S.A. west coast/Australia/New Zealand route following a group restructuring. Using three time-chartered 23,000 DWT tween-deck vessels fitted with heavy lift derricks (*Acritas* 14,374/1977, *Comet* 14,504/1978 and *P. S. Palios* 14,418/1977), the second BHP IMT service began offering monthly sailings from British Columbia, Puget Sound and Los Angeles to both eastern and Western Australian ports. This service specialises in machinery, forest products, other break-bulk cargoes and, under a slot charter







Stages in the design and construction of **Iron Pacific**. *Left to right – Tank testing at Ijmuiden, The Netherlands; Fitting the bow; Manoevering to the fitting out berth, Koje Island, South Korea, 1984-1985.* BHP Transport/B. Lanham.

In the middle of June 1991, *Iron Pacific* was in the Philesco drydock at Subic Bay in the Philippines, undergoing her first scheduled five year drydocking, when nearby Mt. Pinatubo, a volcano which had been dormant for 600 years, began to erupt.

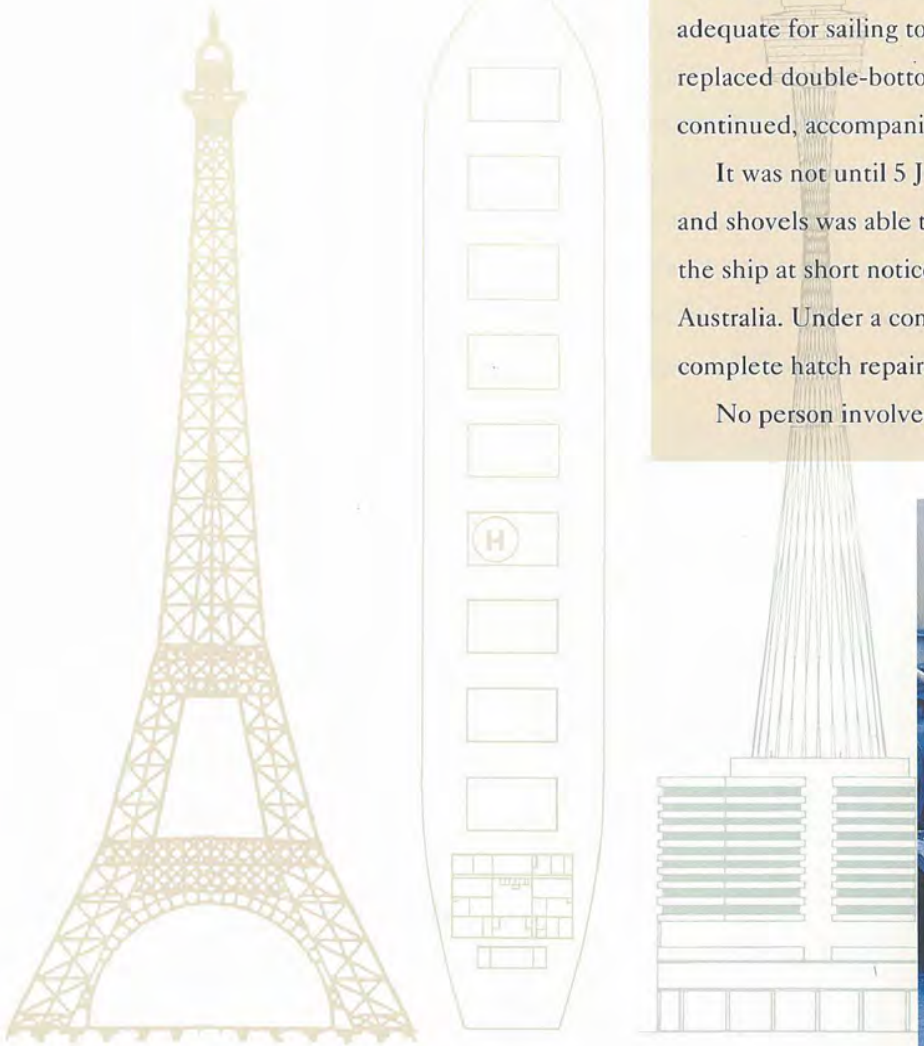
Small eruptions on the 13th and 14th were followed by a light fallout of ash. But, on Saturday 15 June, a major eruption occurred, causing massive damage and loss of life in surrounding areas and bringing to an end all dockyard work. A midnight blackness descended, accompanied by thunder, lightning, occasional rain and a steady fall of ash.

Daylight revealed that the roofs of the dockyard workshops had collapsed, under the weight of a 20 centimetre layer of sodden volcanic ash which covered every flat surface (including the ship). However, with all the yard's precision tools and machinery (and some of the ship's gear) under a tangled mass of twisted steel girders, no power for the ship or the dockyard cranes, and no supply for cooling or fresh water or the fire main, little could be done in the way of immediate rectification.

Understandably, all but five of the dockyard workers had departed to be with their families. For a week the yard's management struggled to get sufficient labour to restore *Iron Pacific* to a condition adequate for sailing to another dockyard. The ship's staff tightened one loose propellor blade and replaced double-bottom plugs and ship side valves. All the while the eruptions at Mt. Pinatubo continued, accompanied by earth tremors.

It was not until 5 July that a makeshift team of fishermen, school children and farmers with brooms and shovels was able to complete the clean-up. Meanwhile, as no other yards were able to accommodate the ship at short notice, Philesco personnel and crew members finished work essential for a departure for Australia. Under a conditional certificate from Lloyds, *Iron Pacific* ballasted back to Newcastle to complete hatch repairs, arriving on 19 July.[8] There, all concerned were greeted with a 'heroes' welcome'.

No person involved would quickly forget the ordeal.



Graphic comparison (to scale) illustrating the size similarities between ***Iron Pacific*** *and the well-recognised landmark buildings The Eiffel Tower, Paris, and Centrepoint Tower, Sydney.* BHP Transport.



Volcanic ash fallout covering the foredeck of ***Iron Pacific****, Jun 1991.* W. Owen.

arrangement with Nedlloyd, containers. (In early 1992 *Acritas* and *P. S. Palios* were replaced by *Merchant Premier* 14,275/1978 and *Merchant Principal* 14,124/1978 – both built by Lithgows Ltd.)

In 1992 BHP IMT continues to operate both North American liner services and, through Oakland-based Fathom Management Corporation, oversees the operational management of BHP Transport's non-Australian flagged vessels.

The existence of BHP Transport's foreign-flagged fleet is almost entirely attributable to the parent Company's expansionary moves during the 1980s.

As already noted, BHP's takeover of Utah in 1984 brought with it a fleet of seven bulk carriers, six of which were operated by Utah Marine. Only two were retained: the Liberian-registered, 29,819 DWT *Quatsino Sound*, owned by Utah Transport Inc. and employed in lifting copper concentrates from the Utah mine on Vancouver Island, and the 194,690 DWT *Elgin*, also Liberian-registered, owned by Bulkers Ltd. and independently managed, by Norbulk Shipping Agencies of London.

On 14 February 1987, *Quatsino Sound*, on passage from Port Hardy, British Columbia, to Keelung, Taiwan, with 27,400 tonnes of copper concentrates, was in collision with the Taiwanese-owned container ship *Ever Linking*, 28,916 DWT, about one mile off Keelung. The collision ruptured *Quatsino Sound*'s No. 2 hold on the port side and the vessel sank about 25 minutes later in 160 ft. of water.[9] The wreck with cargo remains *in situ*.

To replace the sunken ship, BHP Transport time-chartered the Canadian Pacific-owned bulk carrier *Fort Yale* (28,317 DWT). At the conclusion of the charter, in late 1990, the Company acquired the ship outright through BHP Transport USA Inc., placing her under the Panamanian flag as *Copper Yale*. In September 1992, the ship was sold out of the fleet and was replaced in the copper trade by a time-chartered vessel.

Following the Utah takeover, *Elgin* was retained in the Queensland export coal trade and remains thus employed. In 1987, Bulkers Ltd. was transferred from the nominal ownership of Utah Marine to that of BHP Transport's Hong Kong subsidiary, County Shipping Co. Ltd.

Meanwhile, on 3 January 1986, BHP acquired the CSR and AMAX shareholdings in the Mt. Newman Joint Venture, taking the Company's stake to 85 per cent. This purchase included the former partners' interests in Newco Trading Corporation, the owner, on a 50/50 basis with Kawasaki Steel, of Ferrum Transport Inc. and Merchant and Miners Transport Inc. In turn, these companies controlled three bulk carriers employed in the Mt. Newman export ore trade: *Brockman* (116,342 DWT), *Marra Mamba* (116,294 DWT) – both Liberian flag – and *Magandang Ilog* (171,253 DWT), Filipino flag. While the first two were owned by the partnership companies, the latter, which in 1985 had replaced the owned *River Princess* (114,645 DWT), was bareboat chartered for 13 years, with a purchase option. In 1989 *Brockman* was sold and replaced by the Filipino-flag *Pulang Lupa* (149,529 DWT) bareboat chartered for five years with a five year option. As at September 1992, *Marra Mamba*, *Magandang Ilog* (now Panamanian-registered) and *Pulang Lupa* continue in the iron ore export trade.

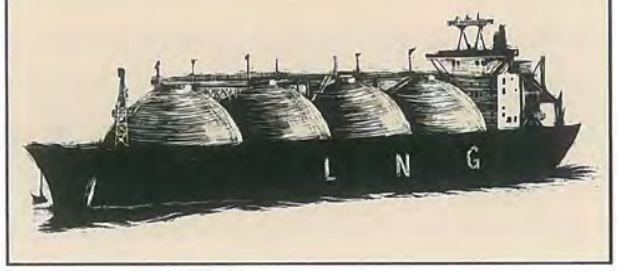
Technical management of all members of the BHP Transport foreign-flagged fleet is now in the hands of Andreas Ugland & Sons A/S of Grimstad, Norway.



BHP IMT liner vessel, **Comet** *loads coiled coated steel in Melbourne, 1991.* BHP Transport.

CHAPTER 22

MOVING LIQUID ASSETS



In the years following the 1967 discovery of oil in Bass Strait, BHP embarked on a worldwide expansion of its energy interests which, in 1983, were re-organised as BHP Petroleum, a separate and significant group entity.

With a fleet dedicated to dry bulk and steel product trades, BHP Transport's direct involvement in liquid bulk business had been limited. By 1987, however, with BHP Petroleum committed to the export of Bass Strait crude, a combination of commercial considerations and the involvement of other major local oil producers in the employment of Australian-flagged tankers caused BHP to act. Late that year, an order was placed with IHI at Kure, for an 87,200 DWT crude oil tanker to be owned and operated by BHP Transport on behalf of BHP Petroleum.[1]

The new ship, a standard design offered by the yard and outfitted to BHP Transport requirements, was launched on 14 October 1988 and handed over on 1 February 1989, as *Iron Gippsland*. In early March, she arrived in Australian waters for the first time, having loaded Indonesian crude at Blanglancang and Kakap Natuna for Shell refineries at Clyde (Sydney) and Geelong. As the first Australian tanker to be built under Maritime Industry Development Committee guidelines, the vessel entered service with an integrated crew of 21 (compared to as many as 44 in pre-reform days).

Iron Gippsland's planned principal employment included the carriage of Gippsland (Bass Strait fields) and Jabiru (Timor Sea, where BHP Petroleum operates three floating production, storage and offloading vessels [FPSO]) crude to the U.S.A. and Pacific Basin, backloading with fuel oil from Long Beach or Venezuela. However, with the introduction of the US OPA '90 pollution regulations (formulated in the aftermath of the grounding of *Exxon Valdez*) the commercial risks of sailing a single-hull tanker in U.S.A. waters outweighed the potential gains.



CONFIDENTIAL

Memorandum To: Managing Director

From: Executive General Manager Business Development

Date: 9th September,1987

Subject: 90,000 DWT Crude Oil Tanker

Approval is sought for the expenditure of A$43.7 million for the design, construction and commissioning of a 90,000 DWT class crude oil tanker.

The attached paper summarises the reasons for the proposed acquisition and shows that there are strong economic, strategic and industrial arguments favouring approval of this expenditure. The proposal has been developed by BHP Transport but has the strong support of BHP Petroleum, who also see oil marketing advantages arising from BHP operating its own tanker.

The authorisation now sought would be subject to satisfaction of the following conditions:

- Receipt of Government agreement in an acceptable format that the charter hire rate for the vessel necessary to yield a satisfactory return is deductible for excise and royalty purposes.
- Negotiation of an agreement with the Australian Maritime Unions on a range of issues of benefit to BHP, including acceptance that the vessel represents BHP's total commitment to Australian tankers for the export of Gippsland and Timor Sea crude oil for the quantities now envisaged.
- The vessel being classified as falling within the guidelines defined by the Maritime Industry Development Committee allowing reduced manning and eligibility for the Government 7A capital grant together with accelerated depreciation provisions. (There is little doubt that this condition will be fulfilled and a major positive benefit is seen in that the Commonwealth Government is known to be concerned that no shipowner has yet taken advantage of the new scheme. This proposal not only affords BHP the kudos of being first, but provides the opportunity to negotiate the best possible arrangements which could be helpful at a later time).

Approval document for the building of ***Iron Gippsland****, 9 Sep 1987.* BHP Transport.



Construction of ***Iron Gippsland****'s aft section at IHI's Kure Shipyard, Japan, 1988.* BHP Transport.

BHP became involved in a rather different shipping operation in 1988 when BHP Petroleum won a contract to supply 113,850 tonnes of Gippsland crude to the Petrochemical Industries Corporation refinery at Syriam in Burma.

The basis of the tender was to ship part of the contracted amount of oil in the Liberian-registered U.S.A.-owned tanker *Sunrise* (102,719 DWT), and anchor the ship outside the port of Rangoon in deep water. The cargo was then lightened by a shuttle service using two small Singapore-owned tankers, *Pacific Sunrise* (3,406 DWT) and *Ocean Glory* (4,195 DWT).

Two Officers from the BHP Transport fleet were seconded to assist the American Mooring Master in the marine side of the operation, offshore aboard *Sunrise* and onshore at the refinery.

A fortnight after the operation commenced on 4 April, the balance of the crude oil arrived from Western Port aboard the Niarchos-owned Greek tanker *World Kinship* (87,158 DWT) and was transferred to the moored *Sunrise* in less than 12 hours. By the time the whole operation was completed on 9 May, the two shuttle tankers had done a total of 21 trips, of 70 nautical miles each way, to the refinery.

The Burmese exercise was repeated on two further occasions, with the tanker/mother ship *Myoko Maru* and shuttles *Pacific Sunrise* and *Da Qing 68*, between 1 and 27 April 1990, and with *Cloudsdale* and shuttles *Sunny Diamond* and *Yust*, between 3 and 27 September 1990. On both occasions the oil was shipped from the Challis Field in the Timor Sea.



BHP Transport's road bunkering operations at Port Kembla, 1990. BHP Transport.

Simultaneously, Bass Strait production was winding down as that field aged.

Thus, from early 1991, *Iron Gippsland* was moved to spot market operations in the Australia/South East Asia region, primarily on fixtures to BHP Petroleum. Single-voyage and time-chartered vessels took over the U.S.A. trade.

One of the most consistent buyers of Gippsland crude had been Pacific Resources Inc. (PRI), a Honolulu-based oil company with a refinery and considerable downstream activities. The latter, including fuel retailing in the Hawaiian Islands and the Pacific (with an Australian presence at Gladstone and Weipa in Queensland and Gove in the Northern Territory), and associated crude oil trading, particularly interested BHP Petroleum, which saw PRI's business as complementary.

In 1989 BHP Petroleum took over PRI and, as a sequel, in August 1990 the latter's chartering division, PRI Marine, was relocated to Melbourne. In a manner similar to the earlier Utah arrangements, PRI Marine was incorporated into BHP Transport's chartering department. At the time, PRI Marine had up to 35 tankers under its control on time and spot charters: these operations were merged with BHP's own.

Meanwhile, in October 1987, BHP Transport had purchased established fuel oil bunkering facilities at Port Kembla from Mobil Oil. The terminal had been under-utilised, with only BHP Transport as a significant regular customer, and the Company saw an opportunity for BHP Petroleum to act as purchasing agent in acquiring bunker stocks from overseas. Once supplies were obtained and located in the shore tanks, BHP Transport was able to expand the business by selling to non-BHP users.

But the volume of sales was low in relation to the freight cost of importing the bunkers. This component could be proportionally reduced if another facility could be found and import volumes increased.



LNG tanker ***Northwest Sanderling*** *taking her first load at Withnell Bay, Jul 1989.* Woodside Petroleum.

On 1 July 1989, the Melbourne-registered *Northwest Sanderling*, the first of the 272 metre, 107,000 GRT liquefied natural gas (LNG) carriers for the North West Shelf (NWS) Project, sailed from Japan to load her first cargo at Withnell Bay, Western Australia.

Constructed at the Nagasaki yard of Mitsubishi Heavy Industries, *Northwest Sanderling* was the lead vessel of what was then planned to be a fleet of seven ships. Each of the Moss Rosenberg-type LNG carriers is fitted with four spherical tanks, the largest yet installed on any ship, and on every voyage carries around 125,000 cubic metres of liquid (approximately 75 million cubic metres of gas) worth about $12 million (at 1989 prices). From Withnell Bay the ships sail to 10 Japanese discharge terminals, with a typical round voyage taking 21-23 days.

Five of the seven vessels are owned in equal shares by the NWS participants – BHP Petroleum, Shell, BP, Chevron, Woodside and MiMi (Mitsubishi and Mitsui) – while the other two are owned by a consortium of Japanese shipowners and time-chartered to the project. In 1992, encouraged by the successful inauguration of the project and a contract to supply an additional one million tonnes per annum to the Japanese buyers, the NWS partners placed an order for an eighth ship, also for project ownership.

In all, four of the NWS ships will eventually be operated by the Australian LNG Ship Operating Company (ALSOC), a 50/50 joint venture between BHP Petroleum and Shell Australia, formed in 1985. The ALSOC vessels, crewed by BHP Transport, with technical management shared by the Company and Shell, are *Northwest Sanderling* (1989), *Northwest Snipe* (joined the fleet on 28 September 1990 following completion by Mitsui Shipbuilding and Engineering, Chiba), *Northwest Sandpiper* (Mitsui, delivery due February 1993), and *Northwest Stormpetrel* (the eighth in the series, due for delivery from Mitsubishi in December 1994). The other four NWS ships are *Northwest Swift* (Mitsubishi, July 1989, operated by NYK, Japanese flag), *Northwest Swallow* (Mitsui, November 1989, operated by Mitsui-OSK, Japanese flag), *Northwest Shearwater* (Kawasaki, September 1991, operated by BP, British/Bermudan flag), and *Northwest SeaEagle* (Mitsubishi, November 1992, operated by Shell Tankers U.K., British flag).



Lowering the upper hemisphere of one of the LNG containment tanks, ***Northwest Sanderling****, Jan 1988.* Woodside Petroleum.

BHP Transport identified Gladstone as a port where Company activity was already high but no bunkering service existed. Fortunately, Queensland Alumina Limited (QAL) was converting from oil fuel to gas operation and, on 1 July 1990, an agreement was signed for BHP to obtain access to their fuel storage tanks. By coincidence, QAL's fuel supplier had been Pacific Resources Inc. Following the purchase of PRI by BHP Petroleum, a joint venture was formed between BHP Transport and PRI to operate the bunkering facilities.

To service the Gladstone business BHP Transport ordered a new bunker barge from North Shipyard of Singapore. The 2,223 DWT *Larcom* (named after a mountain behind Gladstone) was designed by BHP Transport personnel and entered service in June 1991.

By June 1992, the bunkering operations were averaging sales of around 8,000 tonnes of fuel per month in each port and steady increases were expected, especially at the expanding port of Gladstone.

In 1990 Koppers Australia Pty. Limited, 50 per cent owned by BHP in partnership with U.S.A. company Koppers Industries Inc., commissioned BHP Transport to obtain, convert and operate a tanker for the carriage of liquid pitch from Newcastle to Comalco at Bell Bay (Tasmania) and other aluminium manufacturers in the Australasian region. The ship was also to be used to transport creosote and tar, by-products of coke.

Accordingly, BHP Transport selected an 8,300 DWT former Yugoslav-flag bulk carrier, *Biograd*, built in Japan for British owners in 1982. The ship was sent to Pan-United Shipyards in Singapore, arriving on 23 October 1990 for a technically complex conversion, never before attempted.

The work included the installation of five insulated tanks with a total capacity of 6,000 tonnes, for the transportation of the pitch at temperatures of 200-250 degrees Celsius. The converted ship emerged as *Seakap* in November 1991 and sailed to Dalian in the People's Republic of China (PRC). There, she loaded 5,600 tonnes of crude tar for Newcastle and, after discharge, set out on her first coastal voyage, in the process becoming the first ship to transport liquid pitch by sea in Australia.[2]

Seakap is owned by Koppers Australia and managed and operated by BHP Transport. She carries pitch from Newcastle to Bell Bay (and, from mid 1993, to Portland in south-west Victoria), creosote and tar from Whyalla and Port Kembla to Newcastle, export creosote from Newcastle to South Korea and tar from the PRC to Newcastle.



Bunker barge **Larcom** *approaches her berth at South Trees Wharf, Gladstone, Jul 1991.* BHP Transport.

Although BHP Transport's own wet bulk chartering activities had, by September 1992, declined from the peak PRI Marine levels of August 1990 (when 28 ships were on various types of charter) the business remains significant.

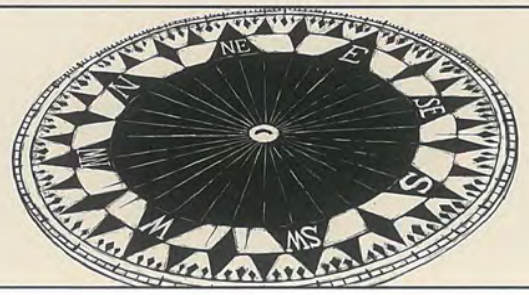
Currently the Company employs, on time charters of up to five years, five Aframax-sized crude tankers (including *Iron Gippsland*) and two product tankers. In the former category are the Panamanian *Tagasan* (controlled by Mitsui-OSK of Japan [92,725 DWT/1980]), The Qatari-flagged *Umm Said* (Arab Maritime Petroleum Transport Co. [97,112 DWT/1990]), sistership *Seafalcon* (Valles SS Co., Hong Kong [97,114 DWT/1991]) and *Seamaster* (Valles SS Co., Liberia [101,134 DWT/1990]). A sixth Aframax, *Pacific Wave* (Mitsui-OSK, Panama [96,099 DWT/1992]), will be added to the fleet later in 1992.

All of these vessels are primarily employed in the carriage of cargoes on behalf of BHP Petroleum. Loading ports include Western Port in Victoria, the Timor Sea *Jabiru Venture* (formerly the steam turbine tanker *Baden*, built 1974, converted to a FPSO in 1986 in Japan), *Challis Venture* (a FPSO purpose-built by IHI in Japan in 1989) and *Skua Venture* (originally the steam turbine tanker *Solfonn*, built 1975, converted to a FPSO in Singapore in 1991) and the Kumul Oil Terminal of the Papua New Guinean Kutubu oil field (operated by Chevron, with BHP Petroleum as a 12.5 per cent shareholder; however, BHP Transport holds responsibility for the shipment of approximately one third of the field's output).

Of the product tankers (both controlled by Mitsui-OSK) *Valiant Express* (29,998 DWT/1988) operates a monthly service from the PRI Honolulu refinery to Tahiti and American Samoa, carrying jet fuel, distillate and fuel oil, while *Hawaiian Express* (29,998 DWT/1990) is, at September 1992, trading on the spot market but will replace her sister when that vessel is re-delivered late in 1992.

CHAPTER 23

THE FUTURE BECKONS

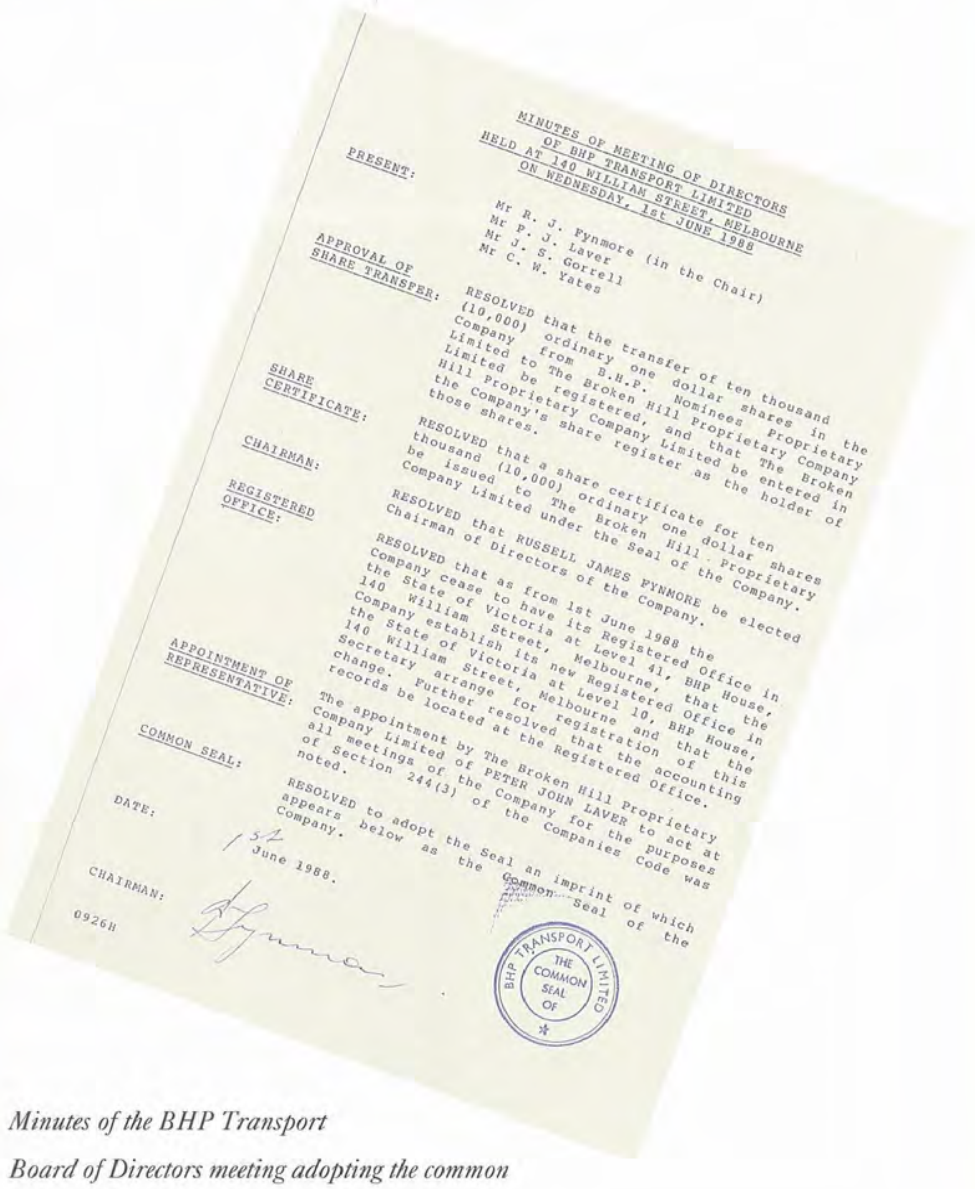


In November and December 1988, ships in the registered ownership of The Broken Hill Proprietary Co. Ltd. were transferred to the ownership of the wholly-owned subsidiary company, BHP Transport Limited. This process followed the formal transfer of operations on 1 June 1988,[1] and involved *Iron Arnhem*, *Iron Carpentaria*, *Iron Curtis*, *Iron Kembla*, *Iron Monarch* (III), *Iron Newcastle*, *Iron Pacific*, *Iron Prince* (III), *Iron Shortland*, *Iron Spencer* (II) and *Iron Whyalla* (II).

But the composition of the fleet was soon to change. In May 1989, *Iron Sturt*, which had been on bareboat charter from Bulkships for 10 years, was purchased outright by BHP Transport at auction. On 26 January 1990, *Iron Kestrel*, a fleet member since December 1974, was re-delivered to owners Ropners. She was replaced by a larger vessel, the 37,557 DWT Burmese-flag bulk carrier *Irrawaddy*, bareboat chartered for five years. She was re-registered at Melbourne as *Iron Baron* (IV), one of the original fleet names and the first to be used four times. *Iron Capricorn* was withdrawn and decommissioned on 16 October 1990 before being sold in December that year to become the Greek-owned *Irene's Blessing*.



***Iron Baron** (IV) at the Jurong Shipyard, Singapore, where she was converted to Australian standards, Mar 1990.* BHP Transport.



MINUTES OF MEETING OF DIRECTORS
OF BHP TRANSPORT LIMITED
HELD AT 140 WILLIAM STREET, MELBOURNE
ON WEDNESDAY, 1st JUNE 1988

PRESENT: Mr R. J. Fynmore (in the Chair)
Mr P. J. Laver
Mr J. S. Gorrell
Mr C. W. Yates

APPROVAL OF SHARE TRANSFER: RESOLVED that the transfer of ten thousand (10,000) ordinary one dollar shares in the Company from B.H.P. Nominees Proprietary Limited to The Broken Hill Proprietary Company Limited be registered, and that The Broken Hill Proprietary Company Limited be entered in the Company's share register as the holder of those shares.

SHARE CERTIFICATE: RESOLVED that a share certificate for ten thousand (10,000) ordinary one dollar shares be issued to The Broken Hill Proprietary Company Limited under the Seal of the Company.

CHAIRMAN: RESOLVED that RUSSELL JAMES FYNMORE be elected Chairman of Directors of the Company.

REGISTERED OFFICE: RESOLVED that as from 1st June 1988 the Company cease to have its Registered Office in the State of Victoria at Level 41, BHP House, 140 William Street, Melbourne, that the Company establish its new Registered Office in the State of Victoria at Level 10, BHP House, 140 William Street, Melbourne and that the Secretary arrange for registration of this change. Further resolved that the accounting records be located at the Registered Office.

APPOINTMENT OF REPRESENTATIVE: The appointment by The Broken Hill Proprietary Company Limited of PETER JOHN LAVER to act at all meetings of the Company for the purposes of Section 244(3) of the Companies Code was noted.

COMMON SEAL: RESOLVED to adopt the Seal an imprint of which appears below as the Common Seal of the Company.

DATE: 1st June 1988.

CHAIRMAN:

0926H

BHP TRANSPORT LIMITED THE COMMON SEAL OF

Minutes of the BHP Transport Board of Directors meeting adopting the common seal of the company, 1 Jun 1988. BHP Transport.

BHP Transport took on its second non-BHP ship management contract (*Island Gas* was the first) when the small roll-on roll-off, lift-on lift-off vessel *Bass Reefer* joined the fleet in September 1990. Previously operating as *Sid McGrath* between north Queensland and Papua New Guinea, the 2,745 DWT vessel was purchased by Bass Express Ships Ltd. of Melbourne (a company controlled by the Bermudan-based Sea Containers Group) after the bankruptcy of the previous owners.

As *Bass Reefer* the ship was refitted in Brisbane under BHP Transport supervision and, at the end of September, took up thrice-weekly service between Geelong (Vic.) and the north-western Tasmanian port of Stanley.

Crewing and technical management by the Company continued until 31 January 1992, when the contract with the owners was relinquished. In July 1992 *Bass Reefer* was withdrawn and the service was closed.

The fleet mix was also changing, mostly as a result of the Company's increasing involvement in trans-Tasman trades.

Ever since the 'liberation' of fleet ships to carry non-Company cargoes in the early 1980s, BHP Transport had been building what started out as a one-way trans-Tasman service – with Australian steel for New Zealand customers – into a fully-fledged liner operation.

However, there had always been an element of 'make do' about the tonnage. *Iron Arnhem* was looked on as an effective if less than ideal ship, and was



***Iron Arnhem** arriving in Sydney after a routine trans-Tasman crossing, 1989.* BHP Transport.



***Iron Flinders** (II) loading cargo at Lyttelton (N.Z.), 1991.* BHP Transport.





BHP Transport carries a wide range of cargoes across the Tasman including elephants and forty foot containers.

BHP Transport.

backed up by various bulk carriers – usually *Iron Kirby*, *Iron Kestrel* or *Iron Prince*. But, for BHP, the trade was unbalanced.

In 1987, *Iron Kirby* was added to the 'Tasman Connection' service full-time, albeit in order to find employment for the ship after steel products for W.A. were switched to rail (and to avoid laying up what was a costly ship, having been chartered originally at the top of the market).[2]

The following year, two of *Iron Kirby*'s cranes were replaced by higher capacity units and her holds were squared off to make her more suitable for the trade. But she was still a compromise vessel and, by 1990, BHP Transport realised more container-friendly ships were needed if the service was to realise its potential.

On 28 September 1990, *Iron Arnhem* was laid up and decommissioned at Newcastle, after 16 years with the fleet. In December, she was sold to Pacific International Lines of Singapore, the company which had taken sistership *Iron York* five years earlier.

Iron Arnhem's withdrawal simultaneously reflected the Company's new aspirations for the Tasman trade and a downturn in business.[3] The latter was caused in part by the introduction of *Pioneer Tween*, a 17,199 DWT Freedom Mk II-type tweendecker, under charter to New Zealand Steel (by then part-owned by BHP). In a slightly curious situation, BHP found itself trading one ship (*Iron Kirby*) with good base cargoes of Company steel eastbound but light loadings westbound – while New Zealand Steel maintained the reverse with the N.Z.-registered and crewed *Pioneer Tween*.

Concurrently, BHP Transport had been searching worldwide for an appropriate ship for the trade. In late 1990 the general cargo/container ship *Marlinda* was acquired on bareboat charter and, following a refit in Singapore, entered trans-Tasman service on 4 March 1991 as *Iron Flinders* (II). *Iron Kirby* arrived at Newcastle on 12 March at the conclusion of her service with BHP Transport and was handed back to Ropners.

In September 1991, BHP Transport won New Zealand Steel's Tasman shipping contract, which brought *Pioneer Tween* under Company control. However, as there was at that time no further use for the vessel on the Tasman, she was returned to the Liberian-flag and the N.Z. crew was signed off. (Until re-delivered to her overseas owners on 31 March 1992, at the end of her time charter, she was employed by BHP Transport carrying steel products from Newcastle and Port Kembla into the Asian region.)



***Iron Dampier** (II), BHP Transport's latest addition to the fleet, loads cargo at East Swanson Dock Melbourne on her maiden vouage, 7 Jul 1992.* BHP Transport.

The Company was now well positioned to offer a fortnightly service, with strong base cargoes in each direction.

BHP Transport soon concluded that it should offer a full liner service across the Tasman and, accordingly, at the end of 1991 sought a suitable container/breakbulk running mate for *Iron Flinders*. Company personnel were once again despatched overseas to inspect likely candidates. Until the selected vessel could be delivered, from March 1992 *Iron Flinders* was partnered by the perpetual fleet utility ship, *Iron Prince*.

After careful consideration, the 21,889 DWT bulk carrier/container ship *Kweilin*, owned by Swire's China Navigation Co., was taken on bareboat charter for five years. Following a refit in Singapore the vessel commissioned in June 1992 as *Iron Dampier* (II).[4] The Company finally had two geared, 900 TEU ships suited to the very competitive trans-Tasman trade.

Meanwhile, in May 1991, management consultants McKinsey & Co. had been commissioned to review the tasks and functions of the Company's Fleet Operations department in Newcastle. McKinsey's study concluded that there were substantial benefits to be gained by moving Fleet Operations to BHP Transport's Melbourne head office.

As a consequence, after more than 70 years headquartered at Newcastle, operational management of the Company fleet moved to Melbourne, the transfer commencing on 21 October 1991. Fleet Operations staff was reduced by almost 50 per cent; however, the relocation improved communications between the Company's key departments and eliminated duplication of various functions. A small BHP Transport office remains in Newcastle to oversee stevedoring and port operations.[5]

Despite a prolonged domestic recession and depressed international conditions in the early 1990s, the BHP Transport fleet has remained fully employed. Additionally, where necessary, foreign-flagged vessels have been engaged under single voyage permits on the Australian coast and, in 1991-92, the Company made use of the Australian-owned bulk carriers *TNT Carpentaria*, *TNT Capricornia* (both 82,422 DWT) and *Howard Smith* (43,300 DWT). In March 1992, *Iron Shortland*, the oldest of the fleet's cape-size units, was sold to Dutch interests and bareboat chartered back for four years.

In 1989 production began at the PT Arutmin project, located on the south-eastern corner of Kalimantan on the island of Borneo. In partnership with Indonesia's Bakrie Group, BHP Minerals is an 80 per cent stakeholder and the operator of the project, which is developing measured reserves of some 260 million tonnes of bituminous coal and 350 million tonnes of lignite. Exports will ultimately be sourced from a total of seven different mines, necessitating complex transport arrangements, many of which are already in place.

Since the establishment of BHP Transport's Singapore office in 1989, the Company has participated in key aspects of project development, operations and chartering. Presently, trucks deliver coal to small river ports where barges of up to 7,000 tonnes capacity are loaded, then shuttled by tugs directly to domestic customers or to export vessels moored some 25 miles away at deepwater anchorages. Alternatively, the barges discharge into the silo vessel *PU Kahayan* (converted in Singapore in early 1992 from the former Norwegian bulk carrier *Swan Point*, declared a constructive total loss after an explosion and fire off the Libyan coast in October 1991). Twelve barges (totalling around 45,000 DWT) and seven tugs are employed.

These are only interim arrangements, however. A new coal transhipment terminal, featuring four barge receival berths, 500,000 tonne capacity stockpile and a shiploader designed to accept cape-size bulk carriers, is under construction. To support the new terminal, contracts for a new fleet of four 7,000 tonne and four 3,500 tonne self-discharging barges, plus two 40 tonne bollard pull and two 25 tonne bollard pull tugs have been signed.

BHP Transport undertook all chartering for the existing tug and barge fleet, and has developed the specifications for the new craft. The Company also fixes contracts of affreightment (COAs) for PT Arutmin's export cargoes, through the Singapore and Melbourne offices.[6]



PT Arutmin barge load-out facility at Satui, South Kalimantan, 1992. P. Hopton.



Silo vessel ***PU Kahayan*** *moored 9 miles off Satui, South Kalimantan self-discharges her first cargo into Pernas Sekoi, 1992.* P. Hopton.


SHIPBUILDING CONTRACT

FOR

THE CONSTRUCTION OF

ONE (1) 50,000DWT CLASS
SELF-UNLOADING BULK CARRIER

HULL NO. 822

BETWEEN

BHP TRANSPORT LIMITED

AS BUYER

AND

HYUNDAI CORPORATION

AND

HYUNDAI HEAVY INDUSTRIES CO., LTD.

COLLECTIVELY AS BUILDER

- 44 -

IN WITNESS WHEREOF, the parties hereto have caused this CONTRACT to be duly executed on the date and year first above written.

For and on behalf of
BHP TRANSPORT LIMITED

By
Name: James Rhoard Lewis
Title: General Manager
WITNESS :

For and on behalf of
HYUNDAI CORPORATION

By
Name: S. Y. Park
Title: President
WITNESS:

For and on behalf of
HYUNDAI HEAVY INDUSTRIES CO. LTD.

By
Name: J. N. Lee
Title: Executive Vice President
WITNESS:

Cover and signature page of the newbuilding contract for ***Iron Chieftain*** *(II), 16 Dec 1991.* BHP Transport.



Messrs. J. E. Lewis and L. E. Hockridge signing the contract to build BHP Transport's self-discharging vessel, Seoul, South Korea, 16 Dec 1991. BHP Transport.

Underscoring the need to ensure the Company's coastal fleet achieves maximum efficiency, on 16 December 1991 a contract was signed with Hyundai Heavy Industries in South Korea for the construction of a 49,800 DWT self-discharging bulk carrier. The new ship will operate a dedicated round-voyage service carrying iron ore Whyalla-Newcastle/Port Kembla, returning from the latter with coal. Fitted with a gravity-type self-unloading system, she will be able to discharge cargo at the rate of 3,000 tonnes per hour.[7]

On land the drive for efficiency also continued. On 11 December 1991, BHP Transport signed a 10 year contract with three rail authorities (Australian National/South Australia, the Public Transport Corporation of Victoria and the State Rail Authority of New South Wales) for the rail transportation of steel slabs from Whyalla and Port Kembla to Western Port.[8]

These operations complement that of *Iron Monarch* (III), which is expected to remain in service until the turn of the century. However, it is instructive to consider the complete reversal of roles. The 1950s and 1960s, when almost all steel distribution in Australia was by sea transport, have given way to the 1990s, when there is virtually none.

Land transport in the 1990s is not, however, limited to rail. Trucking, too, has proven to offer a cost-effective alternative and BHP Transport has four road transport operation centres which service a national client base. Road haulage contracts held by the Company include commodities as diverse as bulk pig iron, ferro alloys, sand, gypsum, lime, grain and scrap metals, as well as general freight such as palletised steel products, containers and packaged goods.

Nevertheless, BHP Transport's involvement in the Australian port and stevedoring industry has continued to grow in line with the Company's



Rail and road activities at Acacia Ridge, Brisbane, 1992. BHP Transport.

While BHP Transport's shipping operations under contract to the Escondida project in Chile are not as complex as those in Indonesia, many aspects have proven challenging nonetheless.

Production at the world's largest privately-owned copper mine – of which BHP Minerals is 57.5 per cent owner, and manager – began in December 1990. Exports, mostly to European and Japanese buyers, are loaded at the exposed port of Caleta Coloso, 10 nautical miles south of the port city of Antofagasta which, in turn, is 160 kilometres north-west of Escondida. COAs for as many as 40 shipments per annum, in bulk carriers of up to 45,000 DWT, are negotiated from BHP Transport's Melbourne headquarters and overseen by the Company's office in the Chilean capital, Santiago.

Effective management of this business is particularly critical: the value of copper concentrates is so high, that one day's interest on the cargo exceeds the daily cost of the vessel carrying it.[9]

increasing vertical integration. Mirroring its earlier role in seagoing reform and restructuring, BHP Transport has been a key participant in the reform of the country's waterfront, a process again undertaken on a tripartite Government/unions/employers basis.[10]

Through Port Waratah Stevedoring, a series of enterprise-based agreements – which replace pooled waterside labour with direct Company employment – were completed in late 1991 and early 1992 in the ports of Kwinana, Whyalla, Newcastle, Port Kembla and Western Port.[11] Additionally, on 1 June 1992, BHP Transport took over management control of a 216 hectare materials handling and industrial site at Kwinana. This property, which comprises two deepwater jetties, a road/rail terminal, warehousing, and dry bulk and LPG facilities, is scheduled for further development.[12]

On the other side of the country, on 1 August, BHP Transport took over the management of Hay Point Towage Services in northern Queensland. From an office approximately 50 kilometres south of Mackay, the Company manages two tugs – *Belyando* and *Broadsound* – and two line boats, all of which service the Hay Point coal loading terminal (managed by BHP Coal). The contract represented BHP Transport's first direct move into the towage industry.[13]

In September 1992, the Company announced that the self-discharger to be built in South Korea is to be named *Iron Chieftain* (II), thus commemorating the BHP vessel lost 50 years earlier during World War II. When delivered in October 1993, *Iron Chieftain* will be the 58th 'Iron' ship.

In 1992 the education and training of almost all BHP Transport sea-going employees is conducted under the auspices of the Australian Maritime College (AMC) in Launceston (Tas.). The AMC was established by the Federal Government in 1980 to provide a national facility for maritime and marine-related education and training, and schools all new entrants to the industry.

The AMC has an internationally recognised program of studies and enjoys significant input from Australian shipping industry participants. All sea-going trainees (Deck, Marine Engineer and integrated ratings) complete 19 weeks of vocational training, followed by 20 weeks at sea on a guided study program. Thereafter three further years of Officer training begins in earnest, with Deck Officers working towards a Certificate of Competency Second Mate Class 1, incorporating a Diploma of Applied Science (Nautical Science) and all theory relating to subsequent certificates up to Master Class 1 (unlimited).

Marine Engineer Officers graduate with a Batchelors of Technology (Marine Engineering). This degree is known as 'front end' training, leaving only sea qualifying service requirements to be met before a Chief Engineer's Certificate is obtained. Both Deck and Engineer Officer trainee courses include further on-the-job training, some of which is undertaken during semester breaks, with the balance of sea-time being made up after AMC studies have concluded.

In 1990 a marine engineering course was re-introduced at the Newcastle College of Technical and Further Education (TAFE) after 10 years. This course is known as an Associate Diploma of Marine Engineering (a Part A Second and Chief and Part B Watchkeeping Certificate).

In September 1992, BHP Transport had a total of 59 Deck and 25 Marine Engineer Officer trainees studying at the AMC, and a further 12 Marine Engineers were enrolled at the Newcastle TAFE.[13]



Seagoing recruiting poster, 1991. BHP Transport.





Left: Trainee Deck and Marine Engineer Officers experience on the job training, 1990. BHP Transport.





Graphic representation of BHP Transport trade routes, 1992. Computer grahic by Trinidad James.

In its core operations, BHP Transport is currently (September 1992) Australia's largest ship owner, shipper and ship operator (measured in deadweight tonnes). It accounts for approximately 37 per cent of the total Australian fleet, 65 per cent of the nation's bulk fleet and 95 per cent of its internationally-traded bulk fleet. Company vessels are projected to ship 16 million tonnes of cargo in 1992-93, while the total bluewater freight task will amount to more than 50 million tonnes, valued at almost US$1 billion. The Company employs 1,935 seagoing, shore and stevedoring personnel and has 13 Australian and nine international offices.

In 1992-93 BHP Transport's Dry Bulk Chartering Division will be responsible for some 28 million tonnes of cargo, carried in 22 million deadweight tonnes of shipping, including 15 million tonnes in approximately 150 panamax and cape-size bulkers. A further 300 handy-size vessels will be employed for steel and mineral shipments. An additional 1.4 million tonnes will be shipped on regular liner services to New Zealand, Asia and North America.

The Company's Wet Bulk Chartering Division, in 1992-1993, will have under its control up to 20 tankers on voyage and short-term charter, and a further eight on period charters of between three and five years. Approximately 200 voyages will be undertaken on behalf of BHP Petroleum and others, transporting some 85 million barrels of crude oil and products.

Similarly, in 1992-93 BHP will account for around 8 per cent of all Australian road freight and just under 25 per cent of all rail freight – the single largest customer of the new National Rail Corporation.

These figures portray the evolving shape of BHP Transport in the 1990s and beyond: that of a diversified, vertically integrated, international transport entity. Activities now encompass Australian and foreign-flagged fleet ownership, worldwide chartering, road and rail operations, stevedoring and wharf operations, ship and towage management and agency, project consultancy and bunkering.

The Broken Hill Proprietary Company Limited has come a long way since the discovery of the 'Hill of Mullock' in outback New South Wales in 1883. And, BHP Transport has taken giant steps since the Company purchased its first vessel, Iron Monarch, in 1917.

But, in many ways, the essence of BHP's maritime and transport business has changed little. In 1992 the BHP Transport mission statement defines the organisation's role as:

To provide reliable and internationally competitive transport services to support the worldwide activities of the BHP Group of Companies and to pursue transport-related opportunities that generate profit and growth.

The scope and dimension may have altered, but the purpose remains the same.

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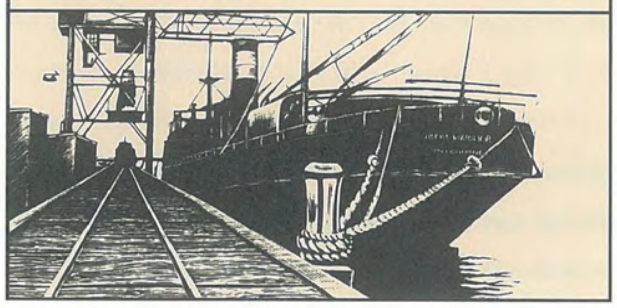

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EDITOR'S NOTE

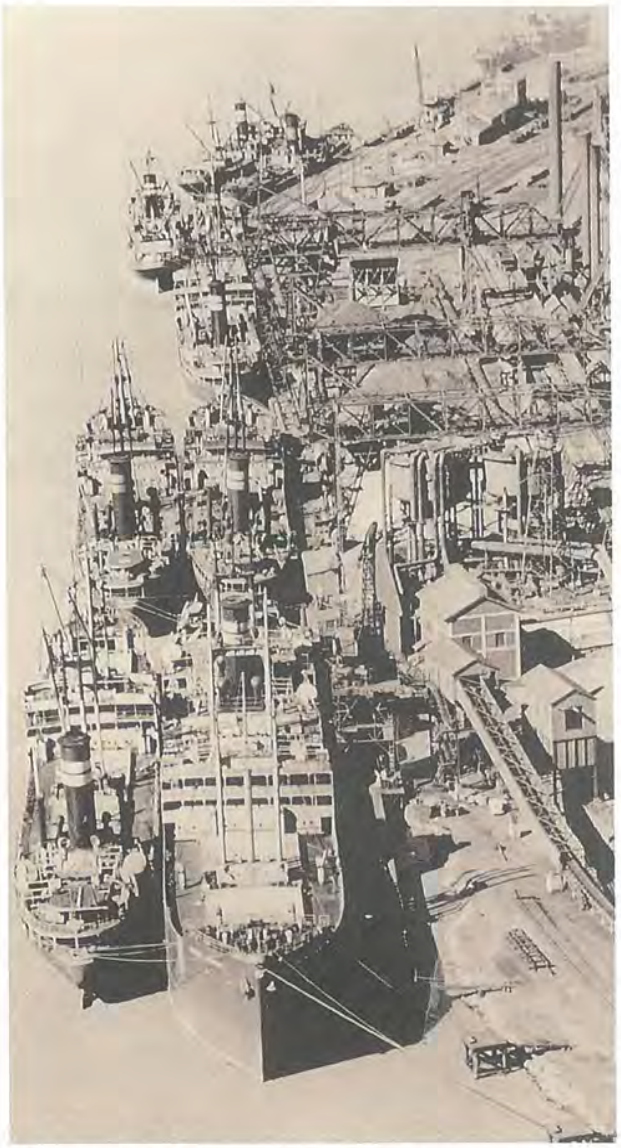
Vessels listed in the *Iron* ship fleet are ships owned or bareboat chartered by BHP. Subsequent categories are as titled. Throughout the fleet list, except Miscellaneous Vessels, ships are listed in order of their entry into service with the Company or its associates. The notation (I), (II) etc. after the name of a vessel indicates that she is the first, the second etc. vessel of that name in the fleet. The type of vessel then follows (T=twin-screw; S=steamship; M=motor vessel; GT=gas turbine vessel), after which is found the dates of entering and leaving the fleet. Unless otherwise stated, *Iron* ship vessels entering the fleet prior to December 1988 were owned by The Broken Hill Proprietary Co. Limited and subsequent fleet vessels are owned by BHP Transport Limited.

In the *Iron* ship category, the vessel's Official Number in her country of registry is given in the first line. This is followed by her tonnages gross, net and deadweight. These figures are those recorded in Company fleet manuals, or as per the first reliable entry in Lloyd's Register of Shipping. Only significant tonnage changes during a vessel's career are noted, for example as has occured when a shelter deck has been closed. Dimensions given are registered length, beam, depth and draught, and are shown in feet and tenths for vessels entering the fleet prior to 1954. From that year until the metrication of transport industries in February 1974, dimensions given for vessels are the overall length, beam, depth and maximum draught at summer deadweight in feet and inches. Dimensions given for subsequent vessels are the overall length, beam, depth and maximum draught at summer deadweight in metres. The notation (incl. BB) indicates that the vessel has a bulbous bow and the overall length recorded includes any protrusion of that bow.

Then follows the type and make of engine and the name of the engine manufacturer. Where known, the horsepower has been given; for coal-burning steamships the figure represents indicated horsepower (ihp), for turbine-driven vessels the figure represents shaft horsepower (shp) and for vessels with diesel propulsion the figure represents brake horsepower (bhp). Where known, this figure (along with the vessel's fuel consumption and speed in knots) is given as that recorded in the vessel's normal service with BHP. The figures are otherwise those shown in the first reliable entry in Lloyd's Register of Shipping.

All the above statistical and technical information is that recorded at the time of the vessels' entry into the BHP or associated fleets. In some subsequent categories of the fleet list this information has been abbreviated.

Details of vessels' histories have been drawn from BHP fleet and archival records, Lloyd's Registers of Shipping, the World Ship Society publication 'Marine News', the Nautical Association of Australia publication 'The Log', and other reliable and authoritative sources. The vessel histories are corrected up to 30 September 1992.



The entire BHP fleet, together with another vessel under BHP charter, tied up alongside Newcastle Steelworks wharf. This unique situation was caused by a seven week coal-miners' strike. The vessels are: ***Iron Yampi*** *dwarfing the* ***Iron Monarch*** *alongside, while behind are the steamers* ***Iron Baron*** *and* ***Iron King*** *(nearest wharf), then the* ***Iron Duke****, followed by the* ***Iron Knob*** *and* ***Iron Master*** *(next wharf and partly obscured), then comes the* ***Iron Warrior*** *and the chartered* ***Ellaroo*** *(next wharf) and finally the* ***Iron Prince****, Jul 1948.* BHP Archives.

1. Iron Monarch (I)

(1917-1928) S General Cargo

Official Number: 132450

Tonnages: 4,260 gross, 2,632 net

Dimensions: Length 364, breadth 50.7, depth 26.1, draught 23.5 ft.

Machinery: Triple expansion three cylinder engine manufactured by North Eastern Marine Engineering Co. Ltd., Sunderland. 344 nominal horsepower.

History

February 1914: Completed by Sunderland Shipbuilding Co. Ltd., Sunderland, as *Koolonga* for McIlwraith McEacharn's Line Pty. Ltd. of Melbourne.

6 August 1914: Requisitioned by Royal Australian Navy for service as a collier.

May 1915: Released from RAN service and partially employed in BHP ore trades.

October 1917: Sold to Edward Percy Simpson (BHP nominee – 53/64th) and William Scott Fell (11/64th) and 22 November 1917 renamed *Iron Monarch*, registered Sydney.

1920: Sold to Interstate Steamships Ltd., but remained in registered ownership of Simpson and Scott Fell.

1928: Registered to Interstate Steamships Ltd.

1937: Owners re-titled Interstate Steamships Pty. Ltd.

1937: Sold to Madrigal & Co., Philippines and renamed *Paz.*

March 1942: Scuttled at Sourabaya but subsequently salved by Japanese and renamed *Hatsu Maru.*

13 November 1944: Sunk in Manila Bay by U.S.A. carrier-based aircraft.

Iron Monarch serviced the steel and ore trade for 20 years from 1917 and during that period was involved in two major incidents. Whilst anchored in the harbour at Port Kembla at 0100 hours, 7 July 1923, the vessel was dashed against the northern breakwater during high winds and sustained damage estimated at £20,000. Captain George Lang told the Marine Court of Inquiry of squalls of 100 miles per hour accompanied by blinding rain, making it impossible to see anything in the tempest. A vivid flash of lightning confirmed that the ship was dragging her anchors and very close to the breakwater. There was only one thing to do to escape total destruction and that was to heave up the port anchor and steam ahead. This was done but the gale caught the vessel, which shivered and refused to answer the helm. She was swung around by the wind on to the breakwater. The following day the tugs *St. Giles* and *Rollicker* left Sydney and successfully refloated the stranded vessel. The court found that but for the prompt action by the Master and Mate, more serious damage to the vessel would have resulted.

In December 1934 when entering Newcastle Harbour from sea with a full cargo of Whyalla ore she sheared off the leads. The Master, Captain Wilson put her about and came around another time. While swinging to starboard she struck some large rocks that had fallen from the extreme end of the northern breakwater where she remained hard and fast for nearly a week. The collier Birchgrove Park put alongside and lightened her forward holds using grabs to remove ore that was then dumped. The No. 1 bulkhead required shoring up but eventually the vessel was refloated and removed to the steelworks wharf where the remainder of her ore cargo was discharged. Repairs were later finalised at Sydney's Cockatoo Dockyard.



Scott Fell funnel colours.

I. J. Farquhar collection.

2. Iron Baron (I)

(1919-1929) S General Cargo

Official Number: 132610

Tonnages: 3,139 gross, 1,985 net, 5,600 deadweight.

Dimensions: Length 331.3, breadth 49, depth 24.3, draught 21.8 ft.

Machinery: Triple expansion three cylinder engine manufactured by Clyde Shipbuilding & Engineering Co., Port Glasgow. 276 nominal horsepower.

Speed: 9 knots.

History

6 September 1911: Launched by Russell & Co., Kingston Yard, Port Glasgow (Yard No. 629) as *Emerald Wings* for The Wing Steamship Co. Ltd. (Norman Hallett & Co.), London.

1915: Chartered to W. Scott Fell & Co. for service in BHP trades on the Australian coast and registered at Sydney, N.S.W.

26 June 1917: Sold to Limerick Steamship Co., Limerick, Ireland and 9 February 1918 renamed *Kilbaha* (Sydney registry retained).

23 February 1918: Transferred to Margam Abbey Steamship Co. Ltd., Cardiff, Wales (Sydney registry retained).

20 October 1919: Sold to BHP and 23 June 1920 renamed *Iron Baron.*

1921: Modified for fitting of marine wireless; topmasts added for aerials, another bridge deck built to accommodate enclosed wheelhouse and wireless shack.

25 January 1925: Re-registered at Newcastle, N.S.W.

March 1925: Grounded briefly in the Mersey River, Devonport, when departing for Newcastle with a cargo of limestone.

July 1926: Registered at Melbourne.

13 November 1929: Sold for £33,367 to E. B. Aaby, Oslo, Norway; later E. B. Aabys Rederi A/S. Name unchanged. During World War II taken over by the Norwegian Shipping and Trade Mission, London, and used on the Atlantic run between Britain and the United States.

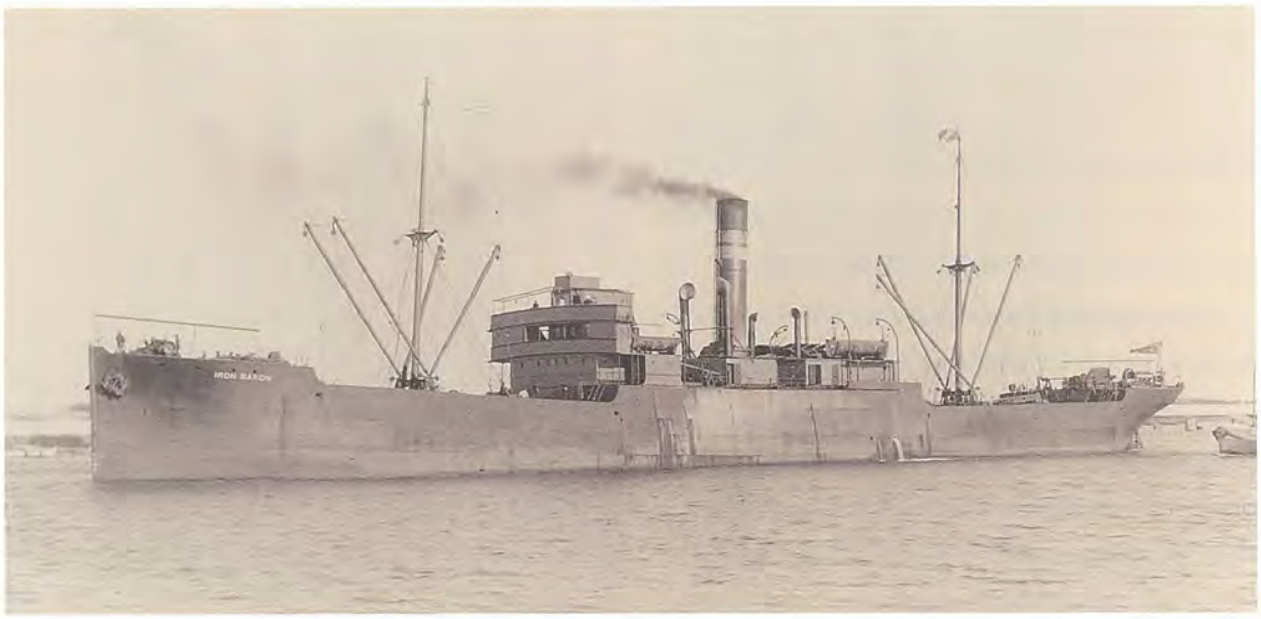
Late 1945: Returned to owners. During Norwegian ownership, converted to oil-firing.

18 February 1952: Sold for NoK 2,782,609 to Flotta Z. (Mario Zobali), Genoa, Italy, and renamed *Vittorio Z.*

11 October 1955: Sank after colliding with the Dutch motorship *Prins Maurits* (1,287 GRT) off Texel Island, Netherlands, during a voyage from Gdynia, Poland, to Italy with cement.

After six hours of trials the newly commissioned *Emerald Wings* left the Clyde for Swansea in south Wales. Her Master, Captain W. Halley (later BHP's first Marine Superintendent) recorded that she loaded patent fuel and sailed for Antwerp where she took on railway construction materials and locomotives on consignment to Brazil for the building of the Socrobana railway. After taking bunkers at Las Palmas, the ship steamed to Santos before proceeding to Rio Grande de Sul. The return cargo (quebacho logs) was loaded at Santa Fe, 600 miles up the River La Plata and the ship sailed for New York, via Barbados for bunkers. *Emerald Wings* then loaded a full cargo of wheat for Emden in Germany, the Atlantic crossing taking 23 days. After discharge the vessel crossed the North Sea in ballast to Purfleet near London where a cargo of chalk was ready for loading for Philidelphia. Thus ended the 17,000 mile maiden voyage of a ship that would serve under four flags for the next 44 years.

Emerald Wings carried the first cargo of iron ore from Whyalla, South Australia, to the Newcastle Steelworks (January 1915), thereby making its mark on the history of Australia's industrial development.



I. J. Farquhar collection.

3. Iron Prince (I)

(1919-1923) S General Cargo

Official Number: 125786
Tonnages: 3,116 gross, 1,992 net, 5,600 deadweight.
Dimensions: Length 331.5, breadth 49, depth 24.3, draught 21.8 ft.
Machinery: Triple expansion three cylinder engine manufactured by J. G. Kincaid & Co., Greenock. 276 nominal horsepower. **Speed:** 9 knots.

History

22 April 1909: Launched by Russell & Co., Kingston Yard, Port Glasgow (Yard No. 594) as *Bright Wings* for The Wing Steamship Co. Ltd. (Norman Hallett & Co.), London.

1915: Chartered to W. Scott Fell & Co. for service in BHP trades on the Australian coast and registered at Sydney, N.S.W.

3 July 1917: Sold to Limerick Steamship Co. Ltd., Limerick, Ireland, and 9 February 1918 renamed *Auchinish* (Sydney registry retained).

23 February 1918: Transferred to Carrington Steamship Co.Ltd., Cardiff, Wales, and 24 August 1918 renamed *Aughinish* (Sydney registry retained).

20 October 1919: Purchased by BHP.

5 April 1920: Beached on the south coast of N.S.W. after striking an uncharted submerged rock (later named Aughinish Rock) off Montague Island. Salved and repaired.

25 May 1920: Renamed *Iron Prince.*

19 April 1923: Wrecked near Cape Howe, Victoria, on passage Devonport-Newcastle.

Iron Prince left Devonport, Tasmania, on 17 April 1923 bound for Newcastle with a cargo of Melrose limestone, the ship making her first voyage after a nine month lay-up following the closure of the Newcastle Steelworks in June 1922. At 2140 hours on 18 April, Gabo Island light was observed, the weather at the time being hazy from extensive bushfires burning on the coast, with winds from the south-east and a north-easterly swell running. At midnight the Master left orders that the course was to be continued until Gabo Island was abeam and to pass the light at a distance of three miles, it being then 10 miles distant. At 0135 hours the red sector of Gabo light was noticed and three minutes later breakers were reported on the port bow. The Second Officer ordered the helm to be put hard to port and went below to call the Master. At that time the ship ran aground.

Captain Maxwell immediately took charge, the ship now fast aground amidships and bumping heavily in the rising southerly swell, lying with her head pointing out to sea, the fore peak and forward holds flooding. At 0100 hours on 20 April with all efforts to free the vessel having proven fruitless, it was decided to abandon her and the crew were transferred to The Adelaide Steamship Co.'s *Aldinga*, which had been standing by, and were safely landed at the port of Eden.

At the subsequent Marine Court of Inquiry a witness, in reply to a question from Council for the Second Officer, stated that the lookout on the night of the grounding was on the bridge. He was not on the forecastle because it was the opinion of the witness that it was better to have the lookout on the bridge. "The seamen on cargo boats are so undisciplined now, that if they can get into ventilators or something else near the forecastle head they will do so. On the bridge they are under the eye of the officer. It was not the same on passenger boats because the lookout had to ring a bell every half hour. It was possible the lookout would have seen the land sooner had he been on the forecastle head." The Court was told it was the practice on *Iron Prince* to keep the lookout on the bridge.

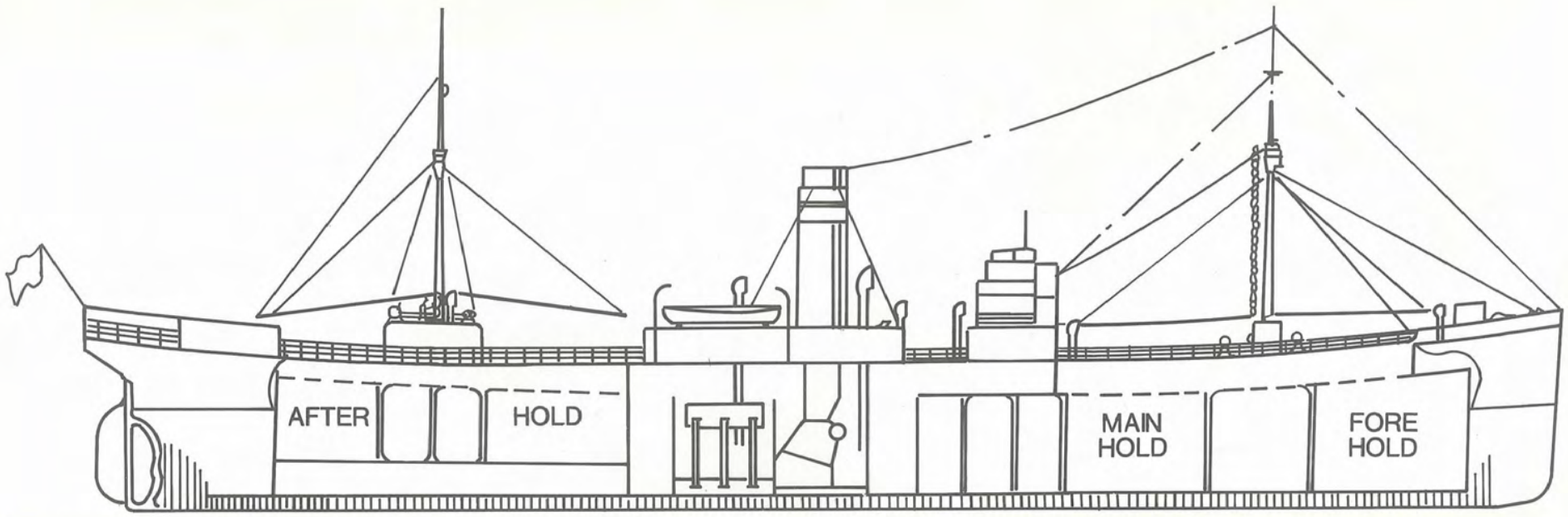
On 10 May 1923, the court found that the stranding was caused by the vessel being out of its course when passing Gabo Island light, but exonerated the Master from responsibility for the loss of the vessel. However, the Court considered it proper to express its strong disapproval of what appeared to be a growing tendency on the part of Masters to navigate unnecessarily close to the shore.



BHP Archives.

E CLASS

IRON KNOB
IRON MASTER
IRON PRINCE (II)
IRON WARRIOR (I)



General Arrangement: ***Iron Knob, Iron Master, Iron Prince*** *(II) and* ***Iron Warrior*** *(I).*

4. Iron Knob

(1923-1955) S General Cargo

Official Number: 128793
Tonnages: 3,349 gross, 1,907 net, 6,170 deadweight.
Dimensions: Length 331.0, breadth 47.9, depth 26.1, draught 23.5 ft.
Machinery: Triple expansion three cylinder engine manufactured by the shipbuilder. 516 nominal horsepower. **Speed:** 10 knots. **Crew:** 46.

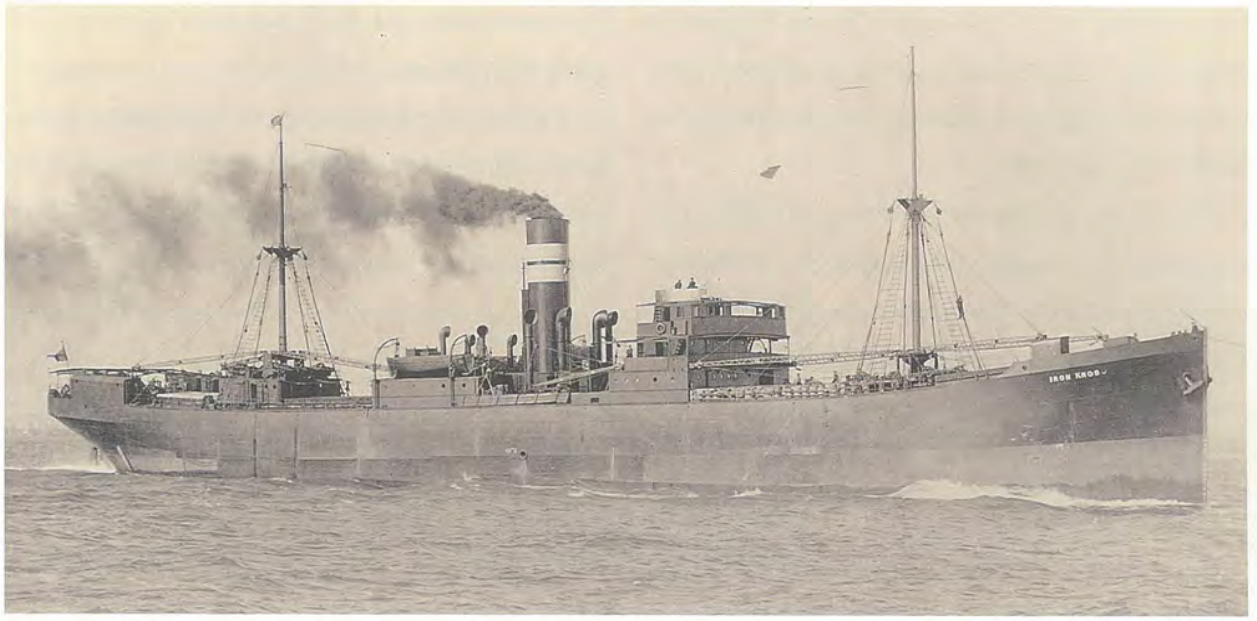
History

17 December 1921: Launched by Poole & Steel Limited, Adelaide, as *Euwarra* for the Commonwealth Government (Australian Commonwealth Line of Steamers).
June 1922: Commissioned; registered at Newcastle, N.S.W.
9 November 1923: Sold for £39,500 to BHP and renamed *Iron Knob.*
July 1926: Registered at Melbourne.
1955: Sold for Stg. £33,000 to Panatiotis Vrangos of Trieste and 11 November 1955 delivered; renamed *Clarisse*, registered Panama.
15 July 1957: Foundered in the Indian Ocean on a voyage from Mormugao, India, to Trieste. Master and 21 other survivors landed at Durban by tanker *Justus Waller.*

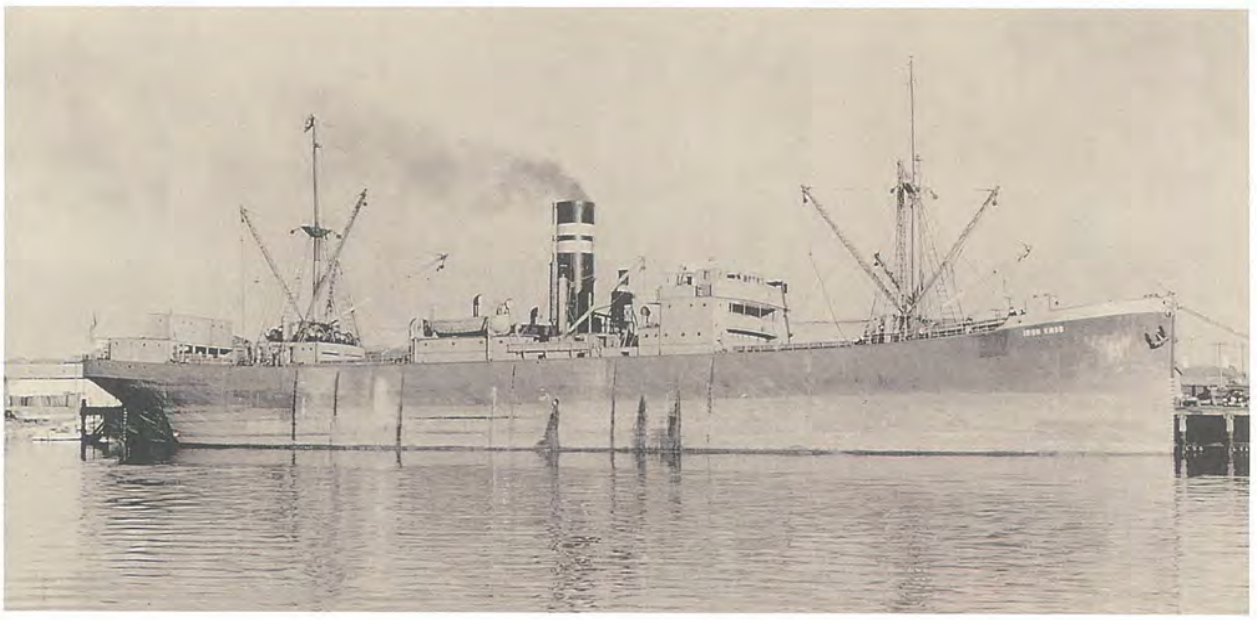
Iron Knob grounded on 31 March 1930 off Port Albert, Victoria, whilst in ballast en route from Newcastle to Whyalla. The vessel was refloated and the report of a subsequent Marine Court of Inquiry into the grounding resulted in the dismissal by the Company of the Master and Second Officer.

During May 1931, while discharging ore at Newcastle, the ship's mainmast was struck and damaged by the ore bridge unloader. As her sister *Iron Warrior* was also at the wharf, loading steel products, her maintop was removed and replaced aboard *Iron Knob*, allowing her to sail as scheduled; a replacement was made and fitted to *Iron Warrior* before she sailed.

Iron Knob was the first vessel to take limestone from the jetty at Rapid Bay in South Australia's Gulf St. Vincent when, on 5 September 1942, she took on the first load of 5,286 tons of limestone from



Pre war. *World Ship Society (Victoria).*



Post war. *J. Y. Freeman.*

that port for Whyalla. On 22 September 1950 under the command of Captain J. Sinclair, the ship took on the first consignment of dolomite to pass over the loading jetty at Ardrossan.

In the 32 years of her service with BHP, *Iron Knob*, in 393 voyages around the Australian coast between Newcastle and South Australian ports, carried a total of 3,115,184 tons of cargo, travelling a distance of 923,550 miles. Of the total cargo carried, 2,004,330 tons was iron ore, limestone, dolomite, scrap and pig iron to the eastern states. Cargoes of steel, coal, coke and other products shipped from Newcastle and Port Kembla to the southern states totalled 1,110,854 tons.

On the last voyage the vessel made for BHP she was under the command of Captain M. C. Moffatt, who began his seagoing career as apprentice No. 6 aboard *Iron Warrior* in April 1940. The vessel was handed over to her new owners at Wickham Dolphins, Newcastle, on 11 November 1955. Renamed *Clarisse*, she sailed from Newcastle for the last time on 23 November 1955 for Geelong to load a cargo of wheat for Malta.

On 29 July 1957, the following correspondence was received by BHP from its U.K. representative: "Captain Adelmo Vescia, Master of *Clarisse*, arrived here (Durban) last night with 21 other survivors of his ship aboard the motor tanker *Justus Waller*. Captain Vescia said that on 15 July after 10 days of extremely bad weather, three huge waves struck the side of *Clarisse* and a leak started on the port side below the engineroom. Later, hull plates cracked and a hole appeared in the side of the ship. Captain Vescia stated, 'we had to abandon the engineroom when the men were working almost up to their necks in water, and once we realised the water had reached our cargo of iron ore there was nothing more to be done'. "

5. Iron Master

(1923-1958) S General Cargo

Official Number: 150170
Tonnages: 3,351 gross, 1,916 net, 6,170 deadweight.
Dimensions: Length 331.0, breadth 47.9, depth 26.1, draught 23.5 ft.
Machinery: Triple expansion three cylinder engine by the shipbuilders. 516 nominal horsepower.
Speed: 10 knots. **Consumption:** 35 tons of coal/day.
Crew: 46.

History

20 April 1921: Launched by Poole & Steel Limited, Adelaide, as *Eurimbla* for the Commonwealth Government (Australian Commonwealth Line of Steamers).
3 December 1921: Commissioned.
19 January 1922: Arrived in Melbourne for drydocking and did not sail again for Commonwealth Line.
9 November 1923: Sold to BHP for £39,500 and renamed *Iron Master*, registered Melbourne.
1924: Registered at Newcastle, N.S.W.
July 1926: Registered at Melbourne.
1927: First BHP vessel converted for oil-firing, though later reverted to coal.
1 May 1946 and *5 October 1955:* Alterations made to vessel's accommodation, including (1955) additional structure on poop.
July 1957: Sold for £105,625 for delivery in March 1958 to Cambay Prince S. S. Co. Ltd. (John Manners & Co. Ltd., managers) Hong Kong.
1 March 1958: Handed over.
14 April 1958: Towed to sea from Newcastle by *Kembla Breeze* (ex *Iron Prince* [III]), whence sailed under own power for Hong Kong.
April 1958: Registered at Hong Kong; name *Tasman Breeze* approved but laid up until March 1959 when delivered for demolition by Shun Fung Ironworks Ltd., Hong Kong (a Manners subsidiary).

Iron Master had her share of mishaps over the years. On 1 June 1926, she grounded at Whyalla for 16 hours on leaving for Newcastle. Then on 22 October 1926, when leaving Williamstown, Victoria, for Adelaide, she collided with a sunken submarine lying at the opposite wharf, causing one blade of her propeller to be stripped and causing some damage to the submarine. The ship was allowed to proceed to Newcastle where a new blade was fitted to the propeller. The Master was relieved of his command.

On 13 May 1927, she grounded in the Port Augusta channel when fully loaded with a cargo of steel rails. Refloated after three days with the assistance of the tugs *Euro* and *Leveret*, the voyage was completed and the ship drydocked at Sydney for repairs. Later that year, on 17 December, while leaving Melbourne in ballast for Whyalla, the ship encountered dense fog when she was about to proceed through the Heads and struck and passed over the Corsair Rock, causing extensive damage to her bottom. The vessel returned to Melbourne and after discharging her oil fuel, entered Duke & Orr's Dock where necessary repairs were effected. It was found necessary to renew 19 plates, the damage bill amounting to £20,000. The ship sailed for Whyalla on 7 March 1928, the Master having been exonerated from blame.

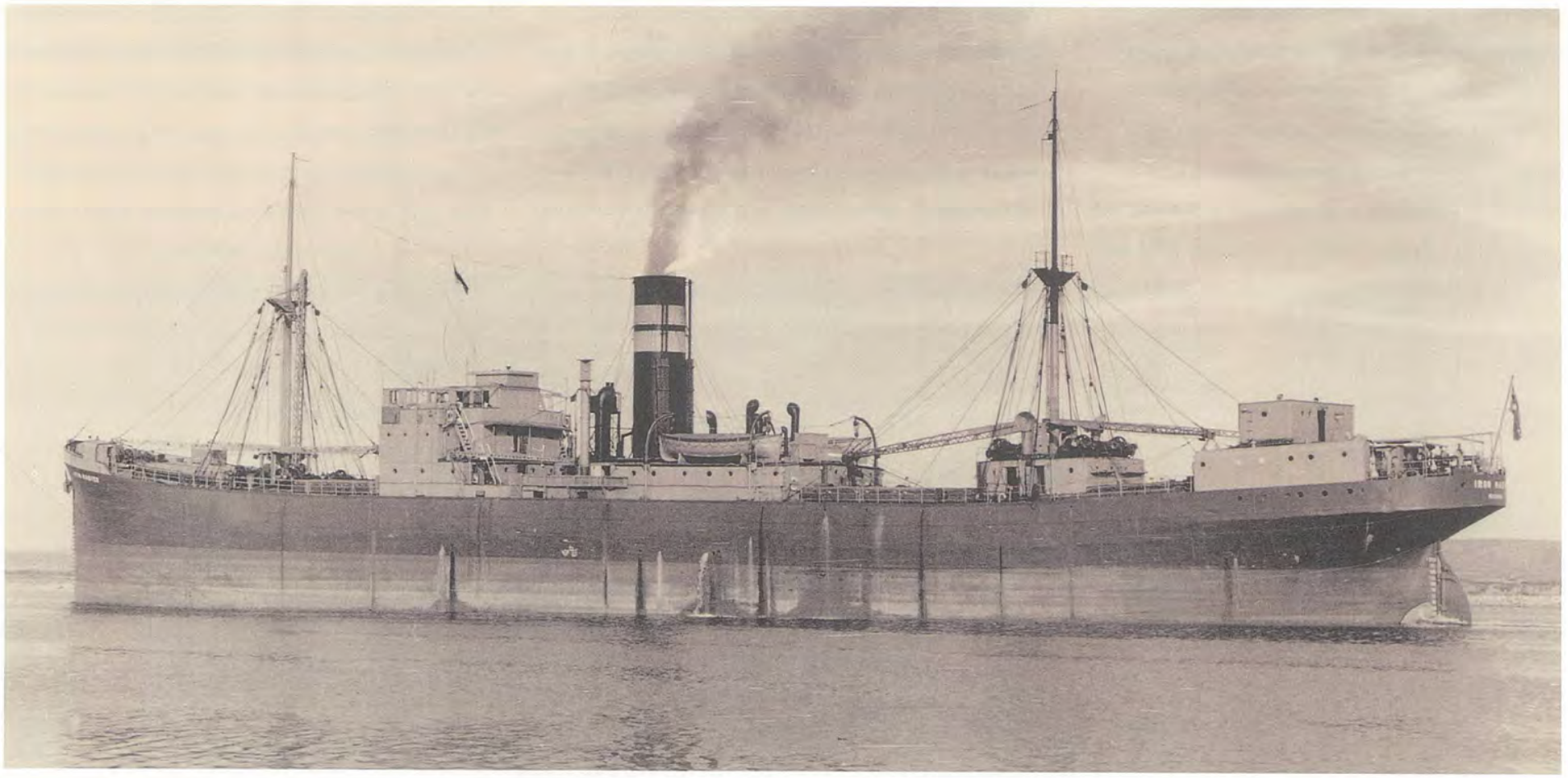
When entering Port Kembla on 28 August 1932 with a cargo of ironstone, she struck an uncharted submerged rock which damaged her bottom. Temporary repairs were carried out by a diver while

she lay alongside the No. 2 jetty. The damage sustained was right aft beneath the shaft tunnel, and closing of the watertight doors prevented the entry of water to the engineroom. The vessel steamed to Sydney where permanent repairs were carried out over five days, the ship leaving for Newcastle on 7 September 1932.

On a voyage from Whyalla to Port Kembla with a full cargo of ironstone on Christmas Eve 1942, *Iron Master* stranded off Bulli Head, N.S.W. during heavy fog. She was subsequently refloated and proceeded to Port Kembla where her cargo was discharged enabling the vessel to sail to Newcastle, where she remained until 1 March 1943, awaiting an allocation of labour and facilities. She then moved to drydock at Sydney where repairs were finally completed on 15 May 1943. There were 72 plates replaced in the bottom and except for the fact that World War II was still in progress and ship losses high, she probably would not have been repaired.

Iron Master was the only one of BHP's 'E' class to have been fitted with refrigeration space, installed when built, situated in the No. 3 'tween deck below the bridge. It consisted of a single freezer room with an ammonia cooling system, driven by a horizontal steam engine in the engineroom, fitted with 5 ft. flywheel and a double acting spherical piston with a hemisphere at each end. Both the steam piston and the ammonia compressor piston were mounted on the same piston rod. The piston rod passed through the ammonia cylinder necessitating a gland at each end of the cylinder. Except for the occasional ammonia leak through the glands, the system was very reliable and functioned for the total life of the vessel.

The ship entered Newcastle Harbour as a unit of the BHP fleet for the last time on 21 February 1958 with a full cargo of scrap steel loaded at Adelaide, and on completion of discharge she was handed over to her new owners. *Iron Master* was the last of the 'E' class vessels operating on the Australian coast. In her 34 years of service with BHP she made 384 voyages between the terminal ports of the Company.



J. Y. Freeman.

6. Iron Prince (II)

(1923-1956) S General Cargo

Official Number: 151808
Tonnages: 3,352 gross, 1,916 net, 6,170 deadweight.
Dimensions: Length 331.0, breadth 47.9, depth 26.1, draught 23.6 ft.
Machinery: Triple expansion three cylinder engine manufactured by Thompson & Co. Pty. Ltd., Castlemaine, Victoria. 516 nominal horsepower.
Speed: 10 knots. **Crew:** 46.

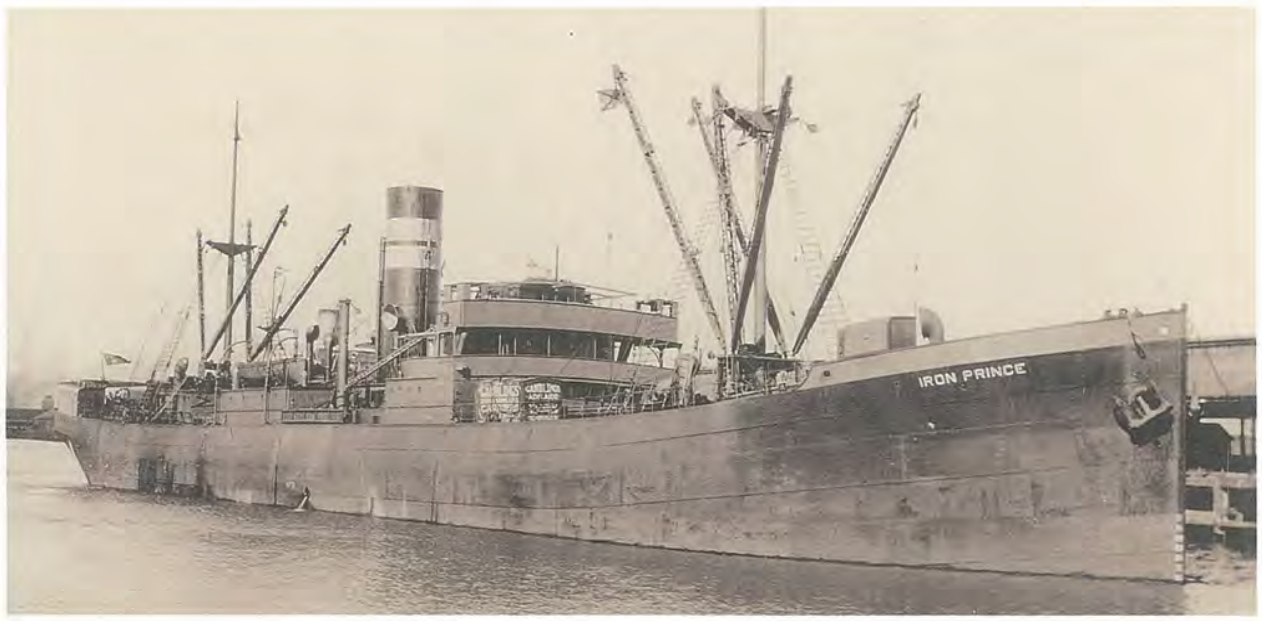
History

1 March 1923: Launched without ceremony by the Commonwealth Government Shipbuilding and Dockyard, Williamstown, as *Elouera* for the Commonwealth Government (Australian Commonwealth Line of Steamers).
July 1923: Completed; registered at Melbourne and remained at that port until 16 November 1923 sold for £39,500 to BHP and renamed *Iron Prince.*
January 1924: Registered at Newcastle.
July 1926: Re-registered at Melbourne.
August 1946: Fouled propeller at Rapid Bay, South Australia; towed to Adelaide.
1947: Alterations made to accommodation and 1953 major re-modelling of accommodation undertaken at Whyalla.
1956: Offered for sale to Interstate Steamships, but sold instead for Stg. £84,500 to Cambay Prince S.S. Co. Ltd. (John Manners & Co. Ltd.) Hong Kong.
13 September 1956: Delivered at Newcastle and renamed *Kembla Breeze.*
11 April 1958: Towed *Iron Master* out of Newcastle and sailed in company to Hong Kong.
December 1959: Sold to Iwai & Co.Ltd., Tokyo, and arrived at Kokura for breaking up.

Iron Prince, under the command of Captain F. Tellick, on 13 September 1939, became the first vessel to proceed up the newly completed Whyalla channel and tie up at the Basin Wharf. There she discharged with her own gear, 60 heavy lifts of items ranging from 2 to 6 tons, required in the construction of the Whyalla blast furnace.

The 'E' class vessels featured five hatches, the smaller No. 3 hold being used on overseas voyages as an additional bunker hatch above 'tween deck level, supplementing the normal 480 ton bunker capacity in a cross bunker forward of the funnel with two adjacent side pockets. Cargo gear at the four main hatches was certified to lift a safe working load of 3 tons and half that at the No. 3 hatch with a 20 ton heavy lift derrick at the forward end of No. 2 hatch. All derricks, including the 'Jumbo', were of the steel lattice type, due to an inability to procure the more conventional tubular steel at the time of building. The hatch covers were wooden slabs on steel beams, covered with three layers of canvassed tarpaulin secured by steel side batons and wooden wedges.

The steering gear of each of the 'E' class steamers consisted of a steam driven engine fitted in the engineroom, remotely controlled from the wheelhouse by a complicated system of shafts, gearboxes and universal joints. A portion of the control shaft, passing over No. 3 hatch, had to be dismantled in port to enable cargo to be worked. The steering engine was fitted with a winding drum, which transmitted the motion to a quadrant on the ruddershaft head by means of chains, rods and buffer springs enclosed in steel plate-covered casings on either side of Nos. 4 and 5 hatch coamings. Emergency, screw-operated, mechanical steering gear was also mounted over the rudder head. 'Relieving Tackle', to act as a shock absorber, added to the confusion of steering gear on the poop and daily lubrication of all the moving parts was nesessary. Maintenance was high and breakdowns fairly frequent.



Whitehead Collection/World Ship Society (Victoria).

7. Iron Warrior (I)

(1925-1957) S General Cargo

Official Number: 137229
Tonnages: 3,345 gross, 1,909 net, 6,170 deadweight.
Dimensions: Length 331.0, breadth 47.9, depth 26.1, draught 23.5 ft.
Machinery: Triple expansion three cylinder engine manufactured by the shipbuilder. 516 nominal horsepower. **Speed:** 10 knots. **Crew:** 46.

History

4 November 1922: Launched by Poole & Steel Limited, Adelaide, as *Erina* for the Commonwealth Government (Australian Commonwealth Line of Steamers), but renamed *Eugowra* before commissioning 13 June 1923; registered Port Adelaide. Undertook some voyages in BHP service under charter to James Patrick & Co. Pty. Ltd. until 5 March 1925 sold for £33,000 to BHP.

1947: Alterations made to accommodation, and September 1953-January 1954 further major changes effected at State Dockyard, Newcastle, N.S.W.

11 June 1957: Upon de-commissioning, sold for £133,000 to Onofrio Jacomino of Naples. Intended name *Baliluzzo*. However, purchaser defaulted and ship laid up at Newcastle.

1 October 1957: Sold for £91,875 to Caribbean and St. Lawrence Navigation Co. SA, Panama; renamed *Zeus*.

1963: Sold to Cia. Globo de Navigation SA, Panama; name unchanged.

Later in 1963: Sold to Cia. Nav. Immanuel SA, Panama and renamed *Dorar*.

5 September 1964: Driven aground at Hong Kong by typhoon 'Ruby' whilst on a voyage from Indonesia to Japan. Foundered off the east coast of Chau Island with the loss of 11 lives.

Iron Warrior was the first ship to berth at the AIS No. 2 jetty at Port Kembla, arriving there on 18 July 1928 to unload the initial consignment of 5,000 tons of Whyalla ore for the Port Kembla blast furnace. In 1949 she became the first of the BHP fleet to visit Hobart, Tasmania, when she arrived there with a load of pig iron, returning to Port Kembla with zinc from Risdon.

Each of the 'E' Class had to be fitted with an extra generator during World War II to provide sufficient power for the 'De-gaussing' (anti magnetic mine) gear. This was retained in each ship for the remainder of their service. In later years this equipment would be taxed by the demands of modern electrical appliances when often to turn on an extra toaster could cause a complete blackout throughout the ships.

Iron Warrior arrived at Newcastle for the last time, under the command of Captain R. Corbett, with a load of scrap from Port Adelaide and was decommissioned on 11 June 1957. During 32 years with BHP, the vessel completed a total of 403 voyages, carrying a total of 1,364,507 tons of coke, coal and steel products from N.S.W. to the southern ports, returning with 2,093,096 tons of S.A. ores, over a distance of 1,035,586 miles.

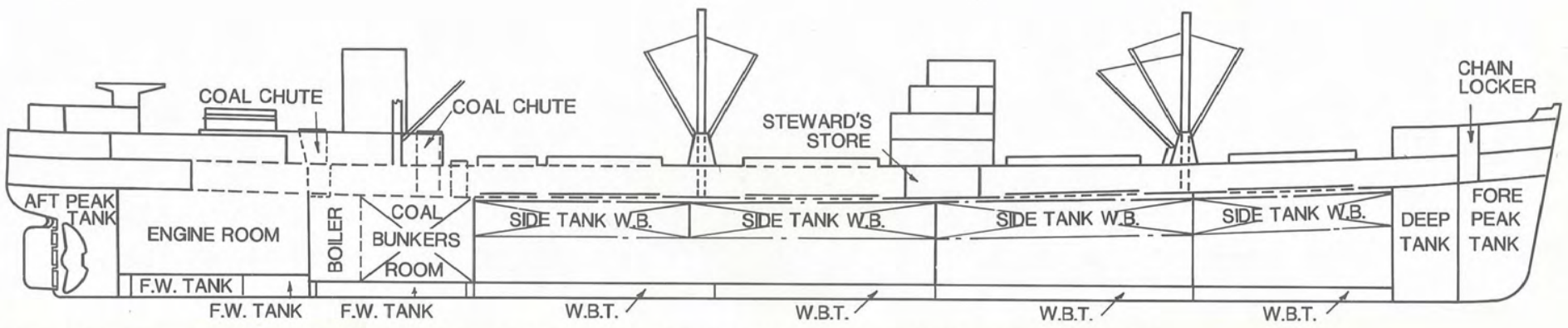
Renamed *Zeus*, the ship sailed from Newcastle for Japan with a load of scrap metal and for the next six years carried ore and coal around the Manchurian coast.



J. Y. Freeman.

CHIEFTAIN CLASS

IRON BARON (II)
IRON KING
IRON KNIGHT (I)
IRON CHIEFTAIN (I)
IRON MONARCH (II)
IRON DUKE II (I)



General Arrangement: ***Iron Baron (II), Iron King, Iron Knight (I), Iron Chieftain (I), Iron Monarch (II)*** *and* ***Iron Duke II (I).***

8. Iron Baron (II)

(1936-1966) S General Cargo

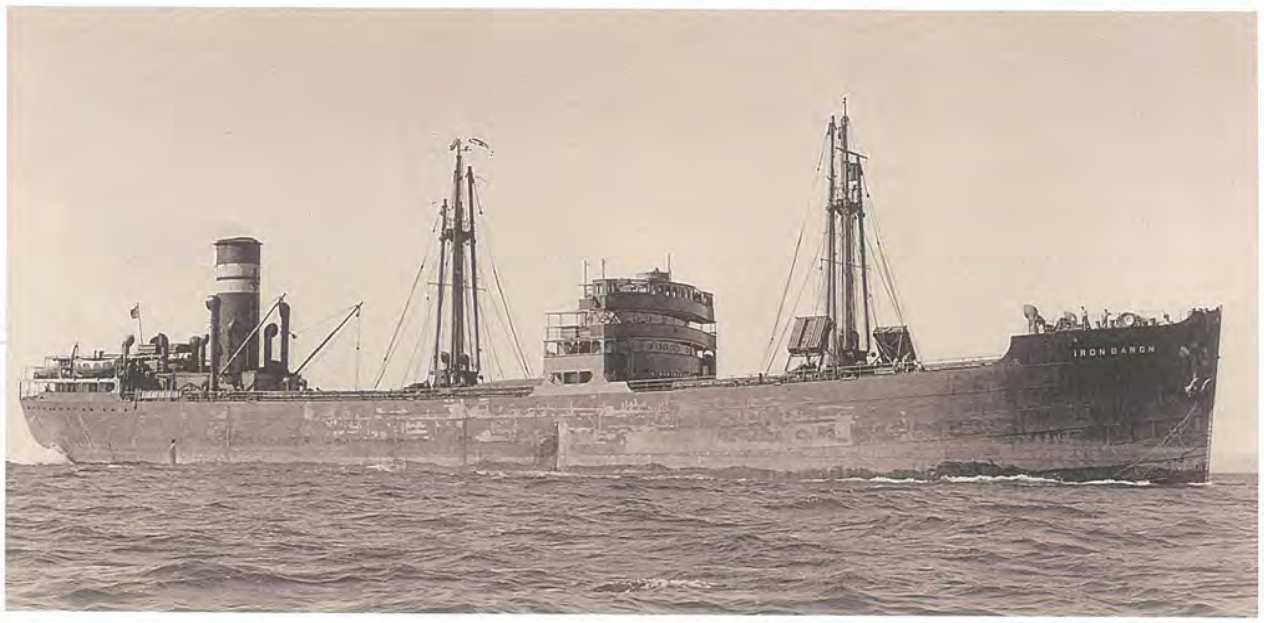
Official Number: 159561
Tonnages: 4,584 gross, 2,634 net, 7,950 deadweight.
Dimensions: Length 393.2, breadth 56.2, depth 26.1, draught 23.2 ft.
Machinery: Quadruple expansion four cylinder engine and exhaust turbine manufactured by David Rowan & Co., Glasgow. 553 nominal horsepower.
Speed: 12 knots. **Consumption:** 36 tons of coal/day.
Crew: 47.

History

24 June 1936: Launched by Lithgows Ltd., Port Glasgow (Yard No. 889), for BHP and christened *Iron Baron* by Mrs. H. Darling, the wife of the BHP Chairman. Registered Melbourne.
1941: Funnel heightened by 14 ft. at Whyalla.
12 April 1954: De-commissioned for upgrading of accommodation at Whyalla, followed by conversion to oil-firing in Sydney.
February 1955: Returned to service.
29 August 1966: Sold to Australia Pacific Shipping (H.K.) Ltd., Hong Kong, and renamed *Pacific Queen*.
1969: Sold to Ming Hing & Co. for demolition and 20 October 1969 arrived at Hong Kong, where work was under way by the end of that month.

After completing sea trials, during which a maximum speed of 14.1 knots was attained, *Iron Baron* (the first of the 'Chieftain' class) left the Clyde on 7 September 1936 under the command of Captain A. B. McRuvie, in ballast for Wallaroo, S.A.. She arrived there 45 days later, on 25 October, and the following day proceeded to Whyalla where she loaded a full cargo of ironstone for Newcastle, arriving there four days later. After discharge she entered the Newcastle floating dock for cleaning and painting, along with the stengthening of her bottom plates and floors.

Iron Baron was involved in a number of accidents in her 30 year career, including an explosion in the starboard boiler while discharging cargo in Port Adelaide on 23 February 1946. The boiler was completely wrecked and the ship returned to Newcastle under reduced steam where repairs were carried out. On 19 January 1951, she was struck by *Catrine* while berthed at Port Adelaide, causing minor damage to the hull. Repairs were carried out on her arrival at Newcastle. In January 1963, she suffered a fire while steaming off the S.A. coast; the crew were later congratulated by the Minister for Shipping for their efforts in jettisoning inflamables.



BHP Archives.

9. Iron King

(1936-1967) S General Cargo

Official Number: 159562
Tonnages: 4,584 gross, 2,634 net, 7,950 deadweight.
Dimensions: Length 393.2, breadth 56.2, depth 26.1, draught 23.2 ft.
Machinery: Quadruple expansion four cylinder engine and exhaust turbine manufactured by David Rowan & Co., Glasgow. 553 nominal horsepower.
Speed: 12 knots. **Consumption:** 36 tons of coal/day.
Crew: 47.

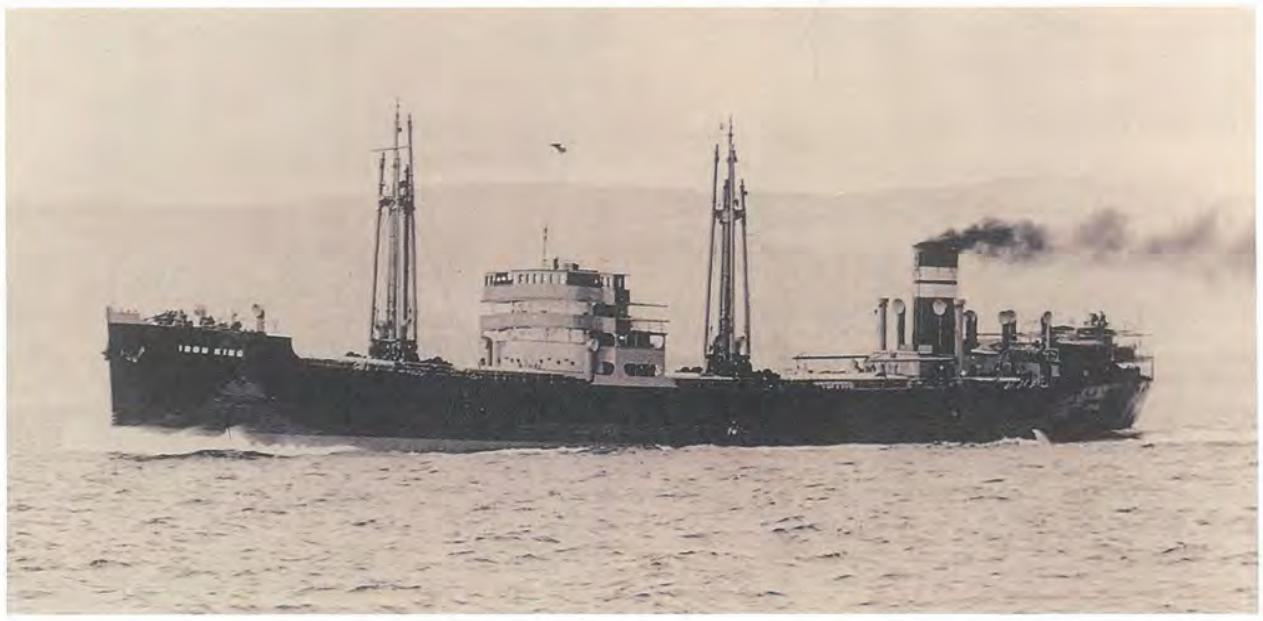
History

31 August 1936: Launched by Lithgows Ltd., Port Glasgow (Yard No. 890) and christened by Lady Rylands. Registered Melbourne.
23 October 1936: Handed over at Tail-of-the-Bank after completion of sea trials and 26 October 1936 sailed for Wallaroo (S.A.), arriving 11 December 1936; bottom plates and floors subsequently strengthened at Cockatoo Dockyard, Sydney.
1955: Converted to oil-firing, accommodation upgraded by BHP's Whyalla Shipyard.
1967: Sold to Golden Star Shipping Co. SA, Panama.
15 March 1967: Delivered and renamed *Golden Star.*
1 July 1970: Arrived at Hong Kong and the following month sold to Leung Yau Shipbreaking Co. Ltd. for demolition.
31 August 1970: Work in progress.

Luck was with *Iron King* when in mid 1942. On 4 June the ship was southbound off the south coast of N.S.W. and approaching Gabo Island, on a course directed by the Navy Dept. At 1600 hours Captain J. McLeod decided to alter course by 40 degrees to starboard. Just 45 minuters later Interstate Steamships' *Iron Crown*, steaming in the opposite direction with a full cargo of Whyalla ore, was torpedoed and sunk with the loss of 38 lives. But for the unscheduled change of course, *Iron King* would have been in the identical position to *Iron Crown* when she was struck. *Iron King* fired its 4 inch stern gun at the Japanese submarine responsible (*I.27*), which, however, made good its escape.

Iron King opened King's Wharf at Geelong on 3 March 1953 when she arrived with the first consignment of steel rods from Port Kembla for the new Ryland's wire mill. On 27 October 1955, the vessel's engineroom was immersed as a result of the flooding of the Brisbane drydock in which she lay.

On 12 July 1960, *Iron King* was loading steel at the Port Kembla Outer Harbour. The weather had rapidly deteriorated throughout the day with driving rain and winds. At 10am the following morning after advice to clear the port, the steam tug *Warang* took the ship in tow and moved her out into midstream. A wind increase caused the towline to part and the ship drifted towards the breakwater. The starboard anchor, dropped immediately, failed to hold her. The Master, Captain R. Corbett, decided to weigh anchor and run before the gale into the narrow entrance channel to the new Inner Harbour. *Iron King* safely tied up at the newly completed BHP wharf, unofficially 'opening' the Port Kembla Inner Harbour, which was still under construction.



BHP Archives.

10. Iron Knight (I)

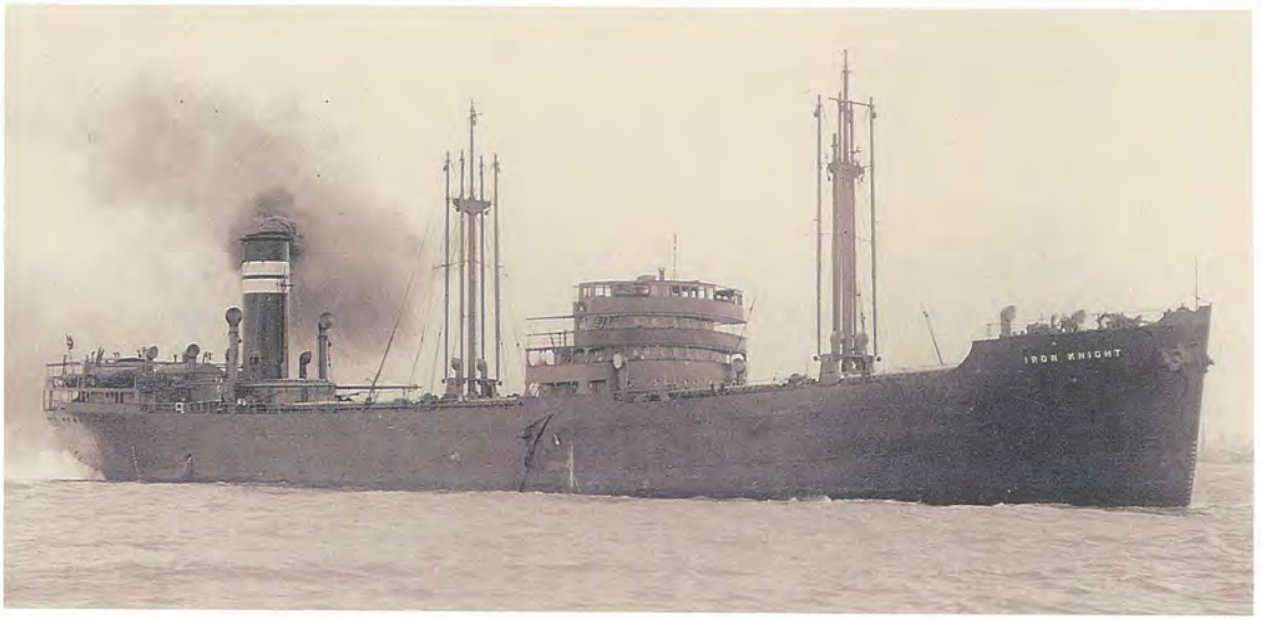
(1937-1943) S General Cargo

Official Number: 159568
Tonnages: 4,812 gross, 2,737 net, 8,130 deadweight.
Dimensions: Length 404.5, breadth 56.2, depth 26.1, draught 23.2 ft.
Machinery: Quadruple expansion four cylinder engine and exhaust turbine manufactured by David Rowan & Co., Glasgow. 553 nominal horsepower.
Speed: 11 knots. **Consumption:** 36 tons of coal/ day.
Crew: 47.

History

27 August 1937: Launched by Lithgow Ltd., Port Glasgow (Yard No. 902) and christened by Mrs. A. Dalziel, wife of BHP's Engineering Superintendent of Shipping.
27 October 1937: Handed over at Tail-of-the-Bank. Maiden voyage to Port Pirie (S.A.), with 4,000 tons of coke for the BHP smelters, arriving 19 December 1937.
7 February 1943: Torpedoed by Japanese submarine *I.21* while off Eden (N.S,W.), in position 36.51 S, 150.38 E, during voyage Whyalla-Newcastle with iron ore. Sank with loss of 36 lives; 14 survivors rescued by French destroyer *Le Triomphant*.

At 0230 hours on 8 February 1943, while in convoy about 15 miles north-east of Montague Island, *Iron Knight* was struck by a torpedo and sank in approximately two minutes with the loss of 36 persons including the Master, Captain D. Ross. The torpedo that sunk the vessel was seen to approach from a bearing of 110 degrees true, passed beneath the escort HMAS *Townsville* and five seconds later hit *Iron Knight* under the bridge. The ship, deeply laden with ore, sank almost immediately. The convoy maintained its course and speed, with HMAS *Townsville* proceeding along the torpedo track and HMAS *Mildura* proceeding down the side of the convoy and across the stern. Neither escort saw or made contact with the submarine, which is now believed to have been the Japanese *I.21*, commanded by Commander Matsumura. The French naval vessel *Le Triomphant* left Sydney at 0536 hours on 8 February and at a speed of 28 knots proceeded to the area, where, at 1140 hours a raft with 14 survivors was found, taken aboard and returned to Sydney.



World Ship Society (Victoria).

11. Iron Chieftain (I)

(1937-1942) S General Cargo

Official Number: 159570
Tonnages: 4,812 gross, 2,737 net, 8,130 deadweight.
Dimensions: Length 404.5, breadth 56.2, depth 26.1, draught 23.2 ft.
Machinery: Quadruple expansion four cylinder engine and exhaust turbine manufactured by David Rowan & Co., Glasgow. 553 nominal horsepower.
Speed: 11 knots. **Consumption:** 36 tons of coal/day.
Crew: 47.

History

22 November 1937: Launched by Lithgows Ltd., Port Glasgow (Yard No. 903) and christened *Iron Chieftain*, the name vessel of the class, by Mrs. W. R. Lysaght. Registered Melbourne.

26 December 1937: Left the Clyde for Birkenhead where loaded 1,300 tons of ferro manganese. Loaded 4,000 tons of chrome ore at Lorenco Marques and 1,330 tons of steel scrap at Fremantle; after discharging 946 tons of chrome ore at Port Kembla, 3 March 1938 vessel arrived in Newcastle at conclusion of maiden voyage.

3 June 1942: Torpedoed by Japanese submarine *I.24* when approximately 35 miles east of Sydney in position 33.55 S, 151.50 E while on voyage Newcastle-Whyalla with coke and construction materials. Sank with the loss of 12 crew, including the Master and Chief Engineer.

The 'Chieftain' class featured five cargo hatches, all fitted with steel rolling beams for holding the wooden hatch covers. This obviated the necessity of lifting the beams out of the coamings when working cargo: the beams could be run to either end of the hatch in special runways or 'tracks'. The two masts were situated between hatch Nos. 1 and 2, and 3 and 4 with two rigged ventilator posts abaft the No. 5 hatch. For handling cargo, 10 tubular steel derricks ranging from 3-10 ton capacity were fitted at the various hatches. In addition one 30 ton 'Jumbo' derrick was fitted at the No. 2 hatch. The derricks were housed vertically against the masts, keeping them clear of the hatches when handling bulk cargo by grabs or products loaded by shore cranes. The exception was No. 5 hatch where the derricks were housed horizontally into portable crutches on the deck. On *Iron Baron* and *Iron King* the vertical derricks were housed slightly inwards at the crosstrees, while on the others of the class the derricks were parallel when housed up.

Brown Bros. electric hydraulic steering gear, featuring four rams coupled to the tiller arm and operated by variable speed pumps driven by two continuously running motors, was installed. All shocks on the rudder were taken up by the hydraulic rams, thus dispensing with the older method of friction brakes. This system, with its underdeck compartment, was an enormous improvement on the earlier systems and proved so reliable that it was used in the later 'Yampi', 'Whyalla' and 'Explorer' class vessels.

At 2230 hours on 3 June, *Iron Chieftain* was torpedoed and sunk by the Japanese submarine *I.24* approximately 35 miles east of Sydney, while en route from Newcastle to Whyalla.

It was later established that the submarine had been sighted off the steamer's port side, but (apparently) before she could be swung to starboard, the torpedo struck *Iron Chieftain* on the port side amidships. She sank with the loss of her Master, Captain L. Haddelsey, Chief Engineer M. Gunn and 10 others of the crew.



World Ship Society (Victoria).

12. Iron Monarch (II)

(1943-1972) S General Cargo

Official Number: 159582
Tonnages: 4,816 gross, 2,637 net, 8,030 deadweight.
Dimensions: Length 404.5, breadth 56.2, depth 26.2, draught 23.2 ft.
Machinery: Quadruple expansion four cylinder engine manufactured by The Broken Hill Proprietary Co. Ltd., Newcastle. 2,560 shaft horsepower. **Speed:** 11 knots. **Consumption:** 36 tons of coal/day.

History

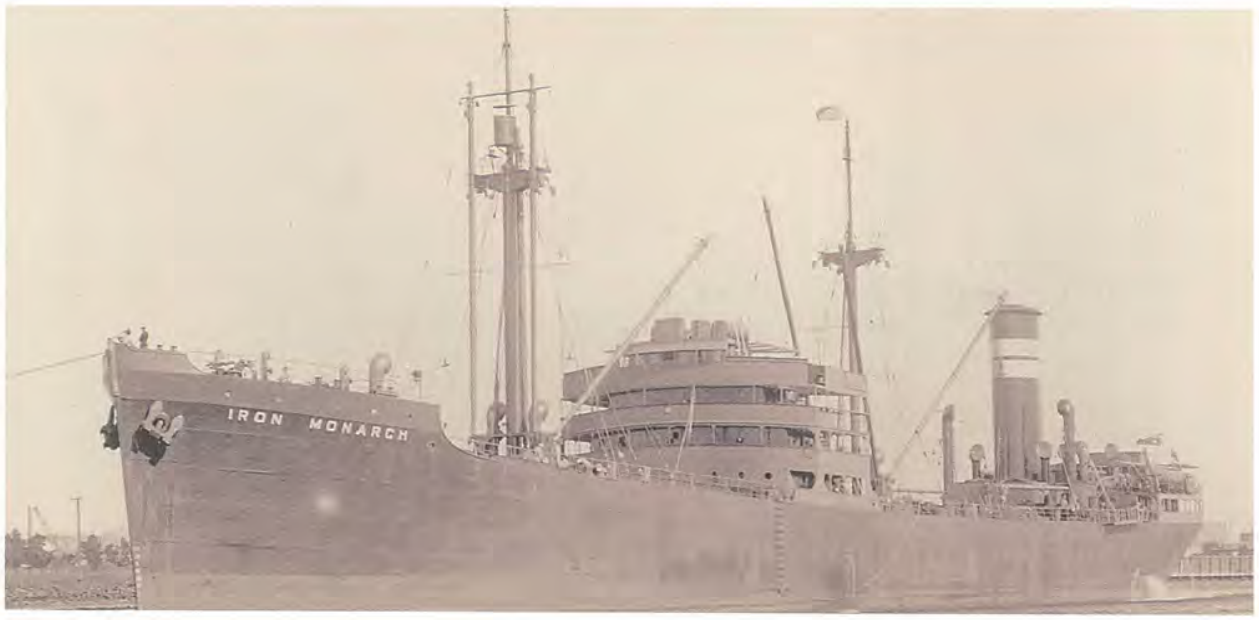
8 October 1942: Launched by The Broken Hill Proprietary Co. Ltd., Whyalla (Yard No. 1) and christened by Mrs. E. Lewis, wife of the Chief General Manager of BHP.
6 March 1943: Commissioned; registered Melbourne.
17 April 1943: Collided with *Empire Strength* (7,355/1942) in Port Phillip Bay (Vic.) during a voyage from Newcastle to Melbourne. Repaired at Whyalla.
1952: Accommodation altered.
May 1957: Converted to oil-firing.
1972: Sold to Great Fareastern Ltd., Hong Kong, and resold by them to Great China Steel Enterprise Co. Ltd. of Taiwan for demolition.
31 August 1972: Handed over by BHP. Left Newcastle together with *Iron Knight* (II) in tow of tug *Sakura Maru* (984/1972).
14 October 1972: Reached Kaohsiung, where demolition commenced 10 days later.

Iron Monarch was the first commercial vessel to be built at BHP's Whyalla Shipyard and was allotted yard No. 1 when her keel was laid on 1 July 1941. She was also the first of the Australian-built 'Chieftains' and the fifth of the class to join the BHP fleet. The event of her launching at 7pm on 8 October 1942 created considerable interest among the residents of Whyalla, with almost 2,000 people, including 450 schoolchildren, attending.

After successfully completing trials in Spencer Gulf, the ship entered the Company's service under the command of Captain A. McRuvie, making three trips across the Spencer Gulf, Port Pirie-Whyalla with water while awaiting the arrival at Port Pirie, by rail, of a four inch gun from Bendigo (Vic.). Once it arrived and was fitted at Whyalla, *Iron Monarch* loaded ore and sailed for Port Kembla on 28 March 1943.

After entering Port Phillip Bay at 2303 hours on 17 April 1943, inward bound from Newcastle-Melbourne with a full cargo of coal, *Iron Monarch* collided with the motor vessel *Empire Strength* in the South Channel near the Fort Beacon. *Empire Strength* was outward bound in ballast and suffered appreciable damage which took a number of months to repair. *Iron Monarch* suffered considerable damage to her bows and forecastle. After temporary repairs were carried out in Melbourne, she sailed for Whyalla, where repairs were completed. *Iron Monarch* was held responsible for the collision, with the Master, however, exonerated from blame. The court recommended that: "Consideration be given by the proper authority that for the period of the duration of the state of war, large vessels using the South Channel should be in charge of a Port Phillip sea pilot even in cases where Masters of such vessels hold pilotage exemption certificates. The recommendation is based on the belief that the Masters of such vessels are working, during wartime, under great strain and are not to be reasonably expected to be able to withstand the strain at the end of long periods of extraordinary physical effort and anxiety."

When *Iron Monarch* was sold in 1972, she took with her the last quadruple expansion reciprocating steam engine in the fleet and probably the last of its kind on the Australian coast. During her 29 years with the fleet she carried a total of 5 million tons of cargo and steamed 1,250,000 miles.



Vessel as built.

Latrobe Collection, State Library of Victoria

13. Iron Duke II (I)

(1943-1970) S General Cargo

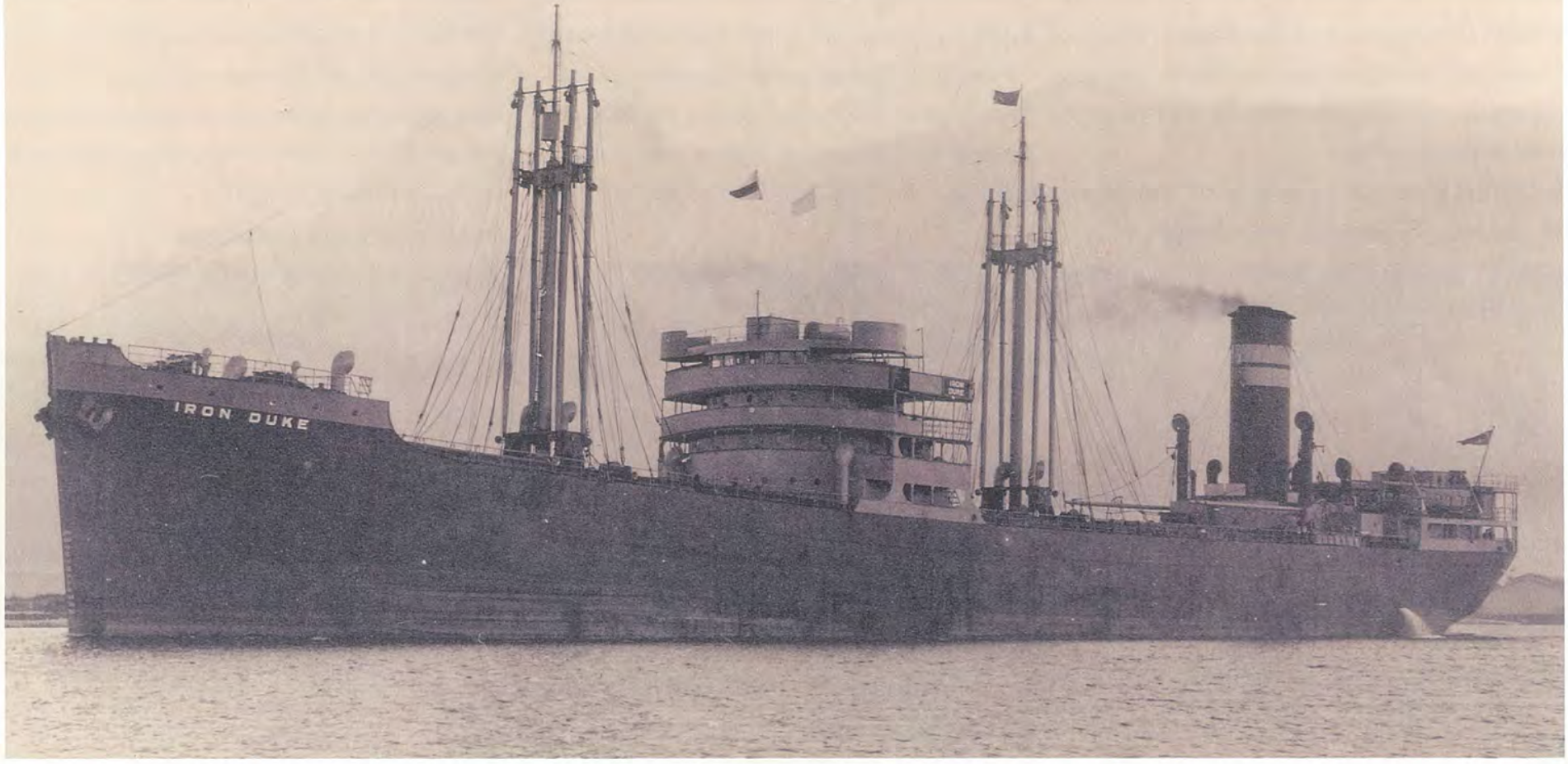
Official Number: 159583
Tonnages: 4,818 gross, 2,624 net, 8,030 deadweight.
Dimensions: Length 404.5, breadth 56.2, depth 26.2, draught 23.2 ft.
Machinery: Quadruple expansion four cylinder engine manufactured by The Broken Hill Proprietary Co.Ltd., Newcastle. 2,560 shaft horsepower. **Speed:** 11 knots.
Consumption: 36 tons of coal/day.

History

3 May 1943: Launched by The Broken Hill Propretary Co. Ltd., Whyalla (Yard No. 2) and christened *Iron Duke II* by Lady Gowrie, wife of the Governor General of Australia, Lord Gowrie. (The suffix was added to avoid confusion with the British warship HMS *Iron Duke*).
1 August 1943: Commissioned, registered Melbourne.
1946: Renamed *Iron Duke*, after the warship was decommissioned.
8 December 1953: Converted to oil-firing, accommodation altered at Whyalla.
July 1970: Sold to Pac Trade Navigation Co., Manila, and 25 July 1970 sailed from Newcastle as *Exmouth*, registered Panama.
1971: Sold to Taiwan breakers and 11 September 1971 arrived at Kaohsiung for demolition.

The keel for *Iron Duke*, vessel No. 2 constructed at BHP's Whyalla Shipyard and the second of the Australian-built 'Chieftains', was laid on 1 August 1941. She was launched as *Iron Duke II* on 3 May 1943 and on trials attained a speed of 12.7 knots. Under the command of Captain J. McLeod, she commenced her working life on 2 August 1943, leaving Whyalla with a cargo of iron ore and ferro manganese for Port Kembla.

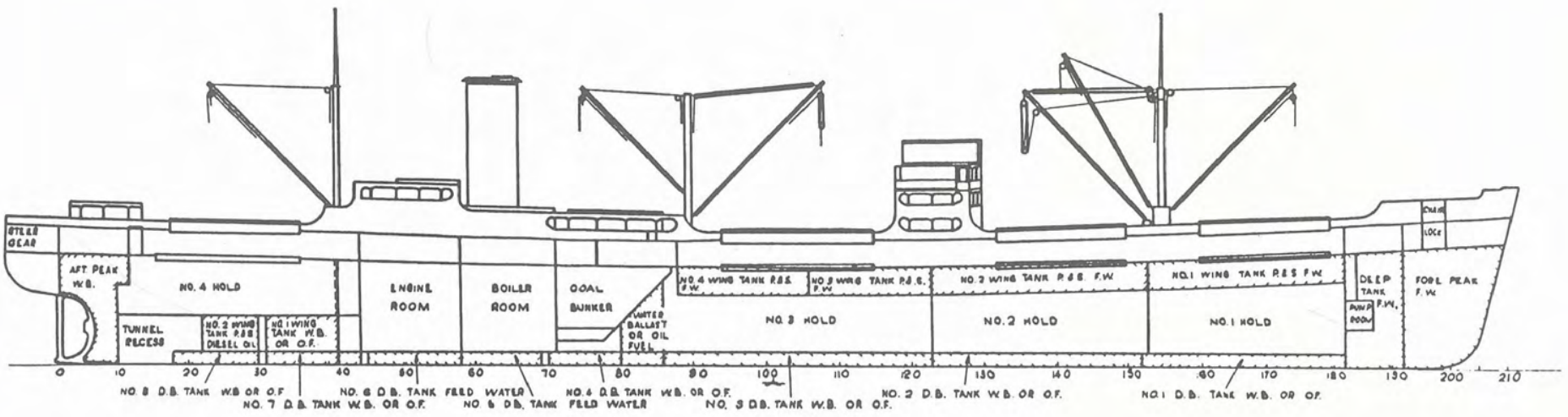
Except for an incident on 20 August 1952 when she grounded at the Dyke End, Newcastle, and refloated the following day, the ship led a trouble free and uneventful 27 years in the service of BHP.



J. Y. Freeman.

YAMPI CLASS

IRON YAMPI
IRON KIMBERLEY
IRON DERBY
IRON WYNDHAM



General Arrangement: ***Iron Yampi, Iron Kimberley, Iron Derby and Iron Wyndham.***

14. Iron Yampi

(1948-1975) S General Cargo

Official Number: 177202
Tonnages: 9,440 gross, 5,427 net, 12,791 deadweight.
Dimensions: Length 504.5, breadth 66.1, depth 32.3, draught 28.5 ft.
Machinery: Three steam turbines, manufactured by Parsons Marine Steam Turbine Co. Ltd., Wallsend-on-Tyne, single reduction geared to a single shaft. 5,500 shaft horsepower. **Speed:** 12 knots. **Consumption:** 68 tons of coal/day; from 1966, 43 tons of heavy fuel oil/day. **Crew:** 56.

History

1 September 1947: Launched by The Broken Hill Proprietary Co. Ltd., Whyalla (Yard No. 17) and christened by Mrs. L. Darling.
9 June 1948: Commissioned; registered Melbourne.
17-18 June 1965: Aground at Yampi Sound (W.A.).
1966: Converted to oil-firing.
17 August 1971: Driven aground at Hong Kong by typhoon 'Rose'. Refloated the following day.
26 September 1975: Sold to Nissho Iwai Co. Ltd., Japan, and resold to Taiwanese shipbreakers Hsin Yu Tei Steel Works.
16 October 1975: Sailed from Newcastle under the Panamanian flag, with a Japanese crew of 17.
4 November 1975: Arrived Kaohsiung for demolition.

The keel for the first of the 'Yampi' class was laid on the No. 4 slip at Whyalla on 30 November 1945, and when *Iron Yampi* was launched at 6.15pm on Monday, 1 September 1947, she was the largest vessel (in hull dimensions) to have been built in Australia.

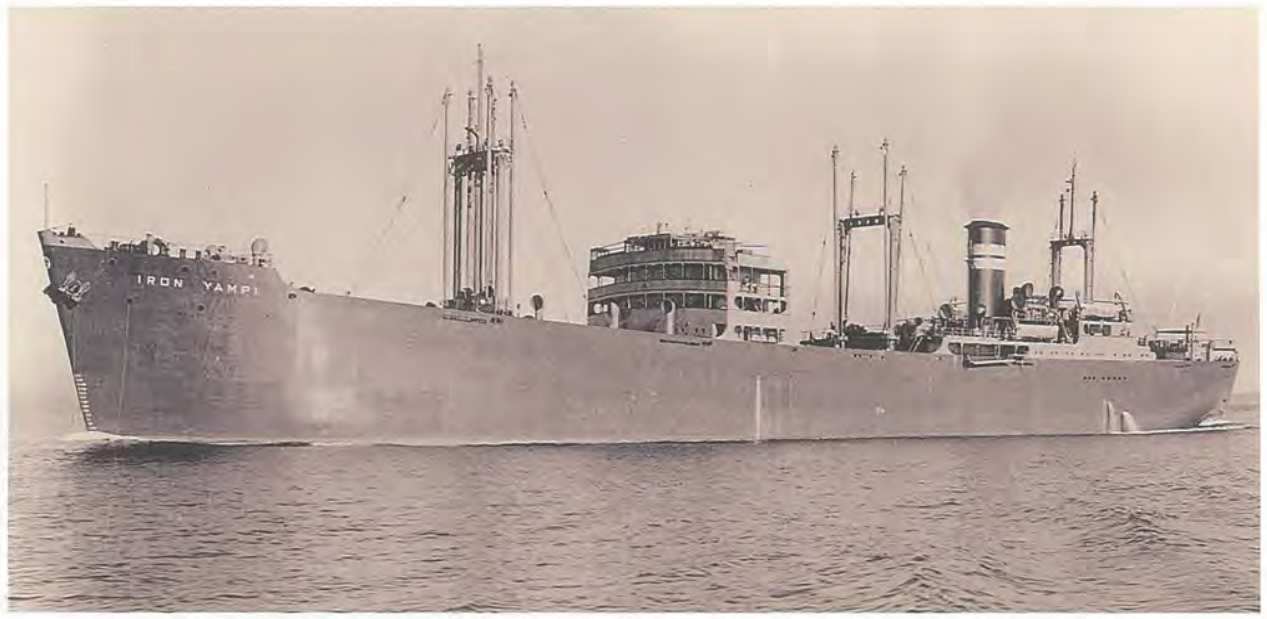
Propulsion machinery, built by Parsons of Wallsend, U.K., was installed by BHP at Whyalla and consisted of a three stage turbine engine with a single reduction to the tailshaft, developing 5,500 shp at 115 rpm. Steam pressure of 260 lb. per sq. in. was provided by three Babcock & Wilcox watertube boilers each with superheaters and forced draft. Total heating surface was 12,678 sq. ft.

The ships of the 'Yampi' class were all fitted with Brown Bros. electro hydraulic steering gear, gyro compass with repeaters on the wings of the bridge, automatic gyro course recorder, and echo sounder. Telephones between the bridge and operational areas, V.H.F. radio and radar were fitted to the four ships of the class in 1953.

The 'Yampis' each had five holds, one of which (abaft No. 3 hold) was originally the coal bunker hatch, while the other four were self-trimming for ore cargoes, with 'tween decks right through. (It was possible to walk from forward to the boiler room through the 'tween decks.) All holds had single wooden hatchboards (a total of around 1,400) each on beams moved by hand-operated rolling 'scooters' and locked in by metal beam clamps (on both main and shelter decks) and covered by three tarpaulins held by steel batons and wooden wedges, secured across the top with canvas covered steel locking bars.

Each vessel had three goalpost-type masts with wooden topmasts, although *Iron Yampi* was without a topmast on the mainmast. The ships were built without a crow's nest, the lookout being kept on the forecastle head and, in bad weather, on the wing of the bridge.

For handling cargo a set of fully rigged tubular steel 5 and 10 ton derricks were housed upwards on the mast at each hatch. A set of 4 ton stores derricks was fitted on the mainmast at the bunker hatch, and a 30 ton Jumbo-derrick was rigged at No. 2 hatch. Except for *Iron Wyndham*, the ships were fully rigged when commissioned. It was hoped at the time that they may be used to carry steel products to Singapore, but this never eventuated and they were



BHP Archives.

stripped of almost all cargo working gear for a time in the early years. There was no provision under those circumstances for loading paint, wire and rope stores on the foredeck unless by shore cranes; stores loaded at the No. 3 hatch were dragged on a four-wheeled trolley to the forecastle. The winches at the bunker hatch were used to house the No. 1 port and starboard lifeboats, and for trimming of bunkers after leaving Thursday Island on the return voyage from Yampi Sound. When the ships became involved in the carriage of steel products all masts, derricks and cargo winches were re-mounted and re-rigged.

The four vessels of the 'Yampi' class were all converted to oil-firing during 1966-67. Consequently, the former coal bunker abaft No. 3 hold was used for general cargo, the 1,763 tons of heavy fuel oil being carried in the double bottom tanks and midship deep tank (the former ballast compensating tank). The engineroom manning was reduced by two Firemen at that time.

Instead of the removable rails on the decks of the 'E' class and 'Chieftain' class, the 'Yampis' had bulwarks from the break of the forecastle right through, the only removable rails being located at the bunker hatch on the boatdeck.

Accommodation provided was considered to be of a higher standard than usually found in coastal cargo vessels. Officers' and Engineers' accommodation was furnished in maple and was located in the bridge house superstructure, along with the maple-lined dining saloon. Accommodation for the rest of the ship's crew was two-berth cabins, furnished in pine and stained walnut and situated on both decks of the midship structure, with Petty Officers, Greasers, Cooks and Stewards on the boatdeck. Modern messrooms, recreation rooms, large bathrooms and changerooms, as well as drying and ironing rooms, were provided. The galley was equipped with an electric range, steam pressure cooker, stock pot, electric dough mixer and electrically heated hot cupboards. In fact, the Cooks baked their own bread daily on these ships in the early trading period.

Below the bridge, accommodation was the Stewards' store and a brine system of refrigerated rooms with controlled temperature, suitable for transporting food supplies to Yampi Sound.

Iron Yampi underwent her sea trials in the Spencer Gulf on 25, 26 and 27 May 1948, attaining a speed of 14.3 knots. On board were the first two final-year fitting and turning apprentices selected by the Company from Port Kembla and Newcastle to train as Marine Engineers for the fleet.

On her maiden voyage under the command of Captain J. Miles the ship loaded a cargo of 11,400 tons of iron ore at Whyalla for Newcastle, arriving there on 18 June after a voyage of 3 days. The Master reported at the time that: "She stands up well to bad weather in ballast. Unfavourable weather encountered, sufficient to cause our other vessels to heave to, has been insufficient to interfere with her programs."

She continued to run coal and coke from either Newcastle/Port Kembla, to the blast furnace at Whyalla, returning with ironstone to Port Kembla/Newcastle. With the opening of the Cockatoo Island facility in W.A. in July 1951, she and her sisters began a long association with that region, which lasted for most of their working lives.

On 26 February 1951, while outward bound from Whyalla with a full cargo of ironstone, *Iron Yampi* was called upon to take survivors off the Huddart Parker steamship *Corio*. The vessel had stranded at Cape Banks, on the South Australian coast, whilst carrying a cargo of 4,705 tons of limestone from BHP's quarries at Rapid Bay to Port Kembla. Passing through the Backstairs Passage between Kangaroo Island and the entrance to Gulf St. Vincent, *Corio* encountered heavy fog and found herself in difficulties. At 1410 hours, her distress signals were picked up by *Iron Yampi*, which put about, reaching the stricken ship before dark. As salvage was impractical, the crew of *Corio* took to her lifeboat, which was in turn taken in tow by the motor lifeboat of *Iron Yampi*. With the crew safely aboard, *Iron Yampi* took the lifeboat in tow but it broke up in the heavy seas. The following morning the shipwrecked crew was landed at Portland (Vic.).

On 28 November 1960, *Iron Yampi* officially opened Port Kembla's new Inner Harbour when she arrived with 10,906 tons of Yampi ore, becoming the first ship to discharge there. (She was not the first vessel to enter the Inner Harbour, since *Iron King* had been forced to seek refuge there during gale conditions.)

In May 1966, *Iron Yampi* made her first voyage overseas, carrying steel products from Newcastle to the Philippines. Several similar voyages followed. She also traded to Taiwan and Hong Kong. In the latter port, *Iron Yampi* almost met disaster, when, on 17 August 1971, at the height of typhoon 'Rose', her anchor cable parted and, along with 27 other large cargo ships, she was driven aground. Fortunately, *Iron Yampi* was refloated and drydocked the following day.

15. Iron Kimberley

(1949-1972) S General Cargo

Official Number: 177209
Tonnages: 9,456 gross, 5,435 net, 12,741 deadweight.
Dimensions: Length 504.5, breadth 66.1, depth 32.3, draught 28.5 ft.
Machinery: Three Parsons-type steam turbines, manufactured by Broken Hill Proprietary Co. Ltd., Whyalla, single reduction geared to a single shaft. 5,700 shaft horsepower. **Speed:** 13 knots.

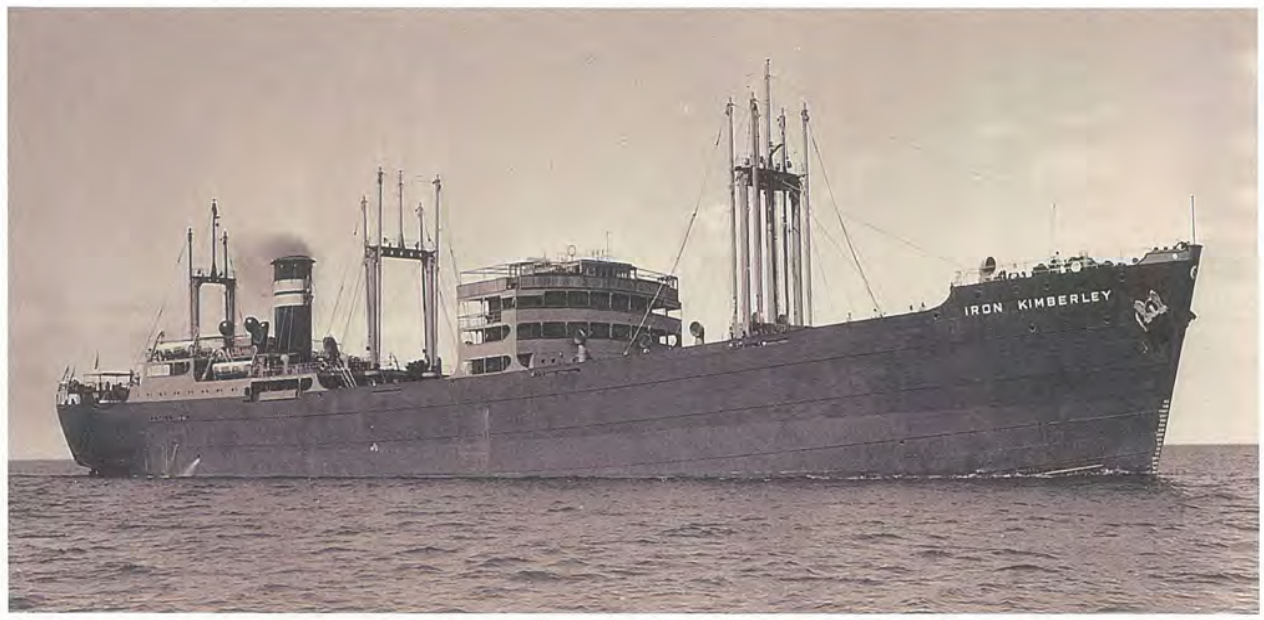
History

4 April 1949: Launched by The Broken Hill Proprietary Co. Ltd., Whyalla (Yard No. 18) and christened by Lady Norrie, wife of the Governor of South Australia, Sir Willoughby Norrie.
30 September 1949: Commissioned; registered Melbourne.
1967: Converted to oil-firing.
October 1972: Sold to Wiltopps (Asia) Ltd., Hong Kong and 5 October 1972 delivered at Manila, the Philippines.
7 October 1972: Left in tow of tug *Mariner* (357/1968) for breakers at Kaohsiung, arriving 11 October 1972.

On sea trials *Iron Kimberley* recorded a maximum speed over the measured mile of 14.77 knots. Under the command of Captain F. Tellick, the vessel sailed from Whyalla on her maiden voyage on 2 October 1949 with a full cargo of 10,050 tons of iron ore for Newcastle, where she arrived four days later. The vessel continued in the coal and ore trade Newcastle/Whyalla/Port Kembla until 1951, when she entered the Yampi run along with her sisters.

On 19 October 1957, *Iron Kimberley* ran aground at Newcastle but was refloated shortly after; on 27 August 1962, while berthed at BHP jetty, Kwinana, a severe gale dragged the ship off the wharf, causing her to ground some 100 yards off the beach. She was refloated 12 hours later.

Iron Kimberley left Port Kembla on 5 September 1972 loaded with a cargo of steel plates and billets for Manila. While the ship was navigating the Barrier Reef on her voyage north, BHP received a purchase offer from Wiltopps (Asia) Ltd. of Hong Kong. This offer was ultimately accepted and after discharge of the cargo at Manila, the crew offloaded stores into containers for return to Australia, housed the derricks and secured both the 'tween deck and upper deck hatches ready for the passage to the breaker's yard in Taiwan. After the Australian ensign and the BHP house-flag had been hauled down, the vessel was handed over at a specially laid buoy outside the harbour on 5 October 1972. The tug *Mariner* was already alongside and two days later the voyage started for the breakers yard at Taiwan, where *Iron Kimberley* joined *Iron Monarch* and *Iron Knight*, recently towed from Australia.



BHP Transport.

16. Iron Derby

(1951-1973) S General Cargo

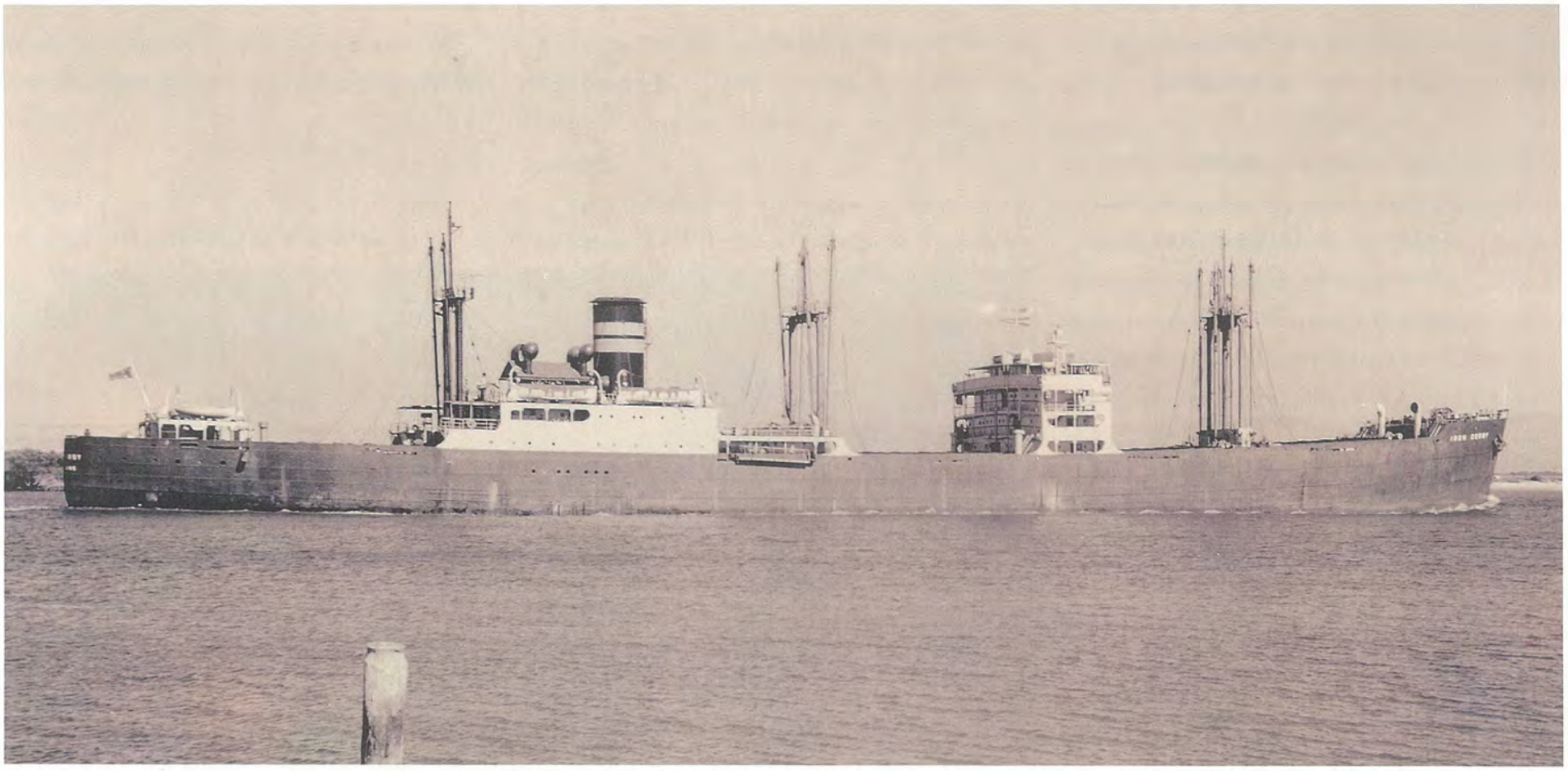
Official Number: 177219
Tonnages: 9,461 gross, 5,433 net, 12,619 deadweight.
Dimensions: Length 504.5, breadth 66.1, depth 32.3, draught 28.5 ft.
Machinery: Three Parsons-type steam turbines, manufactured by The Broken Hill Proprietary Co. Ltd., Whyalla, single reduction geared to a single shaft. 5,500 shaft horsepower. **Speed:** 13 knots.

History

11 September 1950: Launched by The Broken Hill Proprietary Co. Ltd., Whyalla (Yard No. 19) and christened by Mrs. C. Y. Syme, wife of the Deputy Chairman of Directors of BHP.
19 April 1951: Commissioned; registered Melbourne.
14 December 1965: Collided with and seriously damaged the steelworks jetty at Kwinana (W.A.).
1967: Converted to oil-firing.
January 1973: Sold to Wiltopps (Asia) Ltd. and delivered at Hong Kong.
12 February 1973: Left Hong Kong in tow, destined for Taiwanese breakers.
18 February 1973: Arrived Kaohsiung.

On trials, held off Backy Bay in the northern reaches of the Spencer Gulf (S.A.), *Iron Derby* attained a speed of 13.8 knots. She sailed the following day on her maiden voyage, under the command of Captain D. Hodson, with a cargo of 10,000 tons of iron ore from Whyalla to Port Kembla.

On 7 January 1973, *Iron Derby* departed Whyalla for the final time with a full load of steel billets for Hong Kong, arriving on 25 January at Junk Bay where she discharged the cargo onto barges. When discharge was completed, the ship weighed anchor and steamed to her final anchorage at Lantau, where she was handed over to her new owners, Willtops (Asia) Ltd. From there she was towed to Taiwan to be broken up for scrap.



M. R. Dippy.

17. Iron Wyndham

(1953-1976) S General Cargo

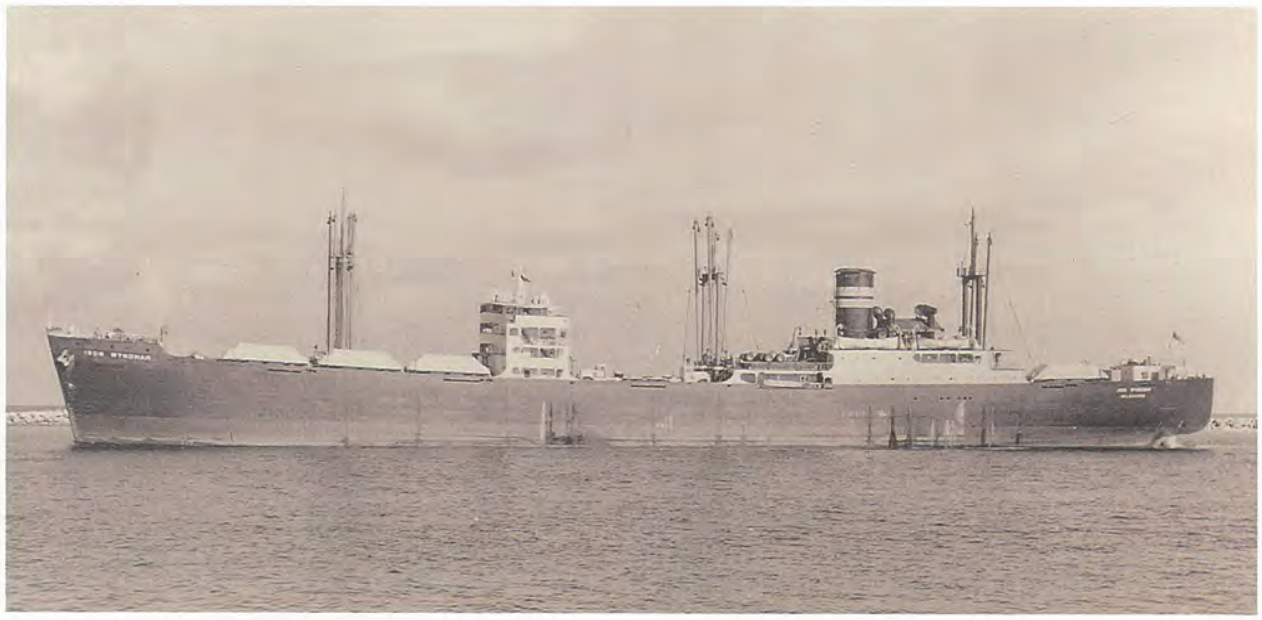
Official Number: 177233
Tonnages: 9,460 gross, 5,434 net, 12,659 deadweight.
Dimensions: Length 504.5, breadth 66.1, depth 32.3, draught 28.5 ft.
Machinery: Three Parsons-type steam turbines, manufactured by The Broken Hill Proprietary Co. Ltd., Whyalla, single reduction geared to a single shaft. 5,500 shaft horsepower. **Speed:** 13 knots.

History

24 April 1952: Launched by The Broken Hill Proprietary Co. Ltd., Whyalla (Yard No. 20) and christened by Mrs. N. Jones the wife of the Managing Director of BHP.
26 January 1953: Commissioned; registered Melbourne.
3 February 1962: Grounded on South Warden Reef, near Cape Melville (60 miles north of Cooktown, Queensland). Freed under own power two days later, after jettisoning part of iron ore cargo.
2 February 1965: Grounded at Whyalla; refloated the following day.
1966: Converted to oil-firing.
1976: Sold to Union Brothers Marine Corp., SA, Taiwan.
17 October 1976: Delivered at Newcastle; renamed *Union Atlantic* and registered Panama.
4 December 1978: Laid up at Singapore and 26 December 1978 sold to Lung Ching Steel Enterprise Co. Ltd., Taiwan, for demolition.
8 January 1979: Arrived Kaohsiung.
29 January 1979: Demolition commenced.

After attaining a speed of 12.8 knots on trials, *Iron Wyndham* sailed on her maiden voyage under the command of Captain J. Miles with a cargo of iron ore. At the outset the ship had derricks rigged only on her mainmast, at the No. 3 hatch; the remaining gear was fitted later.

During *Iron Wyndham*'s 23 years of service with the fleet she undertook voyages to Singapore, Manila, Hong Kong, Japan, Taiwan and New Zealand, as well as maintaining the Yampi run. During the early development of the Mt. Newman Mining Company project she loaded heavy equipment at Kwinana for the haul up the Western Australian coast and, on 16 July 1968, was the first of her class to visit Port Hedland. The following year *Iron Wyndham* was reported to have sailed on one voyage with 43 heavy ore car bodies for the project lashed to her hatchtops, with more in her holds.



M. R. Dippy.

WHYALLA CLASS

18. IRON WHYALLA (I)

(1954-1979) S ORE CARRIER

Official Number: 177245

Tonnages: 7,843 gross, 3,863 net, 10,777 deadweight. (From 1967: 10,305 gross, 4,978 net, 12,762 deadweight.)

Dimensions: Length 498', breadth 62'1", depth 30' to 2nd deck, draught 25'9" (From 1967: 28'9").

Machinery: Three steam turbines, manufactured by Parsons Marine Turbine Co. Ltd., Wallsend (U.K.), double reduction geared to a single shaft. 6,200 shaft horsepower. **Speed:** 14 knots. **Consumption:** 65 tons of coal/day, from 1967, 42.5 tons of fuel oil/day. **Crew:** 51.

History

31 March 1953: Launched by The Broken Hill Proprietary Co. Ltd., Whyalla (Yard No. 21) and christened by Mrs. E. Lewis, wife of the Deputy Chairman of BHP.

8 June 1954: Commissioned; registered Melbourne.

30 May - 7 August 1967: Shelter deck closed; converted to oil-firing.

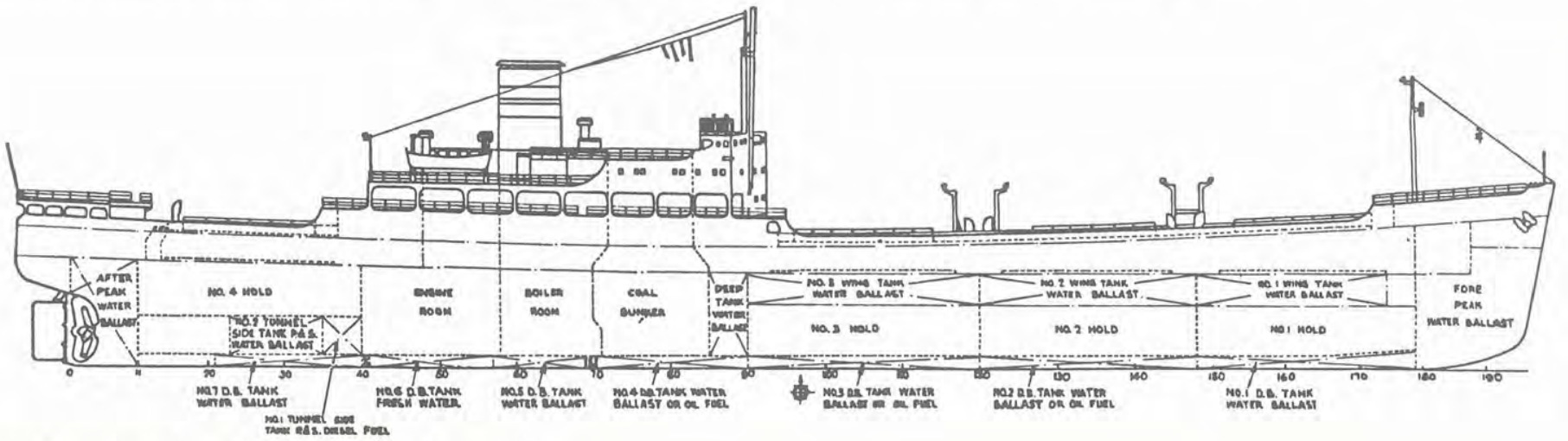
1 June 1979: Sold to Selco (Hong Kong) Ltd. and 15 June 1979 left Newcastle for Singapore in tow of *Progress Rover* (422/1954). Later resold to Nanhor Steel Enterprise Co. Ltd., and towed to Kaohsiung for breaking.

27 July 1979: Demolition commenced.

The keel of *Iron Whyalla*, the first of a planned four 10,000 DWT bulk carrying ships for BHP's coastal trade, was laid on slipway No. 1 at the Whyalla Shipyard on 15 March 1951 and the ship was launched two years later on 31 March 1953. Following the loading of 9,680 tons of iron ore from the Whyalla jetty, she sailed on her maiden voyage on 10 June under the command of Captain A. Baxter, arriving at Port Kembla for the first time at noon on Monday 14 June. After discharge, she proceeded to Sydney to dry dock for inspection, cleaning and painting.

Propulsion machinery, designed and manufactured by Parsons at Wallsend was designed to develop a service power of 6,200 shaft horsepower continuously at 115 rpm and an overload of 6,820 shaft horsepower. The gearing was double reduction, double helical 'articulated' type, the main and secondary wheels fabricated with forged steel rims and shafts. Steam was generated by two Babcock & Wilcox water tube boilers of the cross drum header type with water walls; and a maximum continuous rating of 30,000 lbs. per hour per boiler, 730 degrees F. and 430 lb. per sq. in. at the superheater outlet. Coal-firing, by mechanical stokers of the Babcock & Wilcox Detroit Rotagrate-type, was from hoppers fitted to the coal bunker bulkhead and filled periodically from the self trimming coal bunker by mechanical means.

Designed by BHP's Naval Architect and staff at the Whyalla Shipyard, *Iron Whyalla* was of the open shelterdeck-type with two complete decks. Hull construction was of the 'Isherwood' combined longitudinal and transverse framing system. Welding was used to a greater extent than in the previous Whyalla-built ships, and included the top deck plating, second deck and upper deck plating as well as the main and 'tween deck bulkheads and shell plating butts. The vessel's hull plates and frames were rivetted. Wing tanks were arranged under the second deck in Nos. 1, 2 and 3 holds, for the carriage of water ballast only, and were discharged by gravity via dump valves fitted to the ship's side under the bunker space.



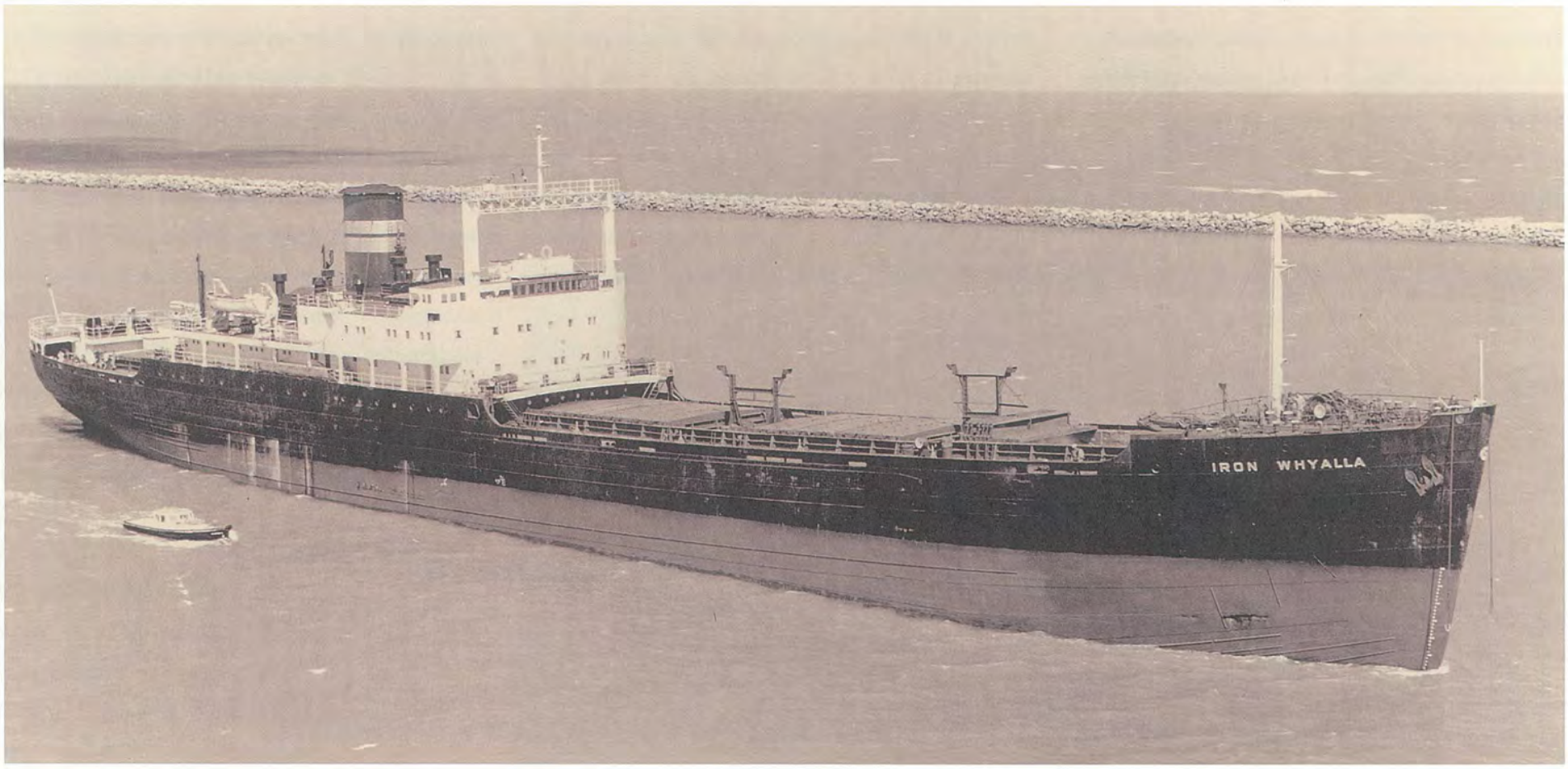
General Arrangement: ***Iron Whyalla (I) and Iron Spencer (I).***

This class was designed expressly for bulk cargoes of iron ore, limestone, coal and coke, and featured four cargo holds. All hatch covers were steel McGreggor patent design of the single pull rolling type, arranged so that they were flush when in the closed position and, when open, stowed at the ends of the hatchways. Trimming boards were incorporated, minimising the raking-out of the hold corners and ends by the ore discharge grabs. Cargo gear was provided at No. 3 hatch for handling ship's stores and occasional parcels of cargo.

Iron Whyalla was fitted with modern navigation aids, including radar equipment, gyro compass direction finder and echo-sounding depth recording apparatus. All accommodation for the complement of 51 Officers, Engineers and crew was situated above the shelter deck, in a single house slightly aft of amidships. Single berth cabins ensured the highest standards of accommodation for the vessel's personnel. Mechanical ventilation of Hall Thermotank Ltd. design was fitted throughout.

The vessel was strengthened and converted to a closed shelter decker in Newcastlke in 1967 (while under-going a 12 year special hull survey), raising her deadweight to 12,762 tons. At the same time she was converted to oil-firing and her crew reduced by four to 47.

While her career was mainly on the ore trade she did make one emergency trip, from Newcastle to Auckland (N.Z.), carrying coal for the Auckland power station. This followed the foundering of the vessel which normally supplied the coal from New Zealand's South Island.



M. R. Dippy.

19. Iron Knight (II)

(1955-1972) S General Cargo

Official Number: 196742
Tonnages: 5,547 gross, 2,804 net, 7,763 deadweight.
Dimensions: Length 413'6", breadth 52'3", depth 30'6" to upper deck, draught 24'.
Machinery: Two Parsons-type steam turbines, manufactured by J. Inglis Co. Ltd., Toronto (Canada), double reduction geared to a single shaft. 2,900 shaft horsepower. **Speed:** 11 knots.
Consumption: 20 tons of fuel oil/day.

History

1948: Completed by Burrard Dry Dock Co. Ltd., Vancouver (Canada), as *Venissieux* for the French Government. Subsequently sold to Cie. Nantaise des Chargeurs de L'Ouest and others, and later to Soc. Nationale des Chemins de Fer Francaise (French Railways).

August 1955: Purchased by BHP, registered Melbourne. Accommodation reconstructed at Newport (Wales).
May 1956: Entered BHP Australian service.
February 1962: Struck No. 2 Corio Quay North, Geelong (Vic.), causing extensive bow damage.
5 June 1963: Grounded briefly at Newcastle.
21 March 1964: Fire in poop accommodation at Newcastle.
9 September 1970: Engine room flooded in Bass Strait.
1972: Sold to Great Fareastern Ltd., Hong Kong, and resold by them to Great China Steel Enterprise Co. Ltd., Taiwan, for demolition. Left Newcastle together with *Iron Monarch* (II) in tow of tug *Sakura Maru* 984/1972.
14 October 1972: Arrived Kaohsiung and 24 October 1972 work began.

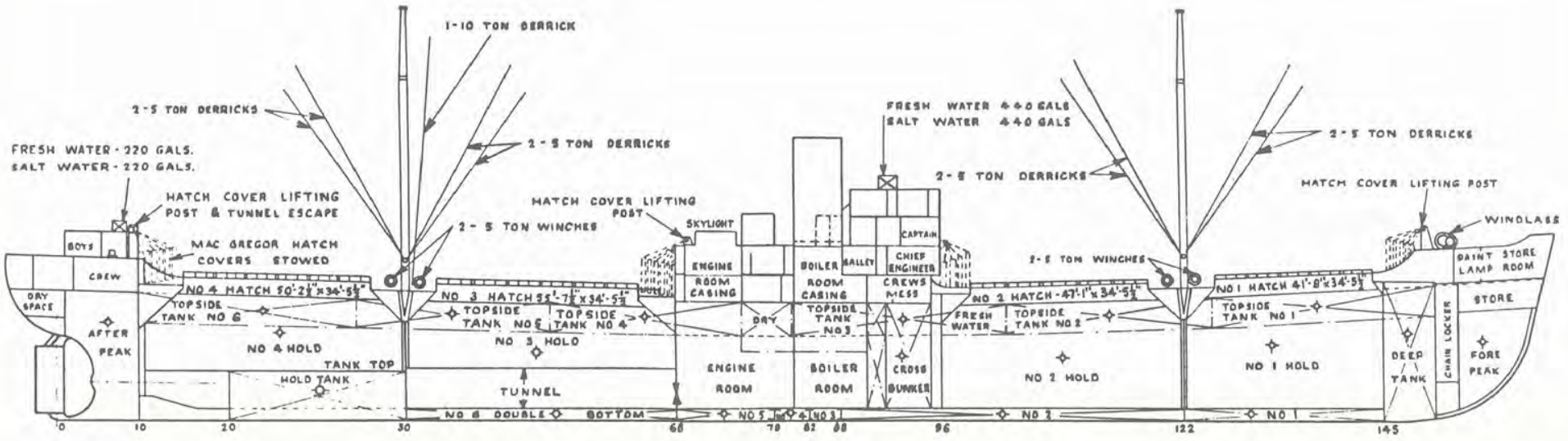
Built in North Vancouver for French owners, *Venissieux* was commissioned in 1948 and employed carrying bulk cargoes between various ports in western Europe, Great Britain, the Mediterranean and the west coast of South America, before being purchased by BHP in August 1955 and renamed *Iron Knight*.

She was a single deck vessel with raised bridge deck amidships, and was constructed on the transverse framing system with closely spaced frames of channel iron section. Shell plating longitudinal joints were joggled and rivetted, whilst the vertical joints were butt welded.

Propulsion machinery, situated amidships, was a Parsons-type double reduction turbine engine, built under licence by J. Inglis Co. Ltd. of Canada. It consisted of an H.P. and an L.P. ahead in series, exhausting to a condensor below, and developing 2,900 shp at 95 rpm. Steam pressure of 285 lb. was provided by two Babcock & Wilcox water tube boilers with drums fore and aft, situated port and starboard forward of the main engines in a common boiler and engineroom. Each boiler had two Todd's oil burner fires with a total heating surface of 6,000 sq.ft. and superheat temperature of 740 degrees F.

Auxiliary machinery included two 120 kW turbine driven generators and a Ruston & Hornsby 65 kW diesel driven generator. A centrifugal-type motor driven main circulating pump, a three stage centrifugal-type feed pump driven by a 40 hp electric motor, two steam driven reciprocating auxiliary feed pumps and two vertical electrically driven ballast pumps.

Navigation aids included radar, direction finder, echo sounder and gyro compass. The steering gear was telemotor operated electric hydraulic, of the twin ram type with the rams lying athwartships.

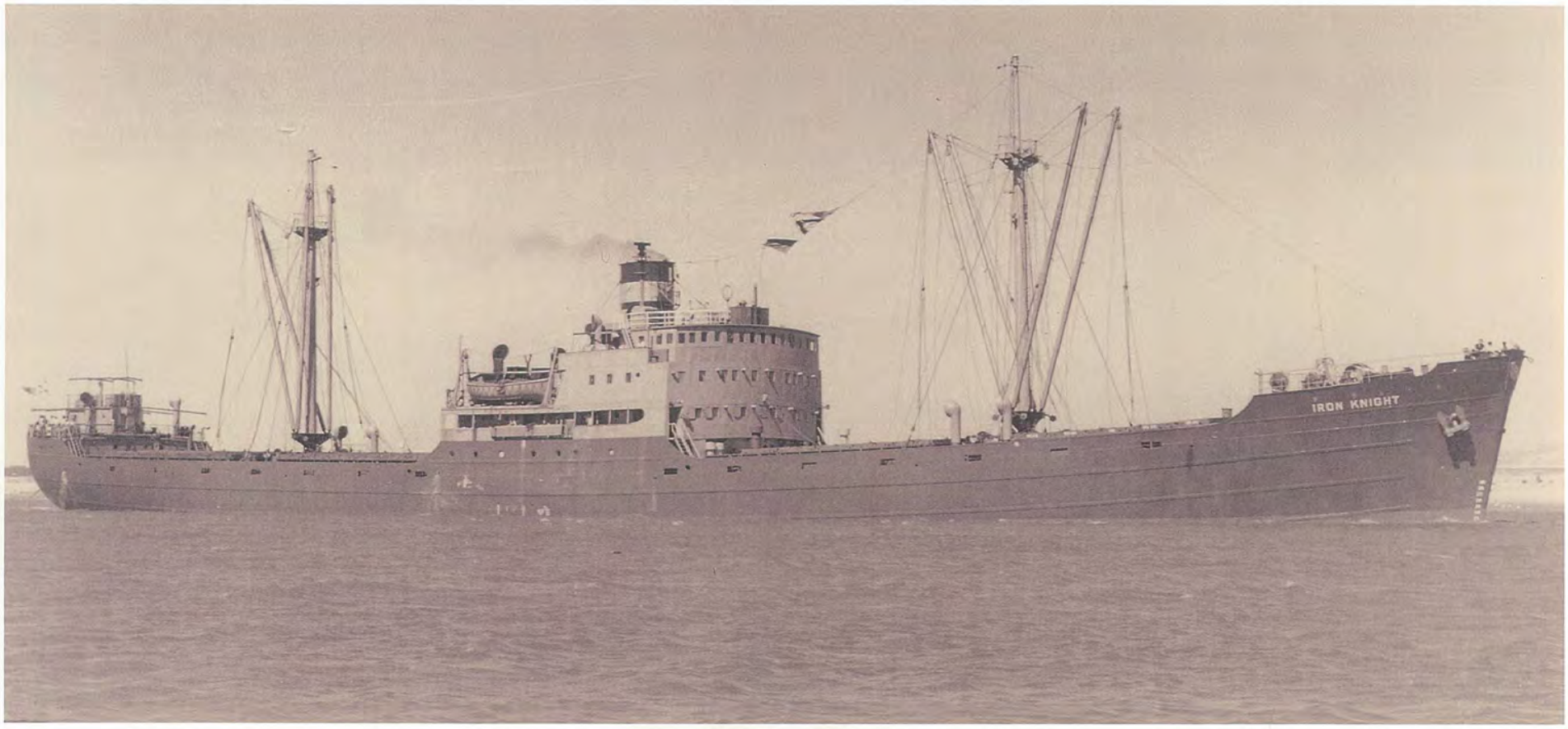


The ship featured four hatches, two forward of the bridge and two aft. The tunnel top in No. 4 hold was plated over to allow for the quick discharge of bulk cargoes. Eight 60 ft. 5 ton derricks were fitted, four housed vertically at each mast.

Reconstruction of the superstructure, to suit Australian conditions, was carried out in the Newport Graving Dock on the River Usk, Wales.

Trials were completed on 9 February 1956, and under the command of Captain J. Miles and with a complement of 39, *Iron Knight* sailed to Swansea where she loaded 2,070 tons of anthracite coal. She then proceeded to Sauda, Norway (becoming the first Australian cargo vessel to visit that country), where she loaded 3,995 tons of ferro manganese. She sailed on 15 February 1956 for Port Kembla, on what was to be an eventful voyage. On 27 February, *Iron Knight* broke down in the North Sea, with repairs taking four hours. On arrival at Aden for bunkers, she had to unload part of the cargo of anthracite coal in No. 3 hold because of spontaneous combustion. After discharge of the coal (into baskets) and repairs to bilge limber boards, the coal was reloaded and the voyage continued. However, the vessel returned to Aden the following day to repair defective electrical machinery. Sixteen weeks after leaving Norway she eventually made Port Kembla, after calling at Port Said, Suez, Aden and Fremantle.

BHP found *Iron Knight* was particularly suitable for all classes of cargo, including, at various times, rails to the South Australian ports of Thevenard and Port Lincoln and a cargo of bentonite from Whyalla to Stanley, Tasmania. She was particularly suitable for scrap and pre-slung products. During her time with the fleet she carried a total of 2,500,000 tonnes of cargo.



J. Y. Freeman.

WHYALLA CLASS

20. IRON SPENCER (I)

(1957-1979) S ORE CARRIER

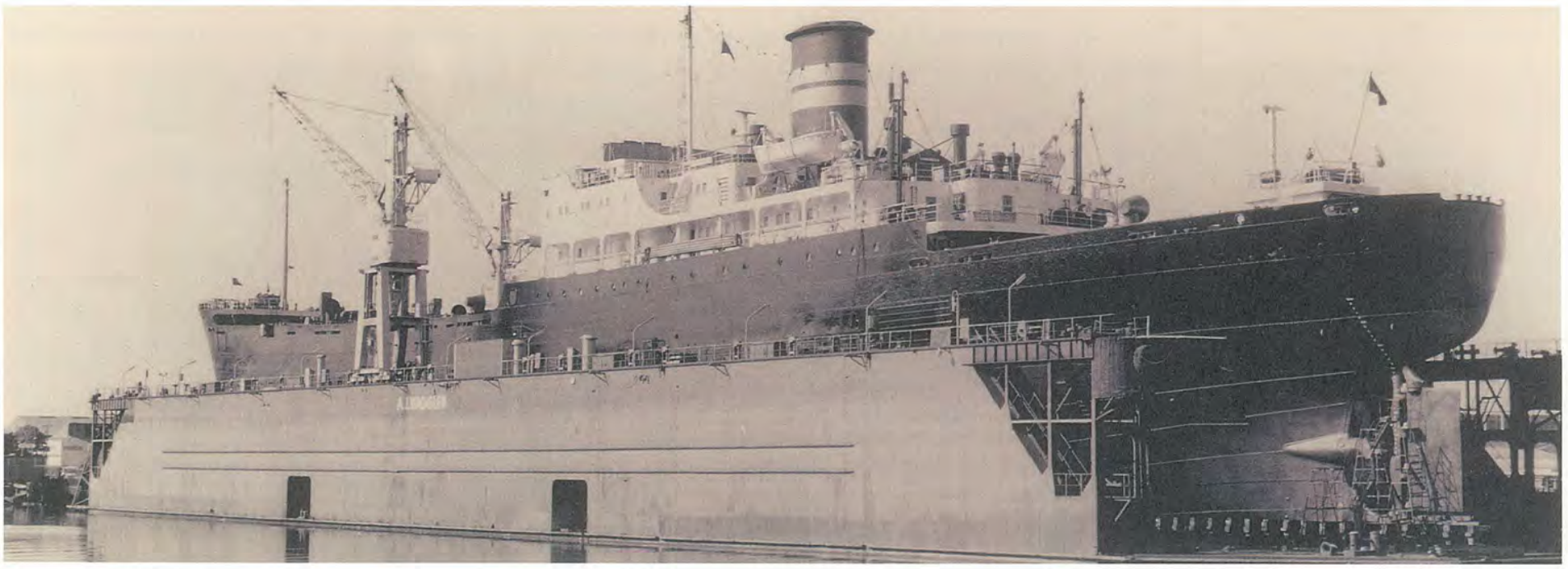
Official Number: 196755
Tonnages: 7,837 gross, 3,810 net, 10,626 deadweight. (From 1965: 10,250 gross, 5,042 net, 12,683 deadweight.)
Dimensions: Length 498'8", breadth 62'6", depth 30' to 2nd deck, draught 25'9" (From 1968: 28'9").
Machinery: Three steam turbines, manufactured by Parsons Marine Turbine Co. Ltd., Wallsend (U.K.), double reduction geared to a single shaft. 6,820 shaft horsepower. **Speed:** 14.5 knots. **Consumption:** 65 tons of coal/day; From 1968, 41 tons of fuel oil/day. **Crew:** 51.

History

23 May 1956: Launched by The Broken Hill Proprietary Co.Ltd., Whyalla (Yard No. 22) and christened by Mrs. L. Darling.
26 February 1957: Commissioned; registered Melbourne.
November 1965: Shelter deck closed.
November 1968: Converted to oil-firing - 11/1965 shelter deck closed.
27 September 1979: Decommissioned at Newcastle. Sold to Jenhow Trading Co. Pte. Ltd., Singapore and resold to Taiwanese breakers.
30 November 1979: Left Newcastle in tow of tug *Progress Rover* 422/1954 for delivery to Yih Shen Enterprise Co. at Kaohsiung.
28 January 1980: Demolition commenced.

The keel for *Iron Spencer*, the second of BHP's 'Whyalla' class ships, was laid on slipway No. 3 at the Whyalla Shipyard during June 1952. By the time she was completed (almost five years later) the Company had re-thought its requirements and the planned third and fourth 'Whyallas' had been cancelled.*Iron Spencer* differed from her earlier sister in several respects. She did not have derrick posts in front of the bridge and did not have 'tween decks in No. 4 hold (these were later removed from *Iron Whyalla*). She did, however, have a Sperry Gyro Pilot, not fitted to her sister.

Iron Spencer sailed the Australian coastline for her entire career, twice circumnavigating the continent (via Kwinana and Yampi Sound) without additional coal bunkers. In 1968 she was converted to oil-fired – the last of the fleet to be so converted – and as a result, her crew was reduced by four to 47. The vessel was also strengthened and converted to closed shelter deck configuration, increasing the deadweight tonnage to 12,683 tons. On recommissioning she loaded the first cargo of pencil pitch from Newcastle to Bell Bay and Geelong. *Iron Spencer* also loaded the first cargo of Coffin Bay limesand from Proper Bay in S.A.. Additionally, No. 1 hold was adapted to carry ferro-silicon from Bell Bay to Newcastle and Port Kembla.



Drydocked at Melbourne. *W. G. Volum.*

EXPLORER CLASS

21. IRON FLINDERS (I)

(1959-1978) S ORE CARRIER

Official Number: 196774

Tonnages: 14,039 gross, 7,145 net, 19,100 deadweight.

Dimensions: Length 580'8", breadth 70'7", depth 39'6" to upper deck, draught 30'3".

Machinery: Three steam turbines, manufactured by Parsons Marine Turbine Co. Ltd., Wallsend (U.K.), double reduction geared to a single shaft. 6,820 shaft horsepower. **Speed:** 14 knots. **Consumption:** 45 tons of marine fuel oil/day. **Crew:** 54

History

29 January 1959: Launched by The Broken Hill Proprietary Co. Ltd., Whyalla (Yard No. 23) and christened by Mrs. I. McLennan.

13 August 1959: Commissioned; registered Melbourne.

8 March 1966: Collided with *Velay* (7,508/1961) in Sydney Harbour.

November 1977: Laid up at Kwinana, and 20 November 1977 sold to Goldwills (Hong Kong) Ltd.

20 January 1978: Delivered to owners, and 23 January 1978 towed from Fremantle by tug *Sumi Maru* (498/1974).

Prior to 8 March 1978: Arrived Kaohsiung for demolition by Great River Steel Co. Ltd.

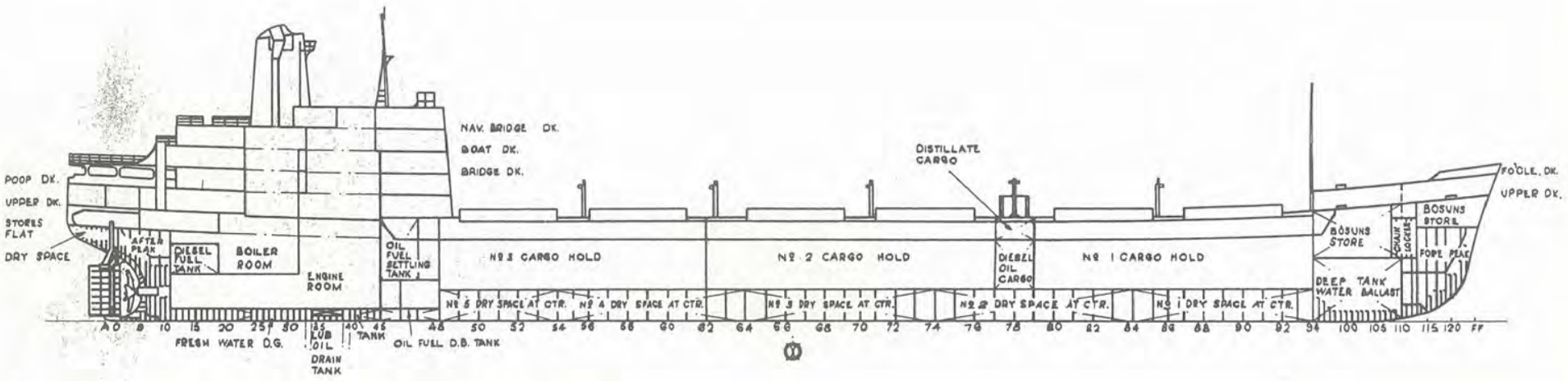
2 May 1978: Demolition commenced.

During October 1957, the keel was laid at the Whyalla Shipyard's No. 3 slipway for the first of two 19,000 ton 'Explorer' class vessels. These were single deck, oil-fired steam turbine-driven, pure ore carriers, designed by BHP's Naval Architects specifically for the carriage of iron ore from Cockatoo Island in Yampi Sound to the steelworks at Port Kembla and Newcastle.

Propulsion machinery, originally ordered for the third and fourth of the 'Whyalla' class, was designed to develop a service power of 6,820 shp continuously at 119 rpm. Steam was supplied by two oil-fired, Babcock & Wilcox integral furnace watertube boilers and economisers at a working pressure of 485 lb./sq. in. and superheated temperature of 730 degrees F. *Iron Flinders* was the first BHP vessel to be oil-fired from commissioning, the first to be fitted with AC power and also the first to have air-conditioning fitted before delivery.

On the 'Explorer' class the bridge, all accommodation (including a boat deck swimming pool) and the engines were located aft. Extensive use of welding was made in the ships' construction, resulting in a reduction in weight and an increase in speed. The design featured six cargo hatches, each covered by steel McGreggor hatches. Two fore and aft passages were built below the main deck to allow safe access in bad weather between the bridge and forecastle. Navigational aids fitted included a Sperry Gyro Pilot, Sperry Gyro Compass, radio direction finder, radar, VHF, three magnetic compasses, echo sounder, ship-to-shore telephone and Sal Log.

After sea trials carried out in Spencer Gulf from 21-23 July 1959, when the vessel reached a speed of 13 knots at only 80 per cent of her designed power, *Iron Flinders* sailed for Port Kembla on her maiden voyage, with a cargo of 14,000 tons of Whyalla ore. Under the command of Captain



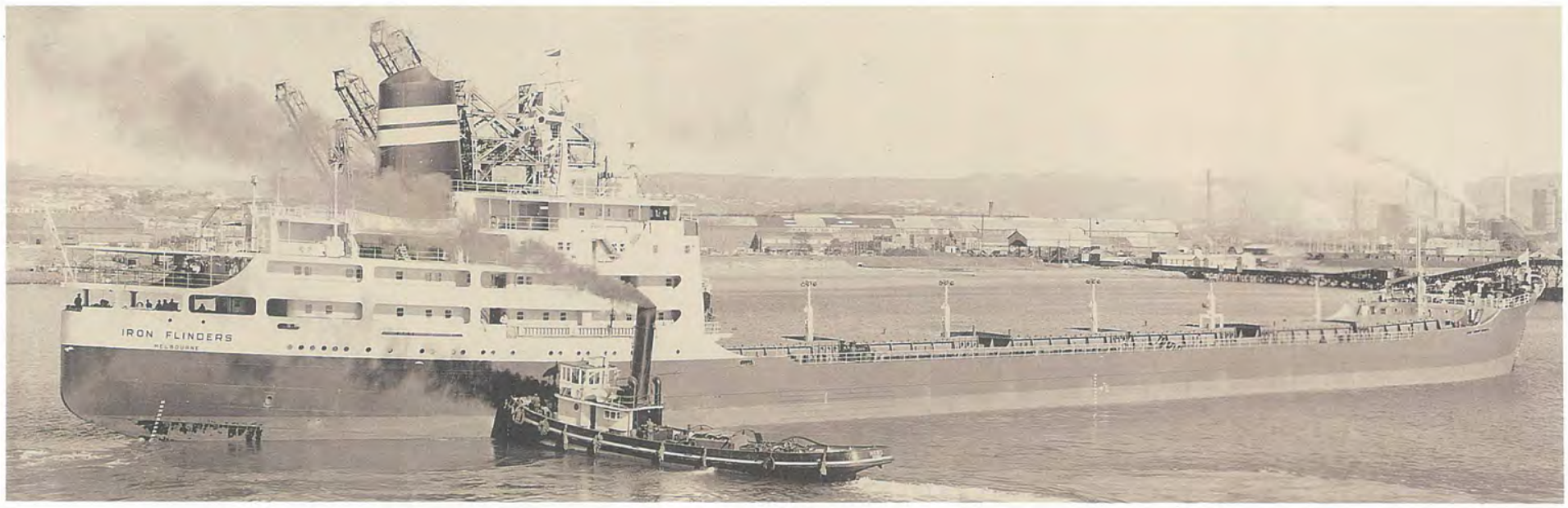
General Arrangement: ***Iron Flinders (I) and Iron Dampier (I).***

J. Miles, she arrived at Port Kembla on 20 August 1959. Loading was determined by draught restrictions at Port Kembla.

On 3 March 1961, *Iron Flinders* picked up the crew of the cargo ship *Verao* (469/1934), which sank east of Brisbane.

In February 1963, two ASEA self-tensioning winches were installed at the forward end of the vessel, in place of the original, conventional mooring equipment. Later, the installation of another two winches aft resulted in a reduction in total crew numbers from 54 to 49. When a Bailey Board – designed to automatically regulate oil fuel flow – was fitted, engineroom manning was reduced from eight to five.

At 2222 hours on 8 March 1966, *Iron Flinders*, under the command of Captain L. Packman and Sydney Pilot Captain J. Sinclair, was rounding Bradley's Head while leaving Sydney Harbour (after drydocking) when she collided with the French motor vessel *Velay*, striking that vessel on the starboard side just abaft the bridge. *Iron Flinders* proceeded to a safe anchorage for an inspection of damage to the bow, foremast and lookout cabin. *Velay* sustained damage from the waterline to the bridgedeck. The following day, *Iron Flinders* proceeded to Snails Bay, where temporary repairs were carried out, before sailing on 11 March for Whyalla to complete repairs. In the Admiralty Court on 12 May 1966, Mr. Justice McFarlan found that *Velay* was at fault and wholly to blame for the collision.



BHP.



Iron Flinders.

I. Edwards.

EXPLORER CLASS

22. IRON DAMPIER (I)

(1961-1978) S ORE CARRIER

Official Number: 315401

Tonnages: 14,037 gross, 7,159 net, 19,020 deadweight.

Dimensions: Length 580'8", breadth 70'5", depth 39'6" to upper deck, draught 30'2".

Machinery: Three steam turbines, manufactured by Parsons Marine Turbine Co. Ltd., Wallsend (U.K.), double reduction geared to a single shaft. 6,850 shaft horsepower. **Speed:** 14 knots. **Consumption:** 45 tons of marine fuel oil/day. **Crew:** 54.

History

22 October 1960: Launched by The Broken Hill Proprietary Co. Ltd., Whyalla (Yard No. 24) and christened by Mrs. M. Cuming, wife of a BHP Director.

14 June 1961: Commissioned; registered Melbourne.

1 February 1978: Sold to Goldwills (Hong Kong) Ltd. and 10 February 1978 delivered to owners.

28 February 1978: Towed from Fremantle (W.A.) by tug *Freesia* 929/1969.

28 March 1978: Arrived Kaohsiung and resold to Great River Steel Co. Ltd. for demolition.

The keel of the second 'Explorer' class ore carrier was laid during September 1959 at the Whyalla shipyard's No. 1 slipway and, as *Iron Dampier*, the ship was commissioned on 14 June 1961. She sailed on her maiden voyage under the command of Captain J. Miles, with a cargo of 14,000 tons of Whyalla ore destined for Port Kembla, where she arrived on 22 June 1961.

On 30 June 1964 she ran aground at Kwinana (W.A.), but was refloated the following day. In early March 1976, *Iron Dampier* sustained damage to the stern and plating on the starboard side when she was struck by the Soviet container ship *Novikov-Priboy* (12,478/1968).



BHP Archives.

23. Iron Warrior (II)

(1961-1975) S General Cargo

Official Number: 178451

Tonnages: 4,075 gross, 2,011 net, 6,247 deadweight.

Dimensions: Length 403'4", breadth 53'2", depth 33' to shelter deck, draught 22'7".

Machinery: Triple expansion three cylinder engine, manufactured by Commonwealth Government Engine Works, Port Melbourne, with exhaust turbine and double reduction gearing with hydraulic coupling to single shaft. 3,000 indicated horsepower.

Speed: 10 knots.

History

20 December 1949: Launched by The Broken Hill Proprietary Co. Ltd., Whyalla (Yard No. 12) for the Australian Shipping Board (ASB), and christened *Balook* by Mrs. F. Radford, the wife of an ASB Director.

28 April 1950: Commissioned; registered Melbourne.

July 1950: Sold to Australasian United Steam Navigation Co. Ltd. (AUSN) and November 1950 renamed *Caloundra.*

March 1961: Purchased by BHP and renamed *Iron Warrior.*

January 1963: Converted to oil-firing.

27 November 1974: Laid up at Newcastle (N.S.W.)

February 1975: Sold to Hi-Firm Corp., Hong Kong, and May 1975 towed from Newcastle by tug *Fuji Maru* (937/1967).

20 June 1975: Arrived Hong Kong, and resold to Pai Chow Steel & Iron Works, Taiwan.

14 July 1975: Demolition began at Kaohsiung.

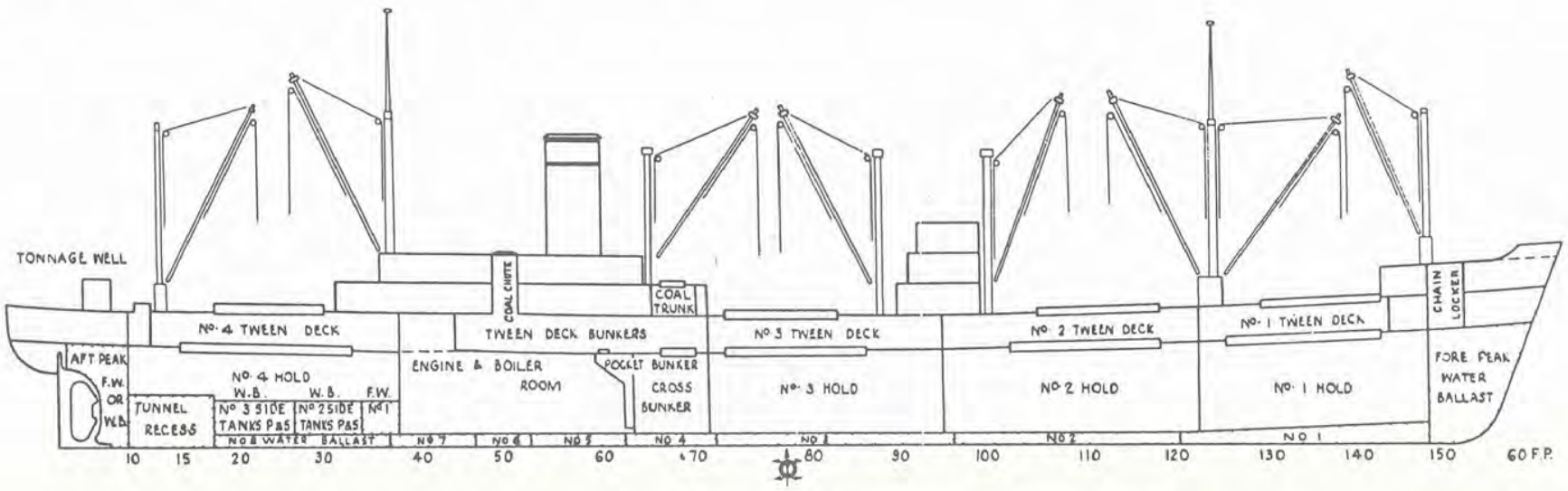
For over 10 years, *Caloundra* worked the coast carrying general cargo – mainly between Brisbane, Sydney and Fremantle – until purchased by BHP in 1961 when the AUSN sold its fleet. The Master at the time of the purchase, Captain G. Smith, transferred to BHP with the vessel.

A steam general cargo vessel with three holds forward of the engineroom and one aft, *Iron Warrior* had a prominent bridge with wooden wheelhouse located between Nos. 2 and 3 holds. The ship had three tall masts (originally four), a tall funnel on the boatdeck and seven sets of cargo gear, housed vertically on the fore and mainmast and horizontally on the mizzen and sampson posts.

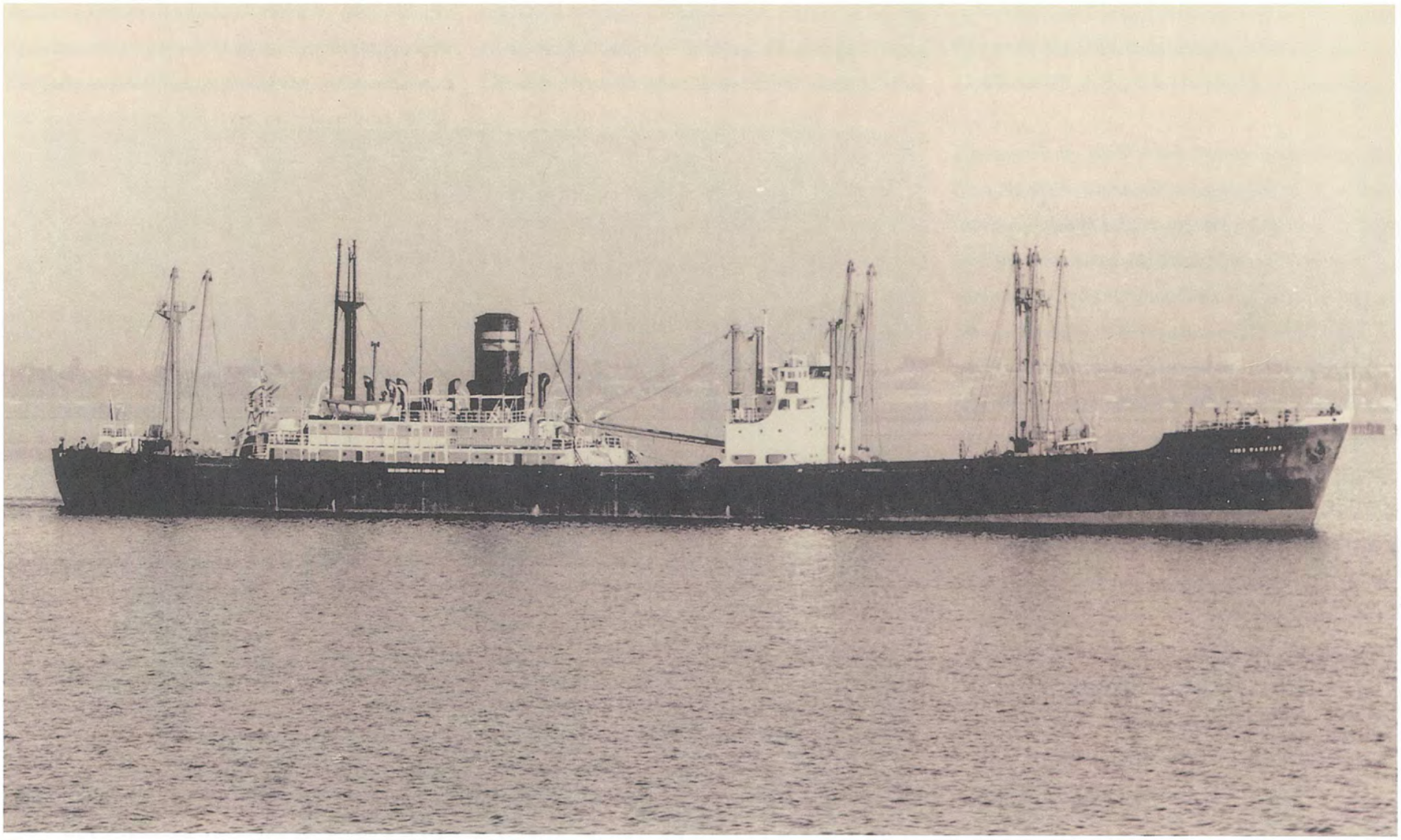
Steam was provided by two Babcock & Wilcox watertube boilers, which were coal-fired until January 1963 when converted to oil-firing; thereafter consumption was 20 tons of oil fuel per steaming day.

Iron Warrior had four hatches, each covered by wooden slabs on steel beams covered with three canvas tarpaulins. She carried 14 five ton derricks and one 20 ton 'Jumbo'.

During her time with BHP she was primarily employed carrying products from Newcastle and Port Kembla to Geelong, Melbourne and Adelaide, with an occasional visit to Whyalla to backload dolomite, limesand and limestone. She also visited Port Augusta, at the head of Spencer Gulf, with steel rails and coal. She carried pig iron from Whyalla to Sydney, and regularly took steel shipments from N.S.W. to Kwinana and Fremantle. *Iron Warrior* made several overseas voyages in 1966 and 1967, visiting Keelung, Kaohsiung, Hong Kong, Illigan, Manilla and Naha. She was the first of the BHP fleet to call at Port Hedland (W.A.), loading magnetite there for eastern Australian ports in 1967. In that year and 1968, she worked the Western Australian coast carrying sleepers from Bunbury to Port Hedland for the Mt. Newman project railway. In 1968 she traded to Darwin becoming the first BHP vessel to discharge there.



Iron Warrior was the last vessel in the fleet still equipped with steam engines driving Healey Shaw steering pumps, and had what was possibly the last triple expansion reciprocating steam engine in a ship trading on the coast. At the time of her disposal, maritime unions felt that she should have been retained as a training ship.



W. G. Volum.

24. Iron Clipper

(1964-1975) M Bulk Carrier

Official Number: 302793
Tonnages: 23,793 gross, 15,644 net, 35,441 deadweight (From 1969: 40,347 deadweight.)
Dimensions: Length 669'11", breadth 90'7", depth 52'10", draught 35'1". (From 1969: draught 38'7".)
Machinery: Nine cylinder 2SA UE oil engine, manufactured by Mitsubishi Zosen, Nagasaki. 13,000 brake horsepower. **Speed:** 15 knots.
Consumption: 35 tons of fuel oil/day. **Crew:** 48.

History

October 1961: Completed by Mitsubishi Zosen, Nagasaki (Yard No. 1556) as *Naess Clipper* for Anglo-Pacific Shipping Co. Ltd., Bermuda (Naess Denholm & Co. Ltd., London).
November 1964: Chartered by BHP for four years; refitted Sasebo, Japan, for Australian manning.
December 1964: Arrived on Australian coast. Renamed *Iron Clipper*; retained London registry.
1969: Loadline revised; deadweight increased.
June 1975: At conclusion of extended charter, returned to owners and renamed *Nordic Rambler*. Loaded coal at Newcastle and on arrival in Europe, sold to Interoceanos Armadora SA (Gourdomichalis Maritime SA), Piraeus. Renamed *Kavo Xifias*.
14 February 1984: Left Port Kelang for Kaohsiung, but resold.
Prior to 5 May 1984: Arrived at a Chinese mainland port for demolition.

Iron Clipper was built as a single deck motor bulk carrier, strengthened for ore cargoes, and was of contemporary tanker appearance with bridge amidships and machinery aft.

She was the first motor ship to join the BHP fleet and had continuing problems with high temperature corrosion of the engine piston crowns. Her later sister, *Iron Cavalier*, had chrome cylinder liners fitted and did not suffer the same problems.

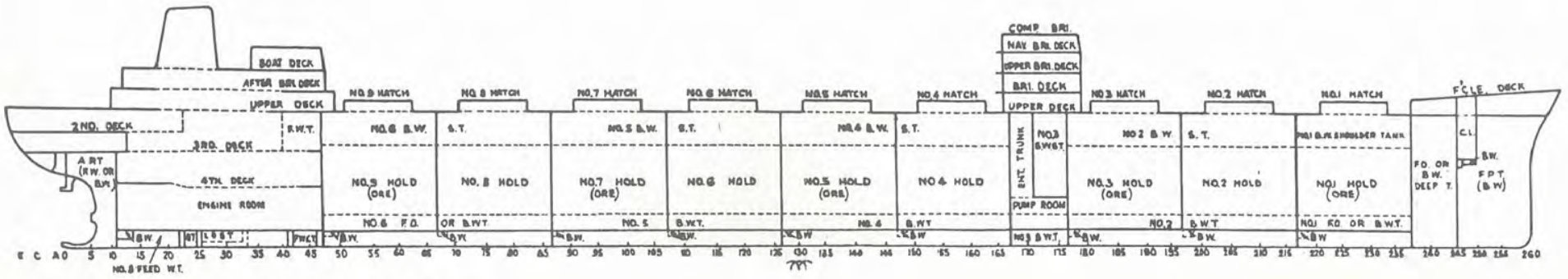
The pair each had 9 cargo holds with side opening steel hatch covers; cargo handling gear consisted of one 5 ton crane amidships and two 3 ton SWL derricks aft. The vessels were moored by eight self-tensioning mooring winches. An unusual characteristic was a raised walkway over the hatches from forward to aft on the starboard side.

Navigational aids included a Sperry gyro pilot, Sperry gyro compass, radio direction finder, long and short range radar, VHF, magnetic compass, echo sounder, ship to shore telephone and Gotaverken Loadicator.

Chartered by BHP initially for a period of four years, *Iron Clipper* and *Iron Cavalier* were both fitted out in Japan to meet Australian conditions. Both ships retained their London registration and their original colours: black hull, green boot topping and



J. Y. Freeman.



General Arrangement: Iron Clipper and Iron Cavalier.

white accommodation, but with the blue-banded black funnel of the BHP fleet.

While under Australian articles the vessels' complement was one Master, three Deck Officers, eight Engineer Officers, one Electrician, one Radio Officer, two Apprentices, one Carpenter, one Bosun, eleven A.B.'s, two Ordinary Seamen, two Deck Boys, five Greasers, two Crew Attendants, three Cooks and five Stewards – a total of 48.

Iron Clipper was used in the coal and ore trades on the Australian coast and to Japan. From 2-14 January 1969 she underwent special survey in Cairncross Dock, Brisbane. At this time the ship's loadline altered, resulting in substantial increase in registered deadweight.

Because of her suitability to the trade, *Iron Clipper*'s original charter was twice extended, until she was finally returned to her owners in June 1975.

25. Iron Cavalier

(1965-1978) M Bulk Carrier

Official Number: 302841
Tonnages: 23,811 gross, 15,568 net, 35,350 deadweight (From 1969: 40,261 deadweight.)
Dimensions: Length 669'11", breadth 90'2", depth 52'10", draught 35'1". (From 1969: 38'8".)
Machinery: Nine cylinder 2SA UE oil engine, manufactured by Mitsubishi Zosen, Nagasaki. 13,000 brake horsepower. **Speed:** 15 knots. **Consumption:** 35 tons of fuel oil/day. **Crew:** 48.

History

January 1962: Completed by Mitsubishi Zosen, Nagasaki (Yard No. 1557) as *Naess Cavalier* for Anglo-Pacific Shipping Co. Ltd., Bermuda (Naess Denholm and Co. Ltd., London).



B. J. Browne.

4 November 1965: Taken on charter by BHP for four years. Refitted Sasebo, Japan, for Australian manning. Renamed *Iron Cavalier*; London registry retained.
19 December 1965: Commenced trading on Australian coast.
1969: Loadline revised; deadweight increased. Transferred to Anglo Norness Shipping Co. Ltd.
1972: Reverted to Anglo-Pacific Shipping Co. Ltd.
June 1975: At conclusion of extended charter, purchased by BHP; London registry retained.
8 July 1977: Laid up Newcastle.
June 1978: Sold to Ailsei Maritime Corp., Piraeus (Chandris [London] Services Ltd.) London and renamed *Marivic.*
February 1984: Sold to Taiwanese shipbreakers.
17 March 1984: Arrived Kaohsiung for demolition.

Chartered by BHP from Naess Denholm Ltd. (initially for a period of four years) and fitted out in Japan to meet Australian conditions. The vessel left Sasebo, Japan, on 11 November 1964 under the command of Captain A. Ekblom, arriving at Yampi Sound (W.A.) on 19 December.

Due to her success in meeting the Company's requirements, *Naess Cavalier*'s original charter was extended until, in June 1975 she was purchased outright by BHP in order to retain her in the coal trade.

In 1972 the ship was decommisioned for over four months (from 2 February until 16 June) because of industrial problems. Eventually, because of her age and the prevailing economic conditions, *Iron Cavalier* was withdrawn from service at Newcastle in June 1977, her last cargo being manganese ore from Groote Eylandt to Bell Bay and Newcastle. Almost a year later she was sold to the Chandris group, and after drydocking and inspection in Newcastle (12-17 June), during which she was renamed *Marivic*, she sailed from the port for the final time on 1 July 1978.

26. Iron Hunter

(1968-1982) S Bulk Carrier

Official Number: 332288

Tonnages: 34,048 gross, 20,557 net, 54,590 deadweight. (Later 55,466 deadweight.)

Dimensions: Length 741'6" (incl. BB), breadth 104'3", depth 55'9", draught 41'4".

Machinery: Two steam turbines, manufactured by General Electric Co., Boston, double reduction geared to single screw. 16,500 shaft horsepower.

Speed: 15 knots. **Consumption:** 76 tons of marine fuel oil/day. **Crew:** 41.

History

29 June 1968: Launched by Whyalla Shipbuilding & Engineering Works, Whyalla (Yard No. 44) for BHP, having been christened 24 June 1968 by Mrs. R. Law-Smith, wife of a BHP Director.

24 October 1968: Commissioned; registered Melbourne.

5 November 1970: Suffered a severe engineroom fire between Cliffy Island and Port Welshpool in Bass Strait. One Engineer killed.

17 June 1973: Struck rocks at entrance to Newcastle and settled in main channel.

22 February 1973: Refloated; patched at Newcastle and Brisbane, permanent repairs at Sasebo, Japan.

23 July 1982: Sold to Saudi Pride Shipping Co. Ltd., Jeddah, and renamed *Saudi Fahad.*

19 December 1983: Arrived at Kaohsiung for demolition.

Iron Hunter was the third of a class of four specialised single deck bulk carriers designed and built at BHP's Whyalla Shipyard (she was preceded by *Darling River*, ANL/1966 and *Bogong*, Bulkships/1967 and followed by *Yarra River*, ANL/1970).

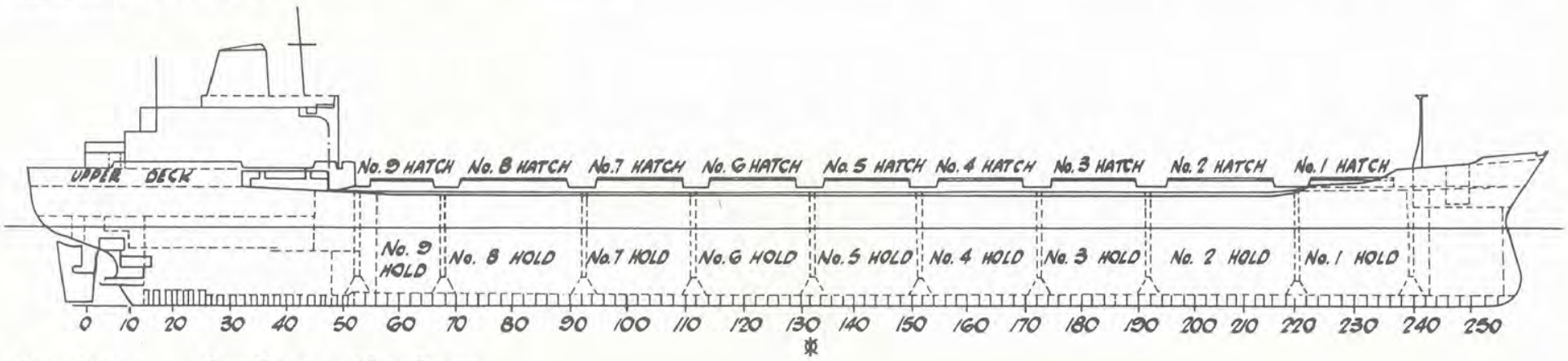
Propulsion machinery, situated aft, consisted of a General Electric two stage steam turbine with double reduction gearing to the tailshaft, developing 16,500 shp (12,304 kW) at 96 rpm for a designed speed of 15 knots. Steam was provided by a Babcock & Wilcox integral furnace (5.86 mpa at 510 degrees C) burning 76 tonnes of marine fuel oil per steaming day. The engineroom was extensively automated and all operations took place from a central console with one duty Engineer monitoring all essential operating conditions of the machinery. *Iron Hunter* was the first BHP ship with bridge control of the engineroom.

Iron Hunter had nine cargo holds with Gotaverken Hydrotorque hinged steel covers, and was strengthened for ore cargoes – Nos. 1, 5 and 9 could be empty.

She loaded her first cargo, 47,787 tons of ironstone pellets, at Whyalla on 2 November 1968 and sailed to Port Kembla, then to Cairncross Dock, Brisbane, for four days. Returning to Whyalla, she loaded 51,851 tons of pellets for Japan. Her first four years of BHP service were spent continuously on the Whyalla-Japan run with pelletised iron ore.

Iron Hunter twice became the centre of national attention. On the first occasion, when the ship was steaming in Bass Strait, off Wilson's Promontory (Vic.), on 5 November 1970, fire broke out in the engineroom, tragically causing the death of one Engineer. The engineroom was sealed off and the fire smothered by carbon dioxide gas. The disabled vessel was towed to Melbourne and then steamed to Newcastle under auxiliary power. Two tugs sailed with her as a safety measure but were not required. She remained in Newcastle for four months where repairs were effected by the State Dockyard.

On 17 June 1973, *Iron Hunter* ran aground in the entrance to Newcastle Harbour. Five days later, after dumping 5,000 tons of iron ore from the two forward holds, she was refloated and taken to the ore discharge berth where the remainder of her cargo was unloaded. After inspection and temporary repairs, she left Newcastle under her own steam for drydocking in Brisbane for further temporary repairs.



General Arrangement: ***Iron Hunter*** *and* ***Iron Bogong.***

She subsequently proceeded under her own steam to Sasebo, Japan, for permanent repairs, which were completed in 48 days.

At the completion of 141 voyages in BHP trades, she was sold and handed over in Sydney to her Middle Eastern buyers on 23 July 1982. She sailed as *Saudi Fahad* on 10 August.



R.D. Scott



L. Packman

27. Iron Endeavour

(1969-1983) M Bulk Carrier

Official Number: 305467
Tonnages: 40,316 gross, 27,437 net, 69,115 deadweight.
Dimensions: Length 798'5" (incl. BB), breadth 120'3", depth 56'3", draught 39'3".
Machinery: Eight cylinder 2SA Doxford oil engine manufactured by Doxford & Sunderland Shipbuilding & Engineering Co., Sunderland (U.K.). 20,000 brake horsepower. **Speed:** 15 knots.
Consumption: 57 tons of fuel oil/day. **Crew:** 42.

History

February 1969: Completed by Doxford & Sunderland Shipbuilding & Engineering Co. Ltd., Sunderland (Yard No. 724) as *Iron Endeavour* for Nile Steamship Co. Ltd. (J. & J. Denholm [Management] Ltd.). Registered Newcastle (U.K.). Immediately taken on charter by Dampier Mining Co. Ltd., a BHP subsidiary, for 10 years.
10 February 1969: Sailed via Liberia and Japan;
April 1969: Arrived Australia.
4 October 1970: Grounded Port Hedland (W.A.); extensive bottom damage, repaired Singapore.
2 March 1983: Handed back to owners; immediately sold to Efold Shipping Co. SA, Piraeus (Efshipping Co. SA Panama, managers) and renamed *Andromachi.*
1990: Sold to Ostene Shipping SA, Turkey, and renamed *Kaptan Ziya Sonmez* (Ugland Brothers Ltd., managers).
1991: Managers became Sonmez Denizcilik ve Ticaret A.S.
March 1992: Reported sold to interests associated with Good Faith Shipping Co. SA, Greece, and renamed *Ocean Blue* (registered Panama).
27 June 1992: Sold at Admiralty Court auction at Gibraltar to Ostene Shipping SA, Turkey (Sonmez Denizcilik ve Ticaret A.S.) and renamed *Naga.* Still in service.

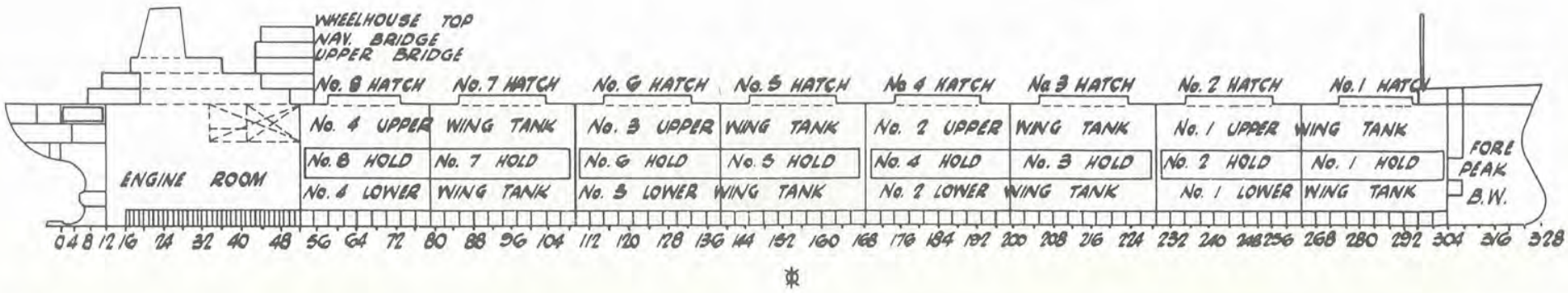
Originally to have been named *Iron King, Iron Endeavour* was so named in recognition of the bi-centennial of the discovery of Australia by Captain James Cook in the barque *Endeavour* in 1770. She had eight holds, with steel hatches, and was strengthened for ore cargoes – Nos. 3, 5 and 7 could be empty.

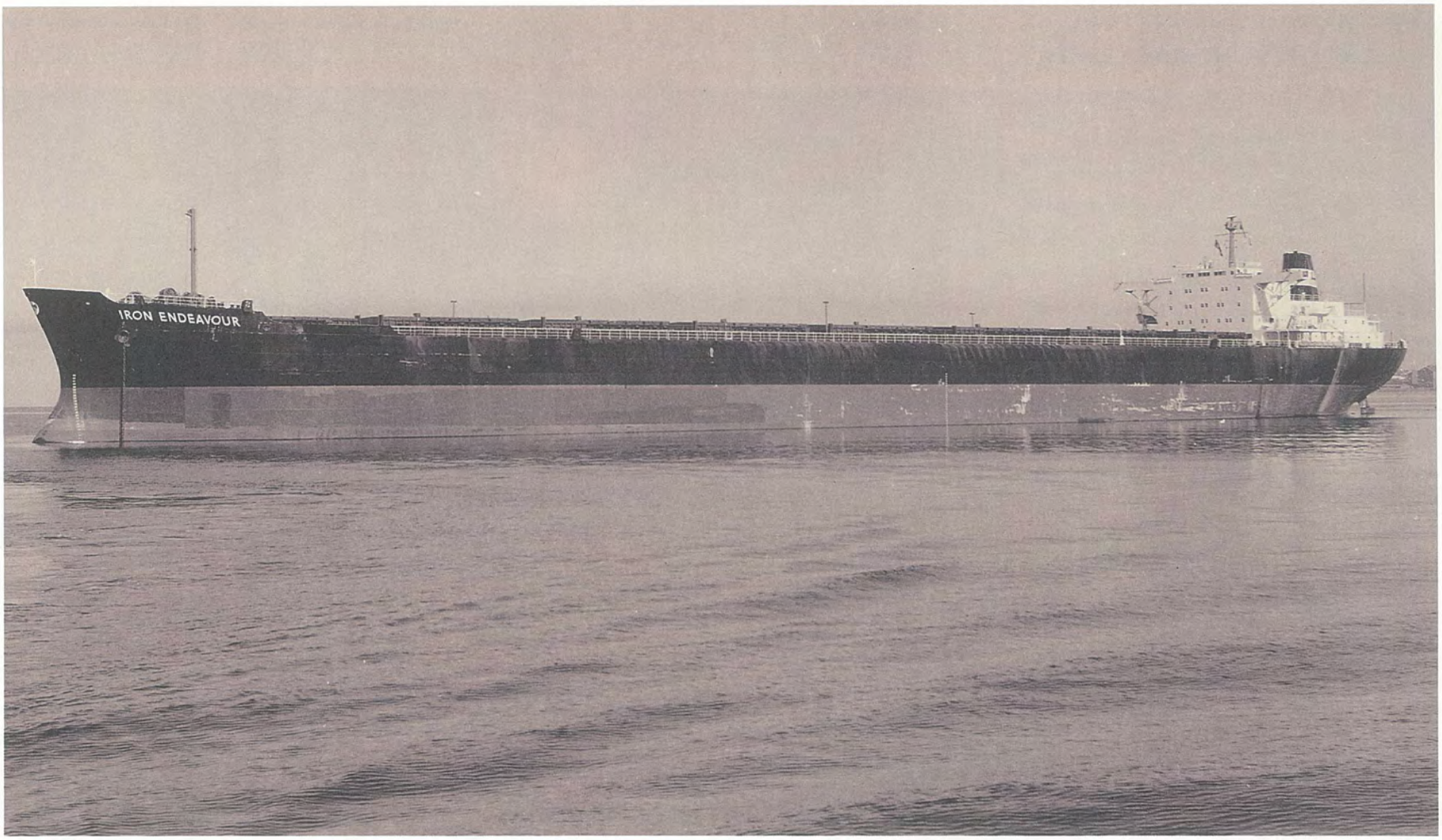
With the charter to BHP arranged while the ship was still on the stocks – a Company Superintendent oversaw her completion – *Iron Endeavour* was handed over and sailed from Hebburn-on-Tyne on 10 February 1969, under the command of Captain A. Ekblom. She sailed first to Liberia, where she loaded iron ore for Japan. She subsequently proceeded to Port Hedland and loaded a cargo of 63,578 tons of iron ore for Port Kembla, sailing on 12 April 1969. She then joined *Iron Hunter* carrying iron ore pellets from Whyalla-Japan, returning to Newcastle and Port Kembla with Mt. Newman ore from Port Hedland.

On 4 October 1970, the vessel ran aground at Port Hedland, causing extensive damage to her hull. She proceeded to dock in Singapore where repairs were carried out 25 November-12 December. A serious fire in the galley while the ship was at sea off the east coast saw *Iron Endeavour* dock for repairs in Sydney for five days during May 1972.

After 14 years with the fleet, *Iron Endeavour* was handed back to her British owners at Tamano, Japan, on 2 March 1983, at the completion of her 137th and final voyage for BHP (Newcastle-Mizushima). Her owners in turn handed her over to Greek buyers, who renamed her *Andromachi.*

Whilst with the fleet, the 'Big E', as this most popular ship was affectionately known, lifted 11,722,831 tonnes of cargo, a record at the time for an Australian-operated vessel.





BHP Transport.

28. Iron Somersby

(1971-1986) M Bulk Carrier

Official Number: 337372
Tonnages: 57,250 gross, 40,088 net, 108,174 deadweight.
Dimensions: Length 855' (incl. BB), breadth 133'6", depth 66', draught 48'6".
Machinery: Nine cylinder 2SA B&W oil engine, manufactured by Harland & Wolff Ltd., Belfast. 23,200 brake horsepower. **Speed:** 15 knots.
Consumption: 71 tons of fuel/day. **Crew:** 38.

History

7 December 1971: Completed by Harland & Wolff Ltd., Belfast (Yard No. 1688) as *Iron Somersby* for Ropner Shipping Co. Ltd., London. Immediately taken on charter by BHP; registered Newcastle (U.K.).
28 May 1982-22 June 1983: Laid up Geelong.
14 December 1986: Redelivered to owners; renamed *Somersby*, registered Nassau, Bahamas.
1987: Sold to Karson Navigation Corp. (Oak Steamship Co. Ltd.), Kaohsiung and renamed *Chia Yun*. Still in service.

Iron Somersby featured nine holds, all fitted with McGregor hydraulically-operated, side-opening, steel hatches. The ship was strengthened for heavy cargoes; no cargo handling gear was fitted.

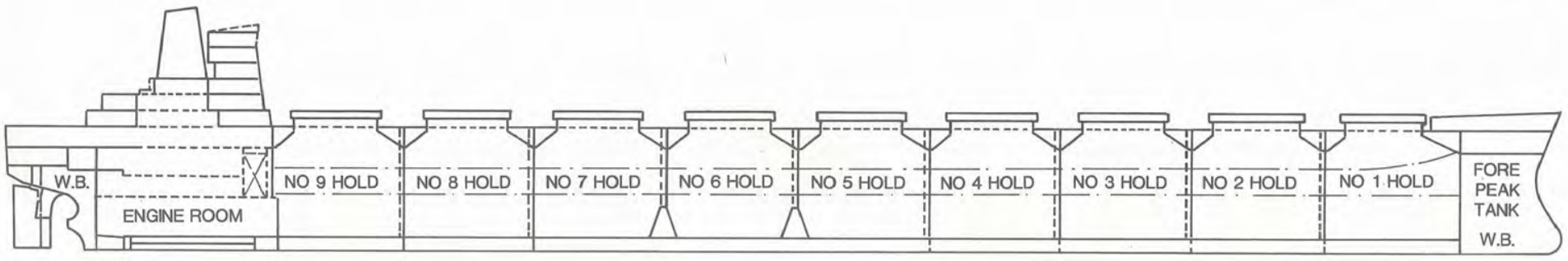
The vessel sailed in ballast from Belfast (under the command of Captain A. Ekblom) for Port Hedland via the Cape of Good Hope, a voyage of 31 days at an average speed of 15.73 knots. Upon reaching Port Hedland, *Iron Somersby* – the first locally-operated 100,000 tonner to arrive on the Australian coast – spent seven days at anchor due to a local industrial dispute. After berthing and loading 69,871 tons of ore (the maximum possible because of draught restrictions at Port Kembla) she sailed on 15 January 1972, arriving at Port Kembla on 24 January.

The vessel then became the centre of a series of industrial disputes which caused her to be delayed and detained in both eastern and Western Australian ports. Finally, after a period of 38 days at anchor at Port Kembla (from 9 September 1972), the issues were resolved and *Iron Somersby* took up her intended BHP trade.

Initially painted in Ropner's traditional hull colours, she sported the nickname of the 'Jolly Green Giant' but, in 1977, was repainted in the standard BHP colour scheme. In her 136 voyages with the fleet she lifted 13,788,000 tonnes of coal and iron ore. Except for a period in 1982-83 when she was laid up at Geelong, *Iron Somersby* operated mostly in the Port Hedland-Port Kembla iron ore trade, with occasional voyages to Japan with coal. Variations to this pattern



D. E. Crisp.



included a trip to Hong Kong with coal, another with iron ore to Labuan, Brunei, and two voyages Dampier-Japan during a Japanese seamen's strike in 1972.

The ship was eventually handed back to Ropners at Sasebo, Japan, on 14 December 1986, whereupon she took her originally intended name – *Somersby* – and was registered in Nassau. With a Yugoslav crew of 24 she sailed for Hay Point, Queensland, where she loaded coal for Europe.



K. I. Barr.

29. Iron Banbury

(1971-1975) M General Cargo

Official Number: 337373
Tonnages: 7,497/11,381 gross, 4,184/6,678 net, 11,955/15,500 deadweight.
Dimensions: Length 524' (incl. BB), breadth 75'2", depth 43', draught 26'11"/31'7".
Machinery: Seven cylinder 2SA Sulzer oil engine, manufactured by Scotts' Engineering Co. (1969) Ltd., Greenock (U.K.). 14,000 brake horsepower.
Speed: 18 knots. **Consumption:** 40 tons/day.
Crew: 32.

History

19 October 1971: Launched by Scotts' Shipbuilding Co. (1969) Ltd., Greenock (Yard No. 721) as *Banbury* for Alexander Shipping Co. Ltd. (Houlder Brothers & Co. Ltd., managers), London. (Both companies were members of the Furness, Withy Group.) While fitting out renamed *Iron Banbury* for four year bareboat charter to BHP.

21 December 1971: Commissioned; registered Newcastle (U.K.).
18 December 1975: Returned to owners at Fremantle; renamed *Banbury*.
April 1980: Parent group taken over by C. Y. Tung.
July 1982: Sold to Onward Marine Inc. (Wallem Shipmanagement Ltd., managers), Panama and renamed *Lady Marina*.
1989: Sold to Cia. Nav. Ariane SA (Mediterranean Shipping Co. SA., managers), Panama and renamed *Ariane S.*
1992: Renamed *Presidente Aguirre Cerda*. Still in service.

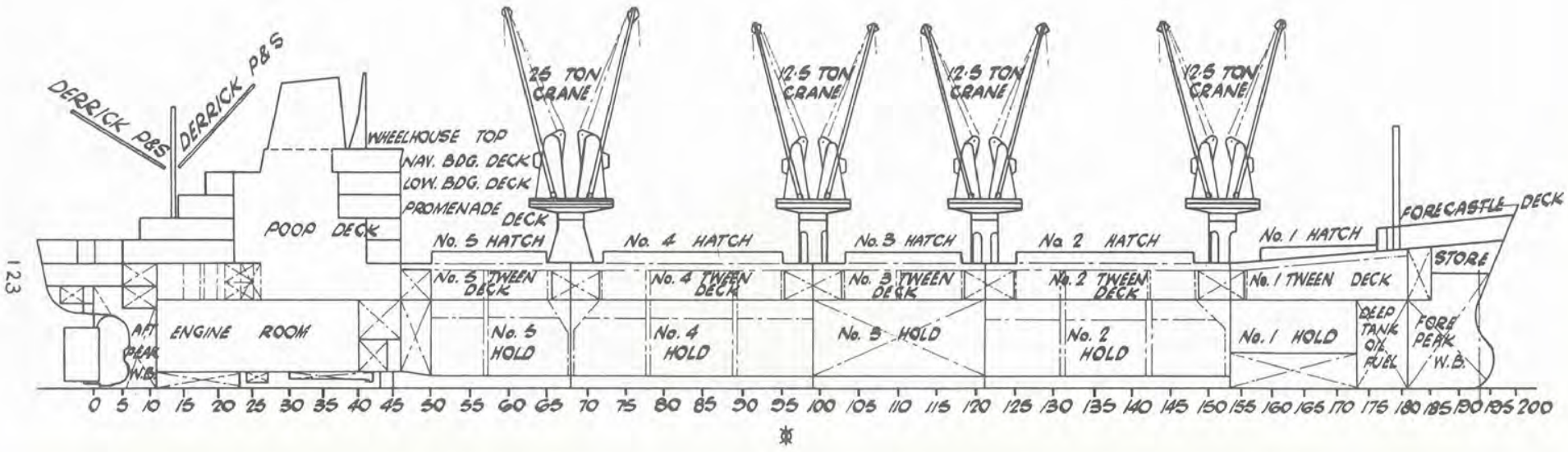
Built as a 'tweendecker, *Iron Banbury* had five holds served by nine hatches, twinned except for No. 1. The steel lids on the main and 'tween decks were lifted by hand-operated jacks and then moved under electrical power. Cargo handling gear consisted of eight Hagglund electro-hydraulic cranes, 6 x 12 ton and 2 x 25 ton. These could be coupled together to lift loads of up to 50 tons.

After delivery from the builder's yard, *Iron Banbury* sailed for Liverpool, under the command of Captain D. Bolas and with an Australian crew.

There she loaded a general cargo and departed for Australia on Chistmas Day 1971, calling at Las Palmas for bunkers and Lorenco Marques (Mozambique), where the ship took on 11,000 tons of fluorspar for Port Kembla, Newcastle and Whyalla. This cargo was hand shovelled into bins by wharf labourers, the bins then loaded into the ship.

During June 1972 the vessel loaded 13,466 tons of steel billets at Whyalla and Kwinana, for Abadan (Iran). After 12 days the ship arrived at the Bawada anchorage, south of Abadan, and discharged the steel cargo onto barges, which were then towed 20 miles upriver to Khorramshahr. Following the completion of discharge – which took 12 days – the ship returned to Kwinana to load products for the eastern states. In October that year she was taken on time charter by Hammersley Iron Pty. Limited, to load ore cars from Melbourne and Brisbane for Dampier.

Iron Banbury was returned to her owners at Fremantle on 18 December 1975 and was renamed *Banbury*. Following a voyage from the United Kingdom to New Zealand for Shaw Savill (also Furness, Withy Group), she was used on the U.K.-South America trade until July 1982, when sold to Panamian owners.





M. R. Dippy.

30. Iron Baron (III)

(1972-1984) M General Cargo

Official Number: 337375
Tonnages: 5,583/8,537 gross, 2,825/4,885 net, 8,375/10,875 deadweight.
Dimensions: Length 479'5" (incl. BB), breadth 63'8", depth 37'1", draught 25'5"/29'2".
Machinery: Nine cylinder 2SA MAN oil engine, manufactured by VEB Masch. Halberstadt, Halberstadt (East Germany). 9,000 brake horsepower.
Speed: 17 knots. **Consumption:** 34 tons/day.
Crew: 34.

History

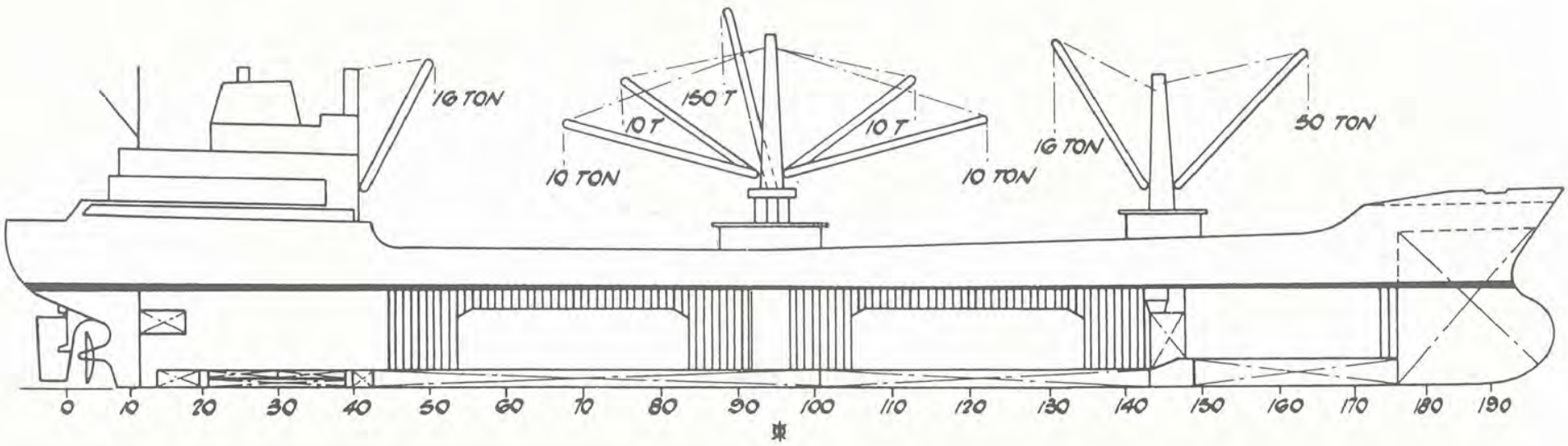
October 1971: Launched by VEB Schiffswerft Neptun, Rostock (East Germany) (Yard No. 385) for Reederei Barthold Richters, Hamburg. Taken on bareboat charter by BHP and prior to delivery February 1972 transferred to Richters subsidiary company, Baron Shipping Co. Ltd., Hamilton (Bermuda) and registered Newcastle (U.K.).
4 March 1980: Purchased by BHP following the bankruptcy of the owners; registered Melbourne.
3 March 1983: Withdrawn from service and laid up at Newcastle.
11 November 1984: Sold to Epping Marine Co.Ltd., Cyprus, and renamed *Iron B*.
April 1986: Sold to California Shipping Co. Ltd., Cyprus. Resold to Specova Compania Naviera SA, Piraeus and renamed *Vixen*; registered Limassol.
May 1986: Last commercial voyage, Colombo-Indonesia.
25 July 1986: Suffered major engine malfunction en route to Kaohsiung. Towed remaining distance by tug *Tai O* (411/1986).
28 July 1986: Arrived Kaohsiung.
9 October 1986: Delivered to E. Chang Iron Steel Works Co. Ltd. for demolition.

A member of a large class of broadly similar East German-built 'Neptun'-type general cargo vessels, *Iron Baron* was distinguished from the majority of her sisterships by her heavy lift capacity.

The vessel featured one hold, 111 ft. in length, with three hatches. Steel hatch covers fitted to the upper deck were of the McGregor single pull-type and, to the 'tween decks, steel McGregor mini-pack hydraulic flush type. Cargo refrigeration machinery fitted comprised two Bitzer-type BK11 units.

Shipboard cargo handling gear included a Stülcken heavy lift mast situated between Nos. 2 and 3 hatches, equipped with a 150 ton capacity derrick capable of moving forward or aft from the base, enabling it to service both hatches. At sea this derrick was housed eight degrees from the perpendicular, and was held in position by its two topping spans. Abaft No. 1 hatch a single derrick capable of lifting 50 tons was fitted to the foremast. As well, single derricks of 10 ton SWL were fitted at the forward end of No. 2 and the after end of No. 3 hatches and were serviced by double sets of gear capable of lifting 15 tons. Also fitted was a set of light stores derricks situated abaft the funnel. *Iron Baron* was not fitted with self tensioning winches; the conventional type were used, with the mooring wires left on the barrels.

An Australian crew of 35 under the command of Captain E. Hughes joined the vessel at the No. 5 Blohm & Voss Dock, Hamburg, on 29 February 1972, where she had been delivered from the builder's yards at Rostock. *Iron Baron* loaded bulk cargo at Hamburg, then proceeded to Immingham (U.K.), where machinery was loaded. She sailed on



4 March for Las Palmas (Canary Islands) for bunkers, hence Lorenco Marques (Mozambique) to load fluorspar for Port Kembla, where she arrived on 12 April 1972. She then loaded heavy lifts for Cape Lambert and Port Hedland.

Iron Baron became well known for carrying unusual cargoes such as railway engines, accommodation units, heavy road vehicles and machinery for various ports, mainly along the north-west coast of Australia. She was also a regular trader to New Zealand ports; on 15 January 1978, she suffered a small fire in the accommodation while at Wellington. Purchased outright by BHP in March 1980, her registration was changed to Melbourne and her classification from Germanischer Lloyd to Det Norske Veritas.

After 11 years with the fleet, on 3 March 1983 *Iron Baron* was laid up in Newcastle awaiting sale. Eventually sold to Epping Marine Co. of Nicosia (Cyprus), she was handed over at Newcastle on 11 November 1984 and renamed *Iron B*, registered Limassol. She then sailed to Brisbane where she loaded cargo for South East Asia.



D. E. Crisp.

31. Iron Sirius

(1973-1986) M Bulk Carrier

Official Number: 309871
Tonnages: 57,318 gross, 38,422 net, 105,779 deadweight.
Dimensions: Length 820'5" (incl. BB), breadth 134'6", depth 66'9", draught 49'.
Machinery: Ten cylinder 2SA Sulzer oil engine, manufactured by Ishikawajima-Harima Heavy Industries, Aioi (Japan). 23,000 brake horsepower.
Speed: 13 knots. **Consumption:** 69 tons/day.
Crew: 38.

History

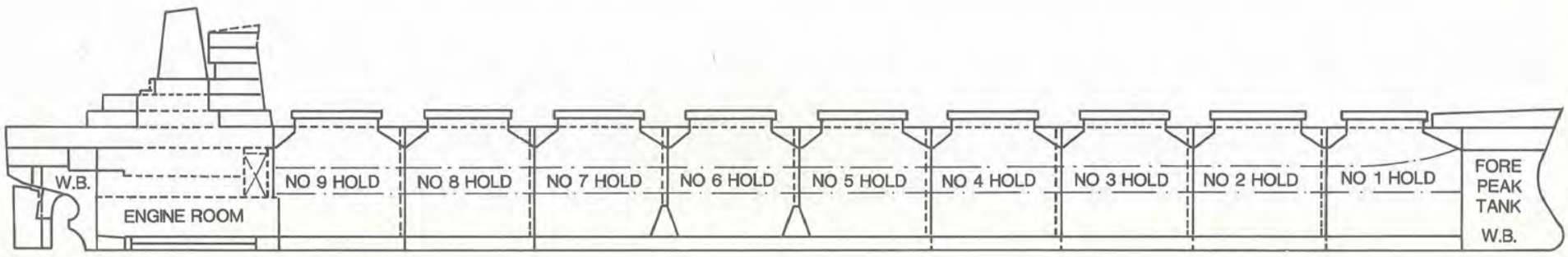
December 1966: Launched by Ishikawajima-Harima Heavy Industries, Aioi (Yard No. 671) as *Sigsilver* for Silver Line Ltd., London, for charter to Berge Sigval Bergesen of Oslo (Sweden).
1*967:* Completed.
1971: Chartered into Seabridge consortium, of which Silver Line was a member, and renamed *Chelsea Bridge.*
1973: Sold to Carnegie Shipping Co. Ltd. (Gatx-Oswego [U.K.] Ltd.), London.
August 1973: Chartered to BHP for 10 years and renamed *Iron Sirius.*
1980: Owners became Nytoncrest Ltd. (Gatx-Oswego [U.K.] Ltd.), London.
8 October 1982 - 22 June 1983: Laid up Geelong.
7 July 1986: Handed back to owners at Mizushima (Japan) and immediately departed for Chinese breakers at Shanghai.
14 July 1986: Arrived Shanghai for demolition.

At the time of her completion, *Sigsilver* was the largest pure dry bulk carrier in the world. Designed as an 88,525 DWT ship, the size was increased to 94,725 DWT during the planning stage. Subsequently, revised loadline regulations lifted the deadweight again, to 105,779 tons at 49 ft. draught (originally 45 ft.). She featured 11 holds and was fitted with steel single pull side-rolling hatch covers, with two pontoons on either side. All holds had upper wing tanks for ballast water and lower side hoppers. Cargo handling gear was not fitted, although a useful extra was an electic-powered gantry trolley, with a 3.5 ton lifting capacity, for handling machinery components and stores. The trolley's outer end could be extended over the sides to plumb the wharf when the ships were lying alongside.

A prominent feature of the ship was the narrow frontal area of the bridge superstucture, designed to reduce speed loss in strong head winds. Very short bridge wings were fitted on the vessel. The frontal width of the deckhouse above the boat deck amounted to only 21 per cent of the ship's beam.

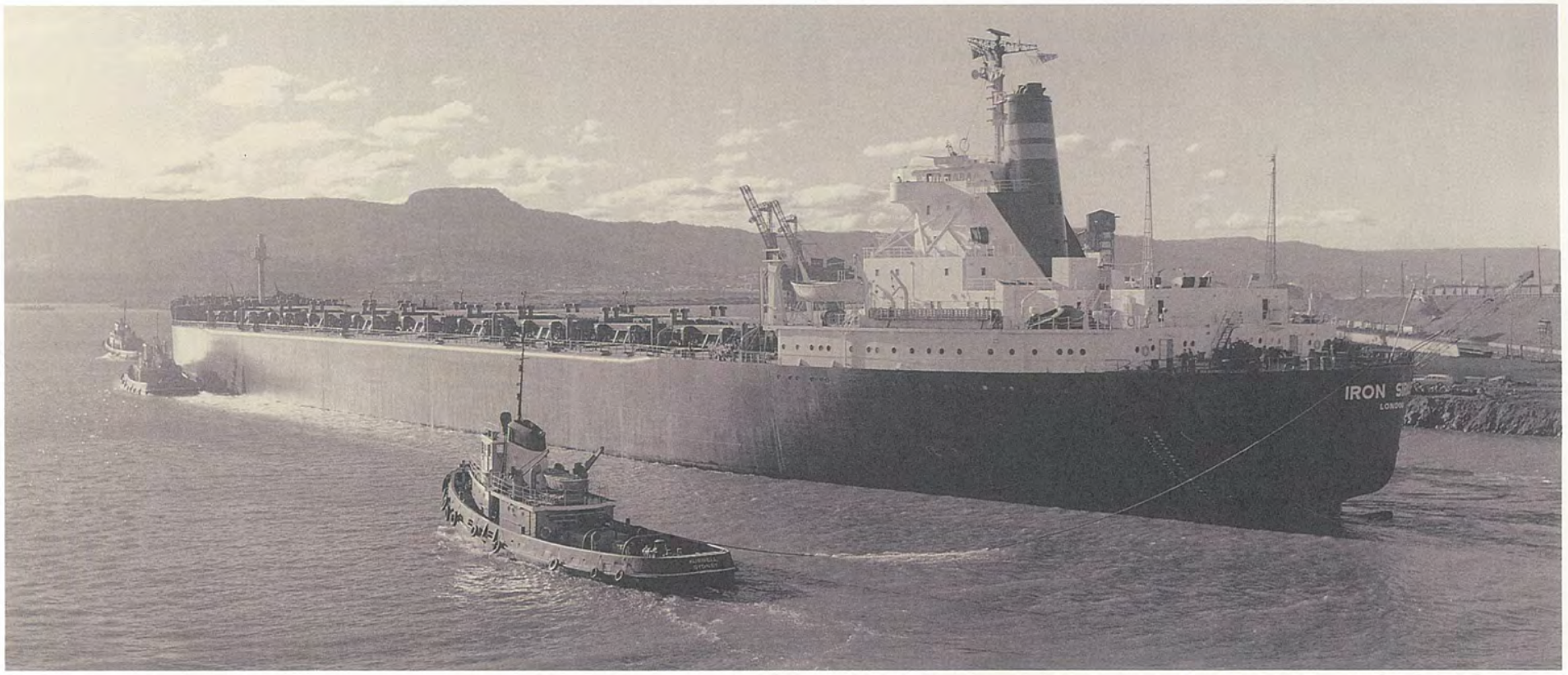
Chartered by BHP in August 1973 as *Chelsea Bridge*, the vessel was renamed *Iron Sirius* (after a Royal Navy escort to Australia's First Fleet). She sailed under the command of Captain A. Bannatyne, with an Australian crew of 37, from Sasebo (Japan) to Port Hedland where she joined *Iron Somersby* on the Mt. Newman ore run to Newcastle and Port Kembla.

Due to the prevailing economic situation, on 8 October 1982, *Iron Sirius* was laid up in Geelong. She remained with the fleet, however, and was put back into service on 22 June 1983. Two years later, on 25 June 1985, the ship put into King George Sound (W.A.), for repairs to a crack in No. 1 hold. Just over a year after that, after carrying a total of 10,880,908 tonnes of ore and 508,316 tonnes of coal for BHP, she was handed back to her owners at Mizushima, where a Hong Kong crew took over and sailed her to Shanghai for demolition.





C. L. Mackey.



BHP Archives.

32. Iron Parkgate

(1973-1974) M Bulk Carrier

Official Number: 309755
Tonnages: 40,767 gross, 26,079 net, 72,030 deadweight.
Dimensions: Length 820', breadth 104'3", depth 60', draught 43'10".
Machinery: Nine cylinder 2SA Sulzer oil engine manufactured by G. Clark & N. E. M. Ltd., Sunderland (U.K.). 20,700 horsepower. **Speed:** 15 knots. **Consumption:** 67 tons/day. **Crew:** 38.

History

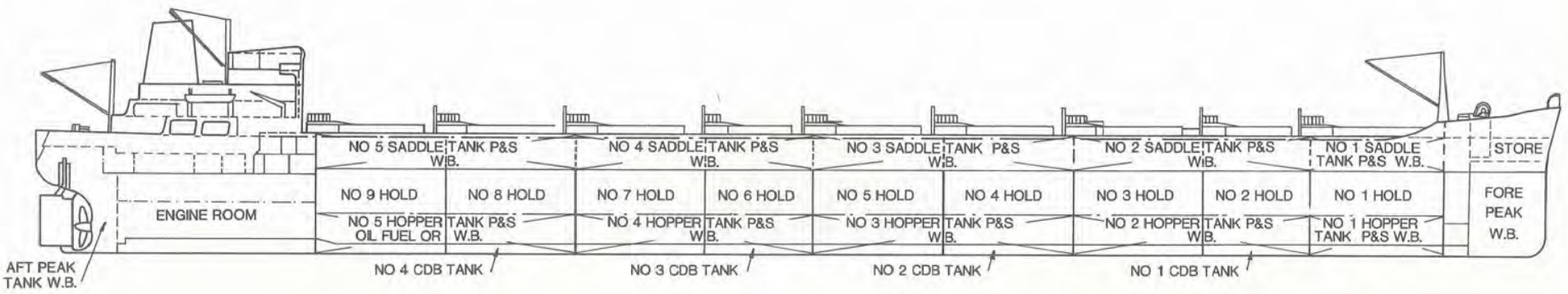
November 1966: Completed by Furness Shipbuilding Co. Ltd., Haverton Hill-on-Tees (Yard No. 520) as *Naess Parkgate* for Turnbull Scott Shipping Co. Ltd. (Naess Denholm & Co. Ltd., managers), London.
1970: J. & J. Denholm (Management) Ltd., managers.
1972: Denholm Ship Management Ltd., managers.
June 1973: Charter to BHP for five years arranged; renamed *Iron Parkgate* and 16 September 1973 commenced charter.
October 1974: Charter contract revoked and vessel returned to owner's care;
3 December 1974: Re-delivered at Singapore.
1975: Renamed *Nordic Trader.*
1978: Sold to Anglo Nordic Shipping Ltd. Sold to Camerona Navigation Corp. Ltd., Liberia (Eddie Steamship Co. Ltd., Taipei) and renamed *Panamax Uranus.*
August 1983: Transferred to Far Eastern Navigation Corp., (Eddie Steamship Co. Ltd.), Taiwan, and renamed *Panamax Solar.*
July 1985: Reported sold to Taiwanese breakers.

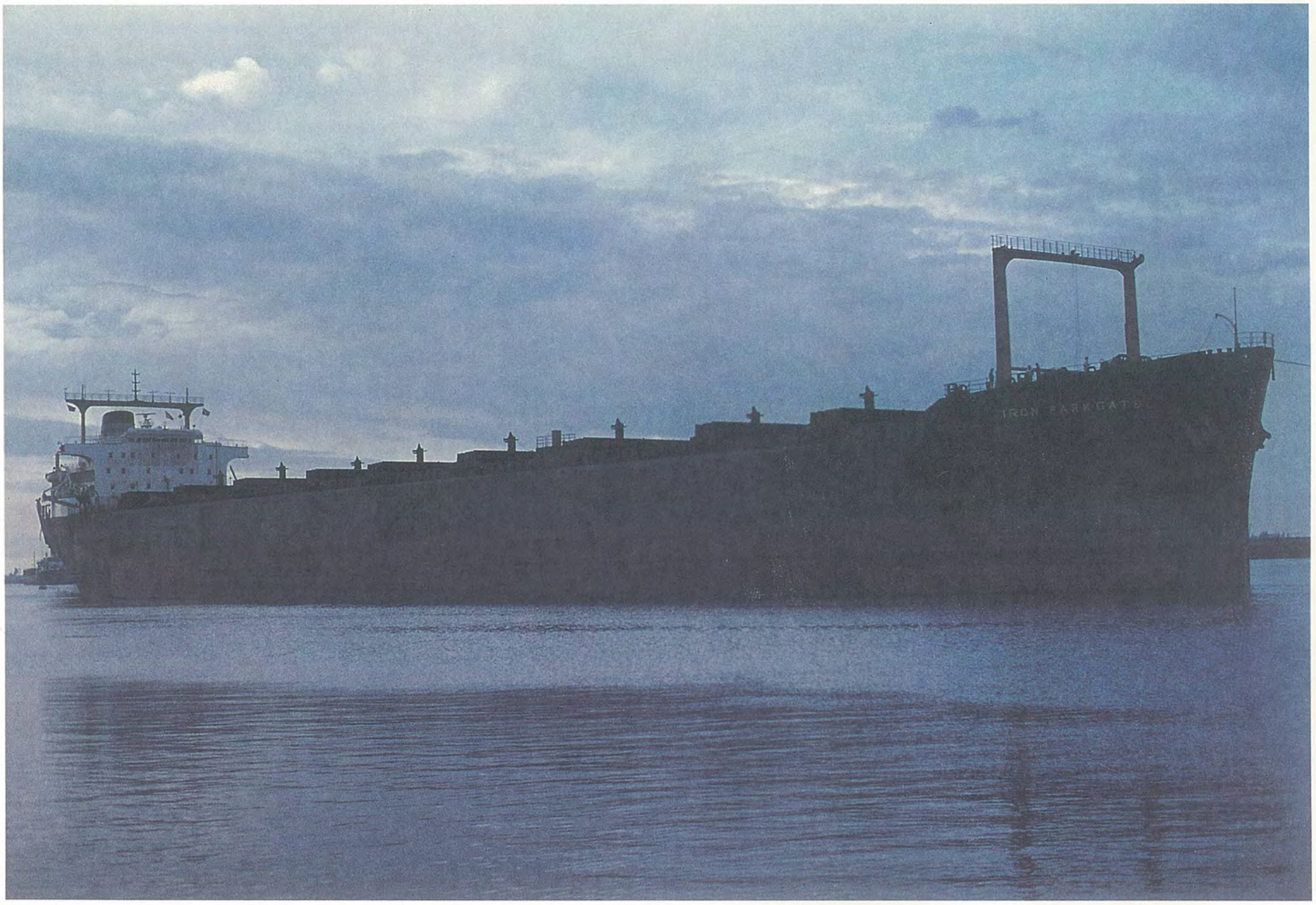
Iron Parkgate was a nine-hold vessel and was fitted with nine McGregor steel single-pull hatch covers. She was strengthened for ore cargoes: Nos. 2, 4 and 8 were permitted to be empty. Cargo handling gear consisted of two 2 ton cranes and one 5 ton and three 3 ton derricks.

Bareboat chartered by BHP for five years for the Port Hedland-Newcastle iron ore trade, *Iron Parkgate*, under the command of Captain L. Packman and manned by an Australian crew of 38, arrived at Port Hedland from Sasebo (Japan) on 16 September 1973 and departed four days later for Newcastle. The vessel was forced into Kwinana for engine repairs before continuing its voyage to Newcastle, where she tied up at No. 1 Dyke End for further maintenance and repairs to cracking of the foredeck, bulkheads and tanktops.

The engine and structural problems recurred, and though continuing in the Mt. Newman ore trade, *Iron Parkgate* was out of service for repairs from 21-24 December 1973, 27 December 1973 - 7 January 1974, 28-31 January, 4-9 February, 12-18 March, 8-13 April, 17 April-8 May, 15 June-1 July, 17-25 July and 26 July - 7 August 1974. BHP then decided to berth the vessel at Newcastle.

Iron Parkgate had completed only five voyages to Port Hedland when she departed Newcastle on 17 November 1974 for Singapore, where she was formally redelivered on 3 December 1974. Following the hand over, and while repairs were being carried out for the management company, an engineroom fire erupted killing the Superintendent Engineer and 13 dockyard workers.





I. Edwards

33. Iron Monarch (III)

(1973-) GT Roll-on Roll-off Steel Products Carrier

Official Number: 355462
Tonnages: 10,584 gross, 4,321 net, 14,940 deadweight.
Dimensions: Length 588'4" (incl. BB), breadth 82'2", depth 57', draught 29'1".
Machinery: Gas turbine, manufactured by General Electric Co., Schenectady (U.S.A.), direct reduction geared to single shaft. 19,000 shaft horsepower. **Speed:** 20.5 knots. **Consumption:** 82 tons of waxy crude residue fuel/day. **Crew:** 31.
From 1980, after conversion to simple cycle operation: 17,500 shaft horsepower. **Speed:** 17 knots. **Consumption:** 90 tonnes of waxy crude residue fuel/day.
From 1986, after re-engining: 2 x 12 cylinder 4SA vee oil engines, manufactured by Oy Wartsila Ab, Vaasa (Finland), single reduction geared to single shaft. 10,903 brake horsepower (8,020 kW). **Speed:** 18 knots. **Consumption:** 31 tonnes of fuel oil/day.

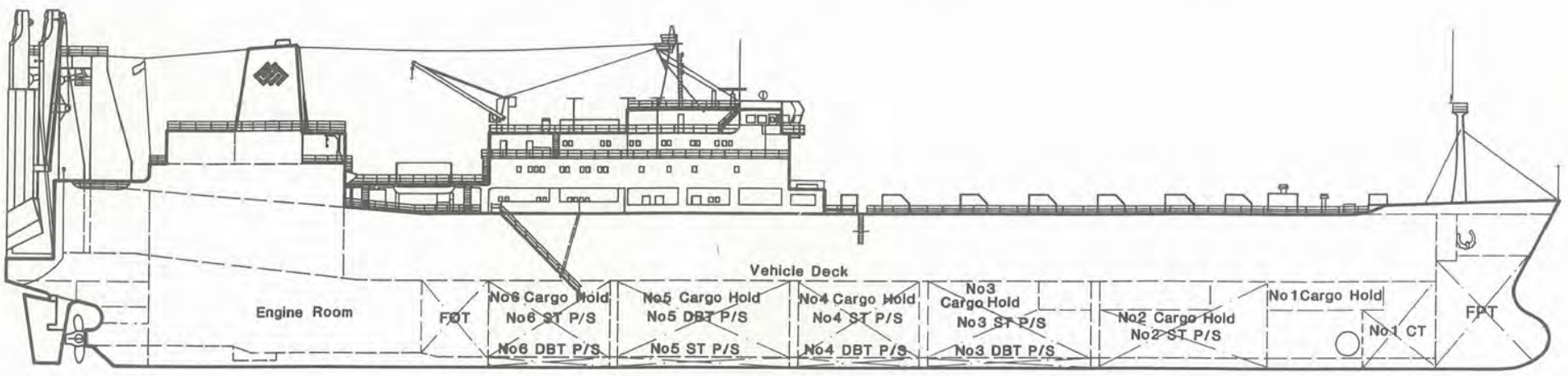
History
19 February 1973: Launched by Whyalla Shipbuilding and Engineering Works, Whyalla (Yard No. 55) and christened by Mrs. W. McPherson, wife of a BHP Director.
12 September 1973: Commissioned; registered Melbourne.
1980: Gas turbines converted to simple cycle operation.
9 March 1983: Laid up at Newcastle.
15 July 1985: Re-engining with medium-speed diesels commenced.
23 June 1986: Re-entered service as steel slab carrier.
December 1988: Owners became BHP Transport Limited. In present fleet.

Especially significant for BHP and Whyalla, *Iron Monarch* was the third of the Company's ships to carry the name. The first, also BHP's first ship, was a joint purchase with Scott Fell in 1917; the second was the first merchant ship commissioned at Whyalla in 1943; all were named after the South Australian ore quarry, 30 miles inland from the shipyard/port.

Propulsion machinery for this revolutionary ship (and her sister *Iron Duke*) was situated aft and consisted of GEC's MS 5,000 heavy duty marine gas turbine engine, developing 19,000 bhp (13,976 kW) at 125 rpm. The pair were each fitted with a controllable pitch propellor and a bow thruster. Using waxy crude, a residual fuel from BHP's Bass Strait oil fields, the ships operated at up to 23 knots.

Built at a reported cost of $12 million, the twin-funnelled *Iron Monarch* was the world's first commercial vessel to be powered by a heavy duty industrial gas turbine. She was equipped with a stern door served by a Navire angled quarter ramp similar to those fitted to international roll-on roll-off container ships, angled at 35 degrees from the starboard quarter. This allowed *Iron Monarch* to use conventional cargo wharves. Shipboard cargo handling gear comprised electric overhead travelling cranes, with a maximum lift of 35 tonnes serving all compartments below the weather deck. Cargo, in low-sided bolsters, was loaded by straddle carriers via the stern ramp. The bolsters were either stacked three high on the vehicle deck, which extended the full length of the ship, or lowered into the cellular compartments of the five lower holds, where they were stacked six deep. In total, 400 bolsters (10,000 tons of cargo) were carried.

Under the command of Captain P. Le Marquand, *Iron Monarch* introduced a 19 day round trip, roll-on roll-off service carrying Port Kembla steel to BHP terminals at Melbourne and Adelaide, returning with Whyalla steel for Melbourne and Sydney.



General Arrangement: ***Iron Monarch (III) and Iron Duke (II).***

In 1980, after a number of breakdowns, *Iron Monarch* was withdrawn from service and sent to Newcastle where major modifications to convert the gas turbine system to simple cycle operation were effected. Progressive combustion air leakage in the heat exchangers or regenerators, due to metal fatigue from the frequent thermal cycling of the system, had reduced *Iron Monarch*'s speed to about 16 knots; with the modifications this was expected to increase to 17 knots. At the completion of the work, the ship sailed from Newcastle on 25 September 1980 and carried out a series of successful sea trials en route to Port Kembla, where she rejoined the fleet.

However, tonnage decreases, increased fuel consumption, lower speed and increasing operational costs made the roll-on roll-off twins commercially unattractive.

The vessel was again laid up, at No. 1 Lee Wharf, Newcastle, on 9 March 1983, *Iron Monarch* remained dormant (and for sale) until a decision to re-engine her was taken. On 15 July 1985 she was moved to No. 1 Western Basin, where the gas turbine and regenerators were removed and replaced by two Wartsila 12V32 diesel engines 320 x 350 (4,095 kW), the work undertaken by G. H. Varley Pty. Ltd. of Newcastle. Simultaneously, the ship was converted to carry steel slabs. The three overhead cranes were converted from spreader attatchment to magnet beam-type, and other cargo-handling equipment modifications were made. *Iron Monarch* recommenced trading on 23 June 1986 on the Port Kembla-Western Port-Port Kembla route, replacing the ANL vessels *Lysaght Endeavour* and *Lysaght Enterprise*; the round voyage takes six days.



BHP Transport.



D. E. Crisp.

34. Iron Duke (II)

(1974-1986) GT Roll-on Roll-off Steel Products Carrier

Official Number: 355469

Tonnages: 10,584 gross, 4,321 net, 14,885 deadweight.

Dimensions: Length 179.33 (incl. BB), breadth 25.02, depth 17.37, draught 8.855 metres.

Machinery: Gas turbine, manufactured by General Electric Co., Schenectady (U.S.A.), direct reduction geared to single screw. 14,164 kilowatts.

Speed: 20.5 knots. **Consumption:** 82 tonnes of waxy crude residue fuel/day. **Crew:** 32.

From 1980, after conversion to simple cycle operation: 13,045 kilowatts. **Speed:** 17 knots. **Consumption:** 90 tonnes of waxy crude residue fuel/day.

History

31 July 1973: Launched by Whyalla Shipbuilding and Engineering Works, Whyalla (Yard No. 56) and christened by Mrs. J. McNeil, wife of BHP's Managing Director.

5 March 1974: Commissioned; registered Melbourne.

Early 1981: Gas turbine converted to simple cycle operation.

29 May 1983: Laid up Sydney; offered for sale.

10 January 1986: Sold to Loy Kee Shipbreakers, Hong Kong.

5 February 1986: Left Sydney in tow of tug *Commodore* (729/1960).

4 April 1986: Arrived Huangpu (China) for demolition.

On 7 March 1974, *Iron Duke* joined her sister in the roll-on roll-off trade carrying Port Kembla steel to the Company wharf terminals at Melbourne and Adelaide, and Whyalla steel on the return run to Melbourne and Sydney.

On 16 October 1978, she grounded briefly in Port Phillip Bay, and the following day fouled a mooring line of the Melbourne Harbour Trust's dredge A.S. *Mayne* (1,600/1977) in the River Yarra.

Afflicted by the same regenerator problems as her sister, after seven years in the trade she was taken out of service to have her gas turbine converted to simple cycle operation. When the cost of the whole roll-on roll-off operation became prohibitive, *Iron Duke* was laid up at the Snails Bay dolphins in Sydney Harbour, in May 1983. Two years later, in May 1985, she was moved briefly to Pyrmont wharves, where parts were removed for *Iron Monarch*. Following her sale for demolition in early January 1986, the still youthful ship left under tow a month later, after the tug contracted for the job, the Philippine-registered *Commodore*, encountered industrial action and was forced to undergo repairs.



N. T. Jacobs.



Laid up at Snails Bay, Sydney, 1984. D.E. Crisp.

35. Iron Cumberland

(1974-1986) M Bulk Carrier

Official Number: 356551
Tonnages: 21,384 gross, 13,977 net, 37,635 deadweight.
Dimensions: Length 196.24 (incl. BB), breadth 26.55, depth 15.40, draught 11.378 metres.
Machinery: Six cylinder 2SA Sulzer oil engine, manufactured by H. Cegielski, Poznan (Poland). 8,952 kilowatts (12,000 bhp). **Speed:** 15 knots.
Consumption: 38.5 tonnes/day. **Crew:** 34.

History

April 1973: Completed by Hellenic Shipyards, Skaramanga (Greece) (Yard No.1081) as *World Achilles* for Elmo Shipping Co., Piraeus (Venus Shipping Co., Monte Carlo).
September 1974: Purchased by BHP and 2 October 1974 registered to subsidiary County Shipping Co. Ltd., Hong Kong.
November 1974: Renamed *Iron Cumberland.*
25 November 1986: Sold to Glenara Ltd., (Anglo-Eastern Management Services Ltd., managers) Hong Kong. Renamed *Cumberlande.*
12 June 1987: On a voyage from Newcastle/Bell Bay to New Orleans (U.S.A.) with a cargo of lead concentrate, ferro manganese fines and manganese sinters, vessel sank north-east of Pitcairn Island in a position 23.50 S, 127.50 W after taking water in two forward holds. All 27 crewmembers were picked up by *Act 5* (24,212/1972).

World Achilles was the second of 19 of BC35 class bulk carriers (British-designed but built by Hellenic Shipyards) the majority of which were for Niarchos family ownership.

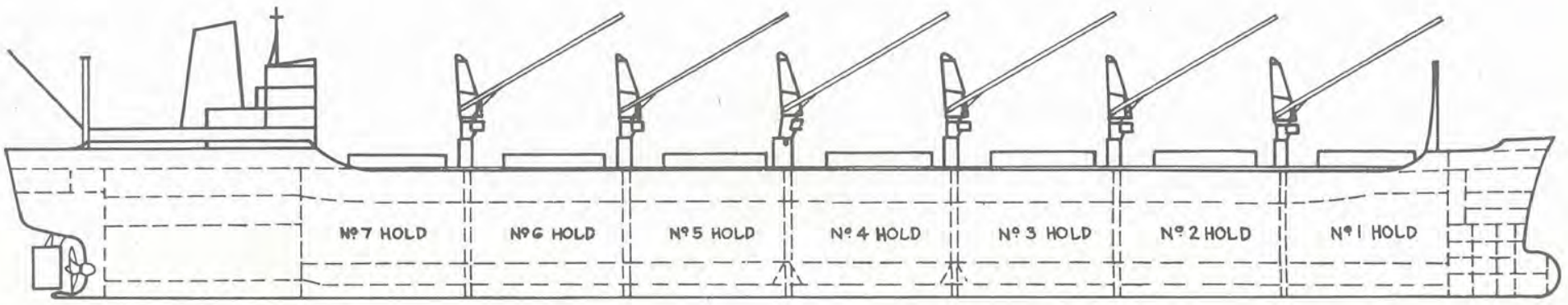
The vessel had seven holds, of which Nos. 2, 4 and 6 were permitted to be empty when carrying ore cargoes, fitted with steel, McGregor hydraulic chain drive hatch covers. Cargo handling equipment comprised six Brissoneau and Lotz electro-hydraulic cranes, each of 10 tonnes SWL, serving all hatches.

Taken on time charter by BHP in early 1974, the vessel was purchased outright by the Company and placed in the ownership of a Hong Kong subsidiary in October 1974. She was converted to conform to Australian standards at Sasebo, Japan, and renamed *Iron Cumberland.* On 18 November she sailed under the command of Captain E. Hart, with a crew of 33, for Yampi Sound where she arrived on 26 November to load iron ore for Kwinana and Newcastle.

In 12 years with the fleet she was involved in no mishaps and carried 7.5 million tonnes of cargo in most of the traditional BHP trades, as well as visiting Japan, Singapore, Korea and New Zealand. She was also the first BHP vessel to carry female crew members.

In May 1986, *Iron Cumberland* became surplus to fleet requirements, after the cessation of iron ore shipments from Cockatoo Island, and was handed over to new owners at Kwinana on 25 November 1986. Renamed *Cumberlande,* she then proceeded to Newcastle where she loaded coal for Japan.

The vessel was lost some six months later, sinking at 2345 hours GMT on 12 June 1987, about 26 miles north-east of Henderson Island in the Pitcairn Group in the Pacific. *Cumberlande* had departed Newcastle on 27 May 1987, bound for New Orleans with a cargo of ferro manganese fines from Bell Bay and concentrates from Newcastle. The vessel began losing buoyancy on 9 June after taking water in the two forward holds. The Master decided to return to Newcastle, but after two days of pumping the crew of 27 Indians took to the lifeboats, the ship eventually sinking. After 27 hours in the lifeboats the crew was picked up by the British container ship *Act 5* and landed at Auckland (N.Z.).





K. I. Barr.

36. IRON ARNHEM

(1974-1990) M General Cargo

Official Number: 355247
Tonnages: 4,307 gross, 1,997 net, 8,518 deadweight.
Dimensions: Length 119.68 (incl. BB), breadth 19.02, depth 10.97, draught 7.743 metres.
Machinery: Six cylinder 4SA MAN oil engine, manufactured by Kawasaki Heavy Industries Ltd., Kobe (Japan). 4,476 kilowatts (6,000 bhp). **Speed:** 14 knots. **Consumption:** 16.5 tonnes/day. **Crew:** 32.

History

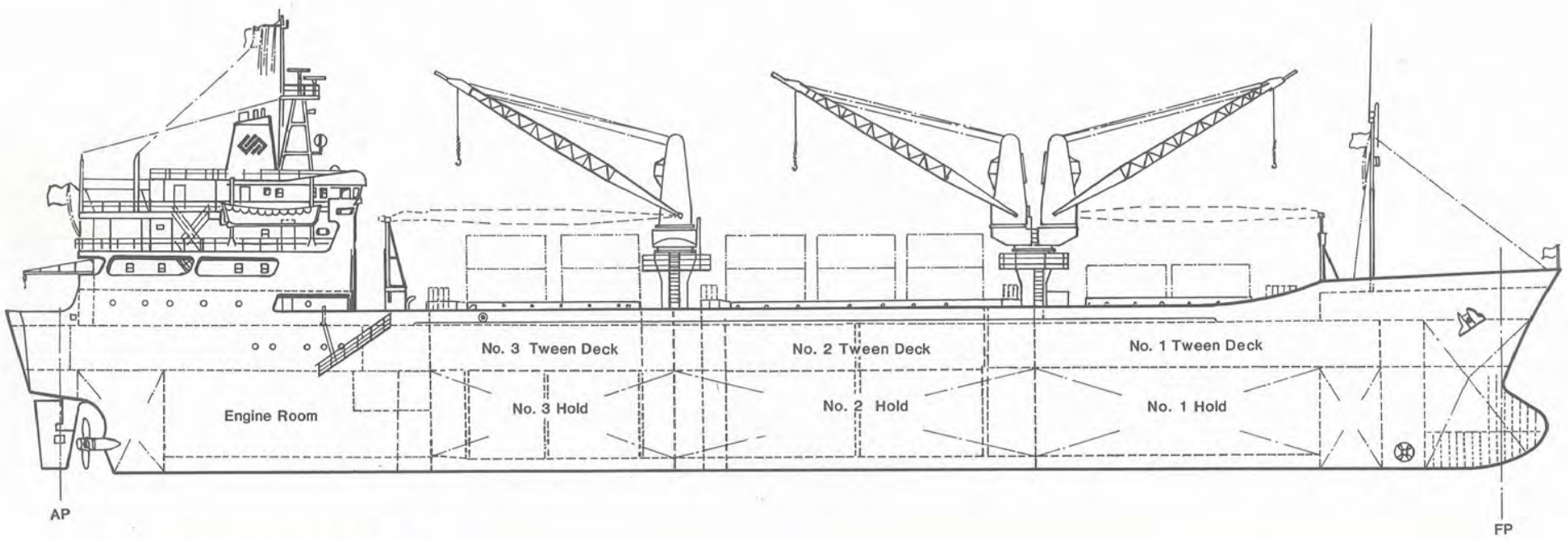
16 June 1972: Launched by Adelaide Ship Construction (a division of Adelaide Steamship Industries Pty. Ltd.), Adelaide (Yard No. 72) as *Cape Arnhem* for Australian Territory Liner Services Pty. Ltd., Sydney.

April 1973: Completed.
10 October 1974: Purchased by BHP and November 1974 renamed *Iron Arnhem*; registered Melbourne.
December 1988: Owners became BHP Transport Limited.
27 September 1990: Laid up for disposal at Newcastle.
December 1990: Sold to Pacific International Lines Pte. Ltd., Singapore, and renamed *Kota Eagle*. Still in service.

The largest vessels built at the Birkenhead yards of Adelaide Ship Construction, *Cape Arnhem* and sister *Cape York* were two-deck, three-hold general cargo vessels with a starboard side door to the 'tween decks. *Cape Arnhem* was fitted with five steel McGregor hatches on both main and 'tween decks, and a controllable pitch propellor and bow thruster. Shipboard cargo handling gear comprised four Favelle-type SRD750 hydraulic cranes, located in



I. Edwards.



General Arrangement: ***Iron Arnhem*** *and* ***Iron York.***

pairs at each end of No. 2 hatch. Each crane had a safe working load of 12.5 tonnes; in tandem this became 25.4 tonnes, and with all four rigged together 50.8 tonnes.

Cape Arnhem and *Cape York* were built specifically for trading to northern Australian ports but the intended trade was short lived and the pair was put up for sale. After purchase by BHP in October 1974, *Cape Arnhem*'s Voyage No. 1 for the Company was to New Zealand, with steel products from Newcastle and Port Kembla (under the command of Captain R. Martin, with a crew of 32), arriving in Auckland on 1 November 1974. After several trips as *Cape Arnhem* in the original white colour scheme, the ship was renamed, re-painted and re-registered and was utilised on the general products run to Western Australia, Victoria, Tasmania, New Zealand and occasionally Queensland. She also carried cargoes of dolomite and limestone from South Australia. In due course she was dedicated to the trans-Tasman steel trade (later expanded to become a full liner service) where she remained until withdrawn from service at the completion of Voyage 184.

Laid up at Newcastle on 27 September 1990, awaiting sale, *Iron Arnhem* was sold at the end of that year to Pacific International Lines (who had purchased *Iron York* five years earlier). Renamed *Kota Eagle*, she sailed to Sydney where she underwent survey and loaded scrap for Malaysia, departing on 18 December 1990.

37. Iron York

(1974-1985) M General Cargo

Official Number: 355328
Tonnages: 4,307 gross, 1,962 net, 8,518 deadweight.
Dimensions: Length 119.69 (incl. BB), breadth 19.82, depth 10.98, draught 7.7400 metres.
Machinery: Six cylinder 4SA MAN oil engine, manufactured by Kawasaki Heavy Industries Ltd., Kobe (Japan). 4,476 kilowatts (6,000 bhp). **Speed:** 14 knots. **Consumption:** 16.5 tonnes/day. **Crew:** 32.

History

6 August 1973: Launched by Adelaide Ship Construction (a division of Adelaide Steamship Industries Pty.Ltd.), Adelaide (Yard No. 73) as *Cape York* for Australian Territory Liner Services Pty. Ltd., Sydney.

August 1973: Completed; the last ship delivered by the builders.
November 1974: Purchased by BHP and January 1975 renamed *Iron York*; registered Melbourne.
31 January 1985: Laid up Sydney awaiting sale.
29 May 1985: Sold to Pacific International Lines Pte. Ltd., Singapore, and renamed *Kota Machan*.
7 July 1985: Arrived Singapore Roads and transferred to Malaysia Shipping Corporation Sendirian Berhad; registered Port Kelang. Still in service.

Designed for general cargo trade Melbourne/Sydney/ Brisbane/Darwin/ Gove/Weipa, *Cape York*'s service for her original owners was also brief. On 27 November 1974, she was delivered to BHP at Newcastle and loaded a cargo of products for Kwinana; early in 1975 she was renamed *Iron York* and transferred to the Melbourne register. Her career with the BHP fleet, comprised 111 voyages in general trades on the coast and to N.Z., before decommissioning at Sydney's Snails Bay dolphins in January 1985. Subsequently, on 29 May, she was sold to the Singapore-based Pacific International Lines and sailed from Sydney on 15 June 1985 as *Kota Machan*.



M. R. Dippy.

38. Iron Kestrel

(1974-1990) M Bulk Carrier

Official Number: 363301
Tonnages: 16,819 gross, 9,175 net, 27,270 deadweight.
Dimensions: Length 177.93 (incl. BB), breadth 22.89, depth 14.71, draught 10.674 metres.
Machinery: Six cylinder 2SA Sulzer oil engine, manufactured by Ishikawajima-Harima Heavy Industries, Kobe (Japan). 8,952 kilowatts (12,000 bhp).
Speed: 15.2 knots. **Consumption:** 41.67 tonnes/day.
Crew: 34.

History

July 1974: Completed by Hakodate Dock Co. Ltd., Hakodate (Japan) (Yard No. 559) as *Star Kestrel* for Surrey Shipping Co. Ltd. (Rethymnis & Kulukundis Ltd.), London.
21 December 1974: Delivered to BHP on 15 year bareboat charter; London registry retained and early 1975 renamed *Iron Kestrel.*
21 January 1982: Sold to Ropner Shipping Co. Ltd. (Ropner Management Ltd.), London, but remained on charter to BHP.
26 January 1990: Returned to owners at Brisbane and placed under Pool Shipping Co. Ltd., London.
En route to Europe February 1990 sold for US$5.75 million to Trias Shipping Co. Ltd. (Tomazos Shipping Co. Ltd.), Piraeus (Greece); renamed *Aghia Trias.* Still in service.

The second of a class of six bulk carriers for the Rethymnis & Kulukundis group, *Star Kestrel* had five holds, each fitted with McGregor ordinary single-pull fixed chain steel hatch covers. Hold Nos. 2 and 4 could be empty when carrying ore cargoes. Cargo handling equipment comprised four electro-hydraulic medium pressure IHI-type cranes, each 15 tonnes SWL, serving hatches 1 to 5.

Commissioned for service in the Star Bulk pool, *Star Kestrel* (and *Star Kerry*) was initially employed carrying forest products from the west coast of North America to New Zealand and Australia. Chartered by BHP for 15 years, she was delivered at Sasebo (Japan), in December 1974. After alterations to her accommodation, the renamed *Iron Kestrel*, manned by an Australian crew of 33 and under the command of Captain D. Glasspool, sailed light ship for Yampi Sound on 29 January 1975. There she loaded iron ore for Kwinana, thence a cargo of pig iron for Shanghai (China).

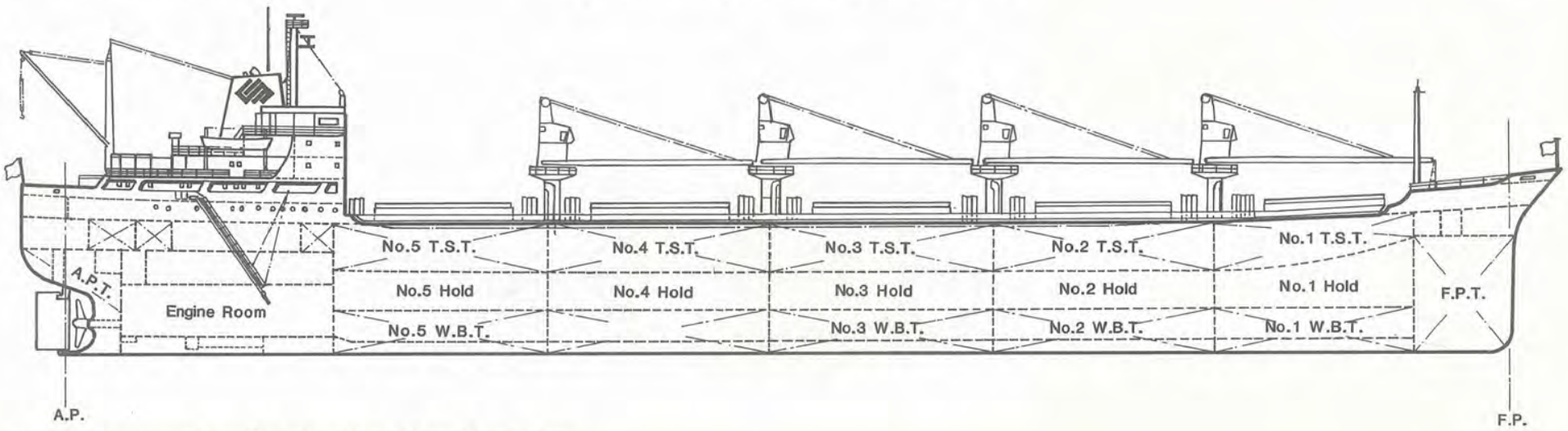
On 25 May 1978, *Iron Kestrel* struck and damaged the motorised hopper barges *Denis O'Malley* and *John Sainsbury* (both 651/1978) which were approaching completion at the Whyalla Shipyard. In January 1990, she was returned to Ropners in Brisbane.

During her period with the fleet, she steamed a distance of 791,982 miles and carried 6,193,955 tonnes of cargo, including wheat, sugar and steel products to Asia.

Retaining her name and London registry but with a British crew, *Iron Kestrel* proceeded to Groote Eylandt (N.T.) where she loaded a cargo of manganese ore for Rotterdam (Netherlands). On passage to Europe she was sold to Greek buyers for US$S5.75 million.



K. I. Barr.



General Arrangement: ***Iron Kestrel and Iron Kerry/Iron Kirby.***

39. Iron Kerry/Iron Kirby

(1974-1991) M Bulk Carrier

Official Number: 363252
Tonnages: 16,819 gross, 9,715 net, 27,299 deadweight.
Dimensions: Length 177.94 (incl. BB), breadth 22.89, depth 14.71, draught 10.689 metres.
Machinery: Six cylinder 2SA Sulzer oil engine, manufactured by Ishikawajima-Harima Heavy Industries, Aioi (Japan). 8,952 kilowatts (12,000 bhp).
Speed: 15.5 knots. **Consumption:** 37.5 tonnes/day.
Crew: 34.

History

April 1974: Completed by Hakodate Dock Co. Ltd., Hakodate (Japan) (Yard No. 558) as *Star Kerry* for Saturn Shipping Co. Ltd. (Rethymnis and Kulukundis Ltd., managers), London.

Late 1974: Bareboat chartered by BHP for 15 years and 4 February 1975 delivered at Sasebo (Japan). Renamed *Iron Kerry*; London registry retained.
21 January 1982: Sold to Ropner Shipping Co. Ltd. (Ropner Management Ltd.), London, but remained on charter to BHP.
26 May 1983: Renamed *Iron Kirby*.
April-June 1988: Hold, crane and other modifications undertaken at Yokohama (Japan) and Sydney.
9 March 1991: Delivered to Ropners at conclusion of charter.
28 March 1991: Sold for US$3.9 million to Blue Light Shipping Co. Ltd., Cyprus (Thenamaris [Ship Management] Ltd., Athens) and renamed *Seajoy*; registered Limassol (Cyprus).
Later in 1991: Transferred to Seajoy Shipping Ltd., Malta; registered Valetta (Malta). Still in service.

The first built of the Hakodate series and thus a sister of *Star Kestrel*, *Star Kerry* was delivered to BHP at Sasebo (Japan) in February 1975. After alterations to her accommodation, she sailed on 10 March with an Australian crew of 33 under the command of Captain J. Hammond for Suzaki. There she loaded limesand for Kwinana (W.A.) and at the completion of discharge loaded pig iron for Shanghai and Hsinkiang (China).

The vessel was purchased by Ropners in 1982 and, at their request, in May 1983, her name was changed to *Iron Kirby*.

In June 1986, the ship was dedicated to the trans-Tasman service and in April 1988, sailed to Japan where her holds were squared off (in order to increase her container capacity), reefer plugs were fitted, and one of her four 15 tonne cranes replaced by a 25 tonne SWL unit. A second replacement crane was fitted in Sydney in June.

Iron Kirby arrived in Newcastle on 12 March 1991 after 16 year's service with BHP and was handed back to her owners. She was subsequently sold to Greek buyers and as the Cypriot-registered *Seajoy*, departed Newcastle on 29 March for Geelong, where she loaded bagged rice for Lome (Togo) sailing via Durban for bunkers.



K. I. Barr.



D. E. Crisp.

40. Iron Capricorn

(1975-1990) M Bulk Carrier

Official Number: 356569
Tonnages: 20,570 gross, 12,187 net, 35,224 deadweight.
Dimensions: Length 176.99 (incl. BB), breadth 27.84, depth 15.02, draught 11.153 metres.
Machinery: Seven cylinder 2SA Sulzer oil engine, manufactured by Sumitomo Shipbuilding & Machinery Co. Ltd., Tamashima (Japan). 10,444 kilowatts (14,000 bhp). **Speed:** 14.5 knots.
Consumption: 46 tonnes/day. **Crew:** 34.

History

27 November 1974: Launched by Nippon Kokan KK, Shimizu (Japan) (Yard No. 332) as *Bergnes* for Kristian Jebsen Rederi, Bergen (Norway). Purchased while fitting out by BHP subsidiary Capricornia Pacific Co. Ltd., Hong Kong, and completed February 1975 as *Iron Capricorn* to Australian requirements.
28 April 1975: Entered BHP service.
2 March 1987: Transferred to County Shipping Co. Ltd., Hong Kong (another BHP subsidiary).
15 October 1990: Laid up Newcastle awaiting sale.
December 1990: Sold to Athenian Faith SA (Tsakos Shipping and Trading SA), Piraeus (Greece) and renamed *Irene's Blessing*. Still in service.

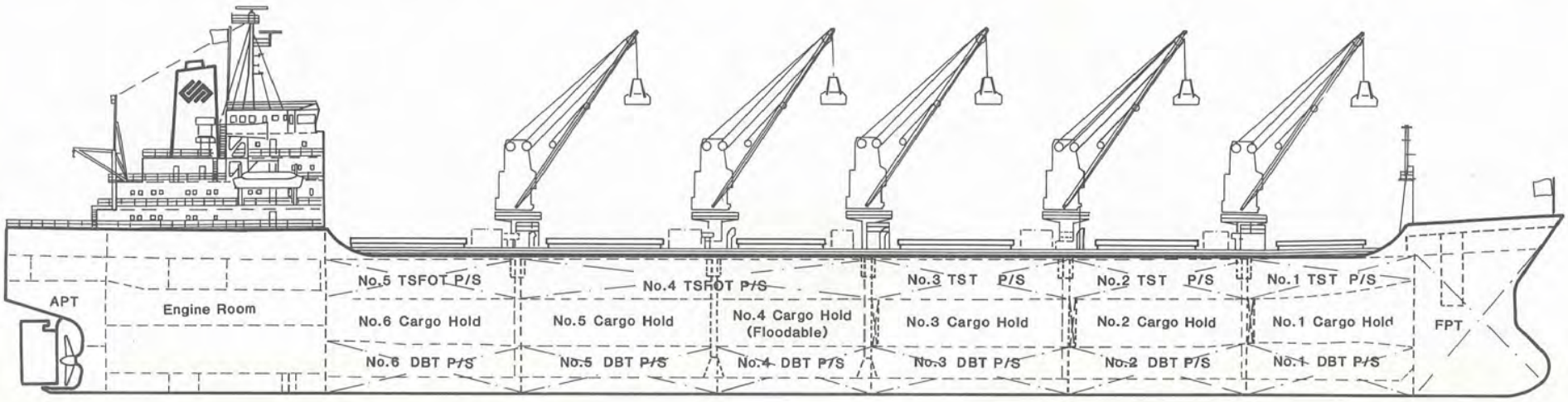
Purchased by BHP before completion, *Iron Capricorn* was delivered at Sasebo on 29 February 1975. The vessel had six holds, strengthened for heavy cargoes, fitted with Kvaener Tsuji trans-roto electric hydraulic waterstight steel hatch covers. Cargo handling equipment comprised five ASEA-Hagglunds electric cranes, each 16 tonnes SWL, serving all hatches.

After modifications to the accommodation were completed, *Iron Capricorn* sailed from Japan on 26 April 1975 with an Australian crew of 34 under the command of Captain G. MacIntosh. At Port Hedland she loaded a maiden cargo 33,771 tonnes of iron ore for Newcastle.

The ship was the last of the fleet to change her funnel colours from the two blue bands on black to the new BHP logo on a white funnel. She spent almost 17 years in service around the Australian coast, with the occasional voyage to South East Asian ports, and was highly regarded as a ship "designed by seafarers for seafarers". After decommissioning at Newcastle on 16 October 1990, *Iron Capricorn* was sold to Greek buyers two months later and, renamed *Irene's Blessing*, departed in late December for Adelaide to load wheat for Saudi Arabia.



D. E. Crisp.



41. Iron Mittagong

(1976-1982) M Ore Carrier

Official Number: 315417
Tonnages: 12,580 gross, 5,386 net, 16,765 deadweight.
Dimensions: Length 164.34, breadth 20.40, depth 11.89, draught 9.099 metres.
Machinery: Five cylinder 2SA Doxford oil engine, manufactured by Commonwealth Government Engine Works, Port Melbourne. 4,252 kilowatts (5,700 bhp). **Speed:** 12.75 knots.
Consumption: 17 tonnes/day. **Crew:** 45.

History

3 November 1962: Launched by The Broken Hill Proprietary Co. Ltd., Whyalla (Yard No. 37) as *Mittagong* for Bulkships Ltd. (Associated Steamships Pty. Ltd.), Melbourne.
9 April 1963: Completed; registered Melbourne.
1976: Transferred to Bulkships Container Pty. Ltd.
8 December 1976: Taken on bareboat charter by BHP for three years.
26 August 1977: Renamed *Iron Mittagong.*
3 March 1982: Redelivered from extended charter and reverted to *Mittagong.*
2 July 1982: Sold to Monti Cia. Naviera SA, Panama, and renamed *Shalini.*
11 December 1982: Arrived Gadani Beach (Pakistan) for demolition.

Mittagong (and sistership *Wollongong*, later *Iron Myarra*) was BHP-built at Whyalla and was employed for most of her working life in BHP trades. She had three holds and five steel hatch covers, and though effectively gearless, was fitted with four 1 ton derricks.

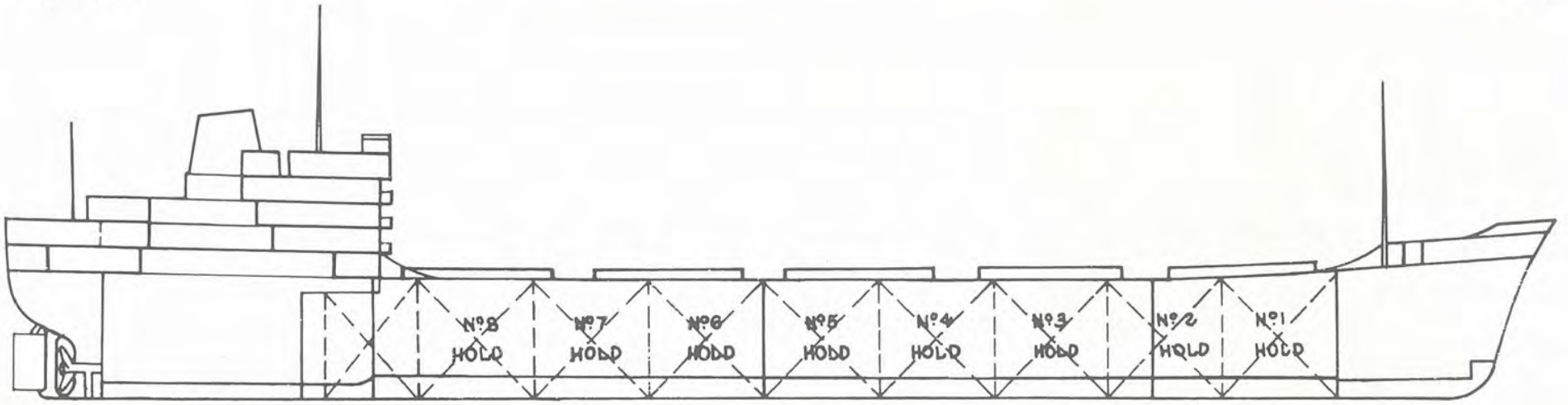
On her maiden voyage, *Mittagong* loaded a cargo of iron ore at the Whyalla ore jetty for the Port Kembla Steelworks, sailing on 9 April 1963. Under Bulkships' control, she was used consistently in the ore trade Whyalla-Port Kembla/Newcastle until, in December 1976, she was bareboat chartered by BHP (along with *Gerringong* and *Bogong*) for a period of three years. She was renamed *Iron Mittagong* the following year.

After exactly 100 voyages, on which she carried over 2 million tonnes of cargo, she was returned to her owners at Snails Bay, Sydney, on 3 March 1982 and two days later reverted to *Mittagong.*

Sold to Panamanian-registered interests, she sailed as *Shalini* from Sydney for Japan on 12 July 1982 and before year's end was under demolition in Pakistan.



D. E. Crisp.



General Arrangement: ***Iron Mittagong*** *and* ***Iron Myarra.***

42. Iron Gerringong

(1976-1978) M Ore Carrier

Official Number: 317246
Tonnages: 14,504 gross, 7,132 net, 21,601 deadweight.
Dimensions: Length 177.40, breadth 22.61, depth 13.10, draught 9.888 metres.
Machinery: Seven cylinder 2SA Sulzer turbo-charged oil engine, manufactured by Commonwealth Government Engine Works, Port Melbourne. 7,833 kilowatts (10,500 bhp). **Speed:** 15 knots. **Consumption:** 40 tonnes/day. **Crew:** 41.

History

13 January 1965: Launched by Whyalla Shipbuilding and Engineering Works, Whyalla (Yard No. 39) as *Gerringong* for Bulkships Ltd. (Associated Steamships Pty. Ltd.), Melbourne.
18 June 1965: Completed; registered Melbourne.
21 September 1971: Damaged propellor after contact with Groote Eylandt (N.T.) jetty.
12 September 1974: Damaged rudder at Whyalla.
1976: Transferred to Bulkships Container Pty. Ltd.
20 December 1976: Taken on bareboat charter by BHP for three years.
5 August 1977: Renamed *Iron Gerringong.*
26 May 1978: Returned to owners and laid up Sydney.
12 January 1979: Sold to AFP Ltd. (Howard Smith Industries Pty. Ltd., managers) and reverted to *Gerringong.*
22 July 1985: Laid up at Geelong. Sold to Rahim Maritime Ltd. (Orient Ship Management, Hong Kong) Gibraltar and renamed Rahim.
September 1985: Resold to Chinese breakers and prior to 1 October 1985 arrived Ningbo for demolition.

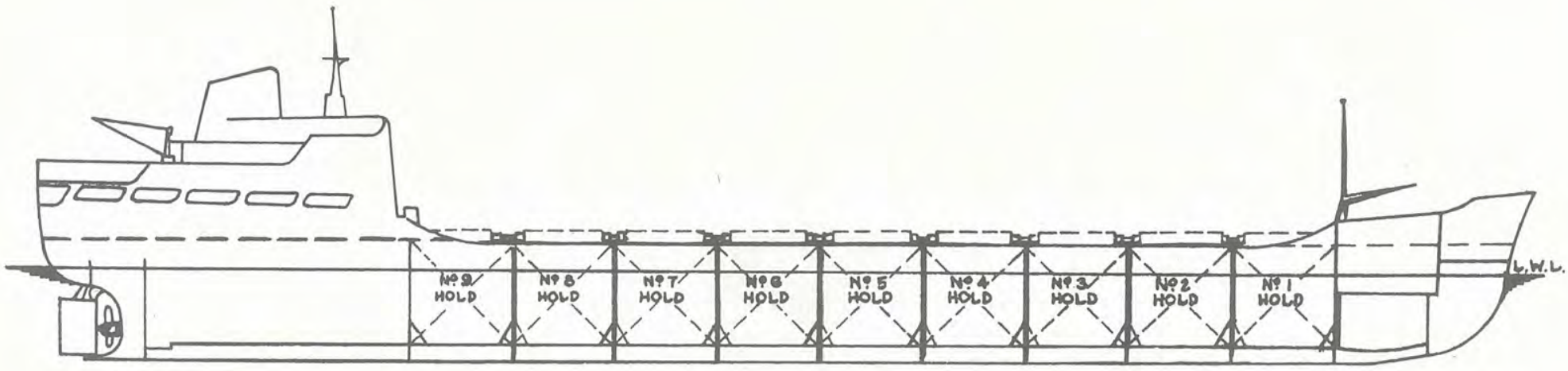
Gerringong and her sister, ANL's *Musgrave Range*, were, like most Australian bulk and ore carriers of the era, built by BHP's Whyalla Shipyard for employment in BHP's coastal ore trades. The ship featured nine holds, each fitted with Gotaverken hydraulic steel hatch covers. Stores and spares were handled by two 3 ton and one 2 ton crane.

Gerringong served most BHP routes on a freight basis, including two trips from Kwinana to Japan with pig iron in 1970. In 1976 she was bareboat chartered by BHP for three years and given the '*Iron*' prefix the following year.

She was returned to her owners in June 1978 at Sydney. Sold to Alcoa of Australia Limited subsidiary AFP Ltd. the following year, she reverted to *Gerringong* and spent five years trading between Kwinana and Point Henry, near Geelong, with alumina, before being replaced by *Lindesay Clark* (18,692/1985). As the Gibraltar-registered *Rahim* she was broken up in China in late 1985.



Laid up at Sydney for disposal. D.E. Crisp Collection



43. Iron Bogong

(1977-1983) M Bulk Carrier

Official Number: 317264
Tonnages: 33,261 gross, 19,007 net, 55,974 deadweight.
Dimensions: Length 226.01, breadth 31.85, depth 16.99, draught 12.594 metres.
Machinery: Two steam turbines, manufactured by General Electric Co., Lynn (U.S.A.), double reduction geared to single shaft. 12,309 kilowatts (16,500 bhp). **Speed:** 15.5 knots.
Consumption: 82 tonnes/day. **Crew:** 44.

History

23 August 1966: Launched by Whyalla Shipbuilding and Engineering Works, Whyalla (Yard No. 43) as *Bogong* for Bulkships Ltd. (Associated Steamships Pty. Ltd.), Melbourne.
4 January 1967: Completed; registered Melbourne.
1976: Transferred to Bulkships Container Pty. Ltd.
14 January 1977: Taken on bareboat charter by BHP for seven years.
29 August 1977: Renamed *Iron Bogong.*
15 October 1982: Laid up Sydney.
14 January 1983: Purchased by BHP and subsequently resold to China Dismantled Vessels Trading Corp.
16 February 1983: Recommissioned for loaded delivery voyage.
30 March 1983: Arrived Kaohsiung for demolition by Kao Feng Iron & Steel Co. Ltd.

The second of four 'Darling River' class bulk carriers designed and built by BHP at Whyalla, *Bogong* had nine cargo holds each fitted with Gotaverken hydrotorque hinged steel covers.

Steam for the two-stage General Electric turbine was provided by a Babcock & Wilcox integral furnace (5.86 mpa at 510 degrees C) burning 82 tonnes of marine fuel oil per steaming day. The engineroom was extensively automated and all operations took place from a central console, with one duty Engineer monitoring all essential operating conditions of the machinery.

After 10 year's service in the Australian coastal coal and ore trade, the vessel was chartered by BHP for seven years and was delivered in Sydney in January 1977. She continued in the same trades and was renamed *Iron Bogong* later that year. From 16 December 1977 until 17 January 1978, the ship was laid up at Geelong. In October 1982, when no longer required, she was laid up at Snails Bay, Sydney.

Early the following year she was bought by BHP and was recommissioned on 16 February 1983 to prepare for the voyage to Chinese breakers. The first week was spent by all hands preparing the vessel for her final cargo of coal and removing all of the ship's equipment not required for the voyage. The vessel departed Sydney bound for Gladstone (Qld.) where she loaded 35,070 tons of coal and sailed for Tsukumi (Japan) on 6 March, arriving 14 days later. After discharge of cargo, *Iron Bogong* proceeded to Kaohsiung where she arrived at the end of March 1983.



BHP Transport.

44. Iron Carpentaria

(1977-) GT Bulk Carrier

Official Number: 374846
Tonnages: 25,854 gross, 16,328 net, 45,432 deadweight.
Dimensions: Length 202.71 (incl. BB), breadth 27.55, depth 17.00, draught 12.516 metres.
Machinery: Gas turbine, manufactured by General Electric Co., Schenectady (U.S.A.), triple reduction geared to single shaft. 8,542 kilowatts (11,450 shaft horsepower). **Speed:** 14.2 knots.
Consumption: 48 tonnes of waxy crude residue fuel/day. **Crew:** 34.
From 1984: 2 x 12 cylinder 4SA Wartsila vee oil engines with clutches, manufactured by Oy Wartsila Ab, Vaasa (Finland), single reduction geared to single shaft. 8,019 kilowatts (10,902 bhp). **Speed:** 13 knots.
Consumption: 30.6 tonnes/day.

History
17 June 1977: Launched by Whyalla Shipbuilding and Engineering Works, Whyalla (Yard No. 63) and christened by Mrs. J. Balderstone, wife of a BHP Director.
15 December 1977: Completed; registered Melbourne. Laid up due to lack of work.
April 1978: Entered service.
14 May 1982: Laid up at Sydney following deterioration of gas turbine regenerators.
7 February 1983: Decision to re-engine approved.
22-23 June 1983: Towed to Newcastle by tug *Sirius Cove* (231/1975).
1 August 1983: Re-engining with twin Warstila medium speed diesels commenced.
8 February 1984: Recommissioned.
December 1988: Owners became BHP Transport Limited. In the present fleet.

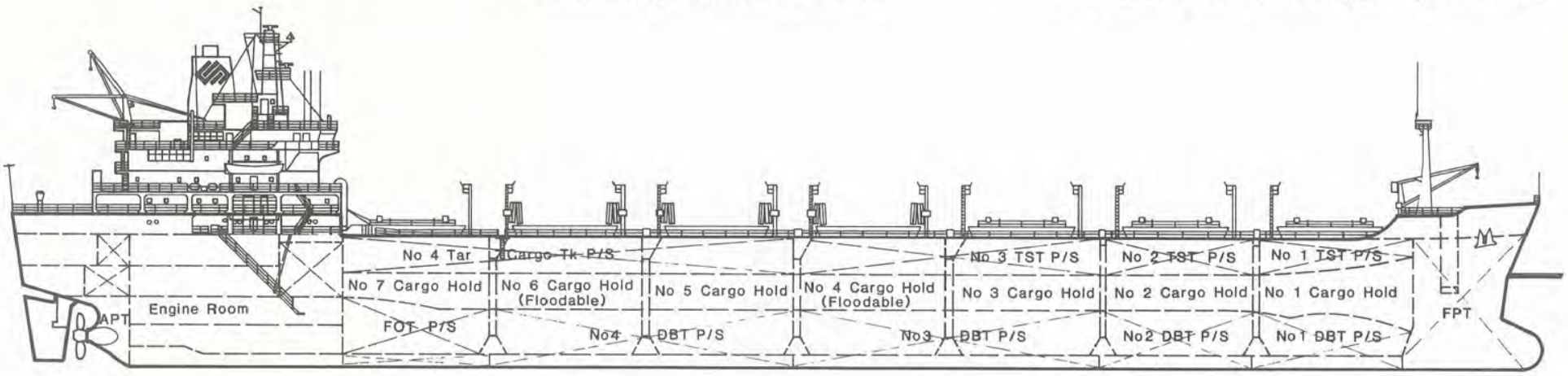
Iron Carpentaria was the first of two gas turbine-powered sisterships which, it transpired, were the last ocean-going vessels built by the Whyalla Shipyard.

Propulsion machinery, situated aft, consisted of a single General Electric MM.3002R series heavy duty gas turbine, triple reduction geared to the tailshaft to give 11,450 shp (8524 kW) at 112 rpm. A Lipps controllable pitch propellor was fitted.

The vessel featured seven holds, equipped with watertight steel, Gotaverken (Navire) hydraulically operated folding pontoon-type hatch covers. She was strengthened for ore cargoes – hold Nos. 2, 4 and 6 permitted to be empty – and had the capacity to carry 2,764 tonnes of tar in No. 4 topside tanks port and starboard. Shipboard cargo handling equipment consisted of tar cargo pumps and two 5 tonne stores cranes.

Iron Carpentaria and *Iron Curtis* were designed specifically to carry coal from Gladstone (Qld.), to the Whyalla Steelworks but serve in most of BHP's coastal bulk trades. In June 1979 *Iron Carpentaria* made one overseas voyage, Whyalla-Pohang (South Korea) then Suzaki (Japan), returning to Australia the following month.

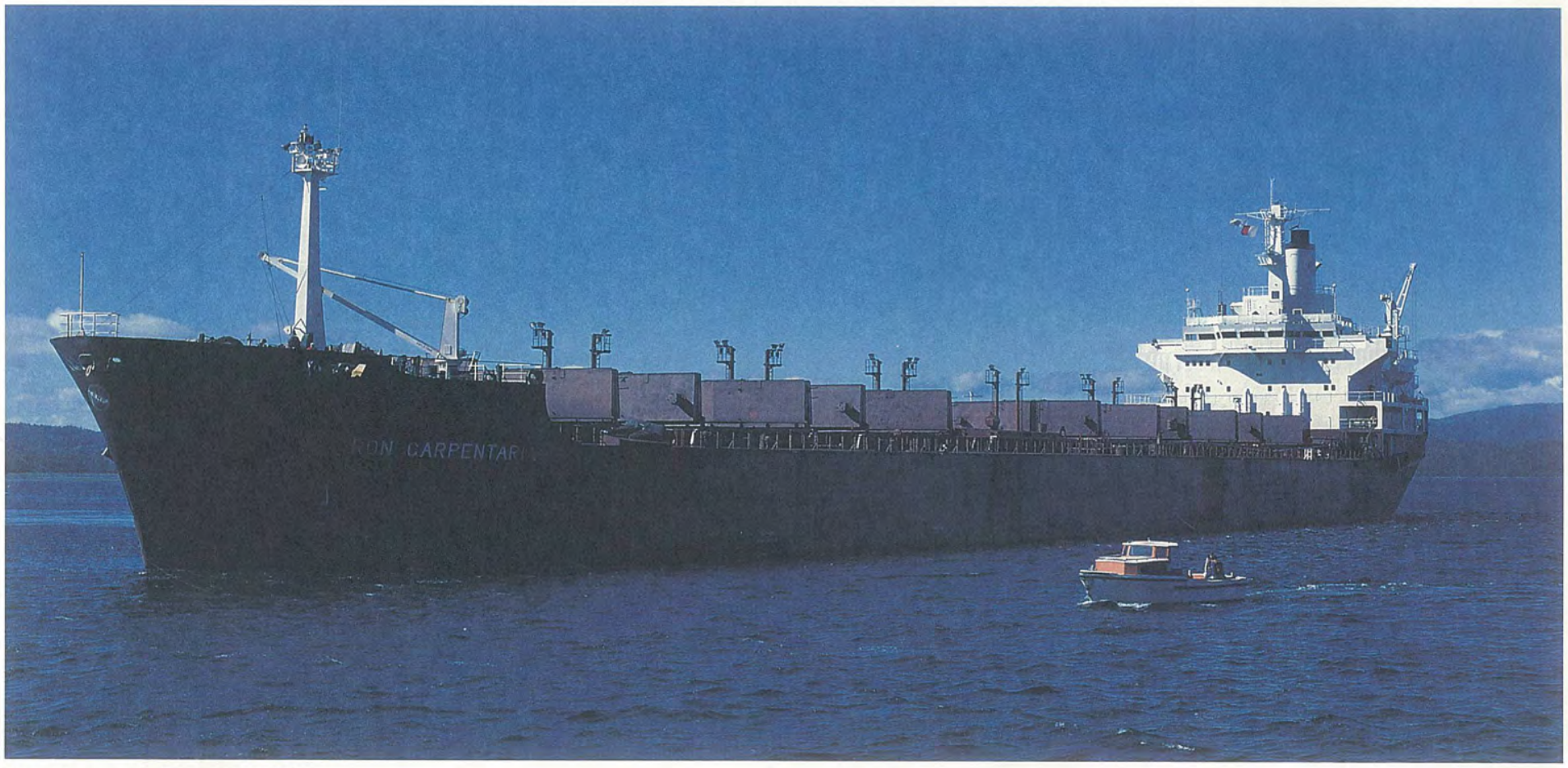
Early in 1982, a study was undertaken to investigate the persistent regenerator problem. Meanwhile, *Iron Carpentaria* was laid up at Sydney's Cockatoo Island from 14 May. In February 1983, a decision was made to re-engine one of the sisters and accordingly *Iron Carpentaria* was towed to Newcastle in late June 1983. The successful tenderer for the $4.576 million contract, G. H. Varley Pty. Ltd., began work on1 August 1983 by stripping out all redundant machinery through a hole cut in the after end of the No. 7 hold. Varley's machinery package consisted of



General Arrangement: ***Iron Carpentaria*** *and* ***Iron Curtis.***

two Warsila 12V32 main engines 320 x 350 developing 4,095 kW. each at 720 rpm, capable of burning residual fuel. Both engines are coupled to Vulcan clutches and drive through a Tache gearbox to drive the ship's original shaft alternator. After completion of the work the vessel underwent sea trials 2-8 February 1984; she was then recommissioned and proceeded to Port Kembla to begin her first voyage after re-engining.

On 26 May 1986, she loaded the last cargo of iron ore from Cockatoo Island (W.A.).



***Iron Carpentaria** as a motor ship.*

K.I. Barr

45. Iron Curtis

(1978-) GT Bulk Carrier

Official Number: 374928
Tonnages: 25,849 gross, 16,329 net, 45,432 deadweight.
Dimensions: Length 202.71 (incl. BB), breadth 27.55, depth 17.00, draught 12.510 metres.
Machinery: Gas turbine, manufactured by General Electric Company, Schenectady (U.S.A.), triple reduction geared to single shaft. 8,542 kilowatts (11,450 shaft horsepower). **Speed:** 14.2 knots. **Consumption:** 48 tonnes of waxy crude residue fuel/day. **Crew:** 34.
From 1984: 2 x 12 cylinder 4SA Wartsila vee oil engines with clutches, manufactured by Oy Wartsila Ab, Vaasa (Finland), single reduction geared to single shaft. 8,019 kilowatts (10,902 bhp). **Speed:** 13 knots. **Consumption:** 31.7 tonnes/day.

History

27 January 1978: Launched by Whyalla Shipbuilding and Engineering Works, Whyalla (Yard No. 64) and christened by Mrs. W. Sweetland.
22 August 1978: Completed; registered Melbourne. Laid up due to lack of work.
8 December 1978: Entered service.
16 December 1981: Laid up at Cockatoo Island dockyard, Sydney, for three months due to regenerator problems.
8 February 1984: Arrived at Newcastle for re-engining.
31 July 1984: Recommissioned.
December 1988: Owners became BHP Transport Limited. In the present fleet.

Iron Curtis was the last ship to be delivered by the Whyalla Shipyard. With no work available, the ship was laid up for almost four months, before sailing on 8 December 1978, with crew of 32 under the command of Captain P. Le Marquand on her maiden voyage. Four days later she arrived at Newcastle with 10,000 tonnes of iron ore, 10,000 tonnes of pelletised ore and 2,500 tonnes of surplus tar from the Whyalla coke ovens for Koppers' Newcastle plant. After leaving Newcastle, she entered the coal trade, transporting Queensland coal to Whyalla, returning with predominantly ironstone and pellets for Port Kembla and Newcastle.

Like her sister, *Iron Curtis* was plagued by problems with her gas turbines and re-engining was found to be the only viable proposition. On 9 February 1984 at Newcastle, she commenced decommissioning and moved to No. 1 Western Basin where she was handed over to G. H. Varley Pty. Ltd. Installation of all machinery was completed on 29 June and after successful trials the vessel was handed back to BHP on 31 July.



D. E. Crisp.

46. Iron Shortland

(1979-) M Bulk Carrier

Official Number: 374940
Tonnages: 59,963 gross, 42,002 net, 107,140 deadweight.
Dimensions: Length 249.50 (incl. BB), breadth 41.06, depth 20.70, draught 15.024 metres.
Machinery: Seven cylinder 2SA Sulzer oil engine, manufactured by Ishikawajima-Harima Heavy Industries Co. Ltd., Kure (Japan). 17,249 kilowatts (23,450 bhp). **Speed:** 15.5 knots.
Consumption: 78 tonnes/day. **Crew:** 37.

History

30 November 1978: Launched by Ishikawajima-Harima Heavy Industries, Kure (Yard No. 2715).
20 April 1979: Commissioned; registered Melbourne.
December 1988: Owners became BHP Transport Limited.
11 March 1992: Sold to Everbird Corporation N.V., Netherlands Antilles and bareboat chartered back to BHP Transport for four years. In the present fleet.

Iron Shortland is a nine hold vessel strengthened for heavy cargoes – hold Nos. 2, 4, 6 and 8 may be empty. Hatch covers are IHI's chain-driven hydraulic steel side-rolling type.

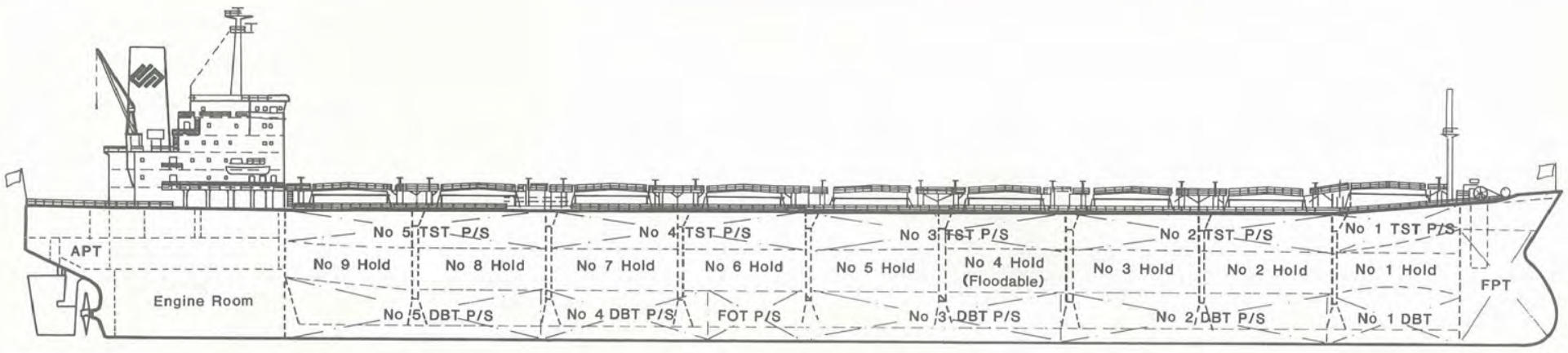
The ship was specifically designed to carry ore from W.A.-Port Kembla/Newcastle and was BHP's first purpose-built 100,000 tonner. She left Kure for Port Hedland on her maiden voyage, under the command of Captain L. Packman and with a crew of 36, on 23 April 1979. She sailed on 4 May with a full cargo of iron ore for Port Kembla, where she arrived on 13 May.

On 9 July 1983, *Iron Shortland* was forced to jettison her port anchor off Newcastle due to windlass damage during surge conditions. The anchor was slipped and buoyed, and on 16 December was retrieved by the ship, with assistance from the fishing vessel *Port Hunter*.

On her 10th birthday her Master, Captain E. Hughes advised that to date she had lifted 11,235,372 tonnes of cargo, steamed 675,405 nautical miles during 2,212 days at sea and, significantly, spent 596 days at anchor. Ports visited included Hong Kong, Kaohsiung, Singapore and several in Japan and South Korea. Known as a 'handy-size' 100,000 tonner, *Iron Shortland* is also the largest Australian-operated vessel to call at Port Latta, (Tas.) and the largest vessel to berth at Whyalla.



BHP Transport.



47. Iron Sturt

(1979-) M Bulk Carrier

Official Number: 374942
Tonnages: 14,947 gross, 7,864 net, 22,093 deadweight.
Dimensions: Length 161.93 (incl. BB), breadth 22.86, depth 13.56, draught 10.039 deadweight.
Machinery: Six cylinder 2SA Sulzer oil engine, manufactured by Ishikawajima-Harima Heavy Industries (IHI), Aioi (Japan). 6,620 kilowatts (9,000 bhp). **Speed:** 15 knots.
Consumption: 28 tonnes/day. **Crew:** 32.

History

9 August 1978: Launched by Ishikawajima-Harima Heavy Industries, Kure (Japan) (Yard No. 2728) for Bulkships Finance Pty. Ltd., Melbourne.
27 April 1979: Commissioned for 10 year bareboat charter to BHP; registered Melbourne.
May 1989: Purchased at auction by BHP Transport Limited at conclusion of charter. In the present fleet.

Constructed to BHP specifications, *Iron Sturt* is a single deck, gearless bulk carrier with machinery space and all accommodations aft. She has four holds – Nos. 2 and 3 designed to carry 27 metre steel rails from Whyalla – fitted with IHI hydraulic, steel double-leaf fore and aft folding hatch covers. She is also equipped with a Kamome bow thruster.

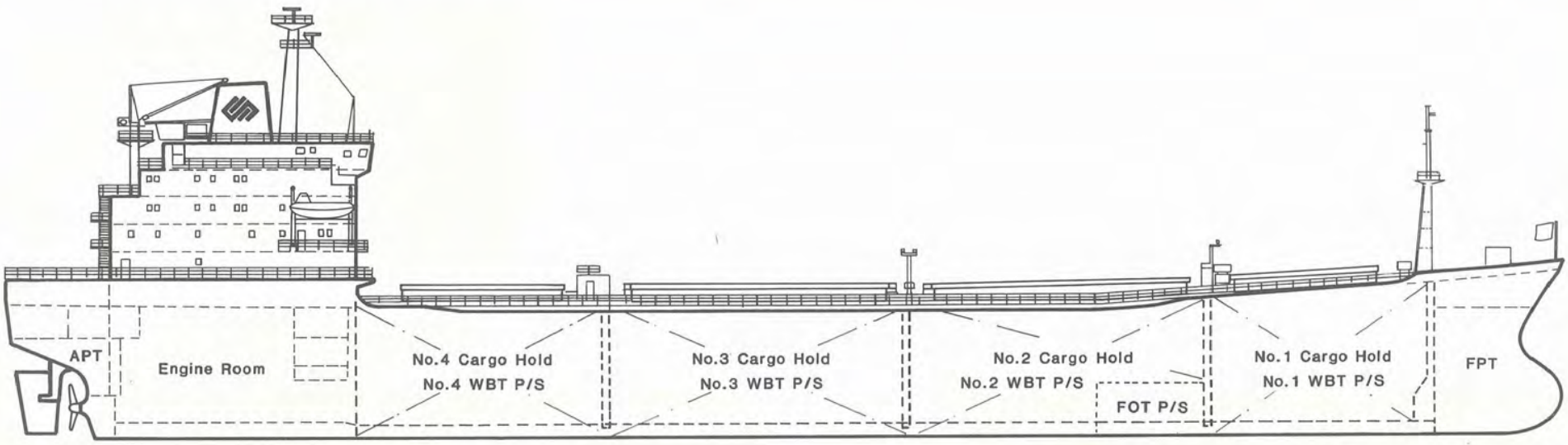
Taken on bareboat charter by BHP at completion, *Iron Sturt*, under the command of Captain W. Lloyd and manned by a crew of 31, sailed on 27 April 1979 (one week after *Iron Shortland*) on her maiden voyage, from Kure to Suzaki (Japan). There she loaded a cargo of limesand for Port Kembla, arriving on 13 May.

Iron Sturt was specifically designed to operate around the south-east coast of Australia carrying limestone and dolomite, as well as pencil pitch to, and ferro ores from, Bell Bay (Tas.). At the time of her introduction she was the only fleet vessel capable of carrying the 27 metre Whyalla rails.

On 29 July 1982 she became the last ship to load minerals at Kangaroo Island (S.A.). In 1989, at the conclusion of her orginal charter, *Iron Sturt* was bought outright by BHP Transport. In 1992 she inaugurated a new Company trade, lifting bulk mill scale (flakes of iron oxide collected from steel rolling mills) Western Port-Port Kembla for re-processing.



K. I. Barr.



48. Iron Myarra

(1980-1982) M Ore Carrier

Official Number: 315409
Tonnages: 12,586 gross, 5,388 net, 16,785 deadweight.
Dimensions: Length 164.34, breadth 20.40, depth 11.89, draught 9.100 metres.
Machinery: Five cylinder 2SA Doxford oil engine, manufactured by Commonwealth Government Engine Works, Port Melbourne. 4,193 kilowatts (5,700 bhp). **Speed:** 13 knots. **Consumption:** 17 tonnes/day. **Crew:** 45.

History

27 June 1961: Launched by The Broken Hill Proprietary Co. Ltd., Whyalla (Yard No. 36) as *Wollongong* for Bulkships Ltd. (Associated Steamships Pty. Ltd.), Melbourne.
3 May 1962: Completed; registered Melbourne.
31 January 1972: Commenced nine month lay-up at Sydney.
21 December 1973: Sold, and 10 January 1974 delivered to AFP Pty. Ltd. (Alcoa of Australia Limited), but chartered back until 28 May 1974 renamed *Myarra.*
31 March 1979: Laid up Hobart.
2 May 1980: Bareboat chatered by BHP for two years and 23 June 1980 renamed *Iron Myarra.*
7 May 1982: Redelivered; reverted *Myarra.*
10 July 1982: Laid up Sydney.
September 1983: Sold to Ga Loy Marine Inc., Honduras, and renamed *Yarra;* registered Puerto Cortes.
20 October 1983: Arrived at Chinese breakers.

The first of a pair of ore carriers similar to contemporary British designs, *Wollongong* had three holds with five steel hatch covers. Though essentially gearless, four 1 ton derricks were fitted for the handling of stores and spares.

Wollongong loaded a cargo of iron ore from the Whyalla ore loading jetty for the Port Kembla Steelworks and sailed on her maiden voyage on 6 May 1962. She was used in the ore trade Whyalla-Port Kembla/Newcastle until 1974, when she was sold to Alcoa for use on the Kwinana-Point Henry (Geelong) alumina trade as *Myarra.* In March 1979, after being replaced by the newly purchased *Gerringong* (14,505/1965), she was laid up in Hobart. Officially handed over on charter on 2 May 1980, her first voyage for BHP commenced the following day, when, under the command of Captain H. Ellis, she sailed for Rapid Bay, Whyalla, Ardrossan and Port Kembla before proceeding to Newcastle where she entered the floating dock in late May – at which time the *Iron* prefix was added.

She was handed back to her owner's agents, Howard Smith, in Melbourne, in May 1982 at the completion of her 25th voyage with BHP. On return to her owners she was renamed *Myarra* and, for a time, re-entered the alumina trade. Eventually she was put on the market and laid up at Snails Bay, Sydney, where a 1983 sale of the vessel, including renaming as *Rema,* fell through. Finally sold and renamed *Yarra*, registered in Puerto Cortes, Honduras, she departed Sydney on 17 September 1983 for Port Adelaide, where she loaded cement clinker for Singapore before proceeding to Hong Kong for disposal to breakers.



H. W. Dick.

49. Iron Whyalla (II)

(1981-) M Bulk Carrier

Official Number: 385866
Tonnages: 77,400 gross, 57,986 net, 141,435 deadweight.
Dimensions: Length 283.50 (incl. BB), breadth 47.07, depth 21.49, draught 15.274 metres.
Machinery: Six cylinder 2SA Sulzer oil engine, manufactured by Ishikawajima-Harima Heavy Industries, Aioi (Japan). 15,005 kilowatts (20,400 bhp). **Speed:** 13.5 knots.
Consumption: 57 tonnes/day. **Crew:** 34.

History

14 November 1980: Launched by Ishikawajima-Harima Heavy Industries, Kure (Yard No. 2731) and christened by Mrs. J. Reid, wife of a BHP Director.
2 March 1981: Commissioned; registered Melbourne.
December 1988: Owners became BHP Transport Limited. In the present fleet.

Constructed as the first of a pair of gearless dry bulk carriers, *Iron Whyalla* has a single continuous freeboard deck, raked stem, bulbous bow and transom stern with machinery space and all accommodations aft. There are nine holds, each fitted with IHI chain-driven hydraulically-operated steel two-panel side-rolling hatch covers.

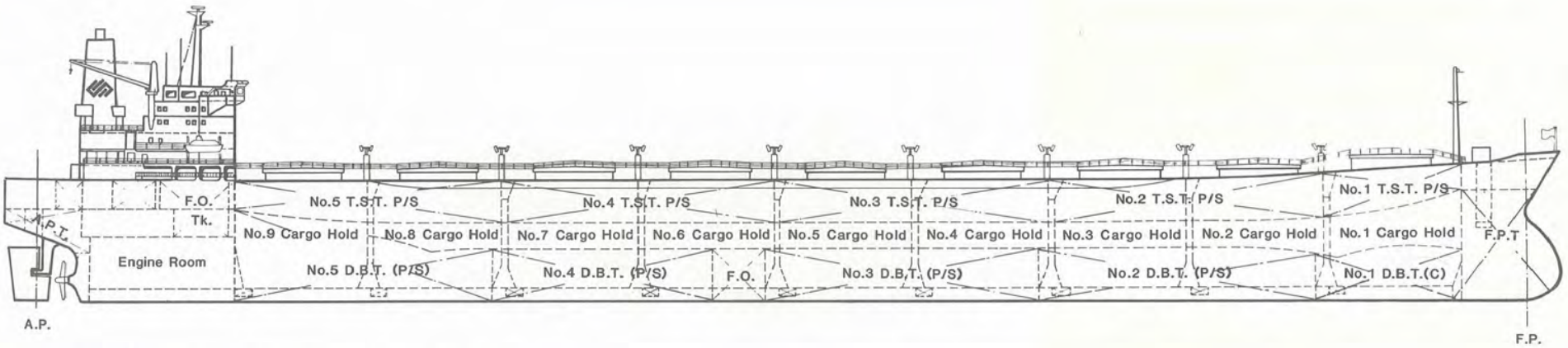
Delivered to BHP 2 March 1981 but delayed for 100 days by crew industrial problems, *Iron Whyalla*, under the command of Captain A. Ekblom, commenced her maiden voyage on 9 June. At the time she was the largest vessel on the Australian register.

On 26 November 1982, she sustained some hull damage during a grounding at Port Kembla, and was subsequently repaired in Singapore. On 10 May 1983, she became the largest vessel to enter the port of Newcastle and, on 24 August 1984, carried the then largest shipment of iron ore to the port: 106,398 tonnes.

On 9 February 1985, under the command of Captain D. Bolas, *Iron Whyalla* became the first loaded commercial vessel to transit Hydrographers Passage through the Great Barrier Reef, with a cargo of 140,237 tonnes of coal from Hay Point to Japan.



BHP Transport.



General Arrangement: ***Iron Whyalla*** *(II) and* ***Iron Spencer*** *(II).*

Iron Whyalla was also the first of the fleet to change to the present funnel logo, in April 1985.

In 1985 a Lipps wake improvcement duct was fitted to the vessel during drydocking in Japan. This improved *Iron Whyalla's* fuel consumption by 3 tonnes per day at the same service speed.

She trades Port Hedland-Port Kembla/ Newcastle, with iron ore, then loads coal at any of the major terminals in N.S.W. or Queensland (Port Kembla, Newcastle, Gladstone, Hay Point, Dalrymple Bay, Abbott Point) for discharge in Japan and return to Port Hedland in ballast.

50. Iron Spencer

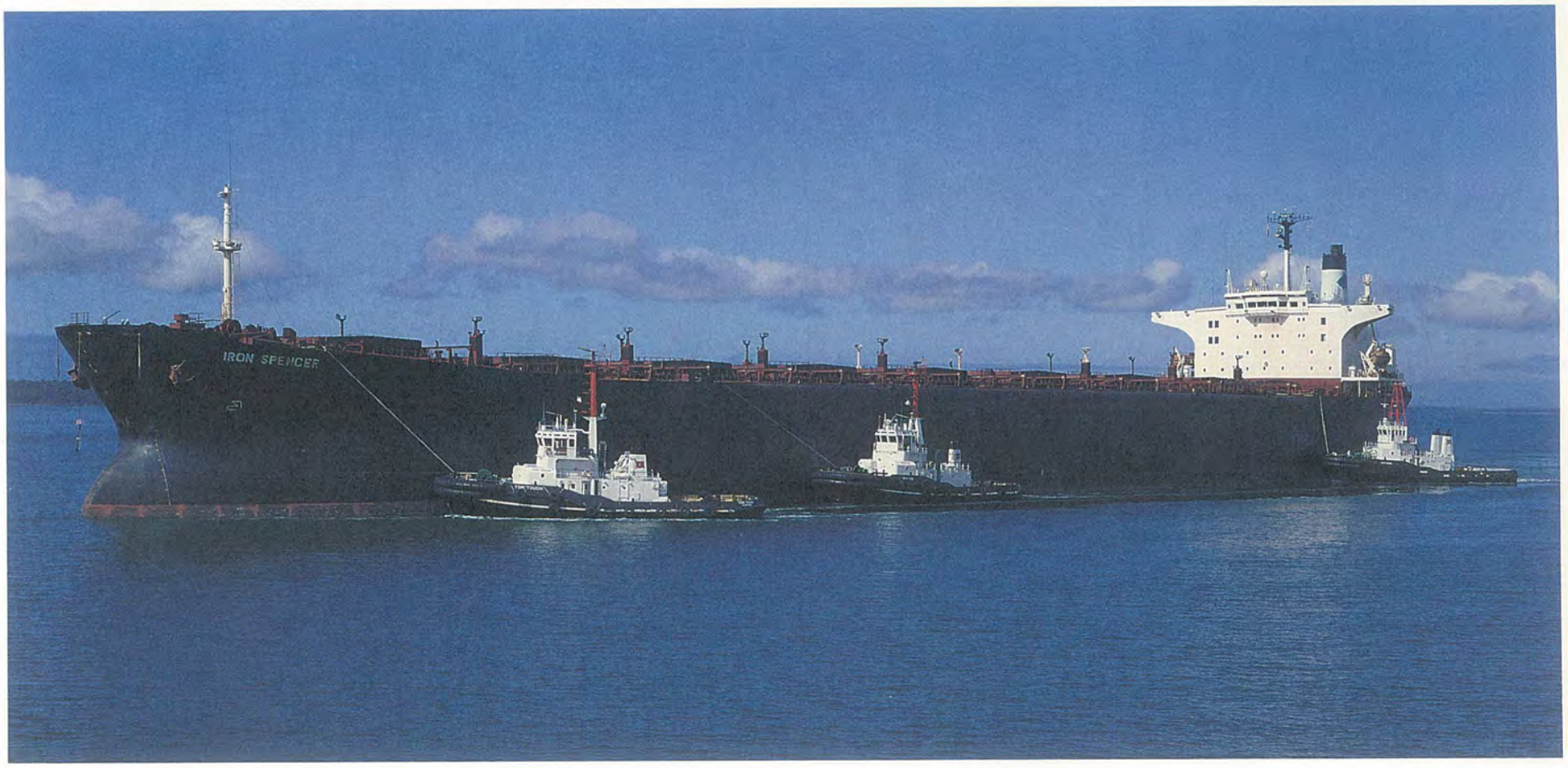
(1981-) M Bulk Carrier

Official Number: 385869
Tonnages: 77,399 gross, 57,985 net, 141,475 deadweight.
Dimensions: Length 283.50 (incl. BB), breadth 47.07, depth 21.57, draught 15.274 metres.
Machinery: Six cylinder 2SA Sulzer oil engine, manufactured by Ishikawajima-Harima Heavy Industries, Aioi (Japan). 15,005 kilowatts (20,400 bhp). **Speed:** 13.5 knots.
Consumption: 55 tonnes/day. **Crew:** 34.

History
6 March 1981: Launched by Ishikawajima-Harima Heavy Industries, Kure (Yard No. 2372) and christened by Mrs. D. Adam, wife of a BHP Director.
14 July 1981: Commissioned; registered Melbourne.
December 1988: Owners became BHP Transport Limited. In the present fleet.

After a two month delay caused by an on-board industrial dispute, *Iron Spencer*, with Captain L. Packman in command, sailed on her maiden voyage from Kure in ballast to Port Hedland, where she loaded a cargo of iron ore for Port Kembla. In April 1983, she carried the then largest shipment of coal from Hay Point, Queensland.

During drydocking at Jurong Shipyard in Singapore 1989, a Lipps wake improvement duct was fitted, providing fuel savings like sistership *Iron Whyalla*.



BHP Transport.

51. Iron Prince (III)

(1981-) M Bulk Carrier

Official Number: 396283
Tonnages: 15,056 gross, 8,320 net, 21,735 deadweight.
Dimensions: Length 159.62 (incl. BB), breadth 22.92, depth 13.57, draught 9.970 metres.
Machinery: Six cylinder 2SA Sulzer oil engine, manufactured by Ishikawajima-Harima Heavy Industries (IHI), Aioi (Japan). 6,620 kilowatts (9,000 bhp). **Speed:** 14 knots. **Consumption:** 28 tonnes/day.
Crew: 32.

History

29 May 1981: Launched by Ishikawajima-Harima Heavy Industries, Kure (Yard No. 2780) and christened by Mrs. B. Loton, wife of BHP director.
6 October 1981: Commissioned; registered Melbourne.
December 1988: Owners became BHP Transport Limited. In the present fleet.

A modified version of *Iron Sturt* (1979), *Iron Prince* has four holds, Nos. 2 and 3 being of exceptional length at 36 metres and 43.4 metres respectively. Hatch covers, manufactured by IHI, are hydraulic, steel double-leaf fore and aft folding. Unlike the gearless *Iron Sturt*, *Iron Prince* is equipped with three 40 tonne SWL IHI electric deck cranes, capable of lifting 76 tonnes in tandem. She is also fitted with a Kamome bow thruster.

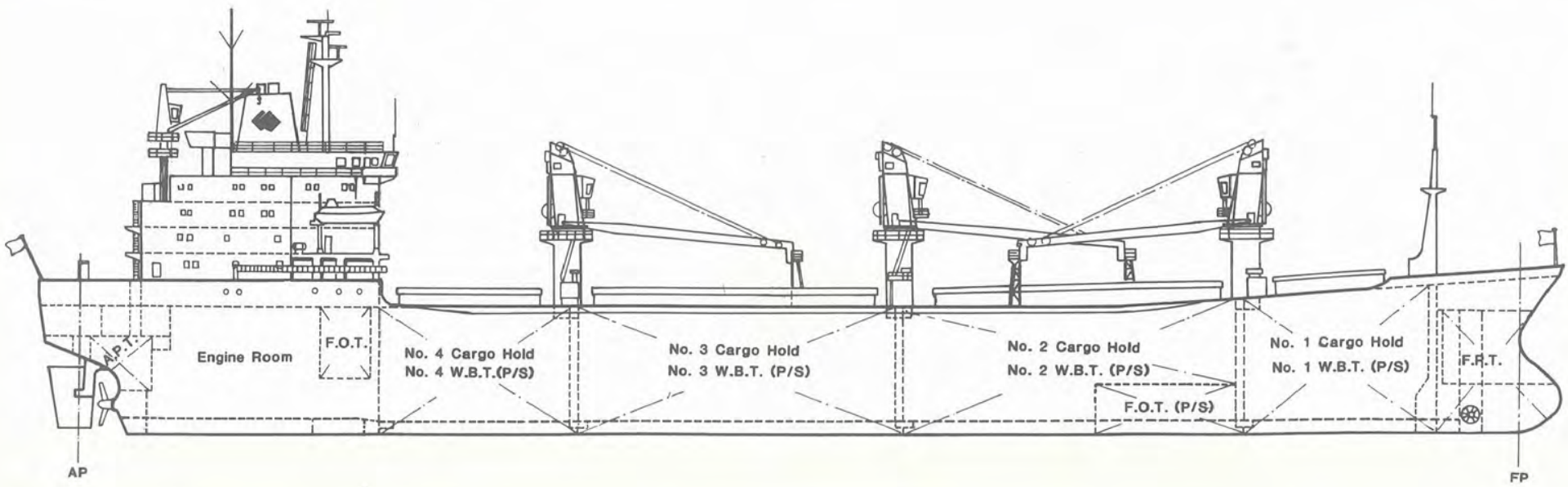
The 50th ship to sail under the BHP flag and the third vessel to carry the name, *Iron Prince* sailed in ballast on her maiden voyage from Kure under the command of Captain J. Hammond and proceeded to Groote Eylandt (Northern Territory), where she loaded 20,770 tonnes of manganese ore for Port Kembla.

On 26-27 March 1984, her cargo of steel bolsters (formerly used on the *Iron Monarch/Iron Duke* roll-on roll-off service) shifted while the ship was off Cape Otway (Vic.), causing a list, some structural damage and the flooding of No. 1 hold to a depth of one metre. *Iron Prince* diverted to Melbourne where repairs were carried out and the cargo restowed.

Regarded as a most verstaile ship, *Iron Prince* has served in a wide variety of BHP and non-BHP trades, including the trans-Tasman liner service.



BHP Transport.





BHP Transport

52. Iron Newcastle

(1985-) M Bulk Carrier



BHP Transport.

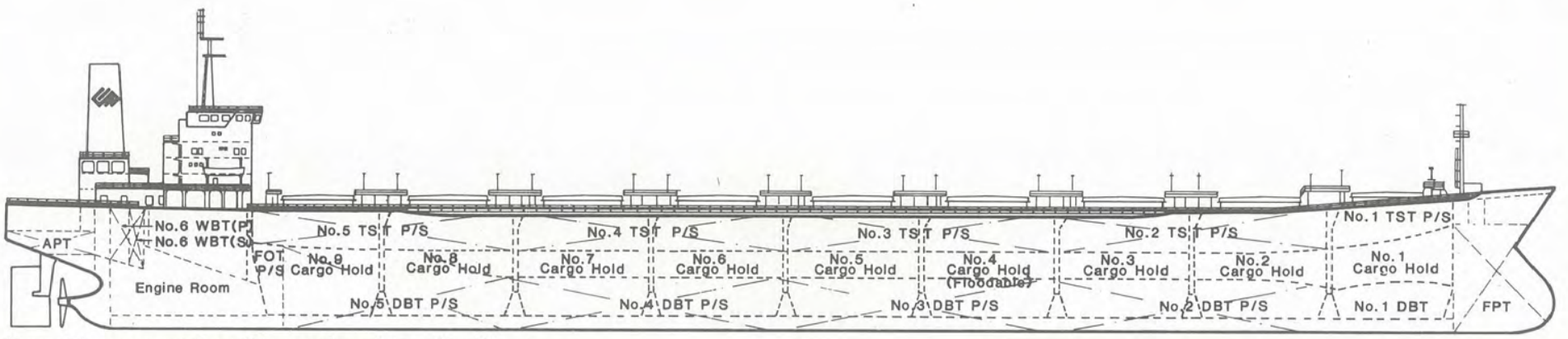
Official Number: 851596
Tonnages: 78,625 gross, 48,709 net, 148,140 deadweight.
Dimensions: Length 283.50 (incl. BB), breadth 47.07, depth 21.49, draught 15.901 metres.
Machinery: Six cylinder 2SA Sulzer oil engine, manufactured by Ishikawajima-Harima Heavy Industries (IHI), Aioi (Japan). 11,769 kilowatts (16,000 bhp).
Speed: 14.25 knots. **Consumption:** 44 tonnes/day.
Crew: 26.

History

6 September 1985: Launched (floated out of dock) by Ishikawajima-Harima Heavy Industries, Kure (Yard No. 2929) and christened by Mrs. A. Ogilvy, wife of a BHP Director.
27 December 1985: Commissioned; registered Melbourne.
December 1988: Owners became BHP Transport Limited. In the present fleet.



BHP Transport.



General Arrangement: ***Iron Newcastle*** *and* ***Iron Kembla.***

53. Iron Kembla

(1986-) M Bulk Carrier

The design requirements for *Iron Newcastle* and sistership *Iron Kembla* were specified by BHP Transport. In turn, builders IHI refined the designs of the earlier *Iron Whyalla* and *Iron Spencer*, which introduced BHP's wide-beam, shallow-draft concept in vessels of this size.

The vessels have nine holds, each equipped with chain-driven hydraulically-operated, steel, two-panel side-rolling IHI hatch covers.

Designed and constructed as single screw, diesel-driven, dry bulk carriers with machinery space and all accommodation located aft, both vessels have a single continuous freeboard deck, raked stem, bulbous bow and ransom stern.

Iron Newcastle was delivered on 27 December 1985 and departed Kure the same day, under the command of Captain W. Lloyd and with a crew of 26, arriving at Port Hedland on 7 January 1986. She sailed from Port Hedland two days later with a cargo of 133,471 tonnes of iron ore for Port Kembla and Newcastle. After part discharge at Port Kembla, she entered her namesake port with a record inward tonnage of 106,771 tonnes, on 25 January 1986. On completion of discharge she loaded 137,971 tonnes of coal, also a record, and sailed for Japan on 31 January.

Official Number: 851595
Tonnages: 78,625 gross, 48,709 net, 148,140 deadweight.
Dimensions: Length 283.50 (incl. BB), breadth 47.01, depth 21.52, draught 15.901 metres.
Machinery: Six cylinder 2SA Sulzer oil engine, manufactured by Ishikawajima-Harima Heavy Industries (IHI), Aioi (Japan). 11,769 kilowatts (16,000 bhp). **Speed:** 14.25 knots. **Consumption:** 44 tonnes/day. **Crew:** 26.

History

29 November 1985: Launched (floated out of dock) by Ishikawajima-Harima Heavy Industries, Aioi (Yard No. 2930) and 13 March 1986 christened by Mrs. K. Steel, wife of a BHP Director.

27 March 1986: Commissioned; registered Melbourne.
December 1988: Owners became BHP Transport Limited. In the present fleet.

Iron Kembla joined the fleet on 27 March 1986 when, under the command of Captain R. Martin and with a crew of 26, she sailed on her maiden voyage from Kure in ballast to Port Walcott where she loaded a cargo of iron ore for Port Kembla.

The vessel, like her sistership Iron Newcastle, trades Port Hedland-Port Kembla/Newcastle with iron ore, then loads coal at any of the major terminals in N.S.W. or Queensland (Gladstone, Hay Point, Dalrymple Bay, Abbott Point) for discharge in Japan.



R. Larbey.

54. Iron Pacific

(1986-) TM Bulk Carrier

Official Number: 851597
Tonnages: 118,491 gross, 71,793 net, 231,851 deadweight.
Dimensions: Length 351.02, breadth 55.73, depth 25.02, draught 18.201 metres.
Machinery: 2 x four cylinder 2SA Sulzer oil engines, manufactured by Ishikawajima-Harima Heavy Industries, Aioi (Japan). 18,242 kilowatts (24,800 bhp).
Speed: 13.5 knots. **Consumption:** 60 tonnes/day.
Crew: 26.

History

1 February 1986: Launched (floated out of dock) by Samsung Shipbuilding & Heavy Industries Co. Ltd., Koje, South Korea (Yard No. 1043) and *15 May 1986* christened by Lady Zeidler, wife of a BHP Director.
30 May 1986: Commissioned; registered Melbourne.
December 1988: Owners became BHP Transport Limited. In the present fleet.

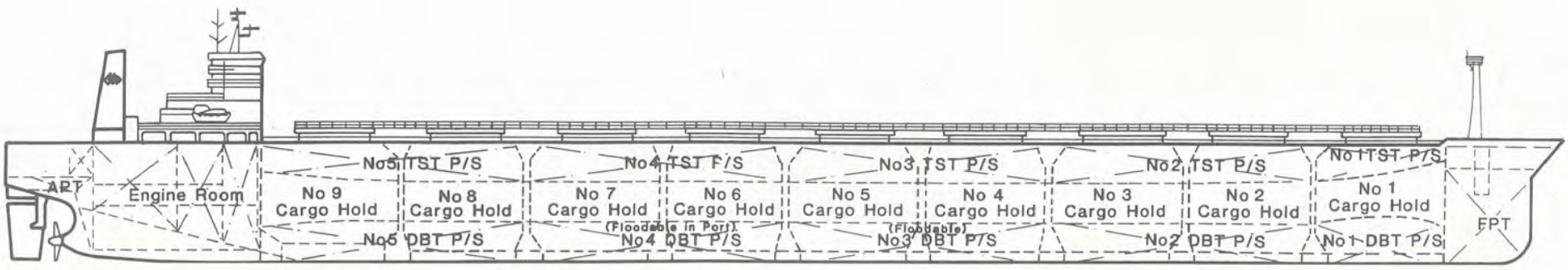
Iron Pacific was designed and constructed as a twin screw, diesel-driven, dry bulk carrier with propulsion machinery space and all accommodation aft. The vessel has a continuous main deck, cylindrical stem, transom stern and two rudders. Two slow speed Sulzer diesels are directly coupled to twin, five-bladed, controllable pitch, inward-rotating propellors. Cargo is carried in nine holds, each of which is fitted with side-rolling McGregor hatch covers. No cargo-handling gear is fitted. A complement of 26 is made up of 11 Officers and 15 ratings. A total of 30 cabins are provided including two for Officer Trainees.

Iron Pacific was the largest twin screw dry bulk carrier in the world at the time of her completion. Design requirements were specified by BHP Transport, with the builders in turn producing the final design. The desired manoeuverability of this size of vessel, incorporating BHP's wide-beam, shallow-draft concept, was achieved by adopting a twin propeller, twin rudder configuration in a catamaran stern.

On 24 June 1986, the vessel left the builder's yards in South Korea on her maiden voyage, under the command of Captain D. Bolas and with a crew of 26, proceeded to Port Hedland. There she loaded 179,351 tonnes of iron ore, a record Australian coastal cargo, and arrived at Port Kembla on 26 July. On the northbound voyage she lifted 174,529 tonnes of coal for the Pohang Iron & Steel Co.Ltd., Port Kembla/Newcastle-Pohang.

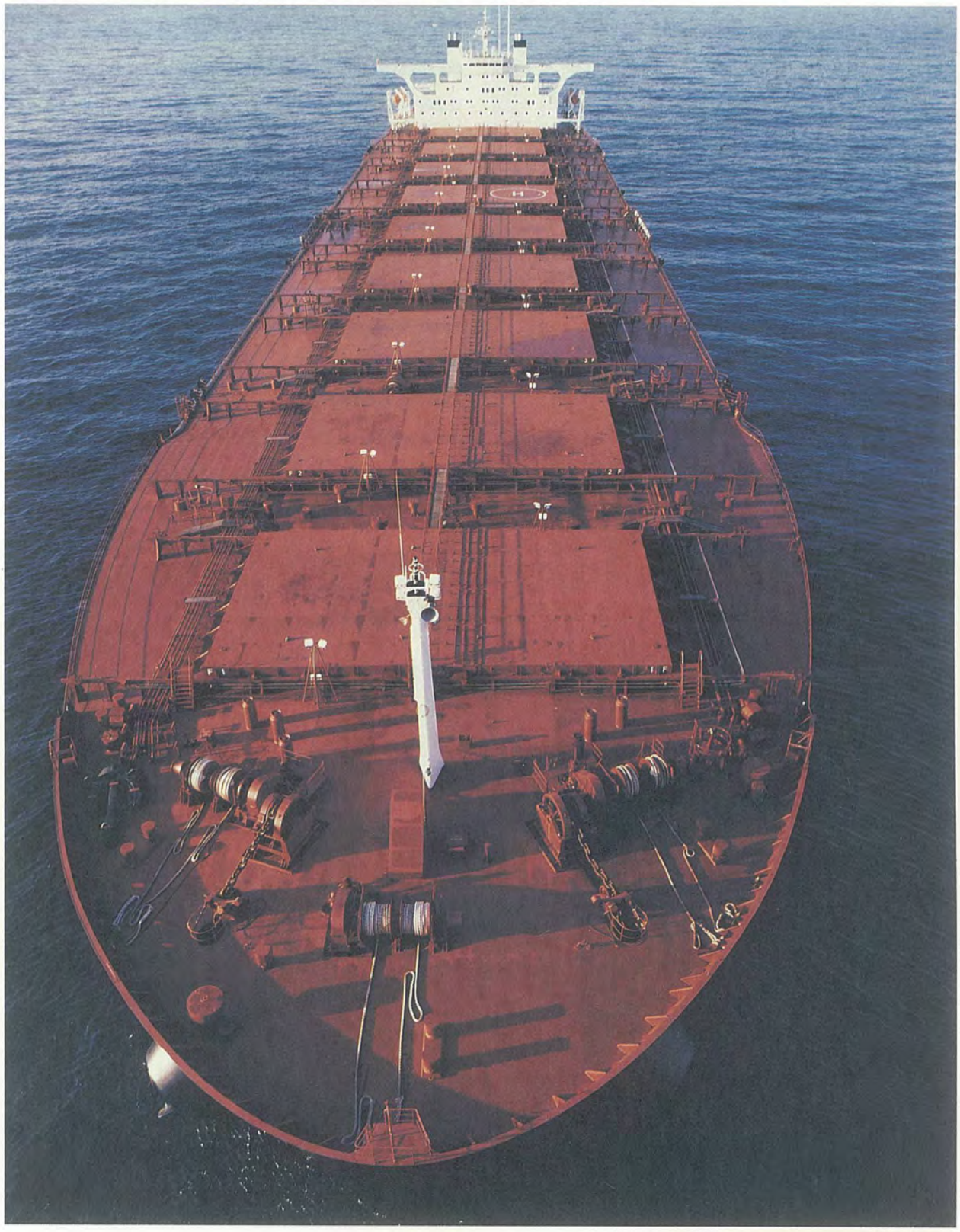


BHP Transport.



The name *Iron Pacific* was chosen to identify the vessel with the region in which she trades. The vessel follows the triangulation pattern of carrying iron ore from Port Hedland to two N.S.W. ports, followed by export coal from any of the major east coast terminals, exclusively for discharge at the South Korean ports of Pohang and Kwang Yang Bay, returning to Port Hedland in ballast.

Iron Pacific has set lifting records at all regular load ports. She also has the distinction of being the largest vessel to enter Sydney Harbour, a record set on 15 July 1986, when *Iron Pacific* berthed at the Sydney Cove Passenger Terminal for public inspection.



BHP Transport.

55. Iron Gippsland

(1989-) M Tanker

Official Number: 853222
Tonnages: 52,902 gross, 21,058 net, 87,241 deadweight.
Dimensions: Length 233.30 (incl. BB), breadth 42.63, depth 19.82, draught 12.976 metres.
Machinery: Seven cylinder 2SA Sulzer oil engine, manufactured by Ishikawajima-Harima Heavy Industries (IHI), Aioi (Japan). 9,121 kilowatts (12,400 bhp).
Speed: 14 knots. **Consumption:** 34 tonnes/day.
Crew: 21.

History

14 October 1988: Launched by Ishikawajima-Harima Heavy Industries, Kure (Japan) (Yard No. 2978) and 1 February 1989 christened by Mrs. J. Hooke, wife of a BHP Director: Commissioned; registered Melbourne. In the present fleet.

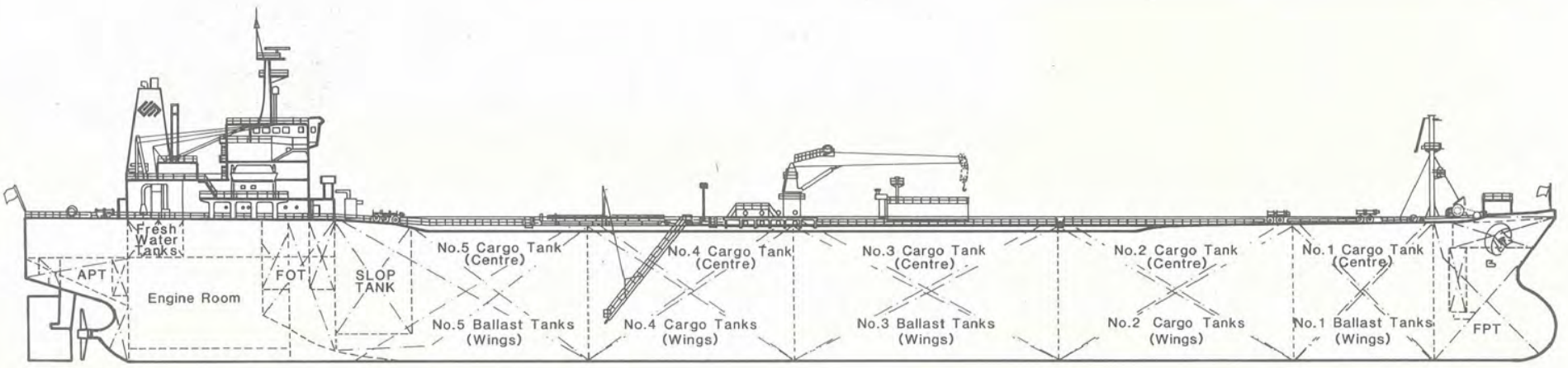
Iron Gippsland, built to a modified standard design offered by the builder, is a tanker for the carriage of crude oils and dirty petroleum products.

Propulsion machinery, situated aft, consists of an IHI Sulzer 7RTA62 single-acting two-stroke turbo-charged reversible diesel engine developing 12,225 bhp at 73 rpm. The vessel is designed for unattended engine operation, controlled from the navigating bridge. Fitted with a fixed-pitch keyless nickel/aluminium/bronze five-bladed propellor. She has a continuous main deck, cylindrical stem and transom stern.

Iron Gippsland carries 104,075 cubic metres of oil cargo in five centre tanks, two pairs of wing tanks and two slop tanks, arranged to permit the carriage of three grades of cargo in various proportions, with complete two-valve segregation. All cargo and slop tanks are fitted with aluminium brass heating coils capable of raising cargo temperature from 44 degrees C to 66 degrees C in four days. Each cargo tank is fitted with a Musashino Level Master system, incorporating cargo temperature sensing with a remote readout in the Cargo Control Console, permitting fully closed loading and discharging operations. An integrated loading computer is provided. There are three steam-driven vertical centrifugal main pumps of 3,000 cubic metres/hour – each fitted with an automatic, self-priming stripping



BHP Transport.



system permitting full discharge by main cargo pumps – and one steam-driven reciprocating stripper pump of rated capacity 300 cubic metres/hour. The pumproom is located aft, with one cargo control console on the navigation bridge deck for remote control of pumps and all cargo and ballast valves. The vessel features 4 x 55 mm-diameter manifolds each side and there is one 15 tonne electro-hydraulic crane for hose handling.

Iron Gippsland's navigational and communications aids include radar (2), ARPA, DECCA, LORAN C, SATNAV, Autopilot, Weatherfax and Satcom with telephone, telex and facsimile transmission capabilities.

Mooring equipment includes seven mooring winches, each with two or three powered storage reels of 45 tonnes brake holding capacity, for handling 16 Atlas mooring hawsers of 70 mm diameter, 220 metres in length and 65 tonnes breaking strength. The vessel is equipped with an OCIMF-approved bow mooring stopper and associated fittings.

Iron Gippsland departed Kure on her maiden voyage on 1 February 1989, under the command of Captain H. Begg, sailing for the Indonesian oil terminals of Blanglancang, North Sumatra, and Kakap Natuna where she loaded crude oil for the Shell refineries at Sydney and Geelong. She then loaded the first export cargo of Cooper/Eromanga Basin crude oil, which was shipped from Port Bonython (S. A.) to Ulsan (South Korea).

In the first year of operation, *Iron Gippsland* carried more than 6.6 million barrels of oil, or just under 1 million tonnes. She visited 20 different ports in Malaysia, Indonesia, Singapore, South Korea, U.S.A., Ecuador and Australia, steaming 91,390 miles (the equivalent to 4 1/4 times around the globe) spending 289 days at sea.



C. L. Mackey.

56. Iron Baron (IV)

(1990-) M Bulk Carrier

Official Number: 853688
Tonnages: 21,975 gross, 12,358 net, 37,557 deadweight.
Dimensions: Length 188.02 (incl. BB), breadth 28.00, depth 15.42, draught 10.867 metres.
Machinery: Six cylinder 2SA Sulzer oil engine, manufactured by Sumitomo Heavy Industries Ltd., Tamashima (Japan). 5,782 kilowatts (7,860 bhp).
Speed: 14 knots. **Consumption:** 25 tonnes/day.
Crew: 21.

History

December 1984: Launched by Kurushima Dockyard Co. Ltd., Onishi (Japan) (Yard No. 2352) for Manatee Shipping Co. SA, Panama (First Marine Service Co. Ltd., Tokyo).
1985: Completed as *Ocean Express*.
1985: Sold to Hibaya Enterprises KK, Japan; registered Tokyo.
1987: Sold to Showa Aircraft Industry Co. Ltd. (Showa Hikoki Kogyo KK), Japan.
1989: Sold to Great Shipping SA, Panama (Ryusei Kisen KK, Hakata) and renamed *Irrawaddy*.
1989: Sold to Burma Navigation Corp., Burma; registered Rangoon.
1990: Sold to I.S. Shipping (Liberia) Co. Ltd., Liberia.
1990: Taken on bareboat charter by BHP Transport Limited for five years. Refitted Singapore and 5 March 1990 delivered as *Iron Baron*; registered Melbourne. In the present fleet.

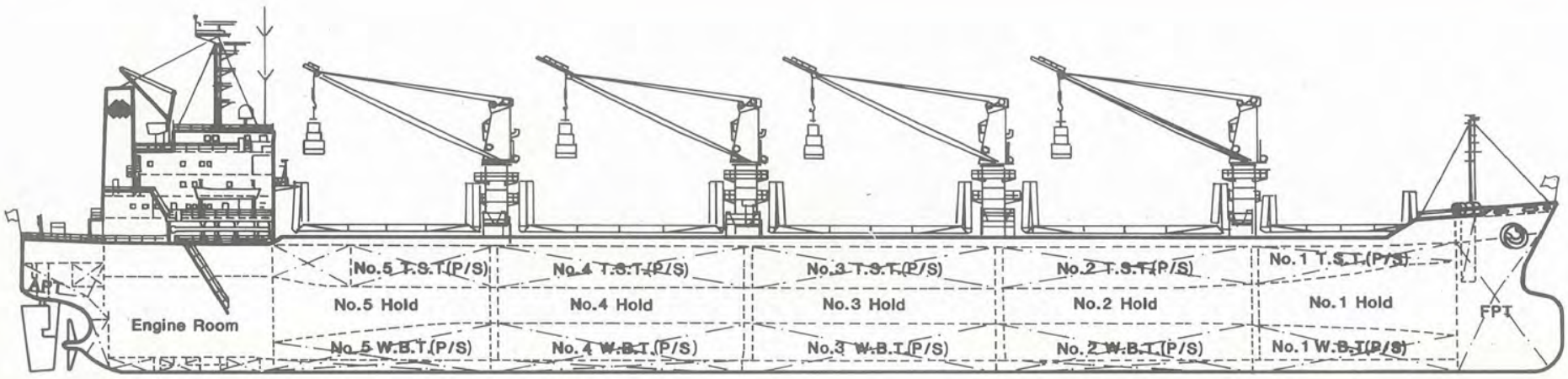
The vessel has five holds, strengthened for heavy cargoes, fitted with steel, hydraulically operated hatch covers. Cargo handling equipment consists of four electro-hydraulic Mitsubishi cranes, each of 25.4 tonnes SWL. A controllable pitch propellor is fitted.

As *Irrawaddy* the ship called at Port Kembla and Whyalla during January 1990 while on time charter to BHP Transport, prior to a voyage to Singapore for refitting and renaming. She was delivered to Jurong Shipyards in February 1990 for drydocking and upgrading of the accommodation to Australian crew standards. She emerged as *Iron Baron* and was delivered on bareboat charter to the Company, at Singapore on 5 March 1990.

Iron Baron trades principally on the Australian coast, with coal from Hay Point/Port Kembla-Whyalla. Cargoes on return voyages from S.A. include iron ore from Whyalla and dolomite from Ardrossan to Newcastle, iron ore pellets from Port Latta to Port Kembla, and managanese from Groote Eylandt to Bell Bay, Newcastle and Port Kembla.



K. I. Barr.



57. Iron Flinders (II)

(1991-) M Bulk Carrier

Official Number: 854086
Tonnages: 13,380 gross, 6,802 net, 17,373 deadweight.
Dimensions: Length 158.07 (incl. BB),
breadth 23.09, depth 13.42, draught 10.102 metres.
Machinery: Five cylinder 2SA MAN oil engine, manufactured by VEB Dieselmotorenwerk Rostock, Rostock (East Germany). 7,598 kilowatts (10,330 bhp).
Speed: 15 knots. **Consumption:** 32 tonnes/day.
Container capacity: 928 TEU. **Crew:** 18.

History

21 November 1985: Launched by VEB Schiffswert 'Neptun', Rostock (Yard No. 202) as *Atinuke Abiola* for African Ocean Lines Ltd., Nigeria.
June 1986: Completed; registered Lagos.
1988: Sold to Naviera Del Nuevo Sur SA, Liberia (Sudamericana Scheepvaartmaatschappij B.V., Rotterdam) and renamed *Multitrader*; registered Monrovia.
1989: Renamed *Marlinda*.
1990: Sold to L'Ancresse SA, Panama.
Late 1990: Taken on bareboat charter by BHP Transport Limited for five years. Refitted Singapore and delivered 27 February 1991 as *Iron Flinders*; registered Melbourne.
1992: Owners became K/S Tasman Connection, Norway. In the present fleet.

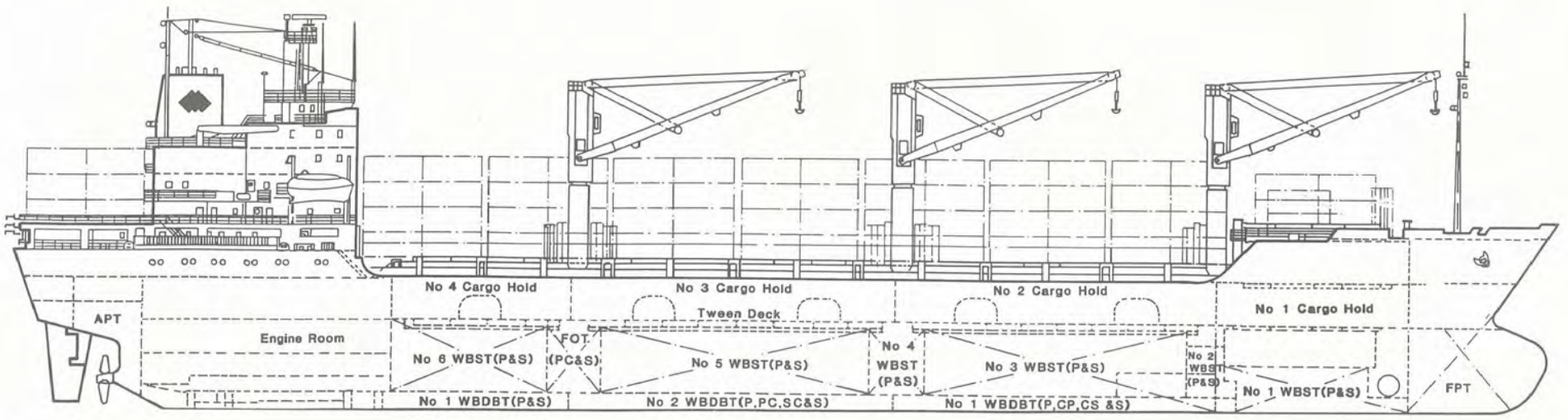
The vessel was built as a modified Aquator/Monsun-type general cargo ship with significant container capacity. She has four cargo holds, five 'tween decks and seven steel hatch covers. Container capacity on decks is 544/20' (260/40') and in the holds 378/20' (183/40'). Reefer capacity is 95 units. Cargo handling equipment comprises three 40 tonne SWL cranes with power swivels and telescopic spreaders.

The ship is strengthened for heavy cargoes and ice navigation, and is fitted with a controllable pitch propellor and a bow thruster.

Iron Flinders departed Sydney on 14 March 1991 for Melbourne on her first commercial voyage for BHP Transport.



BHP Transport.



58. Iron Dampier (II)

(1992-) M Bulk Carrier

Official Number: 702388
Tonnages: 16,288 gross, 8,543 net, 21,889 deadweight.
Dimensions: Length 178.21 (incl. BB), breadth 22.94, depth 14.03, draught 10.091 metres.
Machinery: Eight cylinder 2SA MAN oil engine, manufactured by VEB Dieselmotorenwerk Rostock, Rostock (East Germany). 8,238 kilowatts (11,200 bhp).
Speed: 18 knots. **Consumption:** 40.5 tonnes/day.
Container capacity: 947 TEU. **Crew:** 18.

History

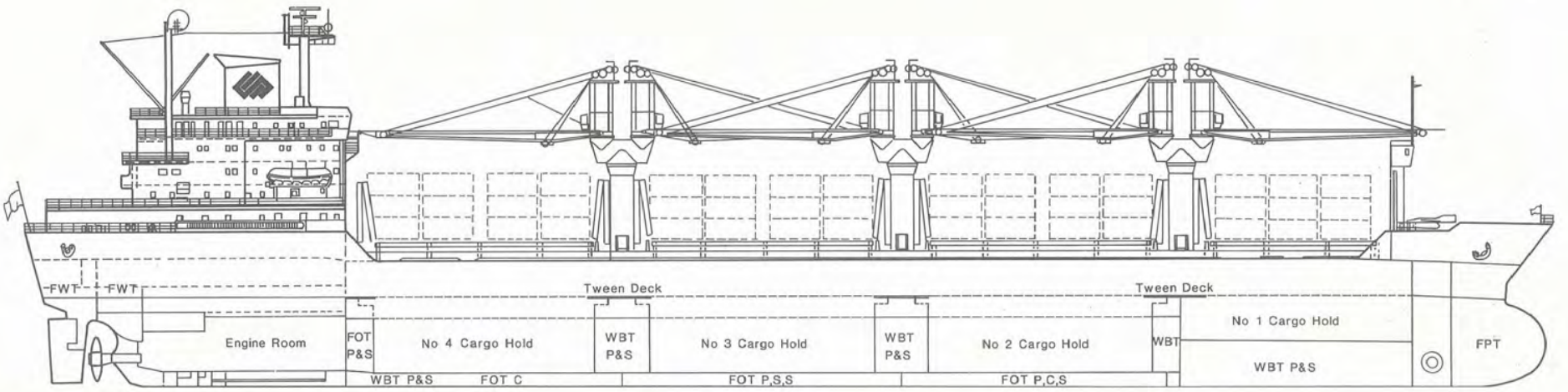
27 June 1981: Launched by VEB Mathias-Thesen-Werft, Wismar (East Germany) (Yard No.123) as *Palapur* for Halstead Shipping Corp. Inc., Liberia (F. Laeisz, Hamburg, managers).
1981: Completed; registered Monrovia.
November 1982: Sold to China Navigation Co. Ltd., London and renamed *Kweilin*; registered Hong Kong.
January 1992: Taken on bareboat charter by BHP Transport Limited for five years. Refitted Singapore and delivered June 1992 as *Iron Dampier*; registered Melbourne. In the present fleet.

The ship was built as an MBC-type bulk carrier with significant container capacity. She has four holds served by eight hatches and is equipped with three Brissoneau & Lotz electric marine double cranes (2 x 25 tonnes SWL). Container capacity is 974 TEU, of which 130 may be reefers. She has a controllable pitch propellor and a bow thruster.

After being committed to BHP Transport on bareboat charter, she was refitted at the Jurong Shipyard in Singapore during a 51 day program. Work included the installation of a number of labour-saving devices and extra equipment, as well as the upgrading of the accommodation for a reduction in crew numbers from 30 to an Australian-flag scale of 18. *Iron Dampier* joined the trans-Tasman service on 2 July 1992, taking over from the interim vessel *Iron Prince (III)* which then returned to Australian coastal employment.



BHP Transport.



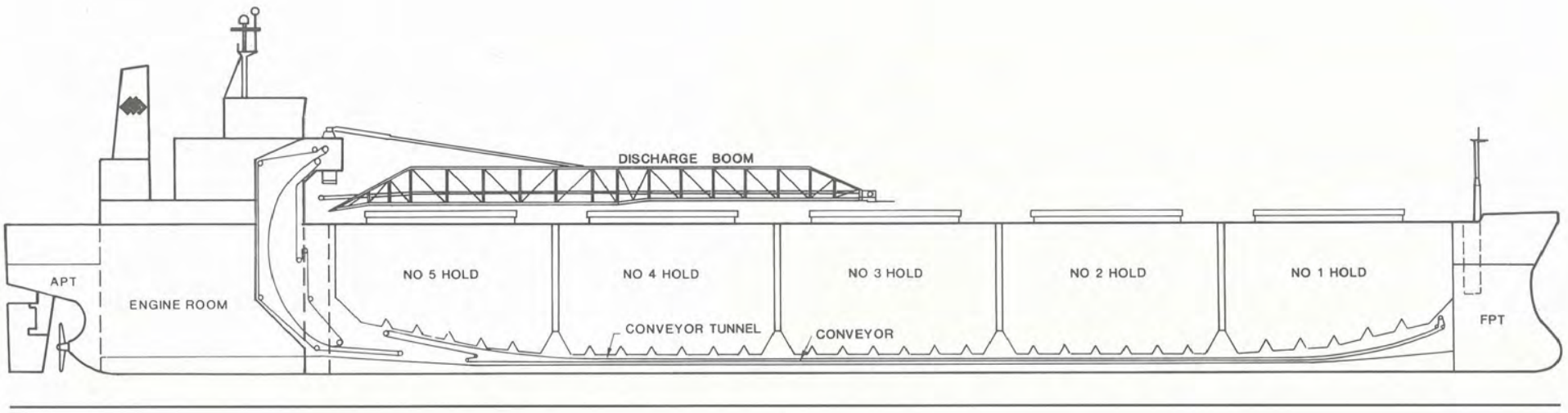
59. Iron Chieftain (II)

M Self-Discharging
Bulk Carrier

Newbuilding
(All details as per specification.)

Tonnage: 49,800 deadweight.
Dimensions: Length 202.00 (incl. BB),
breadth 32.00, depth 19.24, draught 12.000 metres.
Machinery: Hyundai-B&W 5560MC.
Speed: 14 knots.
Other: To be equipped with Stephens-Adamson below-cargo gravity self-unloading system capable of discharging at 3,000 tonnes/hour through a 70 metre boom.

16 December 1991: Contract signed with Hyundai Heavy Industries Ltd., Seoul (South Korea), for construction of Yard No. 822 at Ulsan.
December 1992: First steel scheduled to be cut.
October 1993: Due for delivery. To be named *Iron Chieftain*.



Managed Vessels

The following vessels are or were managed and crewed by BHP Transport on behalf of other owners.

M1. ISLAND GAS
(1983-) M Liquefied Gas Carrier

Official Number: 850629
Tonnages: 4,500 gross, 2,451 net, 6,033 deadweight.
Dimensions: Length 107.75, breadth 17.02, depth 8.87, draught 7.416 metres.
Machinery: Six cylinder 4SA oil engine, manufactured by Cie. de Const. Mec. Sulzer (CCM), Mantes (France). 2,869 kilowatts (3,900 bhp).
Speed: 14.75 knots. **Crew:** 23.

History

1976: Completed by Moss Rosenberg Verft A/S, Moss (Norway) (Yard No.185) as *Hebe* for I/S Hebe (Helge R. Myhre), Stavanger (Norway).
1980: Sold to Boral Limited, Australia, and registered to subsidiary Huddart Parker Industries Ltd., Fiji. Refitted Singapore for Australian manning. Renamed *Boral Gas*, registered Suva (Fiji). Due to crewing problems operated Persian Gulf and India with British Officers and Fijian crew. 1982: Operating Pacific Islands; renamed *Island Gas.*
Late 1982, commenced trading Australian coast with British/Australian crew.
March 1983: BHP appointed managers; ownership transferred to Boral (L.G.C.) (U.K.) Ltd.; registered Sydney. In the present fleet.

M2. BASS REEFER
(1990-1992) TM Roll-on Roll-off Cargo Carrier

Official Number: 374968
Tonnages: 2,414 gross, 668 net, 2,745 deadweight.
Dimensions: Length 99.52, breadth 17.84, depth 5.77, draught 5.462 metres.
Machinery: 2 x eight cylinder 4SA oil engines, manufactured by Daihatsu Diesel Manufacturing Co. Ltd., Osaka (Japan), reverse reduction geared to two shafts. **Speed:** 16.25 knots. **Crew:** 18.

History

1978: Completed by Ube Dockyard Co. Ltd., Ube (Japan) (Yard No. 155) as *Sid McGrath* for Dillingham Australia Pty. Ltd. (John Burke Shipping), Brisbane.
1988: Transferred to Coral Sea Shipping Pty. Ltd., Papua New Guinea; registered Port Moresby.
26 November 1989: Arrived Brisbane and laid up.
December 1989: Receivers appointed to John Burke Ltd.
6 September 1990: Acquired by Bass Express Ships Ltd. (Sea Containers Ltd., Bermuda)(Linerbulk Shipping Pty. Ltd., Melbourne, as agents) and renamed *Bass Reefer*; registered Geelong. BHP Transport Limited appointed managers. Refitted Brisbane and 30 September 1990 entered service Geelong-Stanley.
1991: Owners became Bass Reefer Pty. Ltd.
31 January 1992: Management relinquished; Howard Smith Industries Pty. Ltd. appointed managers.
July 1992: Service closed.
September 1992: Owners became Boxer 2 Ltd., Bermuda (Sea Containers Ltd.); vessel registered Nassau, Bahamas.

M3. SEAKAP
(1990-) M Chemical Carrier

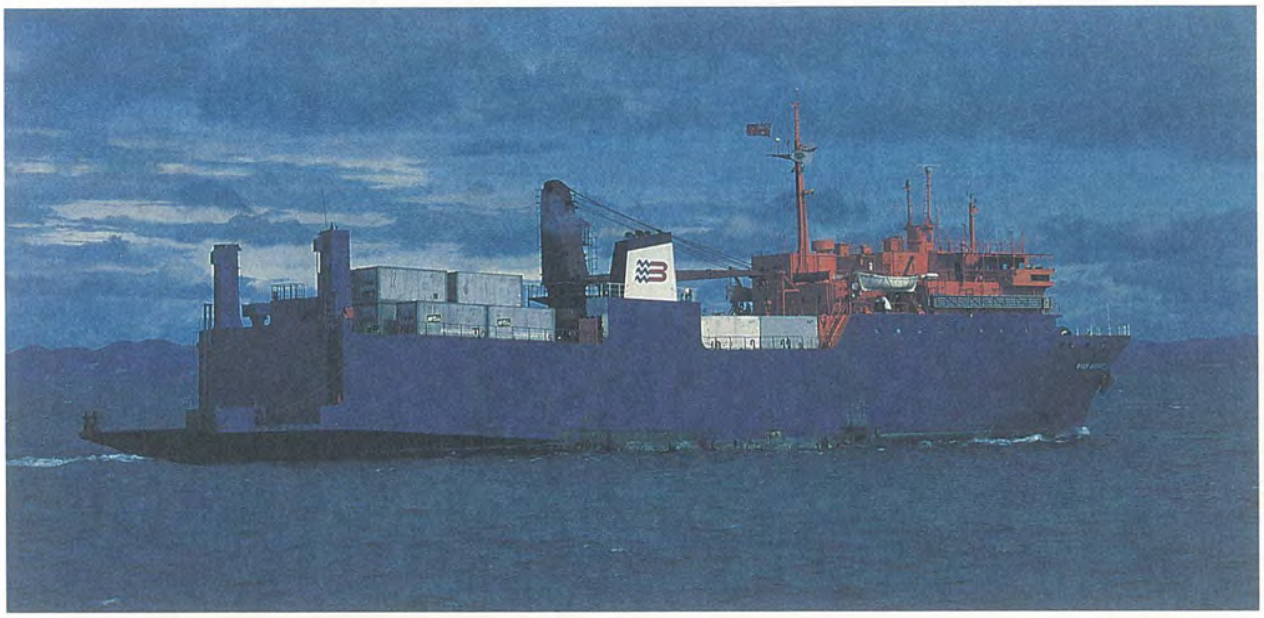
Official Number: 854247
Tonnages: 5,323 gross, 1,597 net, 6,706 deadweight.
Dimensions: Length 108.46, breadth 18.24, depth 9.50, draught 7.365 metres.
Machinery: Six cylinder 2SA Mitsubishi oil engine, manufactured by Akasaka Tekkosho KK, Yaizu (Japan). 4,413 kilowatts (6,000 bhp).
Speed: 13.75 knots. **Crew:** 17.

History

January 1982: Completed by Miho Zosensho KK, Shimizu (Japan) (Yard No. 1181) as the geared bulk carrier *Landguard Point* for Carless Solvents Ltd. (Hudson Steamship Co. Ltd.), London.
1986: Sold to Carib Carriers Ltd. (Colonial Navigation Inc.), Bahamas and renamed *Mrs. B*; registered Nassau.
1987: Sold to Abbotswood Shipping Corp. (Splosna Plovidba), Yugoslavia, and renamed *Biograd;* registered Rijeka (Yugoslavia).
1990: Transferred to Waterbury Shipping Co. SA, Panama.
1990: Acquired by Koppers Australia Pty. Ltd. (50 per cent owned by BHP) and placed under BHP Transport management.
23 October 1990: Arrived at Pan United Shipyard Pte. Ltd., Singapore, for conversion to IMO chemical tanker Type 2, for the carriage of coal tar, pitch, creosote and napthalene.
25 September 1991: Renamed *Seakap.*
17 November 1991: Delivered to Koppers Shipping Pty. Ltd.; registered Sydney. In the present fleet.



Island Gas. K. I. Barr.



Bass Reefer. D. E. Crisp.



Seakap. Koppers Australia

North West Shelf Ships

The Australian LNG Ship Operating Company (ALSOC), a 50/50 joint venture between BHP Petroleum and Shell Australia, operates two of a present fleet of five liquefied natural gas carriers on behalf of a consortium of the participants in the North West Shelf Project (BHP Petroleum, Shell, BP, Chevron, Woodside and MiMi [Mitsubishi and Mitsui]) in Western Australia.

By the end of 1994, a total of eight vessels will be in service, of which ALSOC will be the operators of four. The ALSOC ships are crewed by BHP Transport, with technical management shared between the Company and Shell.

A1. NORTHWEST SANDERLING
(1989-) S Liquefied Gas Carrier

Official Number: 853416
Tonnages: 105,010 gross, 31,503 net, 66,810 deadweight.
Dimensions: Length 272.00 (incl. BB), breadth 47.28, depth 26.50, draught 11.396 metres.
Machinery: Two steam turbines, manufactured by Mitsubishi Heavy Industries Ltd., Nagasaki (Japan), with flexible couplings and double reduction geared to single shaft. 17,140 kW (23,302 bhp). **Speed:** 18.54 knots. **Crew:** 24.

History
29 April 1988: Launched (floated out of dock) by Mitsubishi Heavy Industries Ltd., Nagasaki (Yard No. 1996) for BHP Petroleum (LNG Ships) Pty. Ltd., BP Australia Ltd., Chevron LNG Shipping Co. Ltd., Japan Australia LNG (MiMi) Pty. Ltd., Shell Development (Australia) Pty. Ltd. and Woodside Petroleum Development Pty. Ltd. (Australian LNG Ship Operating Co. Ltd. [ALSOC], managers).
30 June 1989: Completed; registered Melbourne.
1990: Transferred to International Gas Transportation Co. Ltd. (IGTC). In the present fleet.

A2. NORTHWEST SNIPE
(1990-) S Liquefied Gas Carrier

Official Number: 853794
Tonnages: 105,010 gross, 31,503 net, 66,695 deadweight.
Dimensions: Length 272.00 (incl. BB), breadth 47.28, depth 26.50, draught 11.375 metres.
Machinery: Two steam turbines, manufactured by Mitsubishi Heavy Industries Ltd., Nagasaki (Japan), with flexible couplings and double reduction geared to single shaft. 17,140 kW (23,302 bhp).
Speed: 18.51 knots. **Crew:** 24.

History
24 June 1989: Launched (floated out of dock) by Mitsui Engineering and Shipbuilding Co. Ltd., Chiba Works, Ichihara (Japan) (Yard No. 1352) for BHP Petroleum (LNG Ships) Pty. Ltd., BP Australia Ltd., Chevron LNG Shipping Co. Ltd., Japan Australia LNG (MiMi) Pty. Ltd., Shell Development (Australia) Pty. Ltd. and Woodside Petroleum Development Pty. Ltd. (Australian LNG Ship Operating Co. Ltd. [ALSOC], managers).
28 September 1990: Completed; registered Melbourne.
1990: Transferred to International Gas Transportation Co. Ltd. (IGTC). In the present fleet.

A3. NORTHWEST SANDPIPER

S Liquefied Gas Carrier

Newbuilding

Specifications: as per A1 and A2.

History

10 April 1992: Launched (floated out of dock) by Mitsui Engineering and Shipbuilding Co. Ltd., Chiba Works, Ichihara (Japan) (Yard No. 1370) for International Gas Transportation Co.Ltd. (Australian LNG Ship Operating Co. Ltd. [ALSOC], managers).
February 1993: Due for delivery.

A4. NORTHWEST STORMPETREL

S Liquefied Gas Carrier

Newbuilding

Specifications: as per A1 and A2.

To be constructed by Mitsubishi Heavy Industries Ltd., Nagasaki (Yard No. 2074). International Gas Transportation Co.Ltd. (Australian LNG Ship Operating Co. Ltd. [ALSOC], managers).
December 1994: Due for delivery.



Northwest Snipe. *Woodside Petroleum.*

Foreign-Flagged and Operated Fleet

The following vessels have been or are in the part ownership of the BHP Group of Companies or management control of BHP Transport Limited. Vessels in the present foreign-flag fleet are managed by BHP Transport subsidiary Fathom Management Corporation, based in Oakland (U.S.A.).

Nos. F1, F2 and subsequently F3 entered Company service as a result of the 1984 takeover of Utah International Inc. At the time of the acquisition, Utah also controlled ***Coal Transporter*** *(51,402/1972),* ***Lake Mendocino*** *(71,556/1971),* ***Marcona Conveyor*** *(32,607/1967),* ***Orco Trader*** *(62,565/1976) and* ***Platinum Transporter*** *(52,699/1972), which were disposed of.*

Nos. F4, F5, F6 and subsequently F7 entered Company service as a result of BHP lifting its shareholding in the Mt. Newman Joint Venture in 1986 to 85 per cent. Newco Trading Co., 50 per cent owner of Merchants & Miners Transport Inc., is also 85 per cent owned by BHP (15 per cent prior to 1986).

F1. ELGIN

(1984-) M Bulk Carrier

Official Number: 6999

Tonnages: 86,208 gross, 70,842 net, 194,690 deadweight. **Dimensions:** Length 300.01 (incl. BB), breadth 50.00, draught 18.289 metres. **Machinery:** Seven cylinder. 2SA B&W oil engine, manufactured by Mitsui Engineering and Shipbuilding Co. Ltd., Tamano (Japan). 17,580 kW (23,900 bhp). **Speed:** 14 knots. **Other:** 11 holds/11 hatches. Strengthened for heavy cargoes. Gearless.

History

1981: Launched by Nippon Kokan, Tsu (Japan) (Yard No. 71) as *Lake Droville* for Utah Transport Corp., Liberia.

1981: Completed as *Elgin* for Bulkers Ltd., Liberia (Norbulk Shipping Agencies Ltd., London, managers).

1984: BHP acquired Utah International Inc., parent of the owning company.

1987: Owning company transferred to control of County Shipping Co. Ltd., Hong Kong, a BHP subsidiary.

1991: Managers became Andreas Ugland & Sons A/S, Grimstad (Norway). In the present fleet.

F2. QUATSINO SOUND

(1984-1987) M Bulk Carrier

Official Number: 6975

Tonnages: 15,568 gross, 10,000 net, 29,819 deadweight. **Dimensions:** Length 171.02 (incl. BB), breadth 27.23, draught 10.216 metres. **Machinery:** Five cylinder 2SA Sulzer oil engine, manufactured by Mitsubishi Heavy Industries Ltd., Kobe (Japan). 8,827 kW (12,000 bhp). **Speed:** 15.5 knots. **Other:** 5 holds/5 hatches. Strengthened for heavy cargoes. Four 25 tonne cranes. Bow thruster.

History

1981: Completed by Mitsubishi Heavy Industries Ltd., Shimonoseki (Japan)(Yard No. 832) for Utah Transport Inc., Monrovia.

1984: Owners acquired by BHP.

14 February 1987: Sank in approximately 50 metres of water one nautical mile off Keelung (Taiwan), following collision with Taiwanese container ship *Ever Linking* (24,802/1983). At the time, *Quatsino Sound* was on passage Port Hardy (Canada) - Keelung (Malaysia) with 27,400 tonnes of copper concentrates. The wreck and cargo have not been removed.

F3. COPPER YALE
(1990-1992) M Bulk Carrier

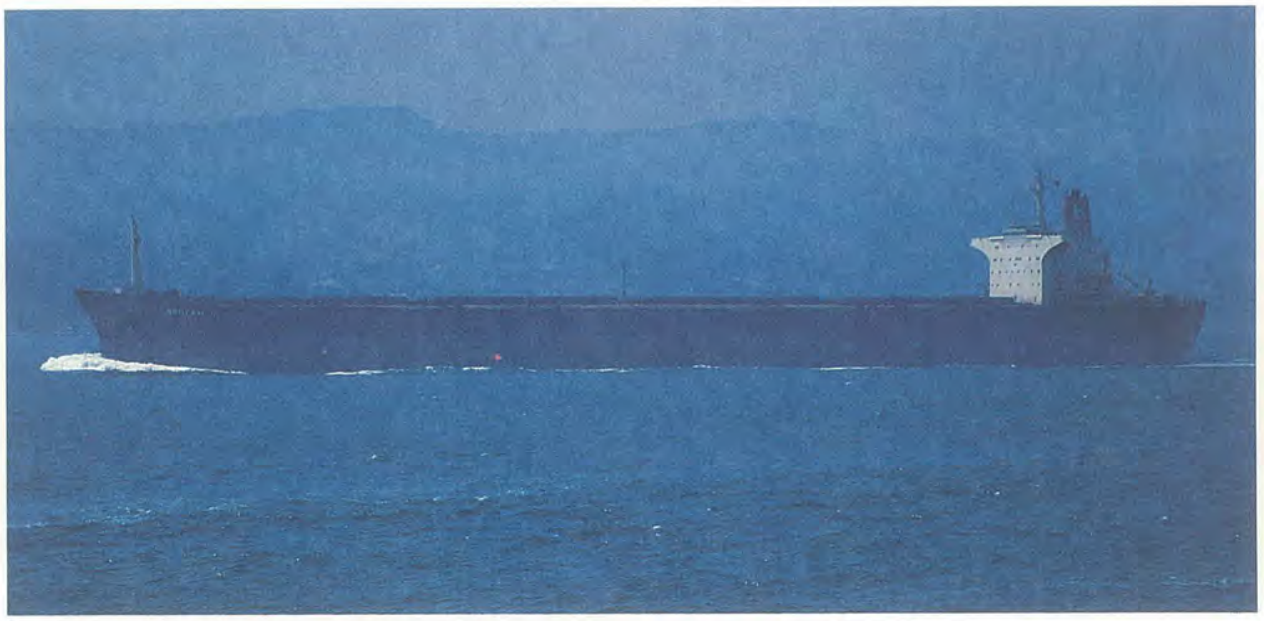
Official Number: 373249
Tonnages: 17,281 gross, 10,743 net, 28,317 deadweight.
Dimensions: Length 172.85 (incl. BB), breadth 25.46, draught 10.408 metres.
Machinery: Seven cylinder 2SA B&W oil engine, manufactured by Mitsui Engineering and Shipbuilding Co. Ltd., Tamano (Japan). 9,636 kW (13,100 bhp). **Speed:** 15.75 knots.
Other: 5 holds/5 hatches. Strengthened for heavy cargoes: Nos. 2 and 4 permitted to be empty. Five 15 tonne cranes.

History
August 1977: Completed by Sanoyasu Dockyard Co. Ltd., Osaka (Japan) (Yard No. 359) for Canadian Pacific (Bermuda) Ltd. Registered London, later Hong Kong.
1987: Taken on charter by BHP Transport USA Inc. to replace the sunken *Quatsino Sound* in the Canada-Japan copper concentrates trade.
1988: BCP Ship Management Ltd., managers.
1 October 1990: At conclusion of charter, purchase option exercised and vessel registered to BHP Transport USA Inc. Renamed *Copper Yale*, registered Panama (Andreas Ugland & Sons A/S, Grimstad [Norway], managers).
September 1992: Sold to Royal Swan Navigation Co. Ltd., Cyprus, and renamed *Master Panos*. Still in service.

F4. BROCKMAN
(1986-1989) M Ore Carrier

Official Number: 4882
Tonnages: 33,938 gross, 21,497 net, 116,342 deadweight.
Dimensions: Length 259.39 (incl. BB), breadth 39.68, draught 16.126 metres.
Machinery: Nine cylinder 2SA B&W oil engine, manufactured by Mitsui Zosen, Tamano (Japan). 17,307 kW (23,200 bhp). **Speed:** 15 knots.
Other: 4 holds/8 hatches. Gearless.

History
1974: Completed by Mitsui Zosen, Tamano (Yard No. 999) for Merchants & Miners Transport Inc. (50 per cent Newco Trading Corp. Inc./50 per cent Kawasaki Steel Corp.) (Sigurd Herlofsen & Co. A/S, Oslo [Sweden], managers).
1981: Managers became Fathom Management Corporation, Greenwich, (U.S.A.).
3 January 1986: BHP became 85 per cent owner of Newco Trading Corp.
1989: Vessel sold to Laurel Shipping Corporation, Monrovia (Kawasaki Kisen KK, Tokyo). Still in service.



***Brockman** in K Line colours.* *R. Hurcombe.*

F5. MAGANDANG ILOG
(1986-) M Bulk Carrier

Official Number: 228244
Tonnages: 93,000 gross, 55,397 net, 171,253 deadweight.
Dimensions: Length 290.03 (incl. BB), breadth 47.52, draught 17.525 metres.
Machinery: Six cylinder 2SA B&W oil engine, manufactured by Hitachi Zosen, Sakurajima Works, Osaka (Japan). 12,137 kW (16,500 bhp). **Speed:** 13.25 knots. Other: 9 holds/9 hatches. Gearless.

History
1985: Completed by Hitachi Zosen, Ariake Works, Nagasu (Japan) (Yard No. 4800) for Co-op Atlantic Corp., Manila (Philippines) (Kumiai Senpaku KK, Tokyo). Dual Philippine/Panamanian registry. Bareboat chartered to Merchants & Miners Transport Inc. (50 per cent Newco Trading Corp. Inc./50 per cent Kawasaki Steel Corp.) for 13 years, with purchase option.
1986: BHP shareholding in Newco became 85 per cent.
14 August 1990: Transferred to Panamanian registry. Andreas Ugland & Sons A/S, Grimstad (Norway), appointed managers. In the present fleet.

F6. MARRA MAMBA
(1986-) M Ore Carrier

Official Number: 5186
Tonnages: 33,938 gross, 21,497 net, 116,294 deadweight.
Dimensions: Length 259.49 (incl. BB), breadth 39.68, draught 16.104 metres.
Machinery: Nine cylinder 2SA B&W oil engine, manufactured by Mitsui Shipbuilding and Engineering Co. Ltd., Tamano (Japan). 17,065 kW (23,200 bhp). **Speed:** 15.5 knots.
Other: 4 holds/8 hatches. Gearless.

History
1975: Completed by Mitsui Shipbuilding & Engineering Co. Ltd., Tamano (Yard No. 1018) for Merchants & Miners Transport Inc., (50 per cent Newco Trading Corp./50 per cent Kawasaki Steel Corp.), Monrovia.
1986: BHP shareholding in Newco increased to 85 per cent.
1991: Andreas Ugland & Sons A/S, Grimstad (Norway), appointed managers. In the present fleet.

F7. PULANG LUPA
(1989-) M Bulk Carrier

Official Number: 19229-YJ
Tonnages: 77,332 gross, 47,534 net, 149,529 deadweight.
Dimensions: Length 270.03 (incl. BB), breadth 43.00, draught 17.320 metres.
Machinery: Five cylinder 2SA B&W oil engine, manufactured by Kawasaki Heavy Industries Ltd., Japan. 9,709 kW (13,199 bhp). **Speed:** 12.6 knots.
Other: 9 holds/9 hatches. Bow thruster.

History
June 1989: Completed by China Shipbuilding Corporation, Kaohsiung (China) (Yard No. 365) for I.M. Naviera SA (Nippon Marine Service Co. Ltd., Tokyo), Panama for bareboat charter (five years plus five years option) to Merchants & Miners Transport Inc. (50 per cent Newco Trading Corp. Inc./50 per cent Kawasaki Steel Corp.); Andreas Ugland & Sons A/S, Grimstad (Norway), managers. In the present fleet.



Marra Mamba. *R. Hurcombe.*



Magandang Ilog. *BHP Transport.*

Time-Chartered Vessels

The following vessels have been, or are time-chartered for operation by, BHP International Marine Transport Inc. (BHP-IMT) in breakbulk/liner services between the Pacific coast of North America and Australia, returning via New Zealand.

BHP-IMT is located in Oakland (U.S.A.).

T1. FRINTON
(1989-) M Bulk Carrier

Owners: Sea Topaz Maritime Corp., Greece (Pegasus Ocean Services Ltd., London).
Built: 1978 China Shipbuilding Corp., Kaohsiung (China).
Tonnages: 14,584 gross, 9,878 net, 26,614 deadweight.
Dimensions: Length 170.57 (incl. BB), breadth 24.81, draught 10.36 metres.
Other: 5 holds/5 hatches. 4 x 25 tonne cranes. 190 TEU.

History
20 November 1989: Charter commenced. In the present fleet.

T2. BARKALD
(1990-1992) M Bulk Carrier

Owners: K/S Barkald (Torvald Klaveness & Co. A/S), Norway
Built: 1984 Mitsubishi Heavy Industries Ltd, Nagasaki (Japan).
Tonnages: 19,353 gross, 9,314 net, 30,027 deadweight.
Dimensions: Length 170.01 (incl. BB), breadth 27.56, draught 19.016 metres.
Other: 6 holds/6 hatches. 3 x 25 tonne cranes. 514 TEU.

History
23 November 1989: Chartered from A/S Bulkhandling, Oslo (Norway), as *Wani Tiger* (Walter Nielsen, Drammen) as which she undertook the first IMTL sailing. Sold and renamed *Barkald.*
18 November 1991: Re-delivered.

T3: PACKING
(1990-) M Bulk Carrier

Owners: Trans-Pacific Shipping Co., Liberia (Lasco Shipping Co., Portland [U.S.A.]).
Built: 1983 Kanda Zosensho KK, Kawajiri (Japan).
Tonnages: 20,627 gross, 10,803 net, 32,234 deadweight.
Dimensions: Length 183.01 (incl. BB), breadth 27.67, draught 10.878 metres.
Other: 5 holds/5 hatches. 5 x 30 tonne cranes. 1,004 TEU.

History
13 January 1990: Charter commenced. In the present fleet.



Frinton. *D. E. Crisp.*



Barkald. *K. I. Barr.*



Packing. *K. I. Barr.*

T4. WANI LAKE
(1990-) M Bulk Carrier

Owners: General Mata Inc., Norway (Walter Nielsen, Drammen) (A/S Havtor Management, managers).
Built: 1985, Sumitomo Heavy Industries Ltd., Yokosuka (Japan).
Tonnages: 18,977 gross, 9,359 net, 29,446 deadweight.
Dimensions: Length 174.81 (incl. BB), breadth 27.54, draught 10.137 metres.
Other: 6 holds/6 hatches. 3 x 25 tonne cranes. 514 TEU.

History
27 January 1990: Chartered from A/S Bulkhandling, Oslo (Norway). In the present fleet.

T5. COMET
(1991-) M General Cargo

Owners: Tyndall Shipping Inc., Greece (Pegasus Ocean Services Ltd., London).
Built: 1978 Astilleros Espanoles SA, Seville (Spain).
Tonnages: 14,374 gross, 9,760 net, 24,300 deadweight.
Dimensions: Length 173.01 (incl. BB), breadth 22.86, draught 10.502 metres.
Other: 5 holds/5 'tweendecks/9 hatches. 1 x 135 tonne and 1 x 22 tonne derricks. 3 x 25 tonne cranes. 670 TEU.

History
22 January 1991: Charter commenced. In the present fleet.

T6. P.S.PALIOS
(1991-1992) M General Cargo

Owners: Solar System SA. Greece (Diana Shipping Services SA).
Built: 1977 Astilleros Espanoles S.A., Seville (Spain).
Tonnages: 14,413 gross, 9,821 net, 24,648 deadweight.
Dimensions: Length 173.01 (incl. BB), breadth 22.86, draught 10.502 metres.
Other: 5 holds/5 'tweendecks/9 hatches. 1 x 135 tonne and 1 x 22 tonne derricks. 3 x 25 tonne cranes. 670 TEU.

History
8 April 1991: Charter commenced.
15 January 1992: Re-delivered.

T7. ACRITAS
(1991-1992) M General Cargo

Owners: Bancrof Shipping Co., Bahamas (Pegasus Ocean Services Ltd., London).
Built: 1977, Astilleros Espanoles SA, Seville (Spain).
Tonnages: 14,374 gross, 9,686 net, 23,916 deadweight.
Dimensions: Length 173.01 (incl.BB), breadth 22.86, draught 10.502 metres.
Other: 5 holds/5 tweendecks/9 hatches. 1 x 135 tonne and 1 x 22 tonne derrick; 3 x 25 tonne cranes. 670 TEU.

History
21 April 1991: Charter commenced.
19 March 1992: Re-delivered.

T8. MERCHANT PRINCIPAL
(1992-) M General Cargo

Owners: Cenargo Navigation Ltd. Hong Kong (V Ships [U.K.] Ltd., managers).
Built: 1978 Lithgows Ltd., Port Glasgow (U.K.).
Tonnages: 9,015/14,124 gross, 5,529/8,753 net, 13,765/17,944 deadweight.
Dimensions: Length 165.15, breadth 22.97, draught 9.725 metres.
Other: 5 holds/5 'tweendecks/9 hatches. 1 x 100 tonne and 8 x 22 tonne derricks. 476 TEU.

History
20 November 1991: Charter commenced. In the present fleet.

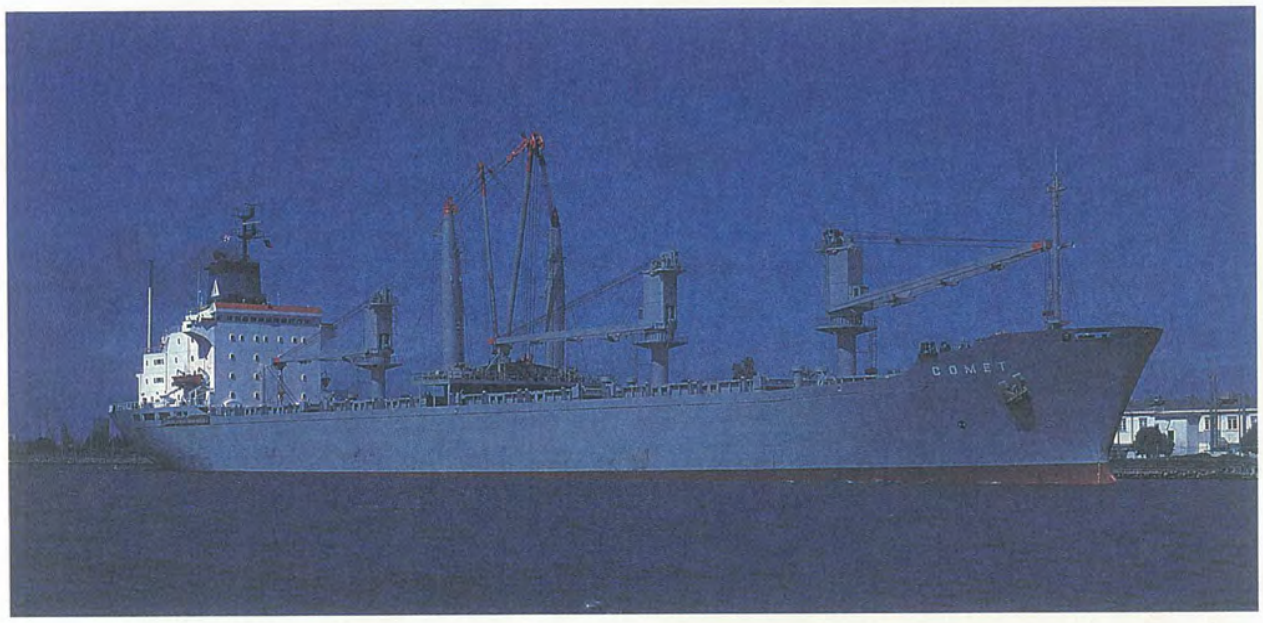
T9. MERCHANT PREMIER
(1992-) M General Cargo

Owners: Cenargo Ltd. Hong Kong (V Ships [U.K.] Ltd., managers).
Built: 1978 Lithgows Ltd., Port Glasgow (U.K.).
Tonnages: 14,275 gross, 7,971 net, 17,944 deadweight.
Dimensions: Length 163.15, breadth 22.97, draught 9.681 metres.
Other: 5 holds/5 'tweendecks/9 hatches. 1 x 100 tonne and 8 x 22 tonne derricks. 476 TEU.

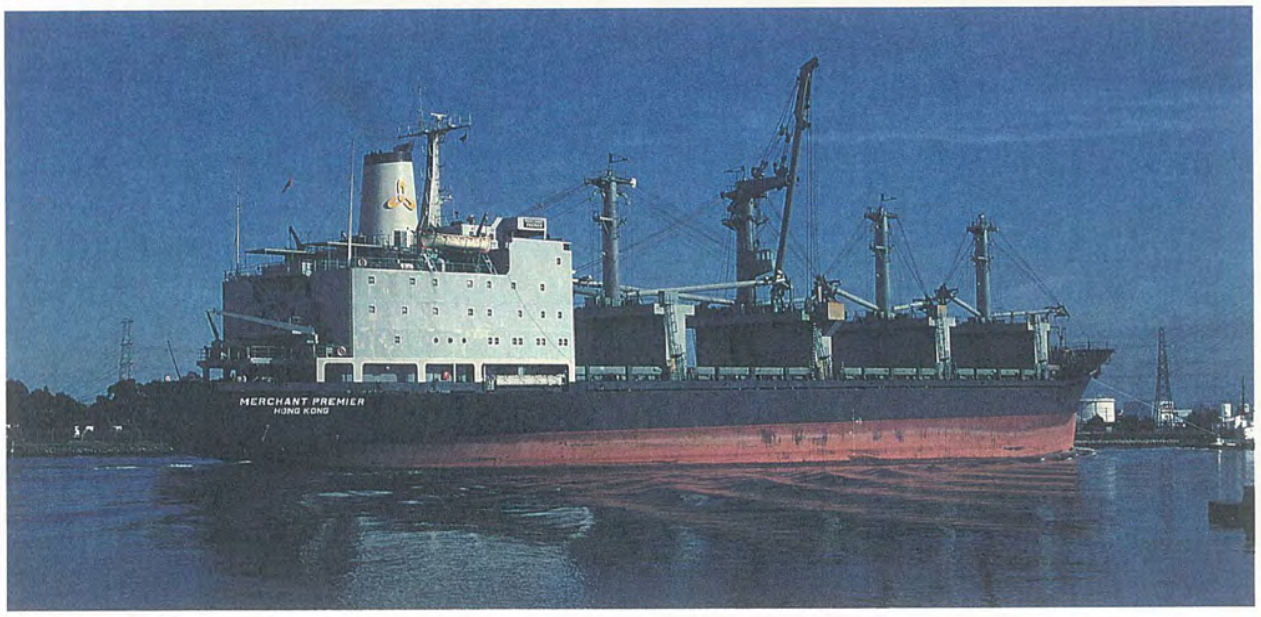
27 February 1992: Charter commenced. In the present fleet.



Wani Lake. K. I. Barr.



Comet. D. E. Crisp.



Merchant Premier. D. E. Crisp.

The following tankers operate on long-term charter to BHP Transport Limited and principally carry cargoes on behalf of BHP Petroleum, Pty. Ltd.

Nos. T1-T5 were originally chartered by, and remain chartered in the name of, Pacific Resources Inc. (PRI), Honolulu (U.S.A.) (acquired by BHP in 1989; PRI Marine was merged into BHP Transport in August 1990). No. T6 and T7 were chartered by BHP Transport.

T10. TAGASAN MARU/TAGASAN
(1989-) M CRUDE TANKER

Owners: Paramount Transport SA, Panama (Mitsui O.S.K. Lines Ltd., Tokyo [Japan]).
Built: 1980, Oshima Shipbuilding Co.Ltd., Oshima (Japan).
Tonnages: 54,986 gross, 32,941 net, 92,715 deadweight.
Dimensions: Length 242.98 (incl. BB), breadth 42.04 , draught 12.161 metres.

History
13 July 1987: As *Tagasan Maru* (Mitsui O.S.K. Lines Ltd., Tokyo) taken on period charter for eight years by PRI.
1989: PRI acquired by BHP.
1991: Sold to Paramount Transport SA, Panama (Mitsui O.S.K. Lines Ltd., managers) and renamed *Tagasan*. In the present fleet.

T11. VALIANT EXPRESS
(1989-) M PRODUCT TANKER

Owners: Petmona Shipping SA, Panama (Uyeno Chemical Unyu KK, Tokyo [Japan]) (Thome Ship Management Pte. Ltd., Singapore, managers). Operated by Mitsui O.S.K. Lines Ltd.
Built: 1988 by Minami-Nippon Zosen KK, Usuki (Japan).
Tonnages: 18,023 gross, 10,098 net, 29,998 deadweight.
Dimensions: Length 167.00 (incl. BB), breadth 27.42, draught 10.261 metres.

History
15 December 1988: Taken on period charter for four years by PRI.
1989: PRI acquired by BHP. In the present fleet.
November 1992: Expected to be re-delivered to owners

T12. UMM SAID
(1990-) M CRUDE TANKER

Owners: Arab Maritime Petroleum Transport Co., Qatar.
Built: 1990 Imabari Zosen, Marugame (Japan).
Tonnages: 52,594 gross, 28,137 net, 97,112 deadweight.
Dimensions: Length 246.84 (incl. BB), breadth 42.36, draught 13.419 metres.

History
28 March 1990: Taken on period charter of five years by PRI. In the present fleet.

T13. HAWAIIAN EXPRESS
(1990-) M PRODUCT TANKER

Owners: Asatank International SA, Panama (Thome Ship Management Pte. Ltd., Singapore, managers). Operated by Mitsui O.S.K. Lines Ltd.
Built: 1990 Minami-Nippon Zosen KK, Usuki (Japan).
Tonnages: 18,033 gross, 10,084 net, 29,998 deadweight.
Dimensions: Length 167.00 (incl. BB), breadth 27.42, draught 10.257 metres.

History
29 March 1990: Taken on period charter of four years by PRI. In the present fleet.

T14. SEAMASTER
(1990-) M CRUDE TANKER

Owners: Marion Shipping Ltd., Monrovia (Valles Steamship Co. Ltd., Hong Kong).
Built: 1990 Namura Shipbuilding Co. Ltd., Imari (Japan).
Tonnages: 54,961 gross, 29,940 net, 101,134 deadweight.
Dimensions: Length 241.78 (incl. BB), breadth 42.00, draught 14.224 metres.

History
14 June 1990: Taken on period charter of five years by PRI. In the present fleet.

T15. SEAFALCON
(1991-) M CRUDE TANKER

Owners: Transfuel Ltd. (Valles Steamship Co.Ltd.), Hong Kong.
Built: 1991 Koyo Dockyard Co. Ltd., Mihara (Japan).
Tonnages: 52,603 gross, 28,137 net, 97,114 deadweight.
Dimensions: Length 246.84 (incl. BB), breadth 42.03, draught 13.419 metres.



Valiant Express. *BHP Transport.*

History
22 March 1991: Taken on period charter of five years by BHP Transport Limited, Melbourne. In the present fleet.

T16. PACIFIC WAVE
(1992-) M CRUDE TANKER

Owners: Mitsui O.S.K. Lines Ltd., Tokyo (Japan).
Built: 1992 Nomura Shipbuilding Co. Ltd., Imari (Japan).
Tonnages: 96,099 deadweight.

Will join BHP fleet in October 1992 for a period of three years with an option of an additional two years.



Seafalcon. *BHP Transport.*



Umm Said. *BHP Transport.*

Miscellaneous Vessels

The following inshore vessels have been, or are currently in, service for BHP subsidiaries or associated companies. This list may not be comprehensive.

V1. BELYANDO

TM Tug

Built: 1977.

Tonnage: 360 GRT.

Owner: Tugs Pty. Ltd. (BHP subsidiary; holds vessel in trust for Central Queensland Coal Associates Joint Venture.)

Service: Hay Point (Qld.). Acquired with Utah International Inc., 1984. Management transferred from J. Fenwick & Co. Pty. Ltd. to BHP Transport Limited 1 August 1992.

V2. BROADSOUND

TM Tug

Built: 1977.

Tonnage: 360 GRT.

Owner: Tugs Pty. Ltd. (BHP subsidiary; holds vessel in trust for Central Queensland Coal Associates Joint Venture.)

Service: Hay Point (Qld.). Acquired with Utah International Inc., 1984. Management transferred from J. Fenwick & Co. Pty. Ltd. to BHP Transport Limited 1 August 1992.

V3. DAMPIER

Non-Powered Barge

Built: 1975.

Tonnage: 75 GRT.

Owner: Dampier Mining Co. Ltd.

Service: Used at Cockatoo Island, Yampi Sound (W.A.).



Larcom. *BHP Transport.*



Belyando. *D.W. Owen.*



Wickham. *I. Edwards.*

V4. KALIBAH

M TUG

Built: 1972.

Tonnage: 115 GRT.

Owner: Dampier Mining Co. Ltd. (Renamed BHP Minerals Ltd. 2 November 1981.)

Service: Yampi Sound (W.A.). Sold September 1986.

V5. KANIBAH

M TUG

Built: 1971.

Tonnage: 156 GRT.

Owner: Dampier Mining Co. Ltd.

Service: Yampi Sound (W.A.). Not listed since 1976.

V6. LARCOM

TM BUNKERING BARGE

Built: 1991.

Tonnage: 1,188 GRT.

Owner: BHP Petroleum Pty. Ltd. Crewed and operated by BHP Transport Limited.

Service: Gladstone (Qld.).

V7. MAKADA

TM TUG

Built: 1975.

Tonnage: 116 GRT.

Owner: Groote Eylandt Mining Co. Pty. Ltd.

Service: Groote Eylandt (N.T.).

V8. PANNAWONICA I

TM TUG

Built: 1991.

Tonnage: 453 GRT.

Owner: BHP Minerals Ltd. & Cliffs Robe River Iron Associates Pty. Ltd.

Service: Port Walcott (W.A.).

V9. ROEBOURNE

TM TUG

Built: 1972.

Tonnage: 313 GRT.

Owner: Dampier Mining Co. Ltd. (Renamed BHP Minerals Ltd. 2 November 1981) & Cliffs Robe River Iron Associates Pty. Ltd.

Service: Port Walcott (W.A.). Withdrawn August 1991 and December 1991 sold to Chilean buyers.

V10. LAMBERT

TM TUG

Built: 1991.

Tonnage: 453 GRT.

Owner: BHP Minerals Ltd. & Cliffs Robe River Iron Associates Pty. Ltd.

Service: Port Walcott (W.A.).

V11. TAKORA

M TUG

Built: 1968.

Tonnage: 35 GRT.

Owner: Dampier Mining Co. Ltd.

Service: Yampi Sound (W.A.). Present disposition unknown.

V12. TASMAN

M TUG

Built: 1968.

Tonnage: 47 GRT.

Owner: Groote Eylandt Mining Co. Pty. Ltd.

Service: Groote Eylandt (N.T.). Sold October 1989 for use in fishing industry.

V13. WICKHAM

TM TUG

Built: 1972.

Tonnage: 313 GRT.

Owner: Dampier Mining Co. Ltd. & Cliffs Robe River Iron Associates Pty. Ltd.

Service: Port Walcott (W.A.).

History:

27 January 1990: Stranded during Cyclone Tina; refloated by ROEBOURNE, declared constructive total loss and May 1991 reported scrapped.

V14. YAMPI LASS

WOODEN TM VESSEL

Built: 1912.

Tonnage: 33 GRT.

Owner: Australian Iron & Steel Ltd.

Service: Supply vessel at Yampi Sound (W.A.). Purchased 11 December 1940 from The Yampi Sound Mining Co. Ltd., Perth, for £1,500. May 1943 sold to Commonwealth of Australia for £2,250.

V15. YAMPI LASS II

M SUPPLY VESSEL

Built: 1945.

Tonnage: 105 GRT.

Owner: Australian Iron & Steel Ltd.

Service: Yampi Sound (W.A.).

V16. YIRIMBA

TM TUG

Built: 1989.

Tonnage: 190 GRT.

Owner: Groote Eylandt Mining Co. Pty. Ltd.

Service: Groote Eylandt (N.T.).

BHP Petroleum Floating Production, Storage and Offloading Facilities

Floating production, storage and offloading facilities (FPSO) are used to develop offshore fields when fixed platforms are unsuitable due to the size of the field, its distance to existing infrastructure and/or climate conditions.

BHP Petroleum has developed three offshore oil fields in northern Australia using FPSOs. Subject to all approvals being granted, a fourth FPSO will begin production in 1994.

P1. JABIRU VENTURE

History

1974: Completed by Howaldtswerke-Deutsche Werft, Kiel (Germany), as the steam turbine tanker *Baden* (73,926 GRT, 142,910 DWT) for Veba-Chemie AG (Veba-Chemie Poseidon Tankschiff GmbH) Hamburg.
1981: Owners became Veba-Oel AG, Hamburg.
1983: Owners became Independent Tanker Co. (Veba-Poseidon Schiffahrt GmbH) (Liberia).
1985: Purchased by BHP Petroleum Pty.Ltd.; registered Melbourne.
23 August 1985: Arrived at Yokohama (Japan) for conversion by Ishikawajima-Harima Heavy Industries to a FPSO; renamed *Jabiru Venture*.
12 May 1986: Re-delivered.
10 August 1986: Oil production commenced in the Timor Sea. Located approximately 600 kilometres west of Darwin (N.T.) and 300 kilometres from Kimberley coast of W.A.
22 September 1986: First shipment loaded by tanker *Neptune Leo* (96,531 DWT/1977).
18 May 1991: Arrived Singapore for refit at the Jurong Shipyard.
4 September 1991: Resumed production.

The conversion of the tanker *Baden* into the FPSO *Jabiru Venture* involved the installation of production facilities, the fitting of a cantilevered bow structure to connect to the riser buoy, the construction of a helipad (aft) and a flare tower, and conversion of the ship's boilers from fuel oil to gas-fired operation.

A production riser allows the FPSO to hold position and to ride easily into the wind. It may be disconnected if threatened by a cyclone. The vessel known as an FSPO, is held in position by a riser turret mooring system. The riser is connected via a three axis bearing arrangement to the vessel, thereby permitting the vessel to roll, pitch and yew independently of the riser motions. Fluid from the wells is transferred from the geostationary riser to the FPSO by a set of toroidal swivels. *Jabiru Venture* reached a peak production rate of approximately 58,000 barrels per day in 1990. Conventional tankers of 80,000-100,000 DWT moor astern of the FSPO to load crude oil (delivered through a floating hose system at a rate of approximately 21,400 barrels per hour) for shipment to domestic or international markets. Following the 1991 refit and modification, *Jabiru Venture* is expected to complete the remaining production from the Jabiru oil field (estimated at 10 years). BHP Petroleum is a 50 per cent shareholder in, and operator of, the Jabiru field.



***Jabiru Venture**, Timor Sea, Nov 1990.* BHP Petroleum.

P2. CHALLIS VENTURE

History

December 1987: Ordered as a non-propelled FPSO facility from Ishikawajima-Harima Heavy Industries, Chita (Japan).
30 March 1989: Launched, and 23 June 1989 named *Challis Venture* (60,000 GRT, 140,000 DWT); registered Melbourne as LR and 100 AT for the duration of the production life of the Challis field.
14 November 1989: Connected to production riser in Timor Sea, approximately 20 kilometres south-west of Jabiru Venture.
December 1989: Oil production commenced.

Due to the complex nature of the Challis/Cassini field, the *Challis Venture* was designed as a purpose-built, non-propelled and non-steerable FPSO. It is permanently connected to the production riser, via a 50-metre yoke, at the end of which is a triaxial swivel which allows the facility to roll, pitch and yew. The riser is connected to a gravity base on the seabed by a univeral joint, which allows for the riser pitch and roll.

Challis Venture reached a peak production rate of approximately 43,000 barrels per day in 1990. Shuttle tankers of 80,000 - 100,000 DWT capacity are loaded at the rate of approximately 31,500 barrels per hour.

BHP Petroleum is 50 per cent shareholder in, and operator of, the Challis/Cassini field.



***SkuaVenture**, Jan 1992. BHP Petroleum.*

P3. SKUA VENTURE

History

December 1974: Launched by Kawasaki Heavy Industries Ltd., Kobe (Japan), as the steam turbine tanker *Solfonn* (68,931 GRT, 131,663 DWT) for K/S Ankertank A/S & Co., (Sigval Bergesen), Stavanger (Norway).
13 December 1975: Completed; laid up. 1977: Sold to Armada Nacional del Uruguay (Uruguayan Government), for service with state petroleum monopoly ANCAP; renamed *Juan A. Lavelleja.* Entered commercial service with a naval crew; described as world's largest naval ship.
20 December 1980: Struck breakwater and grounded at Arzew (Algeria), in heavy weather.
17 February 1981: Refloated; repairs undertaken at La Ciotat (France).
1981: Owners restyled as Government of the Oriental Republic of Uruguay (Armada Nacional del Uruguay – Servicio de Buques Auxiliares) (SEBAX); renamed *Juan Antonio Lavelleja.*
February 1982: Repairs completed.
1984: Reverted *Juan A. Lavelleja.*
1988: Sold to Komi Shipping Co. Ltd. (Tsakos Shipping & Trading SA, managers), Piraeus (Greece) and renamed *Olympiad.*
May 1990: Purchased by BHP Petroleum Pty.Ltd. and registered to Objective Shipping Inc., Liberia; renamed *Lympia.*
December 1990: Arrived at Keppel Shipyard, Singapore, for conversion to a FPSO.
October 1991: Renamed *Skua Venture*; registered Melbourne.
November 1991: Re-delivered.
December 1991: Connected to production riser and 8 December 1991 oil production began.

Skua Venture is a disconnectable FPSO but incoporates a number of innovations. It is the only FPSO capable of manifolding six wells on a disconnectable production riser, and the only such facility with a natural gas liquids recovery plant on board.

The facility reached a production peak of 25,000 barrels per day in 1992. Oil is delivered via a floating hose to loading tankers at 22,000 barrels per hour.

BHP Petroleum is 43 per cent shareholder in, and operator of, the Skua field.

P4. NEWBUILDING

History

June 1992: Order placed with Samsung Shipbuilding and Heavy Industries Co. Ltd., South Korea, for 130,000 cubic metre, double-hulled FPSO.
March 1994: Production expected to begin (subject to all approvals being granted).

The new purpose-built disconnectable FPSO, similar in concept to the system employed in the Jabiru and Skua fields, will be used to develop the Griffin, Chinook and Scindian fields, located approximately 90 kilometres north-east of Exmouth (W.A.).

The Griffin FPSO and mooring/production riser will be configured to accept a total of nine wells, which are expected to produce at a peak rate of about 80,000 barrels per day. The system will be designed to accept at least four more wells if required. Griffin gas will be transported via pipeline for use onshore.

BHP Petroleum is 45 per cent shareholder in, and operator of, the Griffin field.

The Scott Fell Ships

The following vessels were owned by companies associated with William Scott Fell, whose close involvement with BHP began in January 1915 when W. Scott Fell & Co. Ltd. were appointed as the Company's shipping agents and assumed operational control of chartered ships. Subsequently Scott Fell co-owned and managed early BHP vessels, and employed many of his own ships in Company trades.

S1. IRON MONARCH
(1917-1937)

See No.1 in the main fleet list.

S2. IRON CHIEF (I)
(1922-1928) S General Cargo

Official Number: 1395944
Tonnages: 2,686 gross, 1,333 net.
Dimensions: Length 290, breadth 43, draught 21 ft.
Built: 1916 J. Priestman & Co., Sunderland.

History

August 1916: Completed as *Elmtree* for Tree S.S. Co. Ltd. (Howard Jones & King, managers), Cardiff (U.K.).
1918: Sold to Maindy Shipping Co. Ltd. (Jenkins, Richards & Evans Ltd., managers), Cardiff and renamed *Maindy Lodge.*
1921: Transferred to Sydney register.
1922: Purchased by Interstate Steamships Ltd. and renamed *Iron Chief.*
1 April 1928: Stranded on Mermaid Reef, off the north coast of New South Wales; beached about one mile south of Diamond Head and became a total loss.

S3. IRON AGE
(1923-1925) S General Cargo

Official Number: 137792
Tonnages: 3,687 gross, 2,312 net.
Dimensions: Length 364.8, breadth 51.5, draught 22.6 ft.
Built: 1915 Napier & Miller Ltd., Glasgow (U.K.).

History

1915: Completed as *Ardangorm* for Arden S.S. Co. Ltd. (Clark & Service, managers), Glasgow.
1916: Sold to Australian Commonwealth Shipping Board and renamed *Australport.*
1923: Purchased by Interstate Steamships Ltd. and renamed *Iron Age.*
1925: Sold to Livanos Bros. (N.G. Livanos, manager), Athens (Greece) and renamed *Eugenia.*
1933: Sold to J.C. and A.C. Hadjipateras, Chios and renamed *Aghios Nicolaos.*
1 October 1940: Shelled and sunk by submarine east of the Azores.

S4. IRON CROWN
(1923-1942) S General Cargo

Official Number: 151806
Tonnages: 3,353 gross, 1,922 net.
Dimensions: Length 331, breadth 47.9, draught 23.6 ft.
Built: 1922 Government Dockyard, Williamstown, Victoria.

History

July 1922: Completed as *Euroa* for Commonwealth Shipping Board.
1923: Sold to Interstate Steamships Ltd. and renamed *Iron Crown.*
1937: Company restyled to Interstate Steamships Pty. Ltd.
4 June 1942: Torpedoed and sunk by Japanese submarine *I.27* off Cape Howe, Victoria whilst on passage Whyalla to Port Kembla with iron ore. 38 of 43 crew lost.

S5. ECHUNGA
(1925-1957) S General Cargo

Official Number: 137227
Tonnages: 3,362 gross, 1,924 net.
Dimensions: Length 332.5, breadth 47.9, draught 23.5 ft.
Built: 1922 Walkers Ltd., Maryborough (Queensland).

History
March 1922: Completed as *Echunga* for Commonwealth Shipping Board.
1925: Purchased by Interstate Steamships Ltd.
1937: Company restyled Interstate Steamships Pty. Ltd.
1957: Sold to Panamanian Oriental S.S.Corp., Panama and renamed *Shona*.
11 February 1959: Arrived for demolition at Hong Kong breakers.

S6. IRON CHIEF (II)
(1930-1934) S General Cargo

Official Number: 161992
Tonnages: 4,560 gross, 2,677 net.
Dimensions: Length 370.3, breadth 52.9, draught 25.9 feet.
Built: 1930 William Doxford & Sons Ltd., Sunderland (U.K.).

History
June 1930: Completed as *Iron Chief* for Interstate Steamships Ltd.
1934: Sold to Essex Oak Ltd. London (Meldrum & Swinson, managers); name unchanged.
1935: Sold to Pool Shipping Co. Ltd. London (Sir R. Ropner & Co.Ltd., managers) and renamed *Stagpool*.
1940-1945: Served as water distilling ship for Royal Navy.
1950: Sold to Heron S.S. Co. Ltd., London (Tsavliris [Shipping] Ltd., managers) and renamed *Granny Suzanne*.
1954: Sold to Cia. de Nav. Costaricense 'San Juan' Ltda., (Costa Rica) and renamed *Carmen*.
1956: Transferred to Cia. de Nav. San Rocco SA, Costa Rica.
1958: Transferred to Panamanian flag.
13 June 1963: Sank after collision with the Turkish *Sadikzade*, eight miles east of the South Foreland whilst on passage from Takoradi to Burntisland. Two lives lost.

S7. ECHUNGA (II)
(1959-1961) S General Cargo

Official Number: 156018
Tonnages: 5,070 gross, 2,705 net.
Dimensions: Length 433, breadth 56.7, draught 23.9 ft.
Built: 1944 The Broken Hill Proprietary Co. Ltd., Whyalla.

History
September 1944: Completed as *River Derwent* for Commonwealth of Australia (Dept. of Fuel, Shipping & Transport, later Dept. of Shipping & Transport).
1957: Transferred to Australian Coastal Shipping Commission (Australian National Line).
1959: Purchased by Interstate Steamships Pty. Ltd. and renamed *Echunga*.
1961: Sold to Heilgers (Eastern) Ltd., Hong Kong and renamed *North Point*.
1 September 1962: Driven ashore at Hong Kong by typhoon; 20 September 1962 refloated but sold to breakers as not worth repairs.

S8. ELLAROO
(1959-1960) S General Cargo

Official Number: 145491
Tonnages: 4,747 gross, 2,799 net.
Dimensions: Length 364.5, breadth 52.8, draught 24.3 ft.
Built: 1921, J.L.Thompson & Sons Ltd., Sunderland (U.K.).

History
April 1921: Completed as *Aslaug Haaland* for John K. Haalands Rederi, Haugesund (Norway).
1922: Purchased by Melbourne Steamship Co. Ltd., Melbourne and renamed *Ellaroo*.
1959: Purchased by Scott Fell Shipping Pty. Ltd.; name unchanged.
1960: Sold to Hai Ann S.S. Co. Ltd., Hong Kong and broken up at Hong Kong.

WHYALLA SHIPYARD NEWBUILDING LIST

Whyalla Shipbuilding & Engineering Works, Whyalla, South Australia.

Particulars of all Vessels

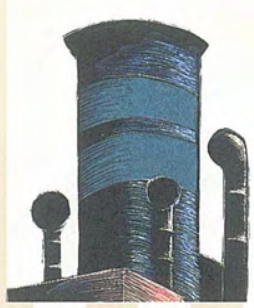
No.	Name	Type	Owner	Keel Laid	Launched	Launched By	Completed
1.	Iron Monarch	SS Ore Steamship	The Broken Hill Proprietary Company Limited	1 Jul 1941	8 Oct 1942	Mrs. Essington Lewis	12 Apr 1943
2.	Iron Duke	SS Ore Steamship	The Broken Hill Proprietary Company Limited	1 Aug 1941	3 May 1943	Lady Gowrie	1 Aug 1943
3.	River Glenelg	SS Shelter Deck Steamer	Australian Shipbuilding Board	27 Mar 1943	28 Oct 1943	Mrs. N.J.D. Makin	16 Mar 1944
4.	River Murchison	SS Shelter Deck Steamer	Australian Shipbuilding Board	1 Sep 1942	18 Sep 1944	Mrs. J.K. Jenson	8 Feb 1945
5.	River Derwent	SS Shelter Deck Steamer	Australian Shipbuilding Board	1 Nov 1942	27 Mar 1944	Mrs. N.K.S. Brodribb	7 Sep 1944
6.	River Murrumbidgee	SS Shelter Deck Steamer	Australian Shipbuilding Board	12 Jan 1944	27 Feb 1945	Mrs. A.S. McAlpine	10 Jul 1945
7.	River Murray	SS Shelter Deck Steamer	Australian Shipbuilding Board	1 Oct 1944	23 Aug 1945	Dame Enid Lyons	15 Nov 1945
8.	HMAS Whyalla	AS & MS Vessel	Royal Australian Navy	24 Jul 1940	12 May 1941	Lady Muriel Barclay Harvey	8 Jan 1942
9.	HMAS Kalgoorlie	AS & MS Vessel	Royal Australian Navy	25 Jul 1940	1 Aug 1941	Mrs. T. Playford	7 Apr 1942
10	Barrigun	SS Shelter Deck Steamer	Australian Shipbuilding Board	1 Apr 1946	19 Apr 1947	Mrs. A. Percival	24 Jul 1947
11	Balarr	SS Shelter Deck Steamer	Australian Shipbuilding Board	1 Sep 1946	14 May 1948	Mrs. A. Dalziel	30 Nov 1948
12	Balook	SS Shelter Deck Steamer	Australian Shipbuilding Board	1 Oct 1947	10 Dec 1949	Mrs. F.W. Radford	28 Apr 1950
13	Baroota	SS Shelter Deck Steamer	Australian Shipbuilding Board	1 Aug 1948	7 May 1951	Lady Gosse	1 Feb 1952
14.	Delamere	SS Steamship	Australian Shipbuilding Board	1 Jun 1945	2 Mar 1946	Mrs. E.H. Russell	15 May 1946
15	Dandenong	SS Steamship	Australian Shipbuilding Board	1 Jun 1945	5 Apr 1946	Mrs. L.G. Riches	20 Sep 1946
16	Daylesford	SS Steamship	Australian Shipbuilding Board	1 Sep 1945	27 Jul 1946	Mrs. P.E. McNeil	18 Dec 1946
17.	Iron Yampi	SS Shelter Deck Steamship	The Broken Hill Proprietary Company Limited	30 Nov 1945	1 Sep 1947	Mrs. L. Darling	11 Jun 1948
18	Iron Kimberley	SS Shelter Deck Steamship	The Broken Hill Proprietary Company Limited	4 Sep 1946	4 Apr 1949	Lady Norrie	29 Sep 1949
19.	Iron Derby	SS Shelter Deck Steamship	The Broken Hill Proprietary Company Limited	3 Oct 1949	11 Sep 1950	Mrs. C.V. Syme	17 Apr 1951
20.	Iron Whyndham	SS Shelter Deck Steamship	The Broken Hill Proprietary Company Limited	18 Nov 1950	24 Apr 1952	Mrs. N. Jones	27 Feb 1953
21.	Iron Whyalla	SS Shelter Deck Steamship	The Broken Hill Proprietary Company Limited	15 Mar 1951	31 Mar 1953	Mrs. Essington Lewis	8 Jun 1954
22.	Iron Spencer	SS Shelter Deck Steamship	The Broken Hill Proprietary Company Limited	Jun 1952	3 May 1956	Mrs. L. Darling	26 Feb 1957
23.	Iron Flinders	SS Ore Carrier	The Broken Hill Proprietary Company Limited	Oct 1957	29 Jan 1959	Mrs. I. McLennan	13 Aug 1959
24.	Iron Dampier	SS Ore Carrier	The Broken Hill Proprietary Company Limited	Sep 1959	22 Oct 1960	Mrs. M.A. Cuming	14 Jun 1961
25.	HMAS Gawler	AS & MS Vessel	Royal Australian Navy	15 May 1941	4 Oct 1941	Lady Duncan	14 Aug 1942
26.	HMAS Pirie	AS & MS Vessel	Royal Australian Navy	10 Aug 1941	3 Dec 1941	Mrs. R.T. Kleeman	10 Oct 1942
27.	Yanderra	SS Raised Quarter Deck	Australian Shipbuilding Board	Apr 1953	23 Jan 1954	Miss D. Weymouth	2 Dec 1954
28.	Yarrunga	SS Raised Quarter Deck	Australian Shipbuilding Board	Feb 1953	2 Oct 1954	Mrs. G. McLeay	5 May 1955
29.	Lake Eyre	SS Raised Quarter Deck	Australian Shipbuilding Board	23 Feb 1954	8 Oct 1955	Lady Slim	14 Jun 1956
30.	Lake Torrens	SS Raised Quarter Deck	Australian Shipbuilding Board	Oct 1955	19 Mar 1957	Lady George	26 Sep 1957
31.	Lake Illawarra	SS Raised Quarter Deck	Australian Shipbuilding Board	Jun 1956	28 Sep 1957	Mrs. F.J. Mercovich	28 Mar 1958
32.	Lake MacQuarie	MV Raised Quarter Deck	Australian Shipbuilding Board	Mar 1957	9 Apr 1958	Lady McBride	24 Sep 1958
33.	Mount Keira	MV Ore Carrier	Australian Shipbuilding Board	May 1958	4 Aug 1959	Mrs. A.G. Thomson	25 May 1960

No.	Name	Type	Owner	Keel Laid	Launched	Launched By	Completed
34.	Mount Kembla	MV Ore Carrier	Australian Shipbuilding Board	Dec 1958	29 Mar 1960	Viscountess Dunrossil	29 Nov 1960
35.	P.J. Adams	SS Tanker	AMPOL Petroleum Limited	26 Apr 1960	10 Jan 1962	Dame Pattie Menzies	29 Oct 1962
36.	Wollongong	MV Bulk Carrier	Bulkships Limited	Aug 1960	27 Jun 1961	Mrs. T. Webb	3 May 1962
37.	Mittagong	MV Bulk Carrier	Bulkships Limited	Aug 1961	3 Nov 1962	Lady Potter	9 Apr 1963
38.	Musgrave Range	MV Bulk Carrier	Australian National Line	28 Feb 1962	9 Jun 1964	Dr. Ruth Birrell	6 Nov 1964
39.	Gerringong	MV Bulk Carrier	Bulkships Limited	2 Dec 1963	19 Jan 1965	Lady Hawker	18 Jun 1965
40.	Seaway Queen	MV Ferry	Union Steamships Company of New Zealand	31 Dec 1962	19 Nov 1963	Mrs. Reece	29 May 1964
41.	Seaway King	MV Ferry	Union Steamships Company of New Zealand	5 Mar 1963	16 Jan 1964	Mrs. Waugh	10 Aug 1964
42.	Darling River	SS Bulk Carrier	Australian National Line	12 Aug 1964	14 Dec 1965	Mrs. Holt	25 May 1966
43.	Bogong	SS Bulk Carrier	Bulkships Limited	20 Dec 1965	23 Aug 1966	Mrs. McMahon	4 Jan 1967
44.	Iron Hunter	SS Bulk Carrier	The Broken Hill Proprietary Company Limited	25 Aug 1966	29 Jun 1968	Mrs. Law-Smith	24 Oct 1968
45.	Yarra River	SS Bulk Carrier	Australian National Line	21 Jun 1969	10 Jan 1970	Mrs. D. Bell	24 Apr 1970
46.	Cellana	MV Tanker	Shell Australia Limited	1 Sep 1967	29 Apr 1968	Lady Casey	19 Aug 1968
47.	Ocean Digger	Oil Drilling Barge	Ocean Drilling and Exploration Co. (Australia Ltd.)	12 Oct 1966	8 Jul 1967	Mrs. Holt	16 Sep 1967
48.	Kanimbla	MV Container	Bulkships Limited	8 May 1968	26 Oct 1968	Mrs. E.R.Griffin	10 Mar 1969
49.	Mandora	MV Container	Bulkships Limited	26 Oct 1968	4 May 1969	Mrs. H.H. Lloyd	13 Aug 1969
50.	Clutha Oceanic	SS Bulk Carrier	Hastings Shipping Company Pty. Ltd.	23 Jul 1968	17 Jun 1969	Mrs. J. McEwen	15 Oct 1969
51.	Amanda Miller	MV Tanker	Miller Line	15 Jan 1970	25 Feb 1971	Miss Amanda Miller	31 Aug 1971
52.	Mobil Australis	MV Tanker	Mobil Oil Australia Limited	2 Jul 1970	7 Oct 1971	Mrs. A.H. Massard	2 Feb 1972
53.	Clutha Capricorn	SS Bulk Carrier	Clutha Development Pty. Ltd.	10 May 1971	12 May 1972	Mrs. McMahon	25 Oct 1972
54.	W.M. Leonard	MV Tanker	AMPOL Petroleum Limited	13 Jan 1972	29 Sep 1972	Miss Leonie Leonard	28 Apr 1973
55.	Iron Monarch	G.T.V. Ro-Ro Vessel	The Broken Hill Proprietary Company Limited	20 Jun 1972	19 Feb 1973	Mrs. W.D. McPherson	12 Sep 1973
56.	Iron Duke	G.T.V. Ro-Ro Vessel	The Broken Hill Proprietary Company Limited	24 Oct 1972	31 Jul 1973	Mrs. J.C. McNeil	5 Mar 1974
57.	Arthur Phillip	MV Tanker	Botany Bay Tanker Company	2 May 1973	9 Mar 1974	Lady Delacombe	30 Sep 1974
58.	Seaway Prince	G.T.V. Unit Load Carrier	Union Steamship Company of New Zealand	24 Dec 1973	21 Sep 1974	Lady Abeles	23 Jun 1975
59.	Zincmaster	MV Ro-Ro Bulk Carrier	Bulkships Limited	5 Jun 1974	18 Feb 1975	Lady Cohen	11 Aug 1975
60.	Union Rotorua	G.T.V. Ro-Ro Container & Cargo	Union Steamship Company of New Zealand	24 Feb 1975	16 Jan 1976	Lady Smythe	6 Oct 1976
61.	Union Rotoiti	G.T.V. Ro-Ro Container & Cargo	Union Steamship Company of New Zealand	19 Sep 1975	12 Nov 1976	Mrs. McPherson	22 Jun 1977
62.	Seaway Princess	G.T.V. Unit Load Carrier	Union Steamship Company of New Zealand	30 Sep 1974	9 Sep 1975	Mrs. R.W. Henry	6 Feb 1976
63.	Iron Carpentaria	G.T.V. Bulk Carrier	The Broken Hill Proprietary Company Limited	16 Dec 1975	17 Jun 1977	Mrs. J.S. Balderstone	15 Dec 1977
64.	Iron Curtis	G.T.V. Bulk Carrier	The Broken Hill Proprietary Company Limited	2 Dec 1975	27 Jan 1978	Mrs. W.W. Sweetland	18 Aug 1978
65.	John Sainsbury	Seilprop Dump Hopper Barge	Department of Marine & Harbours - Adelaide	13 Jan 1978	12 May 1978		30 Jun 1978
66.	Denis O'Malley	Seilprop Dump Hopper Barge	Department of Marine & Harbours - Adelaide	23 Jan 1978	25 May 1978		14 Jul 1978

THE IRON SHIPS
FLEET TIMELINE

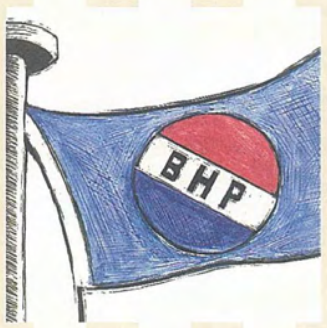
1917 1918 1919 1920 1921 1922 1923 1924 1925 1926 1927 1928 1929 1930 1931 1932 1933 1934 1935 1936 1937 1938 1939 1940 1941 1942 1943 1944 1945 1946 1947 1948 1949 1950 1951 1952 1953 1954 1955

Iron Monarch (I)
Iron Baron (I)
Iron Prince (I)
Iron Knob
Iron Master
Iron Prince (II)
Iron Warrior (I)
Iron Baron (II)
Iron King
Iron Knight (I)
Iron Chieftain (I)
Iron Monarch (II)
Iron Duke (I)
Iron Yampi
Iron Kimberley
Iron Derby
Iron Wyndham
Iron Whyalla (I)
Iron Knight (I

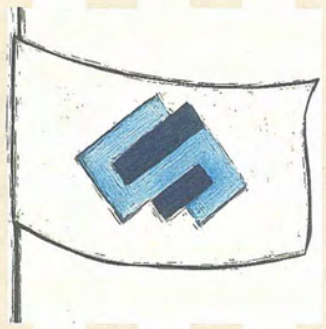












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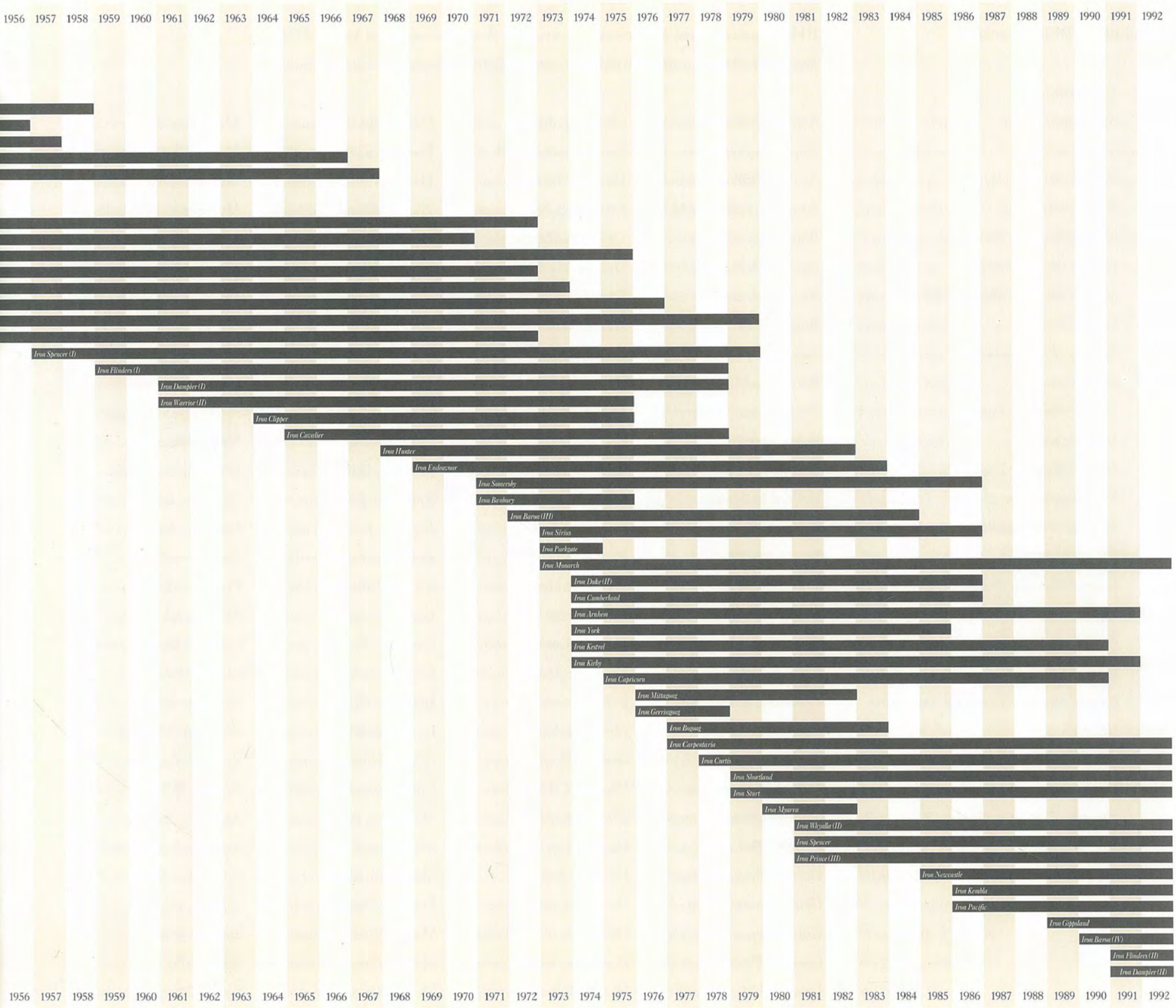

1956 1957 1958 1959 1960 1961 1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992
Iron Spencer (I)
Iron Flinders (I)
Iron Dampier (I)
Iron Warrior (II)
Iron Clipper
Iron Cavalier
Iron Hunter
Iron Endeavour
Iron Somersby
Iron Bunbury
Iron Baron (III)
Iron Sirius
Iron Parkgate
Iron Monarch
Iron Duke (II)
Iron Cumberland
Iron Arnhem
Iron York
Iron Kestrel
Iron Kirby
Iron Capricorn
Iron Mittagong
Iron Gerringong
Iron Bogong
Iron Carpentaria
Iron Curtis
Iron Shortland
Iron Sturt
Iron Myarra
Iron Whyalla (II)
Iron Spencer
Iron Prince (III)
Iron Newcastle
Iron Kembla
Iron Pacific
Iron Gippsland
Iron Barron (IV)
Iron Flinders (II)
Iron Dampier (II)
1956 1957 1958 1959 1960 1961 1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992

CHIEF EXECUTIVES/ MASTERS/CHIEF ENGINEERS

Chief Executives: BHP Transport

1921-1944	J.R. Barter
	Shipping Manager
1944-1958	T.R. Longney
	General Shipping Manager
1958-1968	W.W. Sweetland
	General Shipping Manager
	General Manager Shipping
	General Manager Shipping & Engineering
1969-1980	J. McGeachie
	Manager Fleet Operations
1975-1978	D.M. Rice
	General Manager Transport
1978-1982	R.G. Hawke
	General Manager Transport
1981-1991	R.H. Stephenson
	Manager Fleet Operations
1982-1987	J.B. Prescott
	General Manager Transport
1987-1989	P.J. Laver
	General Manager Transport
1989-1991	R.J. McNeilly
	General Manager Transport
1991-1992	J.E. Lewis
	General Manager Transport
1991-	J.V. Paine
	Manager Fleet Operations
1992-	L.E. Hockridge
	Group General Manager BHP Transport

BHP Masters: Past & Present

Record maintenance prior 1950 is by personal recollection only.

Aitken, William
Angelatos, Denis
Attrill, William James
Bannatyne, Archibald
Bannatyne, Gregory
Baxter, Arthur
Beevers, Geoffrey
Begg, Hugh
Bell, John
Berntsen, Michael
Bezkorovany, Andre
Bolas, Derrick
Bolitho , William
Bollen, Josephus
Bower, William
Brady, Phillip
Brown, Percy
Buck, Robert
Cain, Peter
Campbell, John
Caldwell, John
Cannon, Harold Keith
Cole, Matthew
Chapman, Alan Guy
Charlesworth, Gregory
Charter, Ronald
Chipperfield, Chester
Clark, Charles Scott
Cole, M.
Corbett, Rene
Cordia, Pieter
Cotton, James
Cuthbertson, Cecil
Dawson, Graham
Dawson, Leonard
Delaney, Steven
Doodie, Frank
Duffin, Laurence
Dunn, Peter
Dunn, Roger
Dwyer, Colin
Easton, Paul
Ekblom, Anders
Elith, Grahame
Ellis, Huw
Flanagan, William
Foord, John
Fraser, Roderick
Fraser, John
French, Eustace
Ford, Reginald
Fyfe, James
Gardiner, David
Gilbert, David
Glasspool, David
Gray, Quentin
Haddersley, Lionel
Haining, Alan
Hall, Richard
Halley, W.
Hallmark, Robert
Halsall, Peter
Hammond, John
Harman, David
Harris, Thomas
Hart, Edward
Herbert, Godfrey
Hodson, Stanley
Hoffman, Peter
Hollis, Leslie
Hughes, Edwin
Hunsley-Smith, Eric
Hunter, Steven
Ivine, George
Johnson, William
Johnston, John
Joy, B.
Kelly , Keith
Kinsella, Desmond
Lang, George
Lanham, Brett
Lewis, Patrick
Lloyd, William
Long, David
Lynch, Richard
Lemarquand, Peter
MacLeod, Ian
MacLeod, John
Mann, Jonathan
Mantle, Allan John
Martin, Giles
Martin, Gregory
Martin, Roger
McGregor, Gavin
McIntosh, Gordon
McKenzie, A.
McKenzie, John
McRuvie, Andrew
Merckx, Richard
Miles, John
Moffat, Mervin
Moore, Charles peter
Monfries, Roger
Monfries, Stephen
Nicholson, Scott
O'Leary, Phillip,
O'Reilly, Boyd
Osborne, Ian
Oxley, Neale
Packman, Leslie
Paine, John
Palmer-Givan, Lionel
Parkin, Wayne
Partridge, Allan
Rainbird, Michael
Ramsay, David
Robbie, William
Roberts, Cecil
Roberts, Edward
Ross, Donald
Sicklen, Roger
Sinclair, John
Slater, Alby
Smith, George Chadwick

BHP Chief Engineers: Past & Present

Record maintenance prior to 1950 is by personal recollection only.

Steverson, Iain
Taplin, George
Tayler, John
Tellick, Fred
Thomas, Anthony
Thomas de Maune, Michael
Titchmarsh, George
Trail, Andrew
Van Andel, Arie
Vaughan, George
Walstab, Geoffrey
Wellington, David
Werner, Karl
White, Charles
Whyte, C.
Wilkie, Robert
Williams, John
Wood, Douglas
Woodruff, George
Worner, Murray
Wright, Ian
Wright, Alan
Wright, Phillip
Wyatt, Frank
Wyatt, H.
Whyte, C.

Adamson, Reginald
Adema, Anton
Allan, Clifford
Amble, David
Anderson, Garth
Anson, Edward
Appelton, John
Binkin, Kenneth
Blanch, Peter
Boyden, Keith,
Bradley, Phillip
Bradhsaw, Terry
Breaden, Rex
Brennan, Raymond
Brown, Darrel
Callen, Desmond
Campbell, David
Carey, Barry
Carr, Noel
Catterall, Donald
Chambers, Robert (Snr.)
Chambers, Robert
Christie, Randall
Cliff, Herbert
Clark, Cyril
Collinson, Kevin
Collinson, Raymond
Cressy, Richard
Crosher, Henry
Cross, Kenneth
Cusack, Ronald

Day, Harold
Dewar, John
Dickson, Malcolm
Domensino, Benito
Dudgeon, Graeme
Dunn, Richard
Eckersley, Geoffrey
Elloy, John
Farrel, Kenneth
Gorlick, Ross
Green, Michael
Hamment, Kenneth
Hartley, Athol
Hepworth, Dudley
Higgs, Maurice
Hill, Stanley
Hosie, Peter
Hudson, Robert
Huby, Richard
Hynd, Allan
Jackson, Kenneth
Jansen, Spencer
Jones, Colin
Jones, Darryl B.
Jones, Darryl H.
Jordan, Brian
Kay, Dennis
Kittel, Dean
Kittel, Graham
Klass, Vince
Knott, Donald

Lawrance, Ralph
Leask, George
Lockhart, Ronald
Lovett, Allen
Marco, John
McCouat, Robert
McGeachie, James
McIntosh, Charles
McKay, Bruce
McLagan, James
Murphy, Dennis
Murray, John
Murray, Robert
Nicholson, Keith
Nicol, Leslie
Noake, Philip
Noble, John
Noon, James
Nugent, Robert
Ormandy, William
Owen, David Wayne
Owens, John
Perry, Samuel
Reinschmidt, Ronald
Ryan, Patrick
Robjohns, John
Ross, Kenneth
Russel, Clement
Sanders, Emmanuel
Scottdobbie, David
Shearman, Noel

Shilliday, William
Sinclair, James
Smith, Hugh
Spence, Peter
Stabb, Ronald
Stepa, Leon
Stephenson, James
Stewart, James
Strange, Max
Suckling, Robert
Swiney, Bruce
Taylor, Herbert
Taylor, Ronald
Thompson, Melville
Thomson, David
Thornton, Leon
Todman, Ian
Topham, Francis
Turner, Darrel
Van-Huisstede, Alexander
Wakeham, Jeffrey
Walsh, Bruce
Ward, William Bruce
Watkins, Ronald
Waugh, Neville
Webster, James
West, Gregory
Westwood, Thomas
Williams, Milton
Williams, Ronald

Williamson, Jack
Willis, Leslie
Winter, Gregory
Wilson, David
Wilson, Neville

THE CURRENT FLEET

As at 30th September, 1992

AUSTRALIAN-FLAG FLEET

Iron Baron
Iron Carpentaria
Iron Curtis
Iron Dampier
Iron Flinders
Iron Gippsland
Iron Kembla
Iron Monarch
Iron Newcastle
Iron Pacific
Iron Prince
Iron Shortland
Iron Spencer
Iron Sturt
Iron Whyalla
Larcom

MANAGED VESSELS – AUSTRALIAN MANNED

Island Gas
Northwest Sanderling
Northwest Snipe
Seakap

INTERNATIONAL FLEET

Copper Yale
Elgin
Magandang Ilog
Marra Mamba
Pulang Lupa

LONG-TERM TIME CHARTERED VESSELS

North American Liner Trade

Comet
Frinton
Merchant Premier
Merchant Principal

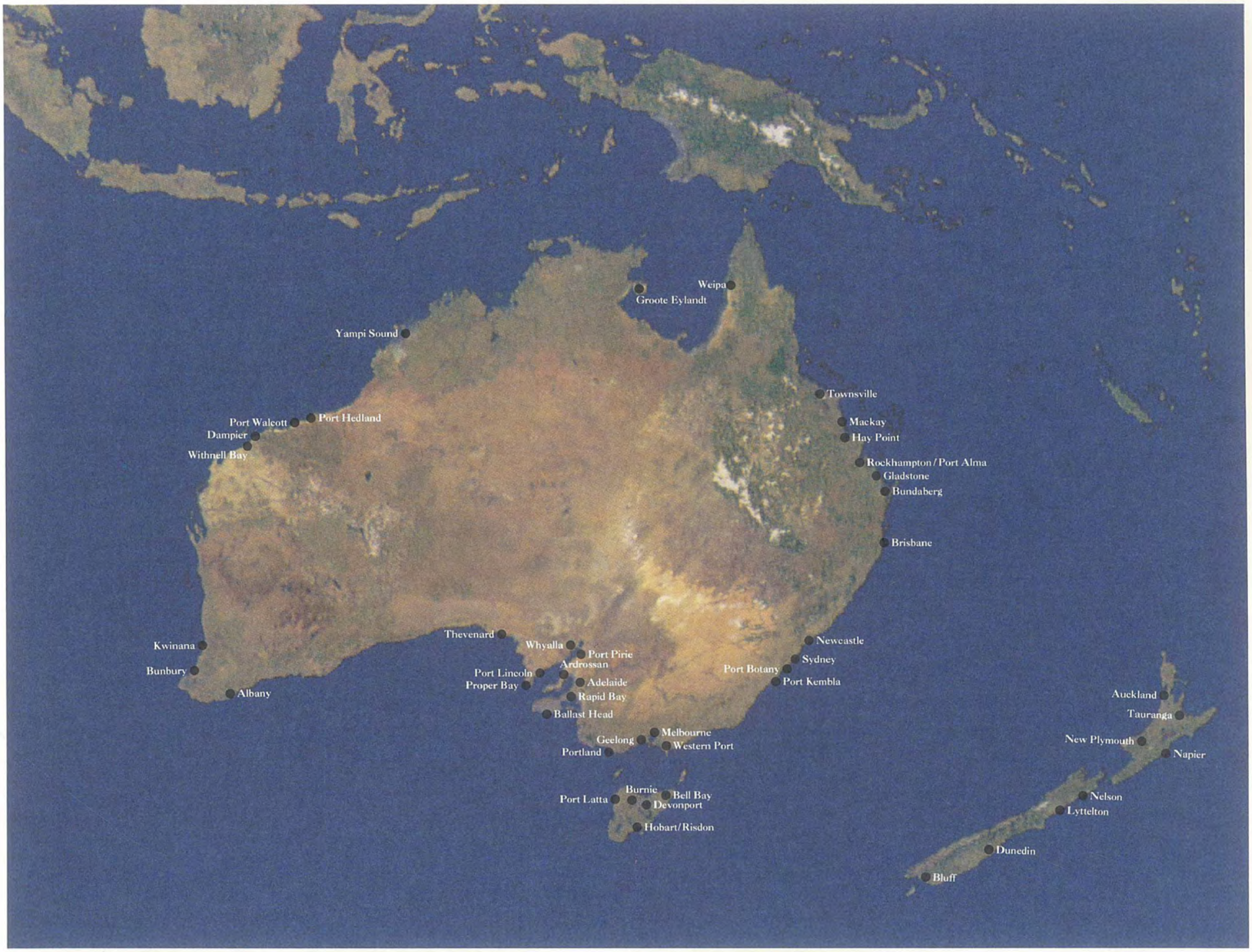
Dry Cargo

Agamemnon
Arabella
Lake Spanker

Crude Oil & Petroleum Products

Hawaiian Express
Seafalcon
Seamaster
Tagasan
Umm Said
Valiant Express

AUSTRALASIAN PORTS VISITED BY BHP TRANSPORT VESSELS



FOOTNOTES

Abbreviations

BHPA BHP Archives, Melbourne
NAA Nautical Association of Australia
SUA Seamen's Union of Australia

Chapter 1

1. Trengove, Alan, *'What's Good for Australia...!' The Story of BHP*, Cassell Australia Ltd, 1975, pp. 6-7
2. ibid., p. 10
3. BHPA A14/7: Dividends paid by BHP, 1886-1892
4. BHPA S1/3: Minutes of Meetings of Directors, BHP, 21 February 1888, p. 98;
   ibid., 8 May 1888, p. 152
5. Page, Michael F., *Fitted For the Voyage - The Adelaide Steamship Company Limited 1875-1975*, Rigby Ltd., Adelaide, 1975, p. 98
6. BHPA M8/13: Agreement between BHP and Peninsular & Oriental Steam Navigation Co and Orient Steam Navigation Co, 16 July 1889
7. BHPA PE30/15: Report of Eighty Sixth Ordinary General Meeting, 26 August 1938, p. 5

Chapter 2

1. BHPA PE30/7: Directors' Report to Shareholders for Half Year ending 31 May 1900, p. 12
2. BHPA M8/92: GD Delprat to Chairman of Directors, BHP, 29 June 1912, p. 3
3. Hughes, Helen, *The Australian Iron and Steel Industry 1848-1962*, Melbourne University Press, 1964, p. 61
4. Garran, A., *Australia - The First 100 Years*, Summit, 1978, p. 21
5. ibid., p. 100
6. BHPA PE32/6: "Newcastle Shipping Activities - Past and Present", *BHP Recreation Review*, IX/1, December 1931, p. 3

Chapter 3

1. BHPA M8/66: Agreement between BHP and W Scott Fell & Co, 10 February 1914
2. BHPA S1/23: Minutes of Meetings of Directors, BHP, 7 August 1917, p. 441;
   BHPA A39/2: List of coastal freight rates for BHP products on Scott Fell & Co. steamers, 15 May 1917
3. BHPA PE30/10: Report of Fifty Fifth Half Yearly Ordinary General Meeting, 28 February 1913
4. *Newcastle Morning Herald*, 15 January 1915, p. 5
5. BHPA S1/23: Minutes of Meetings of Directors, BHP, 7 August 1917, p. 442
6. BHPA M8/112: Correspondence solicitors Moule, Hamilton & Kiddle to Secretary, BHP, 13 August 1917
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