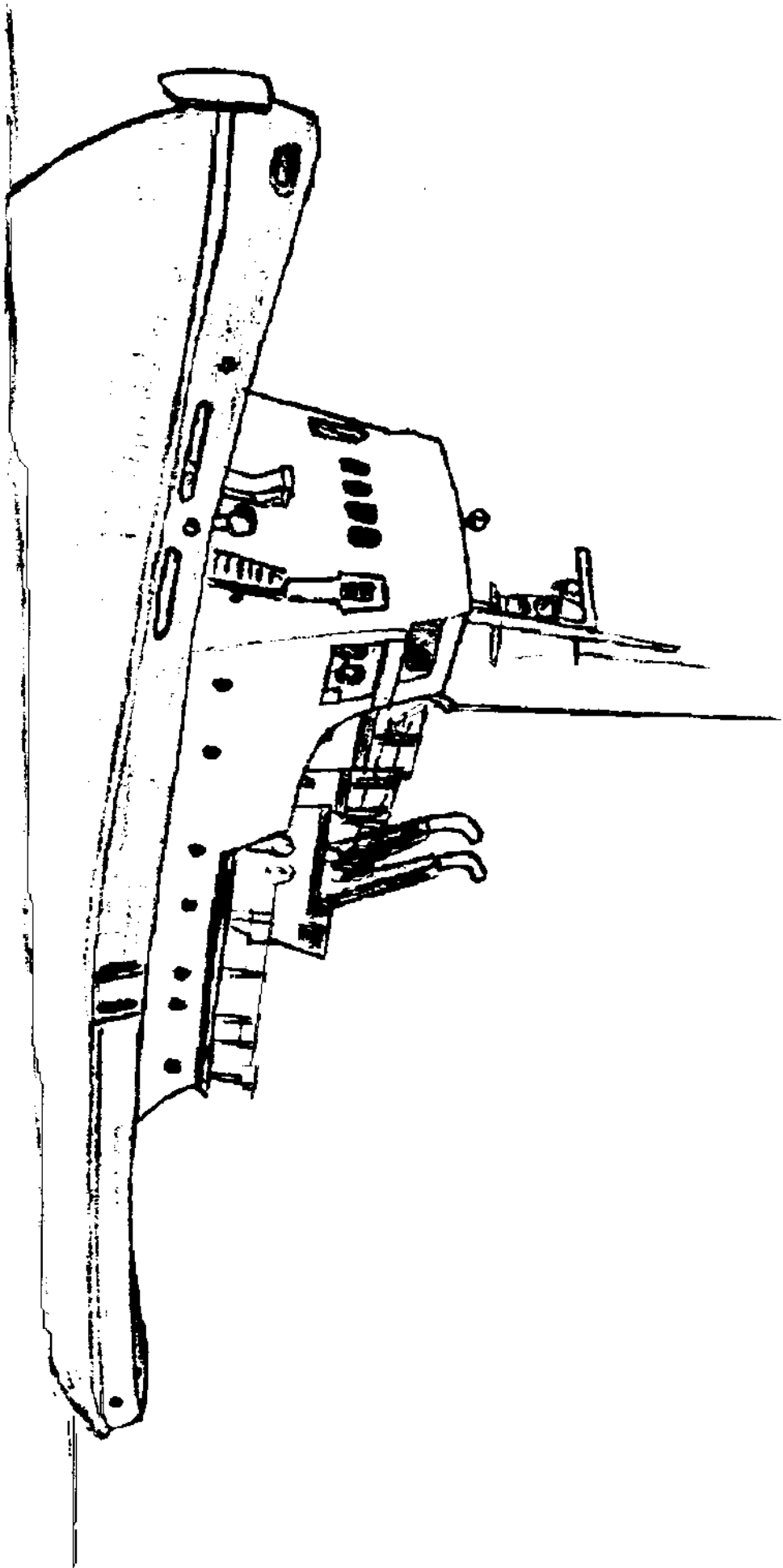


Contents

Summary	1
Information sources	2
The vessel	3
The incident	5
Comment	15
Regulatory framework	15
The foundering	17
Crew actions	18
Crew experience	19
Request for salvage pump	20
Towing vessel	21
Communications	23
Responsibilities	23
Conclusions	25
Submissions	27
Details of vessel	29
Attachments	
1. Definitions	
Navigation Act 1912	31
Uniform Shipping Laws Code	31
Illustrations and charts	
Provincial Trader	Next page
Portion of chart Aus 423 showing positions of Provincial Trader	6
Portion of chart Aus 191 showing position of foundering	12



Provincial Trader

Summary

On the night of 28-29 April 1994, the privately owned Provincial Trader became disabled in the eastern area of Bass Strait, whilst on a voyage from Adelaide to Cairns. Provincial Trader was an former tug of 418 gross registered tonnes [739 tonnes displacement] with a length of 42m.

The skipper advised Melbourne Marine Communications Service of the situation and later contacted the owner in Cairns. The owner arranged for the Eden based 14.8m work boat Broadwater to tow the vessel the 100 or so miles to Eden and also to take out some compressed air bottles to the vessel. Broadwater commenced the

tow at 0300 on 30 April, but proved inadequate and the tow was relinquished to the fishing vessel Rubicon at 1215 on 30 April.

Water had been accumulating in Provincial Trader's engine room bilge from early on 29 April, eventually causing some concern. However, the engineer was able to start the bilge pump after receiving the compressed air bottles and the water level was reduced and stabilised.

When the tow was approaching Twofold Bay, NSW, early on 1 May, Provincial Trader's engine room suddenly and rapidly filled with water and the skipper ordered the crew to abandon ship. Provincial Trader sank just 530m outside the Eden port limits, the crew being rescued by Rubicon.

Information sources

Provincial Trader - owner, skipper, engineer and deckhands

Broadwater - owner/skipper

Rubicon - owner, skipper, senior deckhand

Australian Maritime Safety Authority - Maritime Rescue Co-ordination Centre, and Registrar of Ships

Australian Volunteer Coast Guard operators Malacoota and Melbourne

Ben Lexon Marine, Cairns

Captain I. D. M. Dickson, Marine Surveyor, Port Adelaide

Charter Craft and Marine Services, Eden

Eden divers Peter Hall and Lionel Hart
Harbour Master, Eden

Lloyd's Register of Shipping

NQEA Slipway, Cairns

NSW Ambulance Service

NSW Police, Eden

Queensland Department of Transport, Marine & Ports Division

South Australia Department of Marine and Harbors

Transfield Shipbuilding WA Division

Victoria Water Police - Gippsland and Melbourne

Acknowledgements

The Inspector gratefully acknowledges the assistance on the towage aspect provided by Hunter Towage Services, Newcastle, NSW.

Portions of charts Aus 423 and Aus 191 reproduced by permission of the Hydrographic Office, RAN.

The vessel

Provincial Trader was built as a tug in 1959, at the Evans Deakin shipyard, Brisbane for BP Kwinana Pty Ltd. The 739 tonnes displacement vessel was 42.37m in length, had a beam of 9.45m and was powered by a single eight cylinder Crossley marine diesel engine, developing 1500 SHP (1120 kW), driving a single screw kort nozzle rudder. After some years with BP Kwinana, the vessel underwent a number of changes of both ownership and name.

In 1988, the vessel was moved to Queensland, where it was modified to become a prawn trawler to the Marine Board of Queensland's survey requirements for a Class 3B * vessel. The modifications included the removal of the towing hook and hoops, the removal of the fire fighting monitors, the installation of a stern trawling gear gantry and the erection of a fish sorting house immediately aft of the superstructure. Further modifications involved installation of fish freezer compartments, with insulated fibreglass lid-type hatches, in what had been the after oil bunker tanks. The vessel underwent its last full hull survey when it was slipped at Cairns in August 1992.

In 1993, the vessel was purchased by three ship enthusiasts from Adelaide, whose initial intention had been to

purchase a wooden hulled ketch, but who changed their ideas and planned to restore Provincial Trader to its original condition. In August 1993, the three owners, one of whom was a former merchant seaman and who acted as skipper, sailed the vessel to Adelaide with a volunteer crew, with the exception of an engineer, who was engaged for the voyage.

In Adelaide the vessel was not put under State survey due to the costs involved in bringing it up to survey standard. Instead, it was registered with the Marine Authority as a motor boat. From January 1994, a young boilermaker, who had served some time as a deckhand on fishing vessels, was allowed to live on board to act as caretaker/watchman.

Work on cleaning and painting the vessel progressed at weekends, but the interest of two of the owners waned rather quickly and after only a few months it was decided to put Provincial Trader up for sale. The vessel was sold in April 1994, the new owners buying the vessel to operate as a beche de mer ** "mother ship" off the North Queensland coast.

One of the new owners travelled to Adelaide in mid-April and spent a week checking over the vessel and organising repairs recommended by a private surveyor. The stern trawling gantry was removed, also the fish sorting house and a winch. A number of holes in the deck, resulting from the removal of these fittings, were covered with plating and welded. A section of

* Class 3B vessel - a seagoing fishing vessel for use in all operational areas up to and including offshore operations.

** Beche de mer - sea cucumber/sea slug, a marine echinoderm, greatly sought after by the Chinese as a luxury food item.

sea suction cooling water piping to the port Crossley auxiliary engine was replaced and the engineer replaced a section of leaking 5mm cooling water piping to the Rolls Royce alternator with a rubber insert. A steel framework was erected over the engine room hatch and a standard 20ft (6.1m) refrigerated (reefer) container secured to the framing. At the time of sailing this container was variously reported as being empty, containing sheets of 25mm marine plyboard and containing empty 200lt steel drums.

As the vessel was not in survey, a certificate of seaworthiness was not issued by the survey company. The view of the surveyor who carried out the inspection was that, considering the age of Provincial Trader, it was in good condition. The machinery was run in his presence and, with the exception of the port Crossley auxiliary diesel engine, was functioning satisfactorily.

The new owner engaged a crew comprising an engineer, who held an engineer Class 3 certificate, issued by the Queensland Department of Transport, and who had worked for him previously, two deckhands, one of whom was the "caretaker" and the other a boilermaker (who had also been doing some of the repair work) and a cook. Because of his interest in the vessel, the previous owner, the former seafarer who held a motor-boat driver's licence issued by the South Australian Department of Marine and Harbors, volunteered to skipper the vessel back to Cairns and this offer was accepted. For the voyage, the skipper's nephew and the cook's step-daughter also joined the vessel.

On Friday, 23 April, Provincial Trader was scheduled to load bunkers. However, on going down to the vessel the skipper found it well down by the head. Before he could move the vessel to the bunker berth he had to pump out 35 tonnes of fresh water that the inexperienced deckhand had loaded into the forepeak tank.

For the voyage the vessel took on 40 tonnes of diesel fuel, six-seven tonnes of lubricating oil, 15 tonnes of fresh water and about 40 tonnes of additional ballast water, the latter loaded into the aft tanks. The insulated hatches of the fish freezer compartments were secured with rope, as were a number of valves, lengths of piping and a water cooler that were stowed on deck. A Datsun 120Y car was stowed on top of the steering gear compartment and lashed down with chains.

Provincial Trader was equipped with a Daiko Keiki magnetic compass, a Furuno 74 mile range dayscreen radar, Magnavox MX100 GPS, SATNAV, and HF and VHF radio. For the voyage, the skipper used his own navigation charts, which he stated had been corrected to the latest Notices to Mariners by a local chart supplier. The vessel's safety equipment included three inflatable liferafts, the skipper's recollection being that two were within service period while the third's service period had recently expired. The vessel also carried in-date pyrotechnics.

Prior to the vessel's departure, the skipper mustered the crew with their lifejackets and instructed them in their correct use.

The incident

Provincial Trader sailed from Adelaide on Monday 25 April 1994, being logged as having passed the Port of Adelaide Control tower at 0905. The draught was not recorded, there being no visible draught marks, but was probably about 12ft (3.66m).

The voyage progressed well until the evening of Thursday, 28 April, when the vessel was passing through the traffic separation scheme to the south of the Bass Strait Oil Field and experiencing 25 to 30 knot south-westerly winds and 2 to 3m following seas. That evening, the engineer found that the air compressor was having difficulty maintaining air pressure, cutting in at frequent intervals. The fluctuating air pressure was causing problems with the Mathers pneumatic engine control system and he changed over from bridge to engine room control. Later, unable to find any leaks, he advised the skipper that he would have to shut down the compressor to check the valves. Before stopping the compressor, at about 2230, the engineer checked that the primary air bottle was full, at a pressure of 300-350psi.

The head and block of the compressor were removed and all four high pressure stage rings were found to be broken. At about this time, the main engine speed began to fluctuate, the cause being traced to an oil leak from the gear box, the oil spraying on to the engine. The engineer advised the skipper that the main engine would

have to be stopped and this advice was accepted, Provincial Trader by this time being well clear of the oil field and the traffic separation scheme.

The engine was stopped at about 2330 and on removing the gear box shaft brake and peripheral housing cover, the engineer, assisted by one of the deckhands, found the seal was ruptured. Unable to find a new seal, he removed the shaft brake and isolated the hydraulic oil supply to the brake itself. This enabled the engine to be operated, but reduced the manoeuvrability in that it increased risk of damage to the gearbox when changing from ahead to astern.

At about 0030 on 29 April, the skipper, using a mobile telephone, called Melbourne Maritime Communications Service (MCS) to advise that the vessel, a 39m tug, was drifting in the main sea lane, in position 38°31'S 148°17'E (*this was most probably a misreading of 148°47'E*), had a broken gear box seal and may require a tug. The weather by this time had deteriorated, with 40 to 50knot winds and 6m seas. However, Provincial Trader was riding well beam on to the sea, although rolling heavily, and there were no concerns for the safety of the vessel.

On completion of the work on the gear box, after a time lapse of about two and a half hours, the engineer found that the air pressure in the air bottles was down to around 250psi. Although concerned that there would not be sufficient air pressure to start the main engine, he considered he had no alternative but to attempt a start. The start failed and the attempt reduced the

amount of air left in the bottles to virtually nothing. With the deckhand still assisting, the engineer then started going through the stores, the bulk of which were located in one of the spare cabins, in search of spare compressor rings. Then, at about 0230, he went off to get some sleep, leaving the deckhand to continue the search.

At 0306, the skipper called Melbourne MCS again and advised that it looked as though repairs could be effected, that the vessel was drifting towards Point Hicks and that he would anchor when in shallower water. He advised that the vessel appeared to be out of danger, but he would call again if anything further was required, but did not anticipate any further problems.

The engineer returned to the engine room at 0430 and resumed his search for compressor rings, sending the deckhand off to get some sleep. Unable to find any rings, and after discussions with the skipper, the engineer fashioned a set of rings out of brass and steel tubing. However, with no proper machining tools, the rings were very makeshift and although the compressor was run for 30 mins, it proved ineffective.

After further searching the engineer was convinced there were no spare compressor rings on board and at 0800 the skipper telephoned the Volunteer Coast Guard (VCG), Melbourne. He advised that Provincial Trader was a 39m vessel with seven people on board, off Point Hicks and in need of a tow, but they were not in any danger. VCG Melbourne passed this information to the Melbourne Water Police at 0810, the Water Police

making contact with the vessel at 0815, when the skipper advised them of the broken seal in the gear box, but that they were in no danger at that stage.

Melbourne Water Police passed control to the Gippsland Water Police at 0845 and at 0850, Gippsland Water Police contacted ESSO at Longford, to ascertain the availability of suitable towing vessels. As nothing was available through ESSO, Gippsland Water Police then contacted Charter Craft and Marine Services at Eden, which owned the tug Warringa.

Gippsland Water Police made their first contact with the vessel at 0920. At this time the skipper requested a tow and air to start the engine, stating his concern about crew seasickness. The vessel was experiencing 40 to 50 knot south-westerly winds and 6m seas and was taking some water over the stern, but there was no danger to life and no fear of sinking. However, according to the skipper, he requested a pump as a precautionary measure.

Gippsland Water Police made contact with the owner in Cairns and recommended Charter Craft and Marine Services at Eden, advising that the tug Warringa would be the most suitable vessel to tow Provincial Trader. Although satisfied that no distress situation existed, Gippsland Water Police continued to provide assistance to the owner.

After consulting the skipper, the engineer telephoned the owner in Cairns, informing him of the situation and the need for compressor rings. A tow was discussed and the engineer advised the owner that a salvage pump

would be needed if they could not get air. The owner said he would try to get spare rings or a compressor with which to start the main engine.

Charter Craft and Marine Services, having been advised of the situation by Gippsland Water Police at 0907, prepared the tug Warringa to sail and made contact with the owner, advising that United Salvage would arrange contract details. However, when advised of the contract price (\$32,000) at about 1045, the owner considered it to be too high and sought an alternative towing vessel.

During a routine check with Provincial Trader, Gippsland Water Police were advised by the skipper, at 1123, that the bilge pump was not working, but that was not a problem.

Immediately afterwards, at 1125, in discussions with the owner about getting an air supply to the vessel, Gippsland Water Police advised the owner that helicopters were available, either to take air bottles out to the vessel, or to take off the crew should it become necessary. Contacting the helicopter company, the owner was advised that the airlift would cost about \$15,000. According to the owner, he was advised against an airlift due to the hazards involved in lowering the high pressure cylinders on to Provincial Trader, rolling heavily in the weather conditions prevailing at the time. However, according to Gippsland Water Police, this would not have been a problem.

After various consultations, the owner chartered the 14.8m, 170 horsepower (127kW) work boat Broadwater, with a

bollard pull of three tonnes and a crew of two. Broadwater sailed from Eden at 1400 on 29 April, equipped with a 185m x 64mm towing line and four diver's air cylinders. Broadwater had only local charts to Gabo Island and, therefore, would be reliant upon radar and VHF to make the rendezvous with Provincial Trader.

At 1210 on 29 April, Gippsland Water Police advised the skipper that a helicopter was available to take off the crew if he thought it necessary. However, the skipper confirmed that there was no danger to the crew, but that Provincial Trader needed a tow.

At 1215, Gippsland Water Police telephoned the Volunteer Coast Guard operator at Malacoota and requested that he keep a "listening watch" for the Provincial Trader, advising "the tug* Broadwater was on its way from Eden with an ETA at Provincial Trader of 20-2100hours". The Malacoota operator first made contact with Provincial Trader at 1528. Thereafter he received updated positions and relayed messages until 2230, when he lost all contact with Broadwater and so advised Provincial Trader that he was closing down for the night.

While working in the engine room during the night and early morning, the engineer had noticed that water was accumulating in the bilge. Initially this was no cause for concern and although the skipper did mention the fact when talking to the Gippsland Water Police at 1340, he confirmed that the vessel and crew were in no danger. The engineer checked around to try to find the source of the water, but was unsuccessful. No water was entering

*inspectors emphasis

from the main deck, the repair he had carried out on the 50mm suction line was sound and the freezer and hold space drain line valves were shut tight.

By 2100, the water level had risen above the engine room deck plates and the engineer expressed his growing concern to the skipper. The skipper informed him that a tug was on its way with a pump and with air. To keep the rising water away from the main switchboard, located on the engine room after bulkhead and the bottom of which was only about 12cm above the plates, the engineer opened the watertight hatch to the propeller shaft well, allowing the water to overflow into that space.

Broadwater arrived at Provincial Trader's position at 0230 on 30 April, having been guided to the vessel by a passing merchant ship, which had offered assistance to Provincial Trader just before Broadwater arrived in the area. By this time the wind, still from the south-west, had abated to about 15knots and the swell had decreased considerably. Broadwater found Provincial Trader well down by the stern, with seas breaking over the deck.

Much to the dismay of the skipper and engineer, Broadwater was not a tug, as they had been led to believe, and had no salvage pump. However, the air cylinders were passed over along with the tow line and the tow commenced at 0300 on 30 April.

The engineer realised that the four cylinders were insufficient to fill the vessel's air bottle but, working with the skipper, the air line was cut and a nipple connection braised on to the

line. The air cylinders proved sufficient to start the auxiliary diesel engine, which drove the bilge pump. By this time, the water level had risen to about 60cm above the plates at the after end of the engine room.

Initially the bilge pump did not gain suction and the engineer removed the cover of the strainer, about 23cm below deck plate level, to make sure it was clear and the pump primed. During this operation the engineer slipped where a plate had been dislodged by the sloshing water and badly hurt his left leg, incapacitating him to a certain extent, so that he thereafter spent more time in the wheelhouse, spelling the skipper. With the pump working, the water level was reduced to below plate level by breakfast time and the strainer cover was replaced.

Broadwater did not have sufficient power to tow Provincial Trader effectively and was making little more than two knots. Provincial Trader was being towed almost sideways and whereas the vessel had ridden well prior to being taken under tow, the tow line dampened the riding ability and occasionally seas broke over the deck, almost swamping it completely.

At about 0800, the two skippers discussed the situation and it was agreed that Broadwater was not suitable for the job in hand and, at 0825, the Malacoota Coast Guard operator was asked to contact Provincial Trader's owner to arrange for another, more suitable vessel. The position for the two vessels was given as 38°02.8'S 149°39'E (21.5 miles south of Little Rame Head).

The 23.3m, 500SHP (370kW) fishing vessel Rubicon was operating about 15 miles south of Gabo Island and asked Malacoota if he could help.

Eventually, terms of a towage contract were agreed between the owners of Provincial Trader and Rubicon. As Rubicon had no portable salvage pump, it was to arrange a rendezvous with the smaller fishing vessel Osprey, belonging to the same owner and fishing further to the north, which had one.

Rubicon arrived on scene at noon and took over the tow at 1215 in position 37°56'S 149°37'E. Initially, the skipper of Broadwater appeared reluctant to lose involvement, but after standing by to ensure that all was well, departed for Eden at 1245. Although the bilge pump was maintaining the water level in the engine room bilge well below the deck plates, the skipper and engineer were again dismayed by the fact that Rubicon did not have a salvage pump.

The crew aboard Rubicon had prepared a towing bridle to provide an even, astern pull. Because Provincial Trader was towing "off line", the skipper and one of the deckhands also prepared and rigged a bridle, after which Provincial Trader rode more easily.

The weather had improved considerably, with variable winds at 5 knots, a slight sea and a low swell and the tow proceeded well, making good a speed of about five knots. At 1700, the tow was observed by the coastguard operator as it passed off Malacoota and all appeared well. At this time the skippers of the two vessels discussed diverting to Gabo Island, so that

Provincial Trader could pump out the water. The Rubicon's skipper advised that this would take about two hours, including the rendezvous with Osprey to collect the pump, and suggested that if Provincial Trader was all right, they continue as the tow was going well. As the bilge pump was coping, Provincial Trader's engineer agreed that they should continue to Eden.

Gabo Island was passed at about 1730 and, at 1745, due to concern for the seasick crew, the skipper asked the Malacoota Coast Guard operator for a phone number of a doctor in Eden.

Cape Howe was passed at about 1930, at which time the wind started to freshen from the north-east.

At 2030, the skipper of Rubicon handed over to the senior deckhand and went to get some sleep. The senior deckhand advised those on Provincial Trader of the change and instructed them to call on VHF channel 67 should they have any problems. The wind at this time was from the east-north-east at 10 knots, the sea "sloppy" with a slight swell. The tow was progressing at about four knots.

At 2130, the engineer aboard Provincial Trader, satisfied that the bilge pump was maintaining the water in the bilge at a level between 45 and 50cm below the engine room plates, went off to get some sleep. He handed over to the deckhands, instructing them to keep a check on the engine room and awoke and informed the skipper.

During the evening, a regular check was maintained on the bilge pump, the water level in the bilge and the bilge

overboard discharge. From Rubicon, a torch beam could be seen moving about the deck of Provincial Trader at regular intervals as the crew went about their checks. Occasionally a heavier swell went through and those on Provincial Trader called up to say they were all right.

After passing Green Cape, at about 2300, the sea became more confused and shortly after midnight, the water level in the engine room bilge was found to be rising. When off Mowwarry Point, at about 0100 on 1 May, the skipper of Provincial Trader asked Rubicon to alter course, because they were getting more water on deck and in the engine room. The senior deckhand brought Rubicon around from a heading of north to a heading of almost north-east and Provincial Trader confirmed that there was an improvement, but that they were still taking in water.

At about 0130, the skipper asked Rubicon if they could arrange a pump. Rubicon advised that they were now only 25 to 30 minutes from Eden and asked if they could hold on, but the skipper confirmed they needed a pump urgently, repeating the request two or three times.

Rubicon's senior deckhand called his skipper at this time and Provincial Trader was seen to be riding well down by the stern, and rolling heavily and sluggishly, now being beam on to the swell as the course had been altered to enter Twofold Bay.

Checking the engine room again, the skipper found the water had risen to the top of the gear box, 1.22m above

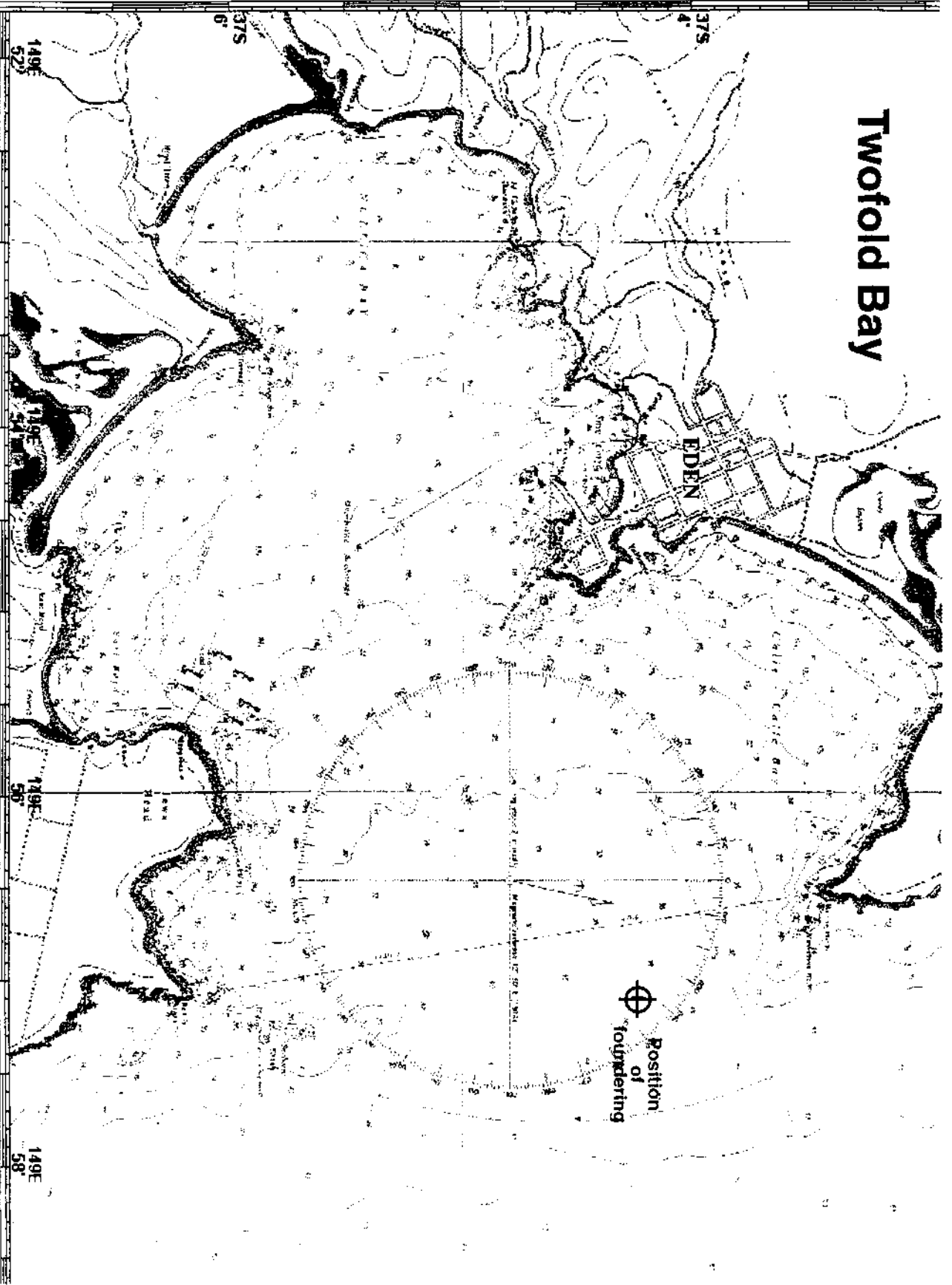
the level of the plates. Leaving the engine room, the skipper roused the crew, instructing one of the deckhands to call the engineer and for all of them to muster in the wheelhouse with their life-jackets. At about this time, electrical power was lost. He then called Rubicon and advised that they "were not going to make it".

The engineer quickly looked into the engine room and estimated the water to have risen to about 1.8m at the after end. Going to the deck, he found the aft deck to be completely under water, the car atop the steering gear was totally submerged, and the two freezer holds, the hatches of which had become dislodged during the heavy weather south of Point Hicks, appeared to be full of water.

Rubicon urged them on, saying that they were almost there, but the skipper instructed them to cast off the tow, that he was ordering the crew to abandon ship and asked Rubicon to come back and pick them up. The skipper of Rubicon instructed his crew to cut the tow line, the rope having become jammed on the bitts, and manoeuvred back towards Provincial Trader.

The engineer and one of the deckhands launched an inflatable liferaft over the starboard side and the skipper ordered the crew to abandon ship. Provincial Trader listed to port, the still secured painter pulling the liferaft partially out of the water, as the crew tried to climb down into it. Although the crew succeeded in boarding the liferaft, the skipper ordered them to jump into the sea and to start swimming towards Rubicon.

Twofold Bay



Portion of chart Aus 191 showing position of foundering

During the tow, Rubicon had been running with its stabilisers out and while closing Provincial Trader to rescue the crew, the skipper was wary of fouling these on flotsam. While rescuing the crew from the water, one of Rubicon's own ropes fouled its propeller, but this did not affect the rescue.

While the crew were being rescued, Provincial Trader sank stern first, just 530m outside the Eden port limits and only three miles from the jetty. The time of the sinking was recorded by the

NSW Police as being 0205, while other sources indicate the time as having been 0220.

As soon as the Provincial Trader crew were safely on board, Rubicon proceeded into the harbour, where two ambulances, responding at 0218 to a request from the Rubicon's skipper, were already waiting to take the Provincial Trader crew to hospital. The skipper, engineer, two deckhands and cook were all released after a medical check-up, but the skipper's nephew and the cook's step-daughter were held for observation.

Comment

Regulatory framework

Provincial Trader was the third of three names under which the vessel operated, being formerly the tug *Parmelia* and the fishing vessel *Clarence Beach*.

All Australian vessels that were registered before 1982 were registered on the British register and the vessel, as *Parmelia*, was first registered in 1960. With the enactment of the *Shipping Registration Act 1981* (Commonwealth), *Parmelia* was transferred to the Australian Register in 1983, as a “towing vessel” with a “Home” port of Fremantle and official number 196905. In April 1986, the vessel was sold and in June its name was changed to *Clarence Beach*. It underwent a number of further changes of ownership over the intervening years and was engaged in fishing under the survey of the Marine Board of Queensland. It was last surveyed in October 1992 with a survey valid to 25 August 1993. It was licensed to carry a crew of 16.

On 19 February 1993, the vessel changed its name to *Provincial Trader*. In August the vessel changed owners and was taken from Queensland to Adelaide, apparently with its survey still in force.

In Adelaide, the new owners made inquiries with a view to putting the vessel under South Australian survey, but in view of the cost, the new owners

decided to register the vessel as a “motor boat” at an annual fee of \$24, with a view to restoring the vessel, regarding it as a “private vessel”, or pleasure craft. The vessel was issued with a certificate as a motor boat by the South Australian Department of Marine and Harbors, valid until 2 August 1995.

When the 42m, 739tonnes displacement *Provincial Trader* sailed from Adelaide on 25 April, it was licensed as a motor boat. In charge of the vessel was a person with a motor boat driver’s license and an engineer with an Engineer Class 3 certificate.

As either a pleasure craft, or a fishing vessel or a fishing support vessel, on an inter-state voyage the provisions of the *Navigation Act 1912* (Commonwealth) did not apply to the vessel, except in respect of marine incidents.

Under the provisions of the *South Australian Marine Act 1936* a fishing vessel is defined as:

“any vessel not propelled solely by oars and used in the taking of fish or oysters for sale (including trawlers, pearling luggers and whale catchers).”

The South Australian Act does not define a fishing support vessel.

The *Queensland Marine Act 1958 - 85* defines a fishing vessel as:

“a vessel used or intended to be used for catching fish, whales, seals, walrus or other living resources of the sea for a commercial purpose but excluding any vessel engaged in harvesting or transporting algae or

aquatic plants or that is primarily a carrier or mother vessel or that employed at any time in trade."

The Queensland Act does not define a mother ship (fishing support vessel). However advice from the Queensland Authorities is that it would be considered a trading ship and certificates issued based on an area of operation compatible with the ship's construction and equipment.

The Uniform Shipping Laws Code (See Attachment 1 - Definitions) adopts virtually the same form of words as the Queensland Act and it, too, does not define a mother ship or fishing support vessel.

Provincial Trader was a substantial vessel with considerable engine power engaged on a voyage of 2186 miles. It had been classed as a fishing vessel, up until eight months before the incident, and it was the owner's intention that it would become a *beche de mer* mother ship (a fishing support vessel under the Commonwealth definition, but a commercial [trading] ship under the State/USL definition). As such, the vessel would require a certain level of equipment and a particular number of qualified crew to operate it.

As a motor boat, neither Provincial Trader's skipper, nor its crew required any particular qualifications to navigate and no restrictions were placed on its area of operation. As a trading or a fishing vessel, 42m in length and 1120kW engine power, on a voyage in excess of nine days, the vessel would have been expected to carry a minimum of four or five crew, with a skipper holding a Master Class 3,

or fishing Skipper Class 2 certificate, a watchkeeper holding minimum qualification of Mate Class 4 or fishing Skipper Class 3 certificate, an engineer with an Engineer Class 3 certificate and an engineer with an MED 2 certificate.

It does seem, to the Inspector, that it is inappropriate that a vessel of the size and power of Provincial Trader should be able to undertake a substantial interstate voyage without coming under some jurisdiction requiring regulatory standards for hull survey, machinery, equipment and crewing. Such vessels, inappropriately crewed or in an unseaworthy state, can cause a major hazard to other shipping and a significant problem to rescuers. In the Inspector's opinion, the change of a substantial vessel's operation from a commercial to a private venture should not automatically reduce the level of competence required to operate the vessel.

Substantial vessels, which are designed and destined to be commercial in nature, are able to undertake such voyages by exploiting the concept of pleasure craft. This is aided by the lack of standard definitions in Commonwealth and State/Territory marine laws and where the issue of jurisdiction over the vessel operating outside State waters is clouded.

The lack of standardisation is illustrated by the issue of a fishing support vessel. Under USL Code/State law, such a vessel is a commercial (trading) ship and, if on an interstate voyage, is therefore considered to be under Commonwealth jurisdiction. However, the Commonwealth's

Navigation Act does define a fishing support vessel and excludes such a vessel from the provisions of the Act, thus placing such a vessel under State jurisdiction.

The foundering

It is apparent that Provincial Trader sank as a result of the engine room flooding, causing a loss of stability and buoyancy. From the accounts of those on board, the flooding that led to the sinking was relatively rapid, and occurred between sometime after midnight on 30 April and 0200 on 1 May.

Accumulation of water in the bilge was first noticed early on 29 April and, in the early stages, the rate of increase was not sufficient to cause too much concern. The water level had risen to above the level of the engine room deck plates by 2100 on 29 April and had risen about another 60cm by the time the bilge pump was brought into operation at around 0300 on 30 April.

The bilge pumping rate was able to exceed the water ingress rate and the water level was reduced to below the engine room plates after about five hours. However, once the water level was down to between 30cm and 45cm below the plates, the situation stabilised, indicating the ingress rate matched the pumping rate, a situation that lasted for around 15 hours.

According to the skipper, the bilge pump was still discharging overboard when he discovered that the engine room was flooding. However, according to the engineer, the

overboard discharge had stopped by the time the vessel sank, although the pump engine was still running.

Although the engineer searched for the point of the water ingress, he stated he was unable to find anything, that was no obvious source. The water level just slowly rose in the bilge. Even when the bilge pump was maintaining a stable situation, no badly leaking pipe or other source appears to have been evident.

It is probable, therefore, that the source of water ingress was most likely on or near the vessel's bottom, towards the after end of the engine room where there were no double bottom tanks. Originally there had been a large seachest in this area, on the port side, the suction for the fire-fighting pump. This seachest is reported to have been plated over at the time the fire-fighting monitors were removed, although the plate was pierced by a 50mm inlet for the brine system of the fish freezer holds. This seachest was originally protected by sacrificial anodes, to prevent corrosion. If it had become open to the sea for any reason, sometime in the past, it would be an area of corrosion and possible leakage.

Provincial Trader's hull was of riveted plate construction. It is possible that one or more rivet heads may have corroded and, with the working of the hull while stopped and rolling in the Bass Strait swell, may have developed a sizeable leak. One or more rivets may then have "popped" in the choppy conditions off Green Cape, accounting for the sudden increase in water ingress.

Once the flooding was sufficient to cause the immersion of the deck aft, additional flooding may well have occurred, via the scupper pipe from the steering gear compartment and also possibly from the rudder trunking, both of which led into the engine room bilge.

It is worthy of note that about two years beforehand, an attempt was made to scuttle the vessel in port, by opening valves to flood the engine room through a 100mm sea-suction line. The attempt was not discovered until after about ten hours, when the vessel was noticed to be starting to heel over. The vessel did not sink, although the engine room was found to be full of water.

The wreck of Provincial Trader was eventually removed in March 1995. It was first lifted from the seabed, then towed, underwater, further out to sea and dumped in a depth of 2670m. The Inspector had hoped that during the salvage operation the salvors would be able to ascertain the point of water ingress, which caused the Provincial Trader to founder, but this did not eventuate.

Crew actions

It was claimed that, before Provincial Trader sailed from Adelaide, all engine room machinery was run and tested, witnessed by the surveyor, and was considered to be satisfactory. When, on 28 April, the air compressor had difficulty maintaining pressure, the engineer's decision to stop it and check it over was normal engineering practice and it did not involve stopping the vessel. Prior to taking this decision, he had checked the system for serious

leaks and, finding none, assessed that the problem lay with the compressor. He also checked that the primary air bottle was full, with 300 to 350psi, before stopping the compressor. When the seal failed on the gear box he was concerned that the gear box could be damaged if it continued to run in that condition. His decision to stop the engine at about 2330 on 28 April and carry out repairs was quite reasonable, as the vessel was in open waters, the repair was expected to be simple and not anticipated to take long, and the primary air bottle was full.

According to the owners of the vessel before its sale in August 1992, the air compressor was in need of a major overhaul. From the condition of the high pressure rings, as found by the engineer, it is unlikely any major overhaul was in fact carried out.

The nearest port at that time (2330/28) was Lakes Entrance, about 60 miles and six hours steaming away. However, Lakes Entrance was not a suitable port, the bar being rather treacherous to the inexperienced, particularly in stormy weather. Eden at this time was about 130 miles distant; more than 12 hours steaming time.

When the engineer came to start the main engine again, about three hours later, the pressure in the primary air bottle had dropped to 250psi. This would indicate that there was, in fact, some leakage in the system. Even so, it is considered that an air pressure of 250psi in the main air bottle should have been sufficient to provide a start on the main engine.

Before departure from Adelaide, the skipper had instructed the crew in the

correct wearing of their life-jackets. When it became necessary to abandon ship, he had mustered the crew and organised their safe evacuation into the liferaft. However, why the painter was not severed, once the crew was safely in the liferaft is not clear. A knife is supplied in every liferaft, located close to the painter securing point for that very purpose. Also, painters are either secured by a “weak” patch or embody a weak link, to ensure that a liferaft does not get pulled under water and will release even after a vessel has sunk. Both the skipper and the engineer should have been aware of these facts, an oversight that resulted in the crew having to take to the water, to swim towards Rubicon.

When Provincial Trader first stopped, although gale-force conditions were being experienced, it was in no danger and was riding the seas well. The skipper’s call to Melbourne MCS, to advise that the vessel was stopped in the main sea lane carrying out repairs, was in accordance with good marine practice.

At no stage on 29 April did a distress situation exist. An “urgency” situation could be said to have existed from about 2100 on 29 April, when the water level was above the engine room deck plates. However, help was known to be on its way and the broadcast of an “urgency” message would have provided no benefit, in fact an offer of assistance by a passing merchant ship was turned down when Broadwater broke in on the VHF conversation.

Once the bilge pump was operating, the water level was greatly reduced and

the position stabilised, therefore, there was no cause for great concern throughout 30 April.

An emergency situation only developed very early on 1 May. The vessel was under tow and a rescue vessel was, therefore, at hand. Initially the skipper advised Rubicon that they were taking on water, urgently needed a pump and requested that Rubicon try and arrange one. Because of the rapidly deteriorating situation, the skipper then asked Rubicon to release the tow and to come back to take off the crew. It is considered that at that stage a general distress message would have served no purpose, all members of the crew being rescued.

It is considered that the skipper and engineer acted appropriately to the conditions existing at the various times and that the loss of Provincial Trader was not the direct result of those actions.

Crew experience

Of the seven persons on board, only the skipper and engineer had any sea-going experience. The lack of experience of the other crew members placed an increased burden on both the skipper and the engineer, resulting in their working long hours with little sleep.

Although the skipper was an former merchant seaman and had safely conducted the voyage from Cairns to Adelaide, other than a motor boat driver licence, he held no formal marine qualifications. He had sat for the “Coastal Navigation” paper (out of a total of five papers and an oral

examination) for the Master Class 5 certificate of competency, but had not completed the full examination.

The prolonged hours he spent on the bridge passing Wilsons Promontory and transiting the traffic separation scheme to the south of the Bass Strait oil field may account for his misreading the longitude of the vessel's position as given by the GPS at 0030 on 29 April. The position he gave to Melbourne MCS placed Provincial Trader four miles to the south-west of Cobia A and Mackerel oil platforms, within the oil field area.

The lack of an appropriately experienced bridge watchkeeper, in support of the skipper, meant that when the skipper was sleeping, the safety of the vessel was left in the charge of a totally inexperienced person.

The engineer held an appropriate marine qualification for the size of engine and the coastal voyage being undertaken and he had quite extensive experience. The fact that the vessel carried only one qualified marine engineer, placed a major and unreasonable load on him.

Request for salvage pump

When Broadwater arrived at 0230 on 30 April, the crew of Provincial Trader were dismayed on two accounts - the small size, low power of the vessel that had come to their aid and the fact that it did not have a pump.

There are conflicting statements as to whether or not a pump was requested when Melbourne MCS was contacted at about 0030 on 29 April, and during subsequent contacts with Melbourne

MCS, the Victorian Water Police and Volunteer Coast Guards.

The skipper stated that he had repeatedly asked for a pump and both he and the engineer had stated the size and tonnage of Provincial Trader.

Unfortunately, the Melbourne MCS tape recordings of radio messages covering the period of the incident were wiped and therefore not available for scrutiny. However, notes of messages between Melbourne MCS and the Maritime Rescue Co-ordination Centre, Canberra, concerning Provincial Trader, contain no references to a pump.

The records of communications maintained by Melbourne and Gippsland Water Police and the various Volunteer Coast Guard operators do not record any such requests; the requests were for a tow and for air. At no stage was there a request for a pump. The first mention of a pump seems to have been when Rubicon was on its way to the vessel, to take over from Broadwater and the Coast Guard operator at Malacoota was asked if it had a pump and he advised that it only had a fixed one.

When a helicopter air lift was being considered, this was only for air bottles and possible evacuation of the crew, not a pump.

The only requests for a pump in the early stages of the incident appear to have been made directly to the owner, the skipper requesting a tow and a pump, the engineer advising that if the owner was unable to arrange compressor spares or air, then they would need a portable salvage pump.

The owner stated that, when arranging for a vessel to tow Provincial Trader to Eden, as well as the requirement for air, he also indicated the need for a salvage pump. However, the skipper of Broadwater stated that although pumps are readily available in Eden, he was not asked to take one out to Provincial Trader. The owner of Rubicon stated that the need for a pump was not mentioned to him until after a contract had been agreed.

The owner, knowing that without air the vessel had no bilge pump, appears to have acted more on the engineer's advice and the confirmation from all sources that Provincial Trader was in no danger and to have concentrated on arranging a tow and providing compressed air.

Had a pump been taken out to the vessel in the first instance, by Broadwater, or had one been transferred from Osprey as proposed, it is a matter of conjecture as to whether the emergency situation would have arisen. With a salvage pump to back up the bilge pump, the increased inflow of water may have been contained until such time as the vessel had been delivered into Eden Harbour.

Towing vessel

There is no doubt that the vessel initially contracted to conduct the tow to Eden, Broadwater, was grossly under-powered to carry out the towing job. Not only did that vessel take 12.5 hours to reach Provincial Trader, the best towing speed achieved was only about two knots.

When first advised of the situation, Gippsland Water Police sought a suitable towing vessel and contacted ESSO Longford to ascertain if there was a Bass Strait offshore supply vessel available. ESSO advised that the only supply vessel was operationally committed, but could be released in the event of an emergency. Gippsland Water Police then contacted Charter Craft and Marine Services at Eden, owners of the tug Warringa, the other nearest suitable towing vessel, and advised the owner accordingly.

The owner's decision not to enter into a contract with the owners of Warringa was based purely on financial grounds, because Provincial Trader was not considered to be in any danger, either of sinking or grounding. In addition, he appears to have formed the opinion that the crew were overreacting to the situation, panicking. He therefore sought an alternative vessel, his stated initial intention being to hire a fast game boat to deliver air bottles to the disabled vessel, to enable the main engine to be started.

Contacting the owner of an Eden Motel, the owner was provided with a list of three vessels and opted for the Broadwater. He then contacted the Gippsland Water Police for more details. Although not happy with the situation, the Gippsland Water Police sought information about Broadwater from the Harbour Master at Eden and were advised that Broadwater was a 50ft (15.24m) steel hulled work boat, well found, seaworthy and run by a careful, very experienced operator. This information was passed to the owner.

Although advised that Provincial Trader was 120 ft (36.6m) in length, the owner/skipper of Broadwater stated that he was not informed that it was a tug and had thought it to be a pleasure craft, not a heavy tow. He also stated that had he known that Provincial Trader was a tug, he would not have taken the job.

It is essential that any vessel contracted to carry out a towage service is of an appropriate size and power to effectively perform the task. Had a suitable towing vessel, such as Warringa which was strongly recommended by Gippsland Water Police, been contracted in the initial stages, Provincial Trader would most probably have been delivered timely and safely to Eden, before the flooding occurred.

After the incident, the skipper and engineer expressed dissatisfaction at the whole aspect of the towage operation, stating that the crew's lives had been jeopardised. In this respect, when the owner was requested to arrange a tow, the vessel and crew were stated to be in no danger, the vessel being only disabled. The lives of the crew only became imperilled when the integrity of the hull or pipework failed catastrophically. Towage was therefore arranged by negotiated contract, which would take into account the operating costs of the towing vessel and would be greatly dependent on a successful outcome. Any reluctance upon the part of Broadwater to hand over fully to Rubicon would be as a result of this fact.

Had the lives of the crew been in danger and they required rescue, any towage of Provincial Trader would

have been a matter of a salvage agreement between the owner and the towing vessel, the law of the sea regarding rescue being the safety of life, not property.

The choice of towing vessel was purely the responsibility of the owner.

The investigating officer sought advice from Hunter Towage Services on what would be considered a suitable vessel to undertake a tow of Provincial Trader and, as the crew had questioned the long length of the tow line used, the appropriate length of tow line.

The advice received regarding a suitable towing vessel was that the minimum size and power would be a vessel of 50 tonnes displacement, of 500SHP [373kW] power, with a bollard pull of six to eight tonnes - ie similar to Rubicon.

The length of a tow line should be sufficient to prevent the full weight of the vessels being brought to bear directly on the line. A convenient way of providing an effective catenary in the towline, to absorb any snatching that may otherwise occur, is to introduce a heavy towing bridle, or to use the towed vessels anchor chain. In the case of the Provincial Trader tow, the advice was that the length of towline used [185m] was about the minimum to conform to good practice, a towline of twice the length would have been more appropriate.

Communications

Communications played a vital role in the incident. All of the communications between the owner and the various parties were conducted by telephone, as a result of which there

are discrepancies in what is considered to have been arranged or agreed to.

It is considered that where such arrangements are being made over the telephone, they should be followed up by facsimiled details, so that all parties are fully aware of what is required and to ensure that there are no misunderstandings.

Responsibilities

Regardless of whether a vessel is a commercial vessel, a fishing vessel or a recreational/pleasure craft, the owner has definite responsibilities, both to the crew and to other users of the high seas. This includes the responsibility of ensuring that a vessel is seaworthy in every respect, including hull, machinery, equipment and manning.

When Provincial Trader sailed from Adelaide, it had been out of survey and laid up for a period of eight months. As the vessel was 35 years old, it is considered that it would have been appropriate for the owner to have arranged, and for the insurance company to have requested, a full survey to ensure that Provincial Trader was in fact fully seaworthy to make the voyage. Such a survey may well have brought to light any existing deficiency in the hull, riveting or pipework.

Of the seven persons on board, only one, the engineer, was appropriately qualified for the size and power of the vessel. When faced with the serious, albeit stabilised, situation and partially incapacitated, he had insufficient proper support.

Conclusions

It is considered that:

- 1 Provincial Trader foundered as a result of a sudden great increase in water ingress, but it was not possible to ascertain the cause or the point of ingress.
- 2 The skipper and engineer acted appropriately to the conditions existing at the various times and the loss of Provincial Trader was not the direct result of those actions.
- 3 Notwithstanding the fact that the vessel was registered with the South Australian Authorities as a motor boat (pleasure craft), there were insufficient proficient crew members on board to undertake the voyage safely and to respond to the emergency.
- 4 Broadwater was not a suitable vessel for the task.
- 5 Had a suitable towing vessel been engaged in the initial stages, Provincial Trader would most probably have been delivered timely and safely to Eden before the flooding occurred.
- 6 Had a salvage pump been delivered by Broadwater or transferred from Osprey, it is a matter of conjecture as to whether the emergency situation would have arisen. With a salvage pump to back up the bilge pump, the increased inflow of water may have been contained until such time as the vessel had been delivered into Eden harbour.
- 7 Bearing in mind the age of the vessel, the time out of survey and in lay up, a full survey to ensure seaworthiness would have been appropriate before Provincial Trader sailed from Adelaide.
- 8 Commonwealth and State legislation is deficient in that not all definitions are standard and common to the various jurisdictions.

Submissions

Under sub-regulation 16(3) of the Navigation (Marine Casualty) Regulations, if a report, or part of the report, relates to a person's affairs to a material extent, the Inspector must, if it is reasonable to do so, give the person a copy of the report or the relevant part of the report. Sub-regulation 16(4) provides that any such person may provide written comments or information relating to the report.

The report, or parts of the report, were sent to the skipper, engineer, deckhands and owner of Provincial Trader, the owner/skipper of Broadwater, the owner, skipper and deckhand of Rubicon, the Volunteer Coastguard operator, Mallacoota, the Harbour Master, Eden and the Gippsland Water Police.

A submission was received only from the Gippsland Water Police, who defined their involvement and reaffirmed that no request for a pump had been made to them.

Details of vessel

Name:	Provincial Trader
Official Number:	196905
Vessel type:	tug, converted for fishing
Flag:	Australian
Year of build:	1959
Construction:	steel, riveted hull
Length overall:	42.37m
Beam:	9.45m
Depth moulded:	4.39m
Summer draught:	3.93m
Displacement:	739 tonnes
Engine:	Crossley marine diesel 1120kW

Definitions

Navigation Act 1912

Trading ship means a ship that is used, or, being a ship in the course of construction, is intended to be used, for, or in connection with, any business or commercial activity and, without limiting the generality of the foregoing, includes a ship that is used, or, being in the course of construction, is intended to be used, wholly or principally for:

- (a) the carriage of passengers or cargo for hire or reward; or
- (b) the provision of services to ships or shipping, whether for reward or otherwise, but does not include a Commonwealth ship, a fishing vessel, an offshore industry mobile unit, an off-shore industry vessel to which this Act applies, an inland waterways vessel or a pleasure craft.

Fishing vessel means a ship that is used, or, being a ship in the course of construction, is intended to be used, wholly or principally for the taking, catching or capturing of fish for trading or manufacturing purposes or for the processing or carrying of fish so taken, caught or captured, but does not include a Commonwealth ship or inland waterways vessel.

Pleasure craft means a ship that is used, or, being a ship in the course of construction, is intended to be used, wholly for recreational or sporting activities (whether or not let, or intended to be let, for hire or reward or consideration of any kind), but does not include a Commonwealth ship or inland waterways vessel.

Uniform Shipping Laws Code

Commercial Vessel - A vessel which is not used solely for pleasure or recreation and the use of which is made, allowed or authorised in the course of any business or in connection with any commercial transaction and subject to any State legislation includes any government vessel other than one under the control of the Minister for Defence.

Fishing Vessel - A vessel used or intended to be used for catching fish, whales, seals, walrus or other living resources of the sea but excluding any vessel:

- (a) engaged in harvesting or transportation of algae or aquatic plants; or
- (b) that is primarily a carrier or mother vessel.