PERSONAL

We are very sorry to hear that our member of many years' standing and most constant attendant at both meetings and excursions Mrs Helen Fraser, is a patient in Port Kembla Hospital suffering from a broken hip. The Society sends best wishes and hopes for a speedy recovery - we are missing her.

ILLAWARRA COAL SHIPPING
SOME OPERATIONAL ASPECTS

From its first faltering steps in the 1840's until the coming of the railway in 1888 Illawarra's coal industry was entirely dependent on sea transport for the distribution of its output. Even after the rail link with Sydney was finalised, the use of colliers for delivery of coal to Sydney continued, in a role which complemented rather than competed with the railway. That this continuation was a deliberate choice on the part of coal owners, is evidenced by major developments at shipping places such as Austinmer and Bulli after the railway was under construction, and the purchase of quite a few new colliers in the 1890's and after. The reason for continued use of colliers under the very difficult operating conditions which applied in the Illawarra trade lay in the nature of the markets for southern coal, a great deal of which was delivered to ships in Port Jackson to be shipped either as bunker coal or cargo for export. Substantial quantities were also delivered to waterside industries such as gas works and to coal depots, which were most economically served by seaborne delivery. This factor enabled the collier trade to survive well into the twentieth century.

The Shipping Places

While the focus of this paper is on the collier fleet, rather than the jetties and harbours which served it a few general observations about the shipping points will place the shipping operations in context. Time permits only three points to be made in this paper.

The first and most significant consideration is that Illawarra's colliers operated almost entirely from exposed jetties in the open roadstead, at Coal Cliff, Austinmer, Bulli, Bellambi and Port Kembla. These jetties were located on the northern sides of headlands and reefs, which afforded a little protection from southerly weather, but on the other hand left them exposed to the north-easterly swell so prevalent along this coast, especially in the warmer months. Secondly, even at the most sheltered of these jetties, it took very little disturbance on the sea to bring operations to a stop. It was not that the colliers themselves were unable to cope with heavy seas, for they were generally sturdy vessels, but dangers associated with the shipping places. One particular problem was that a vessel riding a heavy swell was in danger of touching bottom as it fell between two crests, for at all jetties there was very little water under the keel of a loaded steamer, even in calm conditions. Another difficulty was that even a small steamer pitching on a heavy swell could break moorings and foul the jetty, or drift onto nearby rocks.

Until the advent of the Port Kembla breakwater early in the twentieth century the Illawarra colliers, the only enclosed shipping place used by the Illawarra colliers was at Wollongong. This was first built in the 1830's and enlarged in the 1880's. The protection afforded by these two harbours enabled ships to load in relatively heavy weather, but they could not give full protection from the worst storms. On many occasions storm surge in Belmore Basin caused colliers to break moorings, and worse. The Mount Kembla was the only vessel in Wollongong Harbour during a gale early in February 1895; the surge caused her to snap all her hawsers of 12 ½ inch
(circumference) ropes which had been so stretched that they were reduced to only 7 ¼ inches. Unable to secure the ship her Captain worked her to the Northern side of the basin and scuttled her. For his action Captain Agutter was awarded £40 (over 1 months salary) by the Underwriters Association; he was one of a small group of masters rewarded for sinking their ships.

These events serve to highlight conditions which made the delivery of Illawarra Coal to Sydney by sea difficult and unreliable. Coal buyers would give preference to Northern coal which could be loaded and delivered on a more reliable basis, or use the unreliable delivery as a bargaining point to obtain lower prices from Southern mine owners.

**The Collier Fleet**

**Characteristics**

The first steam collier built for the Illawarra trade was the ill-fated Waniora which foundered off Botany Heads in 1882, with loss of all but one of the crew. After the Waniora arrived in 1863 to the fleet grew rapidly. Many of the colliers were owned and operated by the colliery proprietors, but there was a group owned by interstate coal shippers and merchants, and another group of independent owners. Each category of Collier had its own pattern of operation:

The colliery-owned colliers, typified by vessels such as those listed in Table 1 were for practical purposes nothing more than floating delivery trucks. They were operated by and for the collieries, and usually did not compete for freights. Even though it is likely that they may have been able to charter colliers more cheaply, than running their own, coal owners maintained a basic carrying capacity in attempt to ensure that they could meet needs of customers without delay. This group of colliers operated almost entirely in the Sydney trade.

**A SAMPLE OF ILLAWARRA COLLIERS**

<table>
<thead>
<tr>
<th>Year</th>
<th>Collier</th>
<th>Carrying Capacity</th>
<th>Purchased by</th>
</tr>
</thead>
<tbody>
<tr>
<td>1863</td>
<td>Waniora</td>
<td>240</td>
<td>Bulli Co.</td>
</tr>
<tr>
<td>1875</td>
<td>Woonona</td>
<td>c.600</td>
<td>Bulli Co.</td>
</tr>
<tr>
<td>1879</td>
<td>Hilda</td>
<td>240</td>
<td>Coal Cliff Co.</td>
</tr>
<tr>
<td>1884</td>
<td>Kurrara</td>
<td>450</td>
<td>Osborne Wallsend</td>
</tr>
<tr>
<td></td>
<td>Kanahooka</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1885</td>
<td>Mount Kembla</td>
<td>750</td>
<td>Mount Kembla Co.</td>
</tr>
<tr>
<td>1899</td>
<td>Werfa</td>
<td>1140</td>
<td>Bellambi Co.</td>
</tr>
<tr>
<td>1901</td>
<td>Malachite</td>
<td>700</td>
<td>Bellambi Co.</td>
</tr>
<tr>
<td>1902</td>
<td>Marjorie</td>
<td>1250</td>
<td>Bellambi Co.</td>
</tr>
<tr>
<td>1908</td>
<td>Bellambi</td>
<td>1600</td>
<td>Bellambi Co.</td>
</tr>
<tr>
<td>1910</td>
<td>Undola</td>
<td>420</td>
<td>Coal Cliff Co.</td>
</tr>
</tbody>
</table>

Colliers owned or on charter to interstate shipping firms such as Scott Fell & Co., G.S. Yuill and Melbourne Steamship Company tended to be larger than the colliery-owned vessels and for this reason loaded principally at Bulli, Bellambi and Port Kembla, with some also calling at Wollongong. An example of this class of ship is the Melbourne Steamship Company’s Brisbane, of about 1200 tons capacity. This Brisbane was built in 1883 especially for the Melbourne coal trade, and operated on that run until she was sold off Asian interests in 1915. In general these colliers operated in a separate market (for both coal and shipping services) from the colliery-owned vessels.
The independently-owned general carrier fleet was to some extent shared with the northern coalfield. Frequently a smaller and older class of steamer, these ships competed with each other for bulk cargo, which could not be handled by the tied colliers, and they would also operate in the blue metal trade when no coal was offering. This group provided the elasticity in coal carrying capacity to cope with peaks in demand.

As can be seen from Table 1 the colliers were mostly small, few exceeding 1000 tons in carrying capacity; most of the large ones were built in the twentieth century. The majority were under 700 tons, as is suggested by the sample of the colliery owned fleet in the tabulation. There were numerous smaller colliers such as Queen Bee (180 tons) and Audrey D (194 tons).

(To be continued ...)

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Brian Rogers

'I WOULD SOONER BE A CONVICT THAN A SOLDER'

(Continued from September Bulletin)

PART II

The second letter of Cartwright the convict, 'written in an illiterate hand with phonetic spelling', is not like the first, dated from the stockade on Flagstaff Hill. Instead, he seems to have been living in a house. The point made by this letter is that, subject to good conduct, convicts did not have such a bad time of it at all; whilst something akin to the horrors depicted in such novels as For the Term of his Natural Life did exist, those were for the really bad ones; for many convicts it was difficult to tell the bond from the free. Cartwright makes it quite clear that life for him was easily tolerable. This letter is dated 14th July 1844. It may be assumed that, as distinct from the first, this was his own work; he was no scholar, but he could communicate effectively enough, allowing for a little confusion when in a letter to his wife he sometimes addressed himself to his brother Tom and to his parents also:

"Dear wife i resevied your kind letter and was glad to hear that you was all well as it leaves me at preasent thank god i was never better but i ham verey sorey to hear that my frends Should blame you for my been hear for it was no Shuch thing for had i been ruled by you i never Should have been hear so i hope they never will blame you no more and i think it very hard of my brother thomas to bid you Go out of my father house and Lay the blame to you for my been hear for it was not such thing but you are married and are lick to Ave a famely by what i can hear and i wish you to have much Joy and happy through life bouth you and your wife and god allmighty bless you and your wife but i will tell you my lad you should not bounce for you Are born but not berred so you no what may be fall you but i was as glad to hear from you all as if any body had a gave me ten pounds and i ham verey happy to hear that you was all well but i was verey sorry to hear that my Sister Susen was dead and Leaving her two poor Littel babys be hiend her for i ham shore my brother James must be in a bad way with them two poor Children god nows - - - but i new some one was dead [belonging] to me for i see a grave open [in the] Church yard [when] i [dreamed]

"Dear father and mother i reseieved your kind letter June 14th 1844 and i was verey happey to hear that you was all well as it Leaves me at preasent thank god i was never better and i have plenty to eat more than you do i ham Shore and plenty Cloes to ware and i ham Just the same as working on a farm at home onely i git no money for it but still i ham never with ought a Shling or two so as i Can all ways git a Glass of a Sunday when i Like and that is verey offen so you no Call to make your selves no ways unesey about me for i ham as well off as ever i was in my Life
waterway or cutting huge blocks of rock to face the "pier" as we see it today, his gnarled hands wielding sledge-hammer, wedge and a pointed iron spike known as a gad, after which the block would have to be squared by pick, and then hauled and levered into place. Not much of a life, of course, even if Wollongong convicts at the time did not work in chains; but, on Cartwright’s own say-so, the life was better than a soldier’s, anyway!

Certainly, he does not seem to have made any effort to return to native Bedfordshire. Far from it; he made his way to remote farmlands in the upper reaches of the Macquarie River, well out of Bathurst. Very probably the life there was better than he could expect if he had gone "home" to his family, and equally probably Australia had taken that firm grip upon him as it did with so many. And here he remained until influenza claimed him at the age of fifty-six. There is nothing to indicate that in his quiet way he had not completely lived down his early life of crime and taken his place in the anonymous workforce of the colony.

"The short and simple annals of the poor"? Indeed!

Edgar Beale

ILLAWARRA COAL SHIPPING
SOME OPERATIONAL ASPECTS
(Continued from October Bulletin)

SHIPPING OPERATIONS

The pattern of operating the colliers at the various jetties, and detailed records of Coal Cliff company give many interesting insights into day to day activities on the colliers.

When it arrived at one of the jetties to ship coal the collier would approach from the North-east, and as it came within a few hundred feet, fits berth, drop anchor, reverse engines and swing so that the stern was to shore. A series of moorings would then be picked up, and with the aid of winches the vessel would be securely held so that it was under the coal shoot, but unable to touch the jetty structure as it moved with the rise and fall of the swell. It was usual for ships to have six moorings arranged in the pattern shown in the diagram.

At Coal Cliff the whole mooring operation would take about 30 minutes when conditions were good, but there were sometimes problems, such as a broken mooring or sunken buoy. In 1901 the mine manager wrote to his
head office complaining bitterly of the delay in mooring the Captain Cook, one of the independent fleet, which took about one and three quarter hours; and which he attributed to inferior winches on the ship.

The mooring procedures adopted were intended to ensure (so far as was possible) the safety of the collier. Mooring the ship head seaward meant that it could drop moorings and depart at the slightest hint of trouble, while tying the ship down reduced risk of buckled or holed plates (and broken jetty piles) through contact with the jetty and also made it easier to load. It was usual to load the forehold first, then winch the vessel forward on its moorings in order to minimise risk of grounding, or if propeller damage as a result of placing a deeply laden stern into the shallower water in-shore.

Once the ship was secured, loading could be carried out quickly, and every facility was provided to expedite this process. The proprietors quickly learned that sea conditions changed rapidly, and ships had frequently to steam away before loading was completed for this reason loading was treated as a matter of urgency, and every facility provided to ensure that it could be completed quickly.

By the standards of the larger jetties the facilities at Coal Cliff were primitive, but even with a single shoot, and a rather cumbersome stream operated end tippler a wagon of coal (about 3 tons) a minute could be loaded on to the steamers. Once the coal was loaded the holds had to be trimmed, and hatches and tarpaulins secured. If the sea was smooth, this latter task might be done as the colliers headed away from the jetty, but this was not a widely approved practice.

Often the colliers arrived at the jetties to find that tide or weather conditions made loading too hazardous. If there was a likelihood that conditions would improve the ships would stand off the jetty and wait for an opportunity to load. When there seemed no likelihood of loading successfully the colliers would either put in to the comparative safety of Wollongong Harbour for the night, or return to Sydney. Standing off was not always an unwelcome ordeal. Reports from Clifton in the early 1880's indicated that when the stand-off signal was hoisted at Coal Cliff jetty, the crews of Hilda and Herga would take the colliers seaward, indulge in a spot of snapper fishing, and sell fresh fish to the people of Clifton while the coal was being loaded.

To be continued.
ILLAWARRA COAL SHIPPING
SOME OPERATIONAL ASPECTS
(Continued from November Bulletin)

An efficient system of exchanging messages before a vessel was moored was essential to the efficient operation of the colliers. Communication between ship and shore was by megaphone if the sea was particularly smooth, otherwise flags and or lights were used. Normally instructions for the next operation would be delivered to the Captain while the collier was discharging in Sydney. These instructions might be to tie up in Sydney until required or to proceed to a jetty in Illawarra for cargo, which usually would be specified as large or small coal or a combination, such as "forehold large, afterhold small". The instruction might vary the ships loading point, under trip charter for another mine. It was not uncommon for these instructions to be changed while the ship was on its way south, by means of a telegram to the mine or jetty manager, and often these new instructions required the collier to load elsewhere without delay. This was generally a frustrating business for both ships' captains and mine managers, and especially so for the latter. Often, having received a telegram requiring an urgent cargo, they would have the miners or jetty hands make a special effort to have the cargo on the jetty, only to have them to instruct the collier on to another jetty. An even worse situation from the mine viewpoint - would be an instruction to prepare a cargo of one grade of coal, say small, and have it on the jetty, only to find that when the collier arrived the captain had instructions to load large. This kind of situation involved considerable delay while the trucks of unwanted coal were taken off the jetty and the desired grade (if available) brought forward, and the delay was often enough to permit adverse changes in sea conditions to prevent loading altogether.

Extracts from Coal Cliff mine correspondence to head office (E. Vickery & Sons) illustrate some of the problems.

17 April 1901

".....The "Sophia Ann" did not turn up yesterday morning. The Herga however arrived about 3.30 p.m. loaded up a full cargo of small coal and left for Sydney at 6 p.m.

To give you some idea of how the cost of telegrams is brought about take yesterday for instance. Monday evening Mr. Firth wired and wrote advising "Sophia Ann" to load morning and asked me to wire him 9 a.m. sharp if she arrived and was loading. This I did at 9 a.m., stating she had not arrived and that the sea was smooth. Mr. Firth wired to say "Sophia Ann" had been delayed and that "Herga" left 10.30 a.m. for Coal Cliff to load small and to wire him immediately on her arrival stating if able load and when likely to leave. So soon as Herga came in sight I complied with this request. At 11.30 a.m. 'Mr. Jones' wired asking definitely if "Herga" would load at Coal Cliff on arrival reply urgent. To this I replied stating that she would almost certain load Clifton. At 4 p.m. I wired stating that "Herga" would leave about 6.30 p.m. full small."

Later in the year comment was made on a slightly different set of problems.

27 December 1901

The "Sophia Ann" arrived at 7 a.m. & the Captain reported having received instructions from Mr. Firth to load here. Having no letter or wire on hand there was nothing but to give her small in the absence of no (order) from either of Sydney offices. This I did. Mr. Firth however at 11 a.m. wired advising to load all best coal available and complete with small. At that time the boat was loaded.
In coming alongside her boiler commenced leaking badly and it had to be blown of and a stud put in the hole and steam again got up, which took a considerable time. I wired you at 1.30 p.m. as follows. "Sophia Ann leaving three full small. Going Botany. Delayed through her boiler leaking".

Generally vessels were not loaded unless there was adequate daylight, but in the 1890's and early 1900's electric lighting was installed to extend the operating capacity of some jetties. Where jetties were unlit, such as at Coal Cliff the preferred loading time was immediately after dawn, to minimise the possibility of loading being disrupted by the swell brought by the north easterly breezes which on this coast commonly set in about mid morning. When trade was brisk, operation was on a round the clock basis. The colliers would load, steam to Port Jackson to be met by a gang of coal lumpers, discharge and immediately steam back to Illawarra to load again.

Life on the colliers was by no means easy. A six day working week was the norm, and when trade was brisk the ships would shuttle constantly between coal ports and Port Jackson. As soon as a cargo was unloaded at the Sydney end they would be heading southward again. This round the clock operation meant that even the small vessels need a large crew, which added to transport costs. The Coal Cliff Company's steamers Hilda and Herga which carried only 240 tons of coal each had a crew of 10 and sometimes 12; the later acquisition Undola which carried 420 tons had a crew of 12. Life in the forecastle would have been extremely trying. Noise would have been continuous when the vessel working. Loading and unloading operations are obviously noisy as coal and appliances bumped the ships plates and sent vibrations over the whole vessel. At sea the engines would create continuous noise, and this would be augmented in heavy seas by the bows banging down as the ship fell from the crest of wave to the trough below.

An average trip to or from Sydney to the Illawarra jetties would take 4—5 hours but two or three times that in heavy weather. Undola is recorded as taking as much as 12 hours on a trip from Sydney to Bulli against heavy seas.

Under normal conditions these Voyage Times would make it possible for colliers to undertake a round trip each day; but even when trade was brisk few managed this with any regularity, because of delays in unloading. It was of course easier for the smaller vessels to discharge quickly, and on occasion the Hilda and/or were recorded as having loaded at the jetties morning and evening on the same day, but this would be exceptional, even for these vessels. A realistic expectation for colliers of 400 tons and upward would be four round trips per week when fully employed. (To be continued) — Brian Rogers

THE HISTORY OF IRON SMELTING IN AUSTRALIA

The story of early iron smelting in Australia was one of insurmountable economic difficulties due primarily to the transport problems in bringing the raw materials to the most suitable location for the smelter. The Colonial Governments considered that the infant manufacturing industries being developed at the time could not afford to pay a premium for iron over the price for the material landed in Australian ports. This imported iron came out as ships ballast. Although the Governments were impressed with the achievements of producing iron from local raw materials they would not protect the infant iron industry. A policy of free trade was maintained and all attempts at iron production were doomed to run at a loss.
of all to St. Matthew’s Anglican church at Old Oaks. The gravel road past the church had been graded a few days earlier, leaving a layer of fresh clay on the top of an otherwise firm base. Rain had converted this clay into an efficient skid-pan, causing our coach to slide off the crown into the soft silt of the gutter only about fifty metres short of the church gate. By the time our members had inspected the recently restored slab church (1838) and its attendant graveyard with its first-fleeter (Henry Kable, 1786-1852), a friendly farmer with his tractor had helped the coach back on to firmer roadway near the church gate and away we went.

Next scheduled stop was the Burragarang lookout, but we didn’t stop there because of low cloud and the danger of being bogged again. Instead, we moved on to Wooglemai for lunch.

In 1802 Ensign Barrallier, the first white man to pass through the area later known as The Oaks, made camp at Wooglemai on his way to meet “The King of the Mountains”. As soldiers were not supposed to lead exploring parties, Governor King adopted the ruse of sending his ADC on a “diplomatic” mission which was really a journey of exploration in search of a passage through the mountains. Barrallier was well chosen for this expedition because he was not only a trained engineer and surveyor but also able to relate to the aborigines. One of his aboriginal named Wooglemai, meaning “one-eye”, had his name bestowed on the area.

Today Wooglemai plays a duel role as a youth training camp for the Catholic church and as a base for a Sydney bushwalking club. We were able to dry out by a log fire in the comfort of a stone lodge which has been erected there. At the end of a short walk from the lodge is a small chapel of unusual design, built on the edge of a valley which must afford a magnificent view through an end wall of glass when the weather is kind. Around the chapel grows a wide variety of flora, including the mountain devil (Lambertia formosa), many different eucalypts and acacias, and an occasional she-oak. Being great firewood as well as timber for shingles, the she-oaks which gave The Oaks its name soon disappeared from the vicinity of the town.

Returning from Wooglemai we stopped at an orchard near Oakdale to buy apples and peaches. Back in The Oaks, rain prevented us from leaving the coach to inspect the 1865 church of St. Aloysius with its older sandstone presbytery, convent (1905) and school house (1913). The first school, a wooden structure, had been destroyed by a storm before 1913.

Having suffered rain for most of the day, we returned via Camden to the disappointing news that Wollongong had received less than its share of nature’s bounty.

F.W.O.

ILLAWARRA COAL SHIPPING
SOME OPERATIONAL ASPECTS
(continued from December Bulletin)

NON-ROUTINE OPERATIONS

Apart from the routine work carrying coal, the colliers were sometimes called upon to do other work. Much depended upon the ownership of the collier, and most of what follows refers to those colliers owned by the coal mining companies.
1. Carriage of Passengers

On occasion the colliers carried passengers who ranged from important visitors to the collieries to friends of the mine manager, or favoured miners and their families who wished to travel to Sydney and back. This work declined considerably once the railway reached Illawarra, for the colliers offer nothing like the reliability of railways, and of course having almost no accommodation other than crews quarters were anything but comfortable.

The Coal Cliff colliers were often called upon to perform work of this kind, and reports from that colliery highlight difficulties. Transfer between ship and shore was not easy, for as previously noted colliers were moored up to 3 metres off the jetty and below it. At least in the early years at Coal Cliff the more genteel passenger was transferred from or to the leaving deck of the collier by means of an old arm chair suspended from the jib of the jetty crane, which must have been quite an unnerving experience. At the larger jetties landing stages were built into the structure at various levels, or passengers were taken to nearby beaches by ship’s boat: this latter method was of course out of the question at Coal Cliff.

The Coal Cliff Company’s Herga on several occasions in the 1880’s was used to carry the Illawarra volunteer artillery unit from Wollongong to Sydney for its annual encampment. With all the gear of the unit it could not have been a comfortable trip. It seems that then, as now, nothing was too good for “our boys” - so long as it did not cost too much.

The colliery companies also used the colliers to carry “black leg” miners to Illawarra during several strikes. The carriage to the jetty then over the company’s private property to the mine reduced the exposure of the blacklegs to the threats and entreaties of the strikers.

2. Carriage of General Cargo

Understandably mining companies preferred to use their own ships to deliver materials and equipment to their mines whenever possible. At Coal Cliff small deliveries such as rolls of brattice cloth, rails, horse feed, ironwork and timber for jetty repairs, and ropes and buoys for moorings were common deliveries. In addition, the difficult situation of this mine below the cliff necessitated that all the heavy equipment be delivered by sea, because there was no suitable access down the cliff. However, this mode of delivery was less widely used for other mines, and especially for urgent deliveries, because there was always a risk that the ship would be prevented from getting alongside the jetty and in consequence work held up for want of materials or equipment. On one occasion Herga plied the coast carrying a heavy and urgently required ventilating fan for Coal Cliff because conditions were too rough to allow it alongside the jetty.

Colliery companies rarely carried cargo for outsiders - and for good reason. The time taken to land such cargo at the jetties would delay the shipping of coal, and this delay could mean the difference between successful completion of a cargo and the ship having to clear out part laden if conditions became adverse during loading. In the fiercely competitive market for coal colliery proprietors would not deliberately increase the risk of delay.

3. Attending the Moorings

It has already been mentioned that each of the jetties had a number of moorings,
which were vital for the safety of the ship and the jetty. These moorings demanded constant attention to ensure their safety: chain cables corroded, or were worn through by constant movement, anchors dragged and buoys broke loose or sank. The lifting apparatus on board the colliers was commonly used to overhaul the moorings, often in conjunction with a diver. Whenever possible this work was carried out as preventive maintenance when the colliers were not required to deliver coal urgently.

The work of repairing moorings had its hazards. Danger to life and limb came from failure of lifting gear, from being propelled overboard by cables or other gear, or from the capsize of the ships boats which were frequently required in these operations. In November 1886 Captain Wallbrook of the Hilda was drowned at Coal Cliff following the capsize of the ship’s boat while grappling for mooring chains in preparation for overhauling them, while the collier was loading coal.

4. Salvage Operations

Many of the Illawarra colliers were involved in salvage operations following breakdown or stranding of another vessel; and in such situations quick movement was vital.

Early in 1893 when Hilda was leaving Coal Cliff jetty she parted the port bow rope, which then fouled the propeller. Without propulsion she was in a precarious position, and was saved from drifting on to the nearby rocks only by the head rope which was still attached. Hilda’s sister ship Herga was then loading at Bellambi, and a telegram was dispatched for Herga to come at once. Fortunately the sea remained smooth until Herga was able to get Hilda clear; and towed her almost to Sydney heads before the rope disentangled itself. At this stage Herga arrived, she was under charter to the Mount Kembla company, which claimed and was paid $50 for the operation.

Herga was involved in quite a few salvage attempts of this kind. In 1889 the Bellambi Companys Werfa, then only a few weeks in the trade, fouled broken mooring, but was less fortunate than Hilda and grounded. Herga, lying off the jetty waiting for her turn to load, went to Werfa’s aid and hauled her off undamaged.

Most salvage claims on behalf of the colliers were quite small, but there were exceptions. In 1911 the S.S. Brisbane grounded on the rocks at Port Kembla, having broken from moorings in heavy seas. When her distress signal was hoisted Undola immediately left Wollongong harbour to aid her. When she got to Port Kembla it took the crew three trips in a ships boat to attach lines to Brisbane before she was freed - the first two lines having parted without moving her.

The owners of Undola made a claim against Brisbane for £1500, and the crew also sought salvage money. The two claims were consolidated and after a good deal of litigation the Admiralty Court finally awarded £600 - £350 to the ship’s owners and £250 to be shared by the crew.

(to be continued)
UNIQUE HERITAGE DISPLAY

I would like to take this opportunity of giving high praise to the Unanderra Bi-Centenary Committee's exhibition on 11th April, for Heritage Week. I have never seen such a great display in the district.

The Committee also conducted a tree-planting ceremony at Lindsay Maynes Park, Unanderra, for some elderly citizens of the district. I was privileged myself to plant a tree.

Unfortunately, I am told, the Committee never received one dollar to stage something worthy for the Bi-Centenary. This is a committee which would be capable of presenting something really worthy of the Unanderra district. It would do those responsible for the allocation of Bi-Centenary funds good to get out and look around at what went on during Heritage Week, so that they would acquaint themselves with the way to allocate funds.

J.R. Maynes

ILLAWARRA COAL SHIPPING SOME OPERATIONAL ASPECTS
(continued from April Bulletin)

Work Outside the Coal Trade:

Except in extraordinary circumstances Illawarra colliers did not operate outside the local coal trade. If trade was slack and the colliers idle for lengthy periods, they might make a few trips on charter to the Northern field, or perhaps to carry blue metal from Kiama and Shellharbour to Sydney. This latter activity was generally confined to the independently owned vessels: the colliery owners were wary of blue metal because it was hard on the ships and what was worse, it could contaminate coal if the holds were not thoroughly cleaned out afterward.

In 1892/3 when the coal trade was almost non-existent, Ebenezer Vickery, then proprietor of Coal Cliff was willing to charter Hilda for this purpose but in 1917, when the collier was under monthly charter to the Southern Coal Owners Agency, sanction for the Agency to carry stone on behalf of the State Quarries was sharply refused.

If there was an indication that the colliers would not be employed for very long periods of time same would be chartered into other trades. In the 1890's when the first serious impact of the railway on coal shipping was being compounded by the dislocation of the general strike, and subsequent depression in the coal industry. Lack of work for the colliers resulted in their being used as general cargo vessels on the coastal run. In 1892 Herga and Hilda made trips to the Clarence with coal, and brought timber back to Tathra or Sydney. Larger vessels were chartered in to the general cargo trade to Queensland and the South Sea Islands. In June 1892 Kurrara is recorded as calling at Wollongong for bunker coal en route from Queensland to Melbourne with cargo of bananas and pineapples. The Kanahooka, sister ship to the Kurrara, was put into the island trade, and wrecked while so employed. While the Mount Kembla was in the New Guinea trade in 1898 her crew suffered serious fever, and Captain Agutter fell ill on the return journey, and died while being transferred from ship to hospital in Sydney.
HAZARDS OF COLLIER OPERATION

It had been my intention to conclude my talk tonight with a survey of the kinds of dangers associated with collier operation - after all we are all fascinated by the details of disorders whether major or minor. In preparing this paper I found that I had rather too much material to allow me to cover all that I had originally intended and indeed there is sufficient material to allow a full paper on that topic.

Perhaps an opportunity may arise for me to present this to you in the future.

The operation of colliers from Illawarra entailed many operational risks, some of which have already been noted. It had been intended to conclude this paper with an extended account of these, and to include some account of significant incidents. However, to do this would make this paper much too long, and as there is sufficient material for a separate paper on the subject, only a few general observations will be made in this present one.

Risks attendant on collier operation may be broadly categorised as either risks at sea or risks in port. The former included machinery failure, with boilers (engines, and steering gear being the most frequent offenders), grounding due to navigational error, and damage caused to superstructure rigging or hull by heavy seas.

The risks faced at sea were in general minor compared to those in the vicinity of ports. The grave dangers encountered at Illawarra jetties from such events touching bottom, stranding and fouling ropes have already been explained, but contrary to what might be imagined, Sydney Harbour was frequently just as dangerous. Part of this risk was the result of the convergence of a large number of vessels on the harbour, which produced a large number of shipping movements in confined space. Collisions at the Heads and in the harbour were quite frequent, and the smaller colliers were common victims in these incidents.

Coaling large steamers in Sydney Harbour after required several small colliers to work in close proximity, and significant damage often resulted from their bumping together as one or other was being moved, or from being squeezed against a wharf or other object by the larger ship being coaled.

There were some spectacular incidents involving colliers, and some dramatic and sad losses of ships and crews, which make interesting stories to be recounted at another time. But the majority of incidents were relatively minor - but frequent. These colliers must have caused many an insurance surveyor to turn prematurely grey as he sought to keep up with the claims on his firm.

CONCLUSION

This paper has attempted to provide a brief overview of operational aspects of Illawarra’s collier fleet. While necessarily sketchy it has attempted to present information often taken for granted by shipping enthusiasts, and therefore rarely written about.

In order to complete the picture some additional aspects need examination. In particular there is a need for a closer study of the fleets operated by various collieries and their particular market orientation, and to look systematically at changes in the size and design of colliers (so far as this can be known). Perhaps
most important of all, the institutional framework within which they operated. The Newcastle Coal Vend, which influenced mines and shipping related to the Northern Coal-field gained a great deal of notoriety through being prosecuted under anti-monopoly legislation in 1911, but combinations of mine owners had existed from the latter decades of the nineteenth century both on the Northern field and in Illawarra. Those of the Illawarra field are by no means well known, but because they had significant covert influence on shipping operations and marketing arrangements they are worthy of detailed study. These aspects provide a rich field for the maritime historian.

A SAMPLE OF ILLAWARRA COLLiers

<table>
<thead>
<tr>
<th>YEAR</th>
<th>COLLIER</th>
<th>CARRYING CAPACITY</th>
<th>PURCHASED BY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1863</td>
<td>Waniora</td>
<td>240</td>
<td>Bulli Co.</td>
</tr>
<tr>
<td>1875</td>
<td>Woonona</td>
<td>c.600</td>
<td>Bulli Co.</td>
</tr>
<tr>
<td>1879</td>
<td>Hilda</td>
<td>240</td>
<td>Coal Cliff Co.</td>
</tr>
<tr>
<td></td>
<td>Herga</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1884</td>
<td>Kurrara</td>
<td>450</td>
<td>Osborne Wallsend</td>
</tr>
<tr>
<td></td>
<td>Kanahooka</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1885</td>
<td>Mount Kembla</td>
<td>750</td>
<td>Mount Kembla Co.</td>
</tr>
<tr>
<td>1899</td>
<td>Werfa</td>
<td>1140</td>
<td>Bellambi Co.</td>
</tr>
<tr>
<td>1901</td>
<td>Malachite</td>
<td>700</td>
<td>Bellambi Co.</td>
</tr>
<tr>
<td>1902</td>
<td>Marjorie</td>
<td>1250</td>
<td>Bellambi Co.</td>
</tr>
<tr>
<td>1908</td>
<td>Bellambi</td>
<td>1600</td>
<td>Bellambi Co.</td>
</tr>
<tr>
<td>1910</td>
<td>Undola</td>
<td>420</td>
<td>Coal Cliff Co.</td>
</tr>
</tbody>
</table>

New South Wales

In New South Wales, as elsewhere, the initial discovery of minerals was usually accidental. The explorers, squatters and pastoralists set the pattern of settlement but, with little disturbance of the land, would only discover any mineral deposit if it occurred as a rocky outcrop. Surveyors, road makers and railway constructors had increased opportunities for discovering minerals exposed in cuttings and other excavations. It was thus in 1833 that Surveyor Jaques discovered pure ironstone in a cutting made for a creek crossing on the Southern Road at Nattai, near the present Mittagong, and the bridge became known as the Ironstone Bridge. The incentive to produce iron from these deposits came with the move to build railways from Sydney, the Great Southern Railway being planned to pass close to the location of the ore deposits.

Brian Rogers

THE HISTORY OF IRON SMELTING IN AUSTRALIA
(Continued from December Bulletin)