At dawn on a beautiful December morning in 1984 a medium sized bulk carrier nosed her way into the hazardous waters of the Great Barrier Reef off Central Queensland. Under the guidance of a marine pilot, the 61,000 tonne World Jade made her way in safety from the Coral Sea to her coal loading port at Hay Point. Hydrographers Passage, the world’s newest shipping channel, was open for business.

This new deep-water shipping channel thrusts right across the Great Barrier Reef and provides ships loading at the Central Queensland coal ports with a direct exit into the clear waters of the Coral Sea. For the hundreds of huge bulk carriers that each year haul Queensland coal to Japan, the use of Hydrographers Passage effectively reduces the length of the voyage by about 250 miles.

The story of Hydrographers Passage is a unique account of modern-day exploration and of the interwoven efforts of several different organisations and people with one common objective — the opening of what is not only the newest but also one of the most fascinating shipping channels in the world.

Ever since the early 1970’s, when coking coal from the first of several open-cut mines in Central Queensland’s Bowen Basin started flowing through the specially constructed port at Hay Point en route to Japan, a direct and deep-water exit through the Great Barrier Reef into the Coral Sea has been dreamed of. Tantalising the visionaries was the fact that the broad expanse of the Reef between its outer and inner edges had never been accurately surveyed. A safe navigable route through the morass of coral reefs may well have existed, without anyone knowing about it. That fantasy has now become a reality with the opening of Hydrographers Passage.
Central Queensland’s Bowen Basin, serviced by ports at Hay Point, Dalrymple Bay and Abbot Point, is the biggest coal production and export region in the world. For the many huge bulk carriers that haul coal from here to the energy-hungry countries of the north-west Pacific (mostly Japan), Hydrographers Passage has the effect of slicing some 250 miles — about one day’s steaming — off what has been the traditional route around the southern edge of the Great Barrier Reef.

FIRST SIGHTINGS

The first European navigator to tread tentative footsteps into this region, if we are to discount the possible but unproven suggestions of a Portuguese presence in the 16th century, was the eminent James Cook.

In 1770, Cook followed and charted in commendable detail almost the entire length of Australia’s eastern coastline. It was he who was to discover, in rather unfortunate circumstances as it turned out, the existence offshore of a great and navigationally perilous tract of coral — the Great Barrier Reef.

It is well known that Cook and his Endeavour reached the group of islands between present-day Mackay and Bowen on Whit Sunday, 1770. He took advantage of that festival to assisting him with his nomenclature — which by that stage of his voyage must have been giving him nightmares just trying to think up new names to bestow. He named the whole cluster of islands the Whitsunday Group, the largest among them Whitsunday Island, and gave appropriate names to a host of other headlands and islands before sailing onwards and off into the history books.

As he had done all the way up the coast, Cook confined his investigation to the coastal area — he was, after all interested in new lands rather than oceans — so he paid scant attention to what might lie offshore. At that stage he had no inkling of the mass of coral reefs, in this area some fifty miles wide, that lay to seaward of the Whitsunday Group, even though he had been sailing within the protective shelter of the Great Barrier Reef for some weeks. He could not be censured for not seeing the reefs — they are submerged for most of the time and he was a long way from them — but this writer at least is perplexed that he did not read the seamen’s signs, the sea and swells, and realise that he was in semi-sheltered waters. Perhaps, to be fair to Cook, he just thought he was having a run of good luck with the weather.

Whatever the facts of the matter, Cook remained blissfully unaware of the presence of coral reefs until the Endeavour’s unfortunate physical contact with one near present day Cooktown.
MATTHEW FLINDERS

Thirty two years later, and armed with Cook's chart, Lt Matthew Flinders followed in his illustrious predecessor's wake — at least as far as the Whitsunday Group. The year was 1802, and Flinders was heading northwards in his tiny Investigator on his way to the Gulf of Carpentaria. In company was the tiny brig Lady Nelson.

Until he reached the Whitsunday region Flinders was content, as Cook had been, to hug the coast. He added new features and hazards to the chart as he went. But then, mindful of the lateness of the season — he wanted to reach the Gulf before the north-west monsoon began — and knowing that this group of islands had already been charted by Cook, Flinders decided to break off from the coast and head seaward in search of a hazard-free run to Torres Strait.

Like the searchers who followed in his wake some 179 years later, Matthew Flinders was looking for a short cut, a means of reducing the length of his voyage.

He was soon in trouble, surrounded by reefs and shoals. Desperately, he sought an exit from this morass of coral into the clear sea beyond, but was repulsed time and again. The difficulties he experienced were highlighted in his journal:

Monday 11th: ... Next morning, the brig and whale boat went a-head, and we steered north, after them; the eastern opening was choked up with small reefs, and we had scarcely entered that to the west when Mr Murray made the signal for danger, and hauled the wind to the southward. We did the same, round two inner shoals; and finding the bottom irregular, and more shallow than usual, dropped the stream anchor in 27 fathoms. The Lady Nelson was carried rapidly to the south-west, seemingly without being sensible of it, and I therefore made the signal of recal. ... We rode a great strain on the stream cable, and the ship taking a sudden sheer, it parted at the clinch and we lost the anchor ... Mr Murray lost a kedge anchor, and was then riding by a bower; and when the signal was made to weigh, he answered it by that of inability. The tide was, indeed, running past the brig at a fearful rate, and I feared it would pass over her bows; for she lay in one of the narrow streams which came gushing through the small openings in the outer reef.

The loss of anchors we had this day sustained, deterred me from any more attempting the small passages through the Barrier Reef; on these, the tide runs with extraordinary violence, and the bottom is coral rock; and whether with, or without wind, no situation can be more dangerous. My anxious desire to get out to sea, and reach the North Coast before the unfavourable monsoon should set in, had led me to persevere amongst these intricate passage beyond what prudence could approve; for had the wind come to blow strong, no anchors in such deep water and upon loose sand, could have held the ship; a rocky bottom cut the cables; and to have been
Portion of Flinders' chart of Australia, showing his meandering track through the Reef and his futile attempts to cross the outer barrier. Cook's track can be seen through Whitsunday Passage.
under sail in the night was certain destruction. I therefore formed the determination, in our future search for a passage out, to avoid all narrow channels and run along within side the larger reefs until a good and safe opening should present itself.

A few days after this episode, still struggling to find a safe route through the Reef to the Coral Sea, Flinders instructed the *Lady Nelson* to return to Sydney. She had proved unsuitable. The *Investigator* and her tender parted company.

Undaunted, Flinders pushed on in a general north-westerly direction, gingerly treading a winding path around the hazards and searching all the time for an escape route. Eventually, north of present-day Bowen, Flinders wriggled the *Investigator* out through a rocky gap into the Coral Sea. It was a tortuous and commercially useless path that was later given, rather pretentiously it would seem, the name Flinders Passage.

This incident had a profound impact on Matthew Flinders. He was probably the first man to appreciate the encumbrance, the barrier, that the Reef would inevitably become to shipping. It was he who coined the title Great Barrier Reef, a most apt and descriptive name.

The navigable channel that Flinders sought, a passage suitable for frequent and safe use, did not again become the subject of speculation until the early 1970s, after the commencement of coal exports from the new deep-water export facility at Hay Point. And as the export of Central Queensland coal is at the very heart of the story of Hydrographers Passage, a brief outline of its history is warranted.

**BOWEN BASIN COAL**

Put simply, what the story of Hydrographers Passage is about is coal; that jet black, dirty, dusty substance that comes from decayed vegetation of millions of years ago. Sales of coal earn more income for Australia than any other commodity. Steelmakers need coking coal to fire their blast furnaces, power stations look to thermal coal to provide steam for their turbines; to mention but two uses.

In Central Queensland we are the fortunate inheritors of almost mind-boggling amounts of coal, and naturally we want to sell as much to overseas buyers as we can in what has developed into a very tight, highly competitive market. Hydrographers Passage assists that aim, perhaps even more so now that the whole industry is facing severe problems than it did when first opened.

Back in 1845 the famous explorer Ludwig Leichhardt, on one of his expeditions, found evidence of coal in Central Queensland. His discovery was given little attention at the time and indeed until more than a century later, in the early 1960s, when geologists examined the area and discovered what is now known to be one of the richest coal deposits in Australia.
Named the Bowen Basin, the huge deposit lies inland of the Great Dividing Range, roughly parallel to the coast. In length it stretches some 500 kilometres, from Collinsville in the north to Theodore in the south.

In October 1971, a 35,000 tonne Japanese bulk carrier, *Yamahata Maru*, left Australia with the first shipment of coking coal from the newly opened Goonyella mine. A new deep water port, Hay Point, designed to cater for ships up to about 180,000 tonnes deadweight, had been built and was ready for this inaugural shipment.

This was truly the start of something big. Over the next decade, every aspect of the industry expanded at a striking pace. The number of Bowen Basin mines increased tenfold. Modern townships sprang up where before there had been wilderness. A network of modern railway lines and rolling stock appeared, linking the mines with Hay Point’s export terminal.

Coal exports from Hay Point soared over this first decade; from two and a half million tonnes in 1971/72 to over 15 million tonnes in 81/82. In 1984/85, Central Queensland miners sold over 31 million tonnes, both coking and thermal coal, overseas. By far the biggest customer has been Japan, with smaller parcels going to other northwest Pacific regions and to Europe.

Exports expanded rapidly and it soon became evident that the facility, despite its breathtaking 4,000 tonnes per hour loading rate, simply would not be able to keep pace with the inflating demand. In its first year of operation, 47 ships visited the port, this figure more than doubling in the second year, to 113. In 1976 another berth was built, adjacent to the first, with a loading rate of 6,000 tonnes per hour. Even this capability was not going to be enough and nearby, at Dalrymple Bay, another export facility took shape, hosting its first ship in late 1983. Yet another was built at Abbot Point, some 100 miles to the north, to service the northern extremity of the Bowen Basin coalfield.

Unfortunately, it is a sad fact of geography that these coal terminals, like most other Queensland ports, are to a certain extent blockaded by the Great Barrier Reef. Shipmasters finding themselves on this new Central-Queensland/Japan coal trade were in a quandary as to which was the shortest and safest route around or through the Great Barrier Reef. They had a few alternatives; Grafton Passage, Palm Passage and Capricorn Channel — none of which were direct, by any means. Most chose Capricorn Channel, mainly because it was the least difficult to navigate and gave the clearest run across the Coral Sea. They did this despite the fact that it was the longest route. A few used Grafton or Palm Passages, employing coastal pilots to assist them through Barrier Reef waters.
A more direct route between the loading ports and the clear waters of the Coral Sea, across the Reef, was, during the early 1970s, not much more than a pipedream. Very little of the great mass of the Great Barrier Reef had never been properly surveyed. In this Central Queensland area the reefs had been charted (if that is the right word) in 1922, from sketches hand drawn by surveyors flying over them in a naval seaplane. At the time, this technique was thought to be quite revolutionary. To quote Joseph Conrad: “Every man in his own time is always very modern.” Unfortunately in this case the result was a chart that bore little resemblance to the true situation. Notations cautioned mariners that the area was navigationally unsafe.

EXPLORATION AND DISCOVERY

The first official search for a channel was launched in 1975. Charter boat operators and fishermen had reported the existence of several quite broad gaps between some of the outer reefs, but whether they would be suitable for large deep-drafted merchant ships might be quite another matter. It was. Two reconnaissance missions by naval ships explored these exits into the Coral Sea but the conclusion was that they were unsuitable for large commercial vessels. The quest lapsed.

Five years later it was reactivated. With historical appropriateness, the task of unravelling the secret of this elusive passage was given to a ship bearing the name of the man who first sought it. In August 1981, the Australian Navy’s hydrographic ship H.M.A.S. Flinders left Mackay for the Reef. Her task was to find the most promising route and survey it in detail. She has been allocated thirty weeks for the job, a good indication of the importance attached to her mission.

Flinders’ commanding officer, Lt Cmdr Bond, launched himself into the task with an enthusiasm that became infectious. He had been given what is for modern hydrographic officers a rare opportunity — the chance to explore and discover new territories in an age when, one would expect, everything there is on this earth has already been found.

Before the end of the year, Cmdr Bond reported the discovery of a deep-water channel.

At first, his track appeared to be of dubious practical value. It was narrow — not much more than one mile wide — and meandered around several reefs. It was also beset by strong tides; so strong in fact that buoys laid by Flinders to measure the stream rate were washed away. The seas just outside its exit were often horrendously rough, particularly when strong south-east winds clashed with a brisk ebb tide. The area was likened by Bond to the famous ‘Rip’ at the entrance to Port Phillip. But the channel was deep, and in the opinion of experts from the Federal Department of Transport’s navaids
branch and the Queensland Coast and Torres Strait Pilot Service it should, with a suitable network of light beacons and a pilot service, be safely navigable.

Bond continued his exploration, probing beyond the outermost reefs in search of other hazards. What he found was a surprise to all — a gently sloping continental shelf. In the northern part of the Great Barrier Reef the outer edge is noted for its sheer precipice with the sea bed falling thousands of metres within a mile or so of the reef’s rim. So the existence in the southern section of quite the opposite, a continental shelf with a shallow gradient — one that rose only 300 metres over 20 miles — was mildly astonishing. What alarmed Bond about this find, however, was the discovery of a line of shallow banks some eight miles outside, and parallel to, the outer reefs. Luckily, there were some deep channels inbetween them, which Bond soon detected.

Meanwhile, at head office a name for the new shipping route had already been decided — Hydrographers Passage. It was a tribute to the men who for centuries have toiled at tedious charting tasks to keep the oceans of the world safe for mariners.

Commander Bond and the Flinders got on with the job. It was, as all hydrographic surveying has always been, a monotonous occupation, characterised by endless repetitive ‘runs’ and observations. After six months of isolation, seemingly forgotten by the rest of the world, Flinders’ work was finished. But what her crew thought at the time to be little more than a ‘job well done’ had attracted widespread attention as one of the most important hydrographic surveys since World War Two. H.M.A.S. Flinders was awarded the Royal Geographic Society of Australasia’s J.P. Thomson Foundation Medal as a tribute to its accomplishment — “a valuable and permanent benefit to Australia’s maritime trade.” Commander Bond, on behalf of the officers and men of Flinders, accepted the gold medal from H.R.H. The Duke of Kent in Brisbane in April 1985.

Finally, the tangible result of months of work appeared. On 5th October 1984 the Hydrographer released Australian chart No. 821, “HYDROGRAPHERS PASSAGE”. It details in sharp clarity the whole channel, from the inner islands of the Whitsunday Group out to the clear deep waters of the Coral Sea. The hydrographic boys had played their part: now it was up to the navigational aid designers and builders to play theirs.
Hydrographers Passage showing the passage as a heavy line in contrast to the other shipping routes which are dotted in.
ERECTING THE SIGNPOSTS

Coal mining and export companies were quick to grasp the economic importance of Hydrographers Passage. General Manager Captain Dennis Holden, whose Dalrymple Bay Coal Terminal export facility opened adjacent to Hay Point in 1983, predicted a drop in the price of landed coal in Far East Asian markets by as much as AUS$0.50 per tonne.

These companies, and shipping industry groups, soon began to press the federal government to install the necessary navigational beacons — and the sooner the better. In response, the government allocated AUS$300,000 for an investigation into navaid design and costing. While the Federal Department of Transport and the Queensland Coast and Torres Strait Pilot Service put their heads together to come up with a suitable network, another federal department, Housing and Construction, began to consider basic light-tower design and costings. The final estimate was $5.5 million; a big project.

Then came the queries and challenges, all quite pertinent. Was it worth it? If the aids were installed would shipping use this new passage instead of the old route? Would the expenditure of five and a half million dollars be cost effective? These questions were put to the Bureau of Transport Economics which was asked by the federal government to undertake a major study of the matter. The answer came back: a firm yes on all counts. The expenditure on navaids, said B.T.E., was “well justified on economic grounds from a world viewpoint.”

Fine, but there was another administrative hurdle to clear. As the project was going to cost more than two million dollars, it had to be approved by the Parliamentary Standing Committee on Public Works (the P.W.C.), an all-party government watchdog working group on public expenditure. At hearings in Mackay in late 1983, members listened to submissions from shipping groups, mining groups, state and federal government departments, the Great Barrier Reef Marine Park Authority and the marine pilots — all strongly advocating the route’s opening. Thankfully, the P.W.C. gave its approval, with conditions, and, after the mandatory procedural mention in parliament, the engineers got the go-ahead.

Their task, however, erecting five major navigational beacons on submerged reef sites about 100 miles out to sea, was not going to be easy. The region is exposed to winds that frequently blow at 40 knots, to seas that in rough weather break with unrelenting fury over the very places where construction engineers would be working, and to tidal currents that swirl through the gaps between reefs at rates up to seven knots. Construction and erection of a smaller beacon
in similar conditions in 1976, using traditional methods, took two months. Clearly a more radical approach was called for.

Supervising engineer Clem Vanderloos and design project leader Robert Hornsby, both of the Department of Housing and Construction, came up with a novel idea — why not fabricate the concrete bases and stainless steel towers at a shore engineering works, and then float them out on barges to their designated locations in an easily-assembled kit? They knew that at the sites chosen the reef lies beneath the sea’s surface, even at low tide; bad news for mariners trying to visually pick them out, but in this case good news for Vanderloos and Hornsby.

The float-out concept was accepted as feasible — the coal loading facility at Hay Point, in fact, had been constructed using similar methods — although final approval would be dependent on the results of more studies. Tidal surveys were needed to help predict the height of tide and the direction and velocity of tidal streams, also wind and wave studies to determine the best time of year to do the job and to help with the design of the float-out system, wave model studies to find out how large waves breaking on the reef edge propagate across the reef itself, and a study of the float-out system, using a 1:50 scale model and subjecting it to various extremes of weather, shallow water, rolling and pitching.

The results were all positive; the innovative concept was good. It was now time to go out to tender. Five beacons were sought; two for White Tip Reef, one each for Bond, Little Bugatti and Creal Reefs. John Holland (Constructions) Ltd got the job of building and floating out the reinforced concrete bases, and erecting the towers. Fabrication of the stainless steel towers went to Walkers Ltd of Mackay. Optical equipment would be supplied and fitted later by the Department of Transport’s Navaids Branch.

Each concrete base, after construction at Mackay, was slung catamaran style between two large dumb barges for the 30 hour towing voyage to its nominated site. Also on board were the fabricated tower sections. In readiness at the reef site was a large construction barge, precisely positioned to guide the base onto its target, four 2.5 metre-square concrete pads, cast underwater. As the tide reached its peak, tugs and workboats nuzzled the suspended concrete base into position, where it was lowered carefully onto the reef flat and secured by long steel pins. The catamaran barge, free of its load, then returned to Mackay for the next beacon. To Vanderloos’ and Hornsby’s great satisfaction the whole construction process went like clockwork: the contract had been signed in mid-July and by mid-November the only things on the reefs at Hydrographers Passage were four completed light structures.
The completed beacons were then officially handed over to the Department of Transport’s Nav aids Branch for optic installation. Two of the beacons, those at White Tip (rear) and Creal Reefs, were earmarked for sophisticated optics; revolving dioptic lens that can project a beam of light over twenty miles. White Tip (front) and Little Bugatti beacons required less powerful illumination. Bond Reef was to be optically mute.

At last it was time for the engineers to leave. The intermittent thump of pile drivers and the reverberating roar of air compressors ceased and for the time being silence returned to Hydrographers Passage. Construction crews departed, proud of their efforts and justifiably so. They had been blessed with reasonable weather, had enjoyed a clear run at their task, and had finished their job with creditable expedition.

But their activities had not been without its constraints. This construction phase, like every aspect of the Hydrographers Passage investigation, was subject to the close scrutiny of keen-eyed watchdogs, defenders of the Reef’s fragile ecology.

**ENVIRONMENTAL CONSIDERATIONS**

Hydrographers Passage cuts right across what has been described as “the greatest living ecosystem known to man” — the Great Barrier Reef. 80,000 square miles in area, varying in width from 20 to 100 miles, and paralleling the Queensland coast for some 1300 miles from the Tropic of Capricorn north to Torres Strait, this environmental treasure has secured a firm spot on the World Heritage List.

The ‘Reef’, as it is known locally, is an emotive issue with environmental groups both in Australia and overseas. The slightest suggestion of development on or near it immediately raises hackles. These groups have for years been pushing for legislative controls over the Reef and the creation of an inviolable marine park. Under the auspices of the Great Barrier Reef Marine Park Authority, created in 1975, marine park zones that will in 1988 embrace the whole Great Barrier Reef region are systematically being introduced.

Naturally, the Authority took an early interest in Hydrographers Passage. It was not overly concerned about the safe movement of ships through the area; more about the risks to the coral environment of damage during the lighthouse construction stage, waste disposal, and the possible effects of oil pollution or impact damage in the event of a shipping collision or grounding. Fortunately, activities that would pose a real threat to the reefs themselves and their habitat community were unnecessary in the development of Hydrographers Passage as a modern shipping channel. Neither dredging nor blasting of any natural structures was required.

The only parts affected by the lighthouse construction processes were small areas on top of the relatively desolate reef flats, where
the concrete base pads were cast. Here coral growth and marine life is not prolific due to periodic exposure during very low tides.

Later studies showed that damage during the construction stage had been minimal, as expected, and what had occurred would soon be repaired by normal marine growth. The fish community did not appear to be disturbed by construction activities and indeed was soon investigating the habitat potential of the base pads.

Waste disposal was not a long term problem: once the light towers were in place and operational, visits to the sites by navaid technicians would be infrequent and brief. Shipping accidents were a different matter: the whole concept of Hydrographers Passage surrounds its extensive and long-term usage by very large bulk carriers. It was important that the risks of marine casualties be minimised. Det Norske Veritas, the Norwegian ship classification society — and expert at risk analysis — studied the matter and decided that, provided all ships transit the passage under the guidance of maritime pilots, the risks of a casualty were acceptably minimal.

**PILOTAGE**

It was clear from the very earliest assessments that Commander Bond’s discovered channel might be safely navigable — but it would not be simple to navigate. Captains of the large bulk carriers that would use the new channel, men who spend their lives crossing the world’s oceans, could not be expected to have the detailed local knowledge or expertise in reef navigation that a safe transit of Hydrographers Passage would demand. This is a job for someone who has been trained to do it, and does nothing else. A specialist.

Pilots of the Queensland Coast and Torres Strait Pilot Service have been guiding ships through Queensland reef waters for more than a century. Theirs is a private, non-profit oriented organisation that operates within regulations which are part of the Queensland Marine Act. All pilots (currently 41 in number) are licensed under the Act and are former shipmasters with extensive experience in these waters. Pilotage fees are set by the Queensland Marine Board, a body that is also responsible for the appointment and licensing of pilots.

With its participation inevitable, the Service was prompt in becoming involved in the investigative process. An internal working group was created, charged with planning the new pilotage services at Hydrographers Passage and collaborating with other interested parties. The Service played a key role in the analysis of Commander Bond’s first hydrographic data, a study that decided the channel’s practical and commercial feasibility, and in the formulation of the navigational aid network. Close and active consultative cooperation with all partners to the investigation continued throughout the three year project.
In planning their own contribution the pilots were confronted by a unique dilemma. They had to find a way to transport pilots to and from ships at the boarding grounds outside Hydrographers Passage, more than 100 miles from the mainland, and do it without adding so much to the cost of pilotage that the whole purpose of using the route was jeopardised. They were seeking an economic solution to a practical problem. Unfortunately, they had no existing pool of knowledge to tap into, no similar service anywhere in the world. Theirs was an unprecedented investigation.

It was also complex. While the use of helicopters seemed logical — most ships using Hydrographers Passage would be large bulk carriers with broad clear hatchtops to land on — they are very expensive machines to operate. Moreover, some ships — those with cluttered decks for example — cannot be serviced by helicopter, raising the need for a complementary launch service. Early rough estimates made it clear that the cost of either a helicopter service or a launch service were going to be high; to have both would be prohibitive.

Captain Donald Grant, pilot of the first loaded ship steaming outwards through Hydrographers Passage, the Iron Whyalla, seen here with its captain, Derek Bolas (left).
The primary objective of the helicopter study was to decide which aircraft could do the job, both physically and within acceptable economic limits. A twin-engined machine was needed, one that could undertake a 200 mile round trip over water without refuelling, that could hover on a single engine when out of ground effect, that could be fitted with winching equipment. Only about five aircraft filled this bill — all very expensive machines, to purchase and to operate.

The eventual, if interim, solution was an arrangement with the owner of the luxury tourist resort on Hamilton Island, Keith Williams. His aviation company, Helicopter Aviation Pty Ltd, was able to meet the Service’s helicopter needs. Williams agreed to site an offshore refuelling helipad in White Tip Reef lagoon, and to make launches available when required.

The arrangement with Hamilton Island, for good measure, solved the pilots’ two other operational concerns: communications and accommodation. Round-the-clock radio contact with Hamilton Island would give a comprehensive communications coverage over the whole area. And the range of accommodation facilities, on an island served almost daily by modern jet aircraft landing at the island’s own modern airport, would provide itinerant pilots with a handy accommodation base. It dovetailed together very neatly.

So, when the Federal Department of Transport declared Hydrographers Passage ready for use in mid December 1984, the Pilot Service was able to make a simultaneous announcement that it too was ready. Rehearsals were over and pilots, both marine and helicopter, waited in the wings for the main curtain to be raised. They did not have long to wait.

THE INAUGURAL TRANSIT

At dawn on 21st of December 1984, the 61,000 deadweight tonne bulk carrier World Jade, bound from Japan to Hay Point, arrived at the seaward entrance to Hydrographers Passage.

Just after 5.30 a.m. on that day, a hundred miles off the coast of Queensland, the World Jade rendezvoused with a tiny pilot launch, the Hamilton II. The launch swung alongside World Jade’s great steel hull, next to a dangling pilot ladder. Marine pilot captain Donald Grant, allocated this first job, clambered up the wooden ladder. He was followed by two colleagues; Captains Eric Whittleton and John Foley.

When the three men reached the navigating bridge they were warmly welcomed by the World Jade’s master, Captain Bob McKechnie, obviously delighted to have the unique priviledge of inaugurating a new passage.

At 6 a.m. precisely, the event recorded on film by observers on board a hovering Hamilton Island helicopter and a circling seaplane, World Jade passed midway between Blossom Bank and Marilyn
Shoal and sliced neatly through a symbolically hypothetical ribbon stretched across the entrance to Hydrographers Passage.

This historic transit went off without a hitch. As if by divine arrangement the weather was superb; light winds, clear skies and exceptional visibility. Under Captain Grant’s guidance *World Jade* followed the planned route between White Tip and Bond Reefs, past Little Bugatti, Bugatti and Creal Reefs, and steamed on in triumph to Hay Point. By 3 p.m. that same day she was safely anchored off her berth and the first transit of Hydrographers Passage had come to a successful end.

This ten hour journey was a milestone in Australian shipping history and signalled the end of a three-year-long development stage as well as the start of an operational era that will stretch many years into the future.

**CONCLUSION**

After the fanfare of the *World Jade*’s pioneering inaugural transit, Hydrographers Passage settled down to a steady pattern of work, and growth.

Within six months, the first four of which were restricted to daylight navigation due to a delay in the installation of optical equipment, a hundred ships had passed through. The trend was already upwards and accelerating. By the end of the first year traffic levels had stabilised at about 30 ships per month, where they have remained since.

Increased patronage will depend mostly on an expansion in coal sales to the north-west Pacific. In the short term, given the current problems in the Japanese steelmaking industry, this is unlikely, but market analysts predict an upturn in Japanese demand in the early 1990s. In the meantime exports to Europe are on the increase, which will expand the number of Hydrographers Passage transits by ships taking the northabout route to Suez or the Cape of Good Hope.

Currently, the average size of ship using Hydrographers Passage is around 150,000 tonnes. A few monsters over 200,000 have passed through and the time is not too far distant when behemoths of 250,000 tonnes will be common. Hydrographers Passage can handle fully laden ships of that size with ease.

In the three years since Hydrographers Passage opened the flow of bulk carriers through it has become a routine if chronologically erratic business, as shipping invariably is. At times almost a week will pass without a movement, only to be followed by a sudden flush of four or five ships all in the one day.

There have been some highlights, nevertheless. The first loaded ship to be taken through the passage, outbound of course, was the *Iron Whyalla*, piloted by Captain Grant not long after the *World Jade*’s inbound trip. Her transit was suitably significant as well as
historic, as she flew an Australian flag from her stern. B.H.P., the company that owns *Iron Whyalla*, has a large stake in the Central Queensland coal industry through its corporate ownership of Utah.

Ship number 100 was the 159,250 tonne Greek bulk carrier *Marinicki*, piloted outwards by Captain Milford Eyres on 30th July 1985, the event being recorded on film and suitably celebrated afterwards.

Of triple importance was the 500th ship, which at 231,850 tonnes was the largest to transit the passage and did so with a world record shipment of coal. B.H.P.’s new *Iron Pacific* departed Hay Point on 22nd December 1986 with more than 190,000 tonnes of coal on board for Korea. Captain Peter Sturt piloted this huge ship through Hydrographers Passage.

Coal carriers certainly dominate Hydrographers Passage but their use has not been exclusive. Several freighters bound to and from Mackay to load sugar have passed through. And at least one cruise liner company has canvassed the possibility of including the route in a future itinerary.

And what of the future? Hydrographers Passage’s ability to continue serving the Central Queensland coal mining industry is limited only to the capacity of that industry to secure overseas markets for its product. The passage, or rather those who operate it, has nevertheless a duty to preserve its economic worth. If the cost of using Hydrographers Passage should ever exceed the quantified cost saving from a reduction in voyage length, then shipowners and charterers will simply direct their shipmasters to revert to the old route.

After three years of operation it is now clear that everyone associated with Hydrographers Passage, the shipmasters, owners, agents, charterers, mining companies, marine pilots and helicopter personnel, have settled comfortably into the phenomenon that is Hydrographers Passage; all helping to maintain both operationally and economically the newest and certainly one of the most fascinating shipping channels in the world.

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