ENVIRONMENTAL ASSESSMENT

Mayfield Site Port-Related Activities Concept Plan

Volume 5 - Appendix I - M

July 2010

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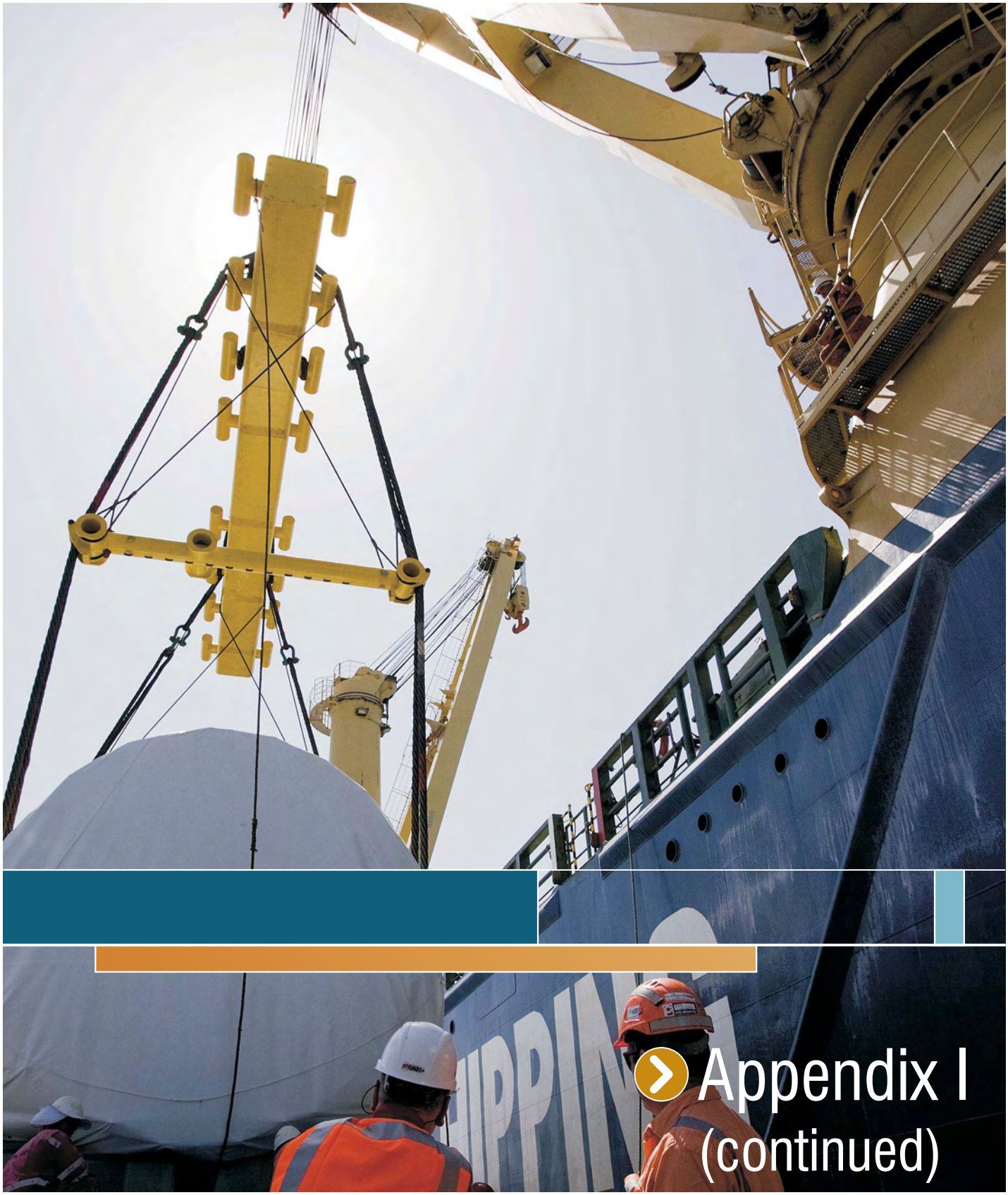
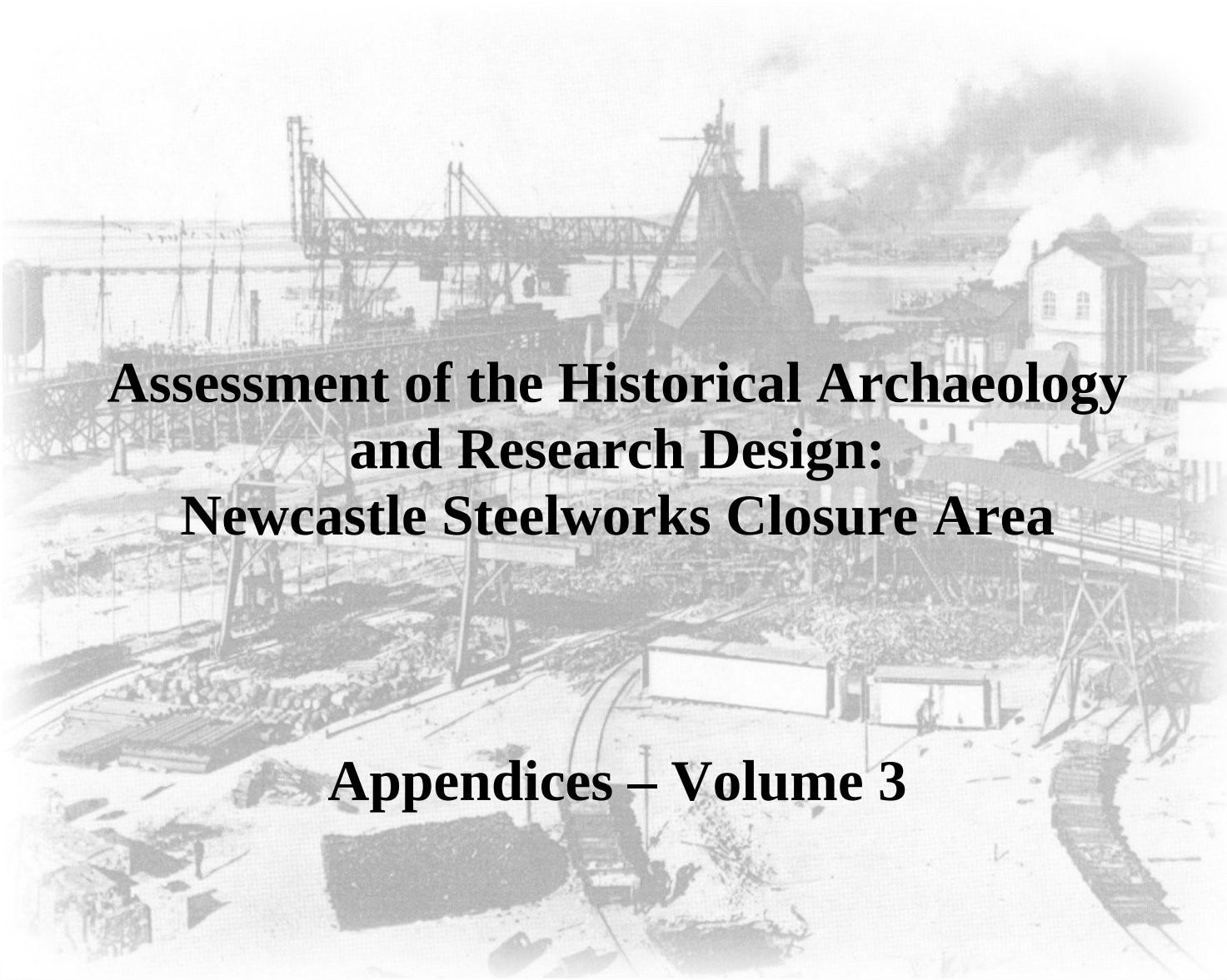


Appendix I (continued)

Archaeology Reports and Management Action Plan

Regional Land Management Corporation



Assessment of the Historical Archaeology and Research Design: Newcastle Steelworks Closure Area

Appendices – Volume 3

May 2005

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Umwelt
Environmental Consultants

APPENDICES – VOLUME 3

Cover Plate: *View of the BHP Steelworks in 1917.*

APPENDIX 9

Copy Archival Record and Statement of Heritage Impact, Original Timber Wharves

STATEMENT OF HERITAGE IMPACT

PROPOSED DEMOLITION OF THE ORIGINAL TIMBER WHARVES

Figure 0.1 Timber Wharves looking East. The salt water Pump House is the last building to the left of the picture.
Source Author. Digital TW 22- 29/03/00

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CONTENTS

1.0 THE PROPOSAL

Major changes have occurred in Newcastle and the Hunter Region over the past 20 years. The downsizing and eventual decision to close BHP steel making operations and the rationalisation of the coal industry are a reflection of these changes. The BHP steel making site is strategically placed, not only on a local and regional level, but on a State and National level. It has been proposed that the existing site be redeveloped as a major Multi Purpose Terminal servicing the east coast of Australia. The area to be developed as the Multi Purpose Terminal, would require the demolition of all above ground structures located within this area (see Appendices for location plan) to enable remediation of the land and redevelopment of the site. Development of the remainder of the site at a later stage for industrial / commercial purposes is also proposed. The buildings proposed for demolition are:

1. No. 1 Blast Furnace
2. No. 1 Blower House
3. Open Hearth Building
5. No. 1 Bloom & Rail Mill
6. Steel Foundry
10. DC Sub Station
11. Wharves
14. No. 3 Blast Furnace
15. AC Pump House
16. Power House
19. Open Hearth Change House
20. Mould Conditioning Building
21. BOS Plant
23. No. 4 Blast Furnace

2.0 THE CONTEXT OF THE PROPOSAL

2.1 Physical Context

The wharves are located at the north eastern sector of BHP's Port Waratah works. The Original Timber Wharves form the northern boundary of the steelworks adjacent to the Hunter River. They are located immediately north-east of the site of the No. 3 Blast Furnace.

2.2 Statutory Context

The Wharves are identified within the group identification forming Part B of Schedule 4 (Port Waratah – BHP Steelworks and Office) of "The Hunters Heritage" – Hunter Regional Environmental Plan 1989. It is identified individually within Schedule 4 of The Newcastle Local Environmental Plan 1987 as being an item of State – level heritage significance. (This ascribed level of significance is consistent with the level of significance determined in the Port Waratah Steelworks Conservation Plan prepared by EJE Architecture in 1991). The item does not fall within a Conservation Area and is not included on the State Heritage Register. Under the EP and A Act, if an item is of State level heritage significance. Consent Authority is required to obtain the consent and concurrence of the Department of Urban Affairs and Planning to any major intervention into the item. Under the Integrated Approvals Amendment Act 1998, "Integrated development" is development (not being complying development) that, in order for it to be carried out, requires development consent and approval under other, listed environmental legislation (s 91 (1)). The "other listed environmental legislation" includes the Heritage Act 1977. Under the new legislation, (in Section 91a):

(2) Before granting development consent to an application for consent to carry out the development, the consent authority must, in accordance with the regulations, obtain from each relevant approval body the general terms of any approval proposed to be granted by the approval body in relation to the development. Nothing in this section requires the consent authority to obtain the general terms of any

such approval if the consent authority determines to refuse to grant development consent. A Consent granted by the consent authority must be consistent with the general terms of any approval proposed to be granted by the approval body in relation to the development and of which the consent authority is informed. For the purposes of this Part, the consent authority is taken to have power under this Act to impose any condition that the approval body could impose as a condition of its approval.

(3) A consent granted by the consent authority must be consistent with the general terms of any approval proposed to be granted by the approval body in relation to the development and of which the consent authority is informed. For the purposes of this Part, the consent authority is taken to have power under this Act to impose any condition that the approval body could impose as a condition that the approval body could impose as a condition of its approval.

3.0 HISTORICAL REVIEW

One of the first requirements for the construction of the BHP Newcastle Steelworks, was a landing facility for heavy plant and equipment which had been ordered from overseas, with delivery to be achieved from the Hunter River. The proposed wharf was required for the delivery of raw materials and the shipment of finished products.

As early as October 1912, plans for the Wharves were completed and in November the New South Wales Government was dredging the Hunter River channel to an average depth of 25 feet at low water. Sand from the dredging was used as land fill providing new areas of reclaimed land – behind a rock and slag embankment.

On December 20, 1913 the 11,000 ton "Anglo Egyptian" arrived at the new pier and discharged 2300 tons of construction materials for the blast furnace No. 1. On January 19, 1915 the "Emerald Wings" berthed with the first cargo of Iron Ore from Whyalla.

The first section of the Original Wharf structure was 600 feet long and supported on turpentine piles. Two subsequent extensions were made, the first completed in November of 1916 and the second in November 1917, bringing the total length of the wharf to 1300 feet. In 1925 the ore wharf was extended a further 225 feet and a section of the wharf under the ore bridges was double reinforced and concreted.

In 1928, following the discovery of a number of broken, damaged or overstressed piles, single piles were replaced by 22 pairs of piles. Further repairs were undertaken in 1936 along the rail lines and to the wharf face. Approximately 17 headstocks were renewed and structural timbers were replaced with 40 long, 14" x 12" steel "I" beams, 23 in total.

The erection of No. 2 Ore Bridge in 1937 necessitated the strengthening of No. 2 Berth at the southern end replacing headstocks and installing steel girders beneath the railway. Other repairs to No. 3 Berth were carried out at the same time. Six months later, it was reported that timber beneath No. 1 Berth was in poor condition and replacement with a steel superstructure was undertaken, as were areas of No. 2 Berth and No. 3 Berth. Faulty decking was also replaced as was timber on the wharf face.

During the next year major wharf maintenance continued with 49 piles replaced throughout the full length of the wharf. The teredo worm is particularly virulent in Newcastle Harbour where timber piles are generally destroyed at water level in less than thirty years.

The Original Wharf and berthing facilities satisfied all unloading requirements until the 1950's despite the growth of steel production. From the late 1950's ore bulk carriers began to grow in size and draft, which required dredging to 35 feet below low water. This in turn affected the design of the wharf piles. Finally, after many modifications, new piles were driven to bear on sandstone which required piles from 45 to 65 feet in length.

Piles under the new ore pier consisted of a 30 inch diameter steel caisson of half inch thickness. Prefabricated reinforcing cages were lowered into the caisson and then it was filled with 3.000 psi concrete. Very little, if anything of the original structure remains.

4.0 SUMMARY CONDITION ASSESSMENT

As a result of the almost continual maintenance, structural upgrading and production-driven design modifications, none of the Original Wharf elements are visible, if any exist at all. Some of the existing single Bollards along the wharf edge are of a similar form and scale to original items shown on design drawings. Hence, it is possible that they are remnants from the original wharf structure.

The condition of each of the subject structures is fully described in written and photographic form in the Archival Record document produced to accompany this Statement of Heritage Impact.

5.0 ASSESSMENT OF SIGNIFICANCE

The Original Timber Wharves have been assessed (1991 Port Waratah Steelworks Construction Plan) as having STATE level Heritage Significance within the context of the development of the Steelworks. Detailed investigation beneath the existing deck has not been possible, but any remnant structure will be of the level of significance previously ascribed.

The following detailed Assessment of Significance has been undertaken to reflect current NSW Heritage Act, Heritage Amendment Act and Burra Charter requirements.

Historic Significance

Although very little, if any, of the original timber construction remains, these early wharves are a reminder of the importance of the harbour in David Baker's decision to build the steelworks at Newcastle. As the site where raw materials were unloaded and, before the construction of the product wharves, where finished product left the works, the wharves played an essential role in the overall functioning of the steelworks. Structure from subsequent period remains interpretable.

The Original Timber Wharves and subsequent wharf structures not only represent the first element in the construction and later development of the Newcastle Steelworks but, if elements still exist, also form an important element which traces the development and growth of shipping into Newcastle from 1913 to the present.

Further, because of the importance of the wharves in the receipt of raw materials and despatch of finished products over the life of the Newcastle Steelworks, they illustrate a continually developing support element to the manufacture of iron and steel and thus the continuity of industrial processes of highest-level Significance. Although earliest fabric has been concealed or lost, subsequent wharf fabric elements remain and remain capable of interpreting the evolution of the structure over at least the last three quarters of a century. If still existing, remnant earliest wharf structure will have STATE-level HISTORIC significance for these reasons.

Aesthetic Significance

The wharves are not associated with particular technical innovation or achievement and are not aesthetically distinctive. For this reason they do not have Aesthetic Significance.

Social Significance

Any remnants of the Original Timber Wharves are associated with the development of iron and steel making on the Newcastle steelworks site. If existing they are integral with the identification of the steelworks site and, with the remainder of the site, are held in high esteem by generations of the BHP and wider, community. As such they have LOCAL SOCIAL Significance.

Technical Significance

Archival information and photographs illustrate the growth of the Original Timber Wharf as an important benchmark in the development of Newcastle as a port. If any elements still exist, they will have high-level potential to reveal historical/archaeological information of value to the region.

Any remnant of early Wharf structure is a regionally significant benchmark site of its type, demonstrating quick – response, relatively simple technology. While to the old structure is no longer in evidence and the more recent structure does not contain evidence of unique technology, any original evidence will nevertheless be of regional uniqueness and thus of LOCAL Technical Significance. Overall the item has STATE heritage significance.

6.0 OPTIONS FOR PHYSICAL INTERVENTION

The Conservation Plan BHP Port Waratah Site Addendum 1999 described the following options:

"After closure of steel making, the 27 items of heritage significance identified in the Newcastle LEP 1987 (as well as all other heritage items identified in this Conservation Plan), will remain in situ until:

a) the item becomes unsafe and/or uneconomic to maintain; or
b) the item is to be removed to facilitate remediation of the site; or
c) the item is sold; or
d) the item is to be removed to facilitate the proposed redevelopment

Where "Front End" items are to be demolished they should, where easily transportable and relocatable, be relocated, to a low impact, operating environment within the overall Steelworks site. Components/elements of existing structures/buildings should be similarly relocated or preferably, be relocated to either the proposed Interpretation Centre or, (if that is not appropriate), to the proposed State Industrial Archaeological Repository, both being within the existing Steelworks site. Items capable of continuing to provide service within a steel-making operation, should be relocated to Port Kembla Steelworks or other iron and steel making operation elsewhere in Australia or the world. Where buildings/structures of higher level significance are demolished and removed, interpretation of the building form at ground level is required (Burra Charter and NSW Heritage Act – As Amended).

This item is to be removed to facilitate this proposal. Therefore in accordance with Burra Charter and NSW Heritage Office requirements, recording and interpretation must be undertaken.

It would be preferable for the building to remain. However, this proposition is considered untenable given:

a) If any evidence of the Original Timber Wharf remains, it cannot be re-used. However, its removal is not required. (see below).

b) Remediation of this area of the site is required. The remediation proposal involves capping the proposed Multi Purpose Terminal site with a monolithic concrete slab. This slab will be laid at a level well above any surviving Wharf fabric.

c) The item (or any of its surviving components) is unsaleable in its present form.

Off-site (i.e. not in-site) interpretation, will only be undertaken at last resort and will involve samples of highest-level fabric/fittings/equipment.

Possible re-use or interpretation items include:

Any remnants including original Ballard's.

As part of the overall interpretation strategy it is proposed to identify the location of the original timber wharves using a coloured glass bead trafficable applied surface to the MPT wharf pavement.

7.0 THE HERITAGE IMPACTOF THE PROPOSAL

This item is substantiated as having STATE level significance. Removal of any surviving original Wharf elements to enable development of the Multi Purpose Terminal will impact on the significance of the item. The closure of operations at the Newcastle Steelworks impacted on the interpretation of the processes of iron and steel making removal of the item would change the interpretation of the processes and the significance of the item.

This impact will be ameliorated by fully recording the item in accordance with the NSW Heritage Council Guidelines and retaining any surviving structure, which will then be capped. The individual site will be interpreted using pavement treatment that can identify the extent of the item and accommodate the operation of the Terminal. The processes associated with the item will be further interpreted on the main site at Port Waratah via the Delprat Interpretive Centre and supplemented by selected items being deposited in the proposed State Archaeological Repository. However, the physical site will remain and its location will be identified through interpretive design within the pavement of the Multi Purpose Terminal.

8.0 APPENDICES:

Appendix 8.1 Site Development Masterplan – showing area of proposed Multi Purpose Terminal in yellow

Appendix 8.2: Site Development Master Plan – showing identified Heritage items.

Appendix 8.3: Conceptual Paving Patter to existing Heritage items.

ARCHIVAL RECORD

WATERFRONT PRECINCT HERITAGE BUILDINGS, MAIN SITE BHP PORT WARATAH STEELWORKS, NEWCASTLE

WHARVES

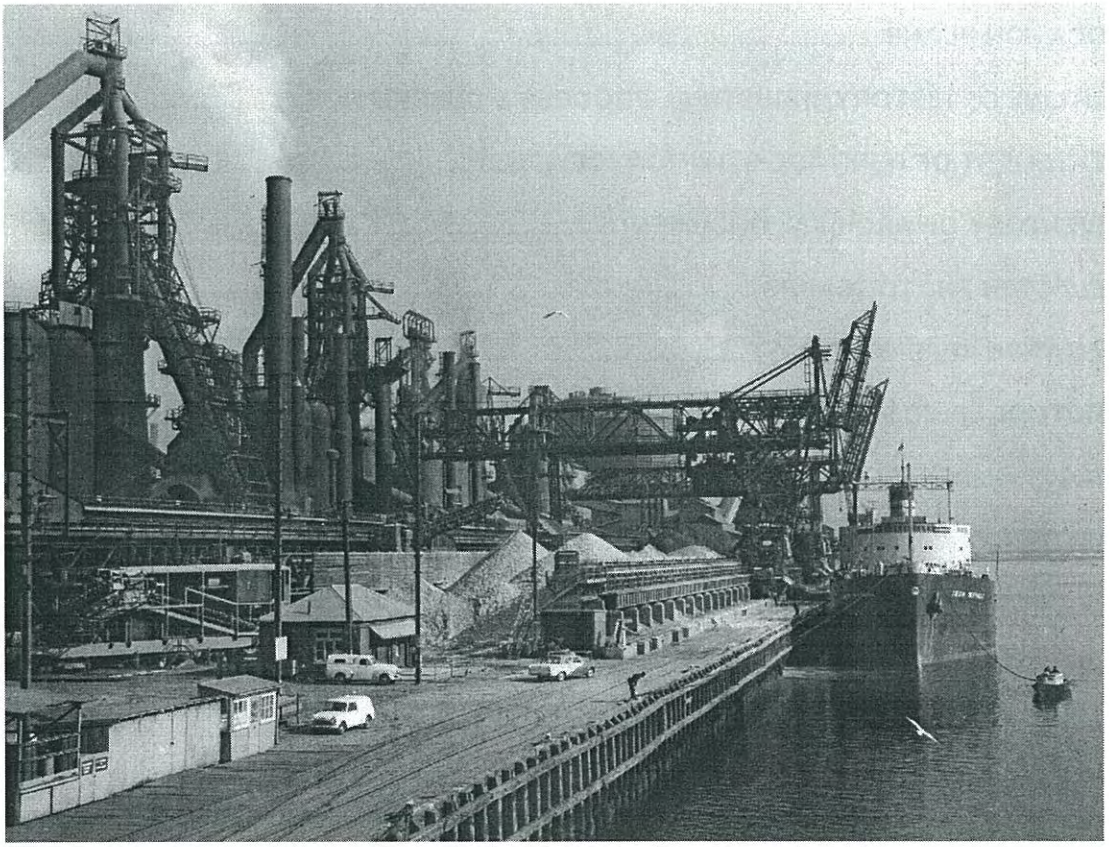

Figure 0.1 BHP Ore Carrier "Iron Wyalla" docked at the Ore berths with Timber Wharf in foreground. (c. 1965)
Source: BHP Archives. ref: 396/65 57

Prepared by:

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September 2000
Our Ref: 3882-04-rec-010

TABLE OF CONTENTS

1.0 INTRODUCTION

1.1 Background to the project

Major changes have occurred in Newcastle and the Hunter region over the past 20 years. The downsizing and eventual decision to close BHP steel making operations and the rationalisation of the coal industry are a reflection of these changes. The BHP steel making site is strategically placed, not only on a local and regional level, but also on a State and National level. It has been proposed that the existing site be redeveloped as a major Container Handling Terminal servicing the east coast of Australia. The area to be developed as the Container Handling Terminal would require the demolition of all above ground structures located within this area to enable remediation of the land and redevelopment of the site. Development of the remainder of the site at a later stage for industrial /commercial purposes is also proposed.

In light of the above, EJE Architecture has been commissioned to prepare detailed archival records of the buildings proposed to be demolished that are considered to have heritage value. These records involve documenting the relevant buildings and items they contain as well as the industrial processes that took place within them. Designed to help ascertain the heritage significance of the buildings and associated processes, these archival records also form a statement for the future interpretation of this now redundant part of Newcastle's industrial culture.

The following document constitutes the Archival Record of the wharves - an item classified as having a 'State level of heritage significance'

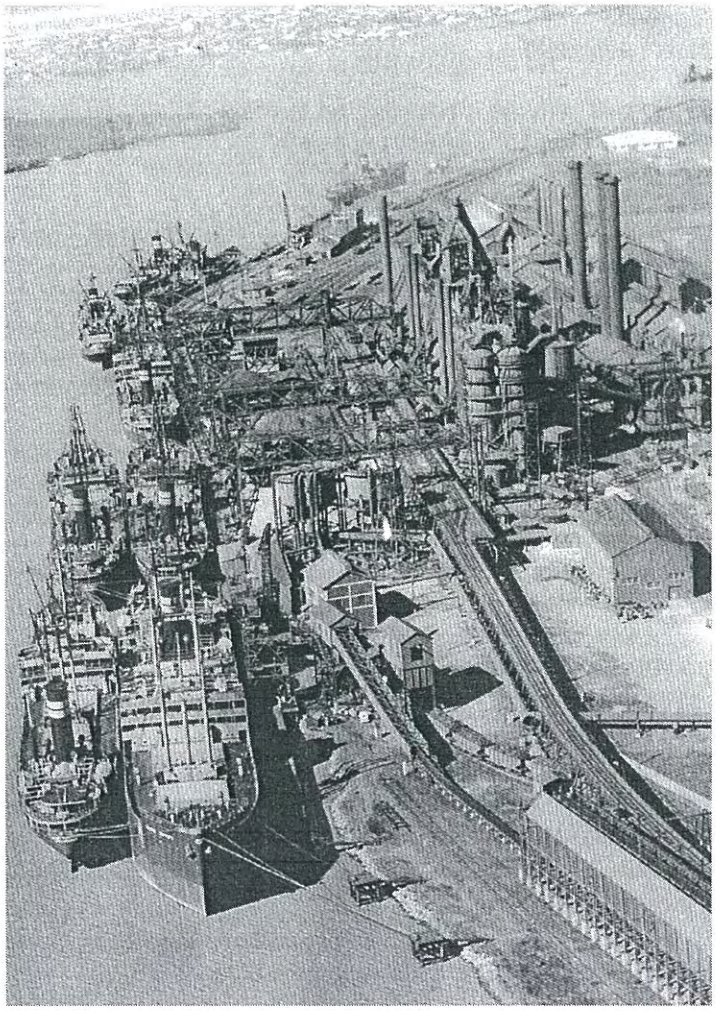


Figure 1.1 Aerial view from the west of BHP wharf, 1949
Source: Jay (1999: 171) BHPA – N3040/15

1.2 Archival Recording Methodology

The approach taken in recording these heritage items and the document format is based on heritage consultant input and current NSW Heritage Office's guidelines including those relating to the preparation of archival records and their photographic recording.

A number of important aspects have been identified in the statement of heritage significance included in the report whose recording was necessary to reflect the item's character and value described. Hence it is this statement that drives the rationale for the report and determines the relevance of information collected. Derived from three main elements - buildings (structure and fabric), the individual items they housed and the processes that took place within them - these aspects are elaborated on in a number of different ways, which reflect their respective social, technical and aesthetic qualities.

As a way of dealing with the items various facets of heritage value, the report is broken into 3 main components:

-Written descriptions (history, process and heritage statement),
-Pictorial descriptions (photographs and working drawings)
-Inventories and other supporting information

Together these components create a comprehensive account of the chronological development of both the buildings and the industrial technologies held within them that have invariably changed throughout their lives. At times the components are incorporated into each other to provide a more coherent and illuminating description. All material is cross-referenced to each other and referenced to archival registers and source publications.

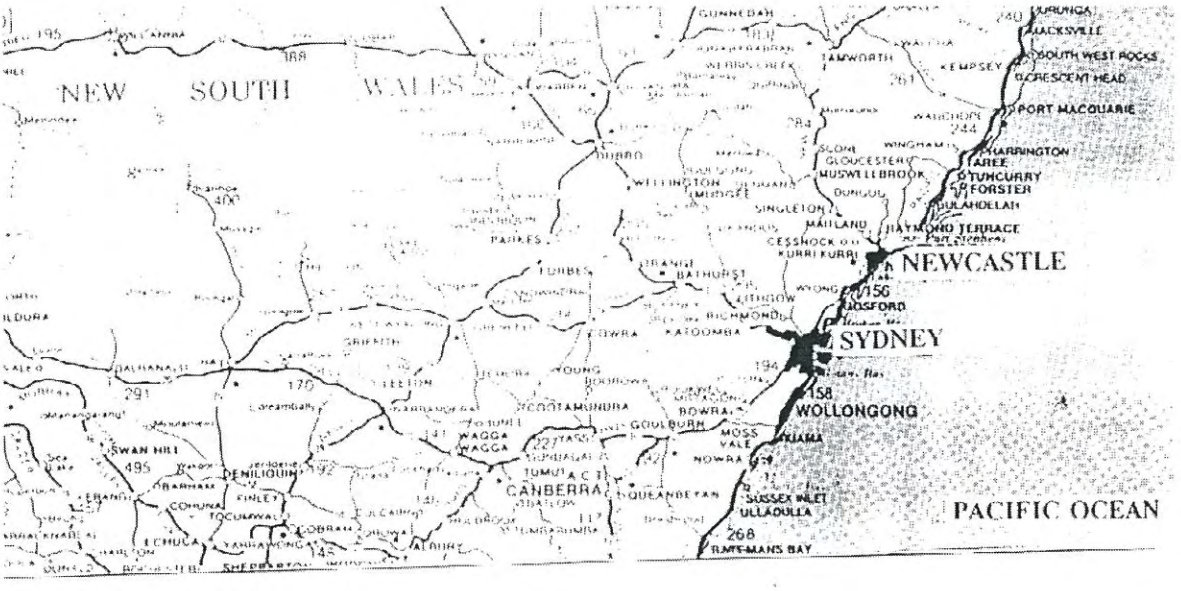
The written descriptions provide a background to the building and the functions that it housed and incorporate relevant photographs. As an essential part of the written component, a statement on the item's heritage significance details why the item is valued.

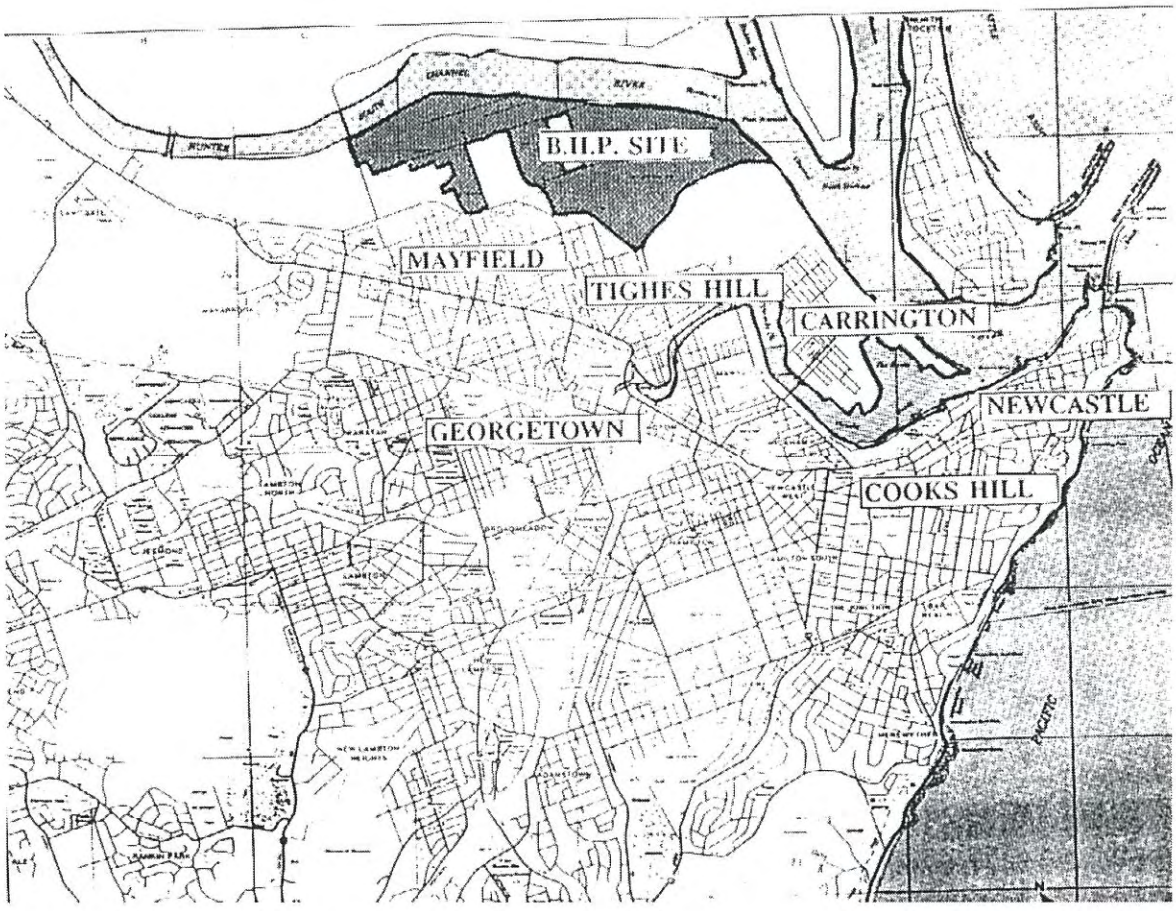
The bulk of the information in this report comes from the pictorial descriptions. Comprising of both historic and contemporary photographs, an account of the building fabric, the various industrial processes contained and the changes that have taken place through time is made. In addition, a selection of original working drawings provide a detailed picture of the construction techniques, structure and fabric details and offer substantial dimensions and measurements, making largely redundant any requirement for contemporary measured drawings or scaled photographs.

Supporting both the written and pictorial information is a series of inventories and tables which provide details of equipment contained within the building, cross referenced descriptions of photographs and shot locations, and bibliographical information.

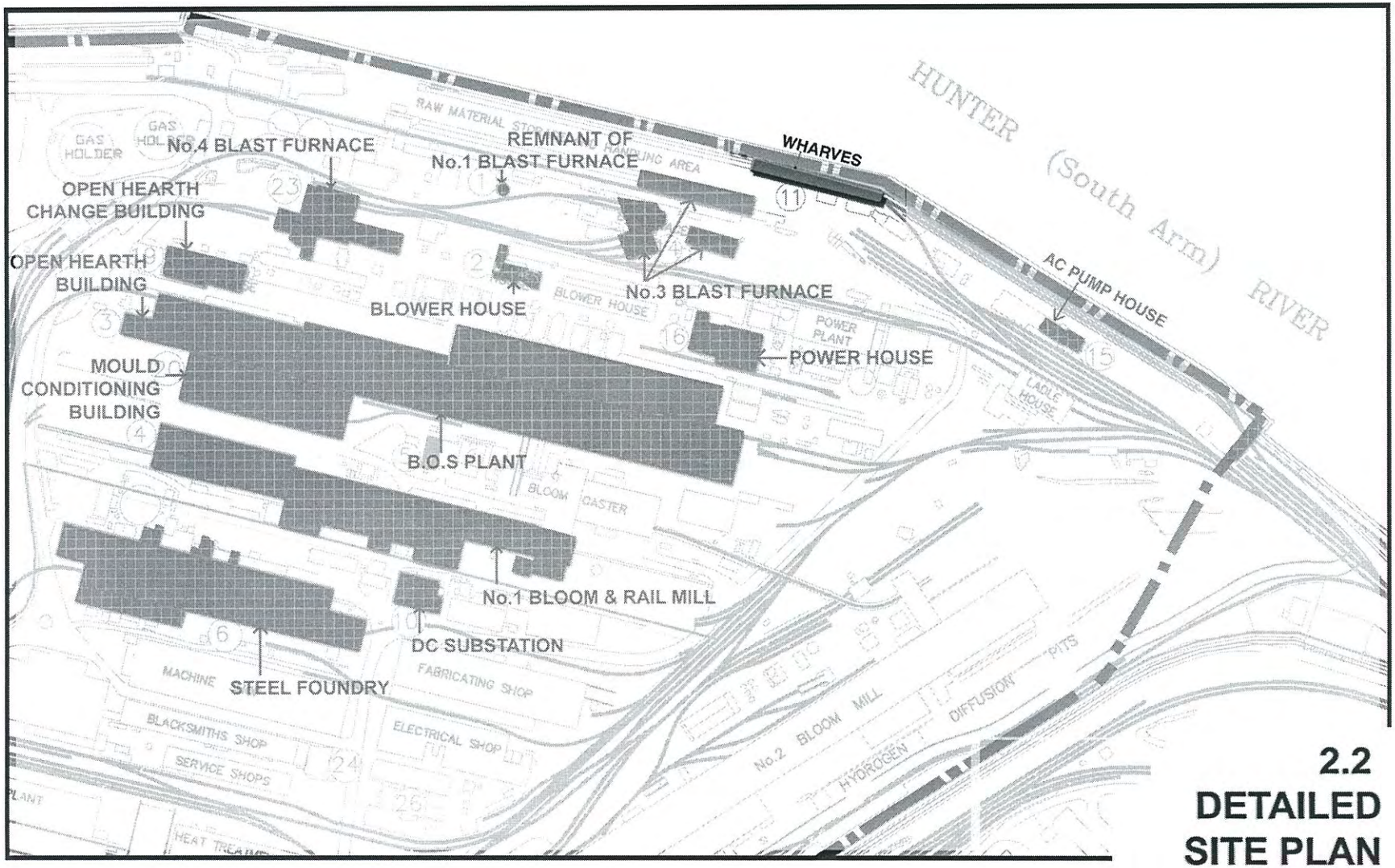
The process of documenting the heritage items involved a number of input teams, of which EJE was the coordinator.

2.0 LOCATION PLANS






2.1
MAIN SITE
Refer to Detail Site Plan
Buildings as identified in the archival record reports.
HUNTER (South Arm) RIVER
PORT WALKER COAL SERVICES
No.1 BLAST FURNACE
No.3 BLAST FURNACE
POWER HOUSE
No.4 BLAST FURNACE
BLOWER HOUSE
B.O.S PLANT
No.1 BLOOM & RAIL MILL
DC SUBSTATION
STEEL FOUNDRY
OPEN HEARTH CHARGE BUILDING
OPEN HEARTH BUILDING
MOULD CONDITIONING BUILDING
BOUNDRY
BHP NEWCASTLE
ARCHIVE OF RECORDS



2.2 DETAILED SITE PLAN
WHARVES

BHP NEWCASTLE
ARCHIVE OF RECORDS

EJE ARCHITECTURE

3.0 OUTLINE OF HISTORY, INDUSTRIAL PROCESS & DESCRIPTION

One of the first requirements for the construction of the Newcastle steelworks was a landing facility for heavy plant and equipment which had been ordered from overseas. The wharf was also an essential element in the overall plan of the works, for it was here that the raw materials required for the iron making process were unloaded, and the finished product lifted into ships for delivery to various customers.

As early as October 1912, plans for the wharf had been completed, as the Company was anxious to begin construction of the steelworks as soon as possible in order to be in a position to tender for the supply of rails for the Transcontinental railway.[1] The following month, the General Manager reported that the New South Wales Government had begun dredging the channel:

> *The New South Wales Government has pushed on vigorously with the dredging on the river, the sand resulting from the dredging being pumped on to our low-lying land, in consequence of which a large area of land – which previously has been under water at high Spring tide – is now well raised, being in some places as much as twelve feet above the highest known tide.*
>
> *This dredging is carried on day and night, two dredges being at work practically all the time. In one place on our water frontage there is now a depth of 25 feet at low water, where in the past there had existed a depth of about 10 feet only. At this place we are building a Jetty for landing the heavy machinery on arrival, and on this Jetty will be placed a Travelling Steam Crane, capable of lifting 60 tons net weight in one lift; such a powerful Crane was considered necessary, as some parts of the Rolling Mill will weigh at least 40 tons each. This Jetty is already connected with a temporary Railway Line, over which all the machinery, etc. will be transported to the various sites which it will eventually occupy.*[2]

Figure 3.1: Waterfront in the area of Blast Furnace No.1, 1914.
Source: Jay, C (1999: 16) BHPA N1432

[1] *Report from the Select Committee on Newcastle Iron and Steel Works Bill,* 31 October 1912, p.31
[2] General Manager's Report, Half year ending May 1913, p.21.

On December 20, 1913, the 11,000 ton "Anglo Egyptian" arrived at the new pier and discharged 2300 tons of construction material for the furnace.[3] On January 19, 1915, the "Emerald Wings" berthed with the first cargo of iron ore from Whyalla.[4] Originally chartered by BHP, the "Emerald Wings" and the "Bright Wings" were later purchased and renamed "Iron Prince" and "Iron Baron".[5]

The first section of the original wharf structure, 600 ft. long, was of orthodox timber construction, supported on turpentine piles[6]. Two subsequent extensions were made, the first completed in November 1916[7] and the second in November 1917, when it was reported that:

> *The 300 foot extension to the wharf has been completed, the total length being now 1,300 feet, and at the time of writing this report, there are four steamers lying alongside all loading rails.*[8]

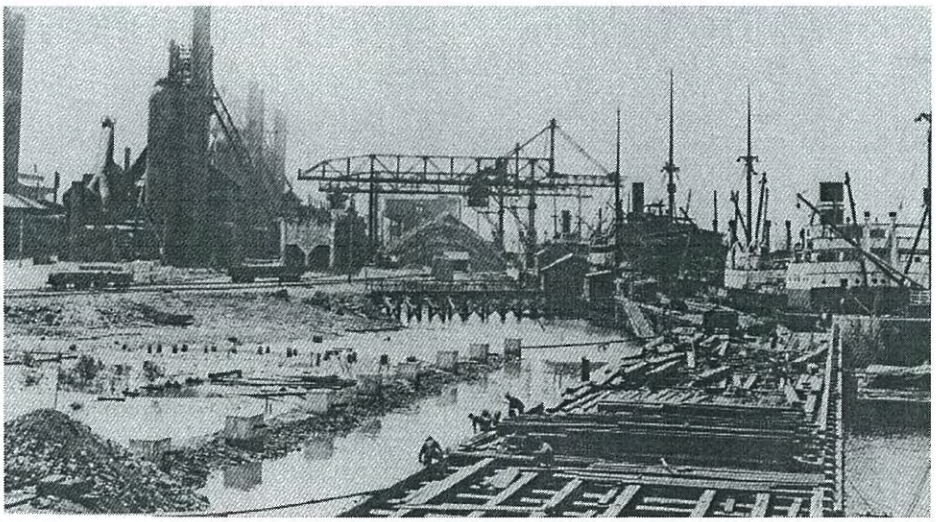


Figure 3.2: Wharf extensions,1922.
Source: Source: Jay (1999: 65) BHPA N1935

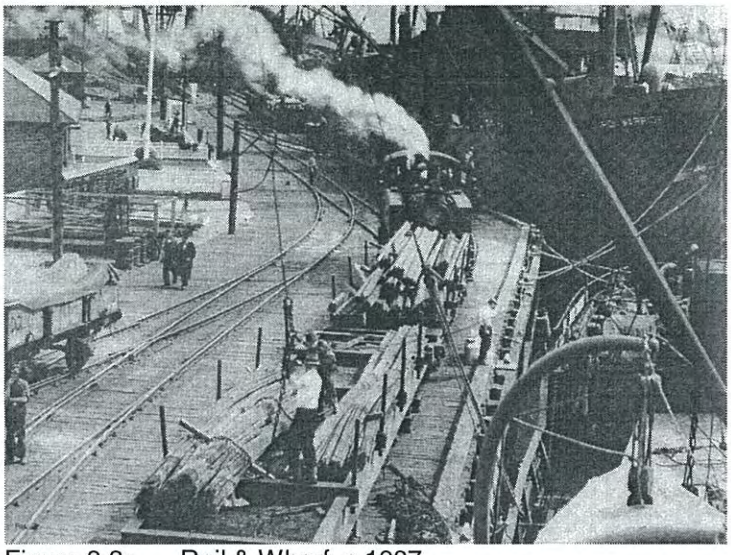


Figure 3.3: Rail & Wharf, c.1927
Source: Balderstone, Sir J. (1985: 136) BHP 100 Years.

[3] D. Baker, "Reminiscences of the Broken Hill Proprietary Company's Adventure in Steel, *The BHP Review,* October 1935, p.6.
[4] *ibid.*, December 1935, p.4.
[5] *Fifty Years of Industry and Enterprise: Jubilee Edition, BHP Review,* 1935. p.47.
[6] "Reconstruction of Raw Materials Unloading Berth at Newcastle Steelworks", unpublished notes for a talk presented to the June 1966 meeting of the Newcastle Division of the Institution of Engineers, p.1, in possession of the author.
[7] Reports for the half year ending 30 November 1916, p.17. and for the half year ending 30 November 1917.
[8] Report for the half year ending 30 November 1917, p.18.

In 1925 the ore wharf was extended by 225 feet, and a special screening device installed for screening the lump manganiferous ore. A section of the wharf (225ft. x 101.3" wide x 8" thick) under the ore bridges was double reinforced and concreted.[9]

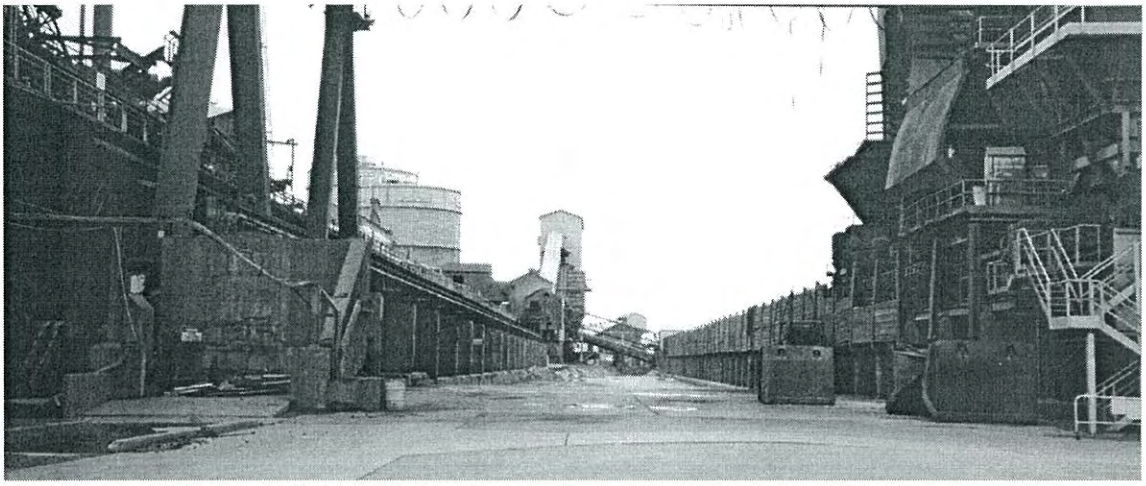


Figure 3.4: View west to Ore Storage and screens taken at ore bridge, c.2000
Source: authors image.

Following the discovery in 1928 of a number of broken and badly damaged piles to which land ties were anchored, the single piles were replaced by 22 pairs of piles. It was found that the damaged piles, which were already overstressed, had been weakened when a 3" hole was bored through the centre to allow the land tie bolt to pass through.[10]

Further repairs were carried out in 1936 when approximately 17 headstocks were renewed. This involved replacing the timber with 18" x 6" I beams, 40 feet long. On the rail tracks approximately 23 timbers 14" x 12" x 26 feet long were fitted and 14 new stringers were fitted to the wharf face.[11]

The erection of an additional ore bridge in 1937 necessitated strengthening of No.2 Berth at the southern end. This work involved driving 13 new piles and fitting new steel headstocks. In addition to this, and in view of the condition of the timber towards the northern end, new headstocks were fitted together with fabricated steel girders beneath the railway. The timber girders inside the bridge tracks were also renewed in steel for approximately 150 feet. In order to carry out this work it was necessary to lift the decking, and where this was found to be faulty it was renewed.

No.3 Berth was also repaired at this time. Several new steel headstocks were fitted, together with timber girders under the rails tracks and the rails were fastened by special clips. The major portion of this work was carried out at the knuckle and in front of the Shipping Office.[12]

[9] Report for the half year ended 30 November 1925, p.76.
[10] Report for the half year ended 31 May 1928, p.98.
[11] Report for the half year ended 31 May 1936, p.182.
[12] Report for the half year ended 31 May 1937, p.180.