



Accident Report

Moana

Sinking approximately 11nm
south east of Oamaru on
21 January 2004



REPORT NO.: 04 3362

VESSEL NAME: *MOANA*

Casualty Details:

Date of Casualty: 21 January 2004

Time of Casualty: 1500rs New Zealand Daylight Time (NZDT)

Casualty Type: Sinking

Casualty Location: Approximately 11 nm south east of Oamaru

Weather Forecast Area: Rangitata

Investigator: Michael Eno, Chief Investigator of Accidents



SUMMARY

The vessel and sole occupant were reported missing at 1900 hours. It had last been seen at about 1500 hours. The vessel was located in position 45° 13.25' S 170° 58.92' E, lying in about 75 feet of water. The hull was subsequently raised from the sea bed and transferred ashore.



Key Events

- 1.1 At approximately 0630 hours New Zealand Daylight Time (NZDT) on 21 January 2004, the Skipper and sole occupant on board the fishing vessel **Moana**, departed Oamaru. The vessel was bound for fishing grounds known as 'Hepburn's', in position approximately 45° 16' South 171° 09' East, about 12 miles southeast of Oamaru.
- 1.2 The weather on departure was calm and the sea conditions were slight with a north east swell.
- 1.3 At about mid-morning, the Skipper made contact with a fishing company in Christchurch to inform them that he would be landing fish that evening. Later, in the afternoon of 21 January, the fishing company contacted the Skipper. He informed them that he would be sending through two bins of fish with approximately 600 kilos (kgs) of fish.
- 1.4 The Skipper failed to make contact with either his wife or his father after leaving Oamaru. Contact was usually made by cellphone between 1630 hours and 1700 hours.
- 1.5 **Moana** was sighted by a person aboard **FV Mati** at approximately 1500 hours. The area that **Moana** was sighted was at Hepburn's, in the position referred to in paragraph 1.1.
- 1.6 At approximately 1645 hours, the Skipper's father made contact with the Skipper's wife to see if she had heard from **Moana**. She replied that she had not received any messages. She tried to make contact by cellphone but without success. The cell phone kept ringing unanswered until about 2000 hours. Thereafter no ringing tone was heard.
- 1.7 At about 1830 hours, a couple (Witness 1 and Witness 2), whose home is situated on a hill overlooking the sea, on the south east side of Oamaru, were out walking when they observed something glistening out to sea.
- 1.8 At 1900 hours, the Skipper's father contacted North Otago Search & Rescue and informed the operator that the **Moana** was overdue and contact could not be established with the vessel.
- 1.9 At 1900 hours, the radio operator initiated a search for **Moana**.
- 1.10 At about 1940 hours, after returning home from their walk, Witness 1's Search and Rescue (SAR) pager activated and indicated that a fishing vessel was overdue. He immediately left to join the SAR team in the search. Using a high powered telescope that she keeps at home, Witness 2 observed a vessel that was in the same position as the unknown object she had seen glistening at about 1830 hours. The vessel was seen to be going round in circles for most of the time but occasionally was heading beam onto the waves. The vessel, which was some distance offshore, was upright with no signs of a visible list, but could be seen rolling with the waves. She could see two other vessels, that were heading in an easterly direction, well to the north of the other boat. There was no sign of anyone on board the vessel. She recalled seeing two large bins situated at the after end of the vessel. They were coloured blue and grey (the same colour as the fish bins stowed on **Moana**).
- 1.11 After observing the vessel for a short while, Witness 1 went to the Police station to inform her husband (Witness 1) of what she had seen. He told her to return home and speak to the helicopter pilot, who was involved in the search. In the meantime, the helicopter pilot, had overflown Cape Wanbrow at Oamaru, and headed out to sea in search of **Moana**. He checked the two vessels that she had seen well to the north of the other boat and then continued in the direction of Hepburn's. Whilst over Hepburn's, he received a call from Witness 2 advising him of the existence of the third boat and its approximate position.



- 1.12 The helicopter pilot's phone was engaged when Witness 2 first tried to contact him, and until speaking to him, she continued to watch the circling vessel through the telescope. There was still no sign of anyone on board. She again tried to contact the helicopter pilot, and immediately after talking to him, went back to the telescope when she once again saw the vessel for a brief time, then lost sight of it. Shortly before she lost sight of the vessel she observed what she described as white/grey smoke or possibly steam coming from the area of the wheelhouse near the forward end of the vessel. There was no sign of any flames.
- 1.13 When the helicopter pilot arrived at the approximate position of where the third vessel had been seen by Witness 2, he could see nothing.
- 1.14 Two helicopters were tasked to conduct an air/sea search. Vessels from Oamaru and Moeraki were also involved in the search. At approximately 2145 hours, a lifebuoy with a light and float attached was recovered in position 45° 15' South 170° 58' East. The word **MOANA** was written on the recovered float.
- 1.15 The land sea and air search resumed on the morning of 22 January. An oil slick was located in position 45°13.25' South 170° 58.92' East. The helicopter pilot conducted a grid search in his helicopter and found the two bins which Witness 2 had seen the previous evening on board the vessel. One bin was found quite a distance down the coast.
- 1.16 The position of the **Moana** was subsequently located and dived on in position 45° 13.25' South 170° 58.92' East. There was no sign of the Skipper's body either on the vessel or within a radius of 20 metres of the vessel. The vessel was found lying in 75 feet (23 metres) of water.
- 1.17 Witness 3 had been standing on top of Cape Wanbrow, when the helicopter had flown overhead in the direction of two vessels that were some distance offshore. There was a third boat that Witness 3 could see, which was about 6-8 kilometres to the south of the other two vessels. Using his field glasses, he could see the vessel was rolling heavily. She was beam onto the prevailing weather. Witness 1 said that when he had first seen what he described as the "windscreen flash" of the vessel, about 8 miles off the coast, he considered the sea conditions to be really rough with a good 35 knots of north easterly wind and a very sloppy sea.



Key Conditions

- 2.1 **Moana** whose construction was carvel planked, was built in 1970. She was built by Miller & Tunnage of Port Chalmers. She had a length overall of 9.80 metres and was powered by a Ford diesel engine developing 51kW.
- 2.2 **Moana** had a flush wooden deck extending from her bow and thence on each side of a central wheelhouse and cockpit, to the stern. A raised gunwale, extending a few centimetres above the deck planking, was fitted on both sides of the vessel. At the forward end, just abaft the bow, was a hatch that was used to house the anchor and rope/chain. The hatchway, measuring approximately 0.75 metres square, was fitted with a wooden hatchcover that was secured by a clip. This hatchcover was found to be missing when the vessel was inspected by divers.
- 2.3 Entrance to the wooden wheelhouse, and from there to the engine room, was gained through a non-watertight wooden door situated on the after starboard side of the wheelhouse. The engine room bilge was approximately 50 centimetres in depth.
- 2.4 A cockpit, which was located immediately abaft the wheelhouse, measured approximately 5 metres in length, 2 metres in width and just under 1 metre in depth. Two large plastic fish bins, coloured grey and blue, were kept stowed and lashed within this space. The larger of the two bins measured 1.23 metres in length by 1.1 metres in width and had a capacity of 750 litres. The smaller bin had a capacity of about 500 litres.
- 2.5 The cockpit was self draining. There were two openings in the cockpit floor, the outlets for which were situated on either side of the hull, just above the waterline. An inspection plate, used for gaining access to the main engine gearbox, which measured about 30 centimetres square, was found to be missing when the vessel was inspected by divers. A wooden hatchway, used to gain access to the steering gear from the after end of the cockpit deck, was found to be still in place.
- 2.6 Communication equipment consisted of a V.H.F radio and a cell phone. The vessel was fitted with the following safety and navigational equipment:
- EPIRB (Electronic Position Indicating Radio Beacon)
 - Flares
 - Smoke floats
 - 2 x lifebuoys, 1 with light attached (stowed on top of the wheelhouse)
 - 2 x life jackets
 - Fire fighting equipment
 - Echo Sounder
 - Radar
 - Autopilot
 - Global Positioning System (GPS)
- 2.7 The vessel's pumping system consisted of
- 1 x hand operated mechanical pump
 - 1 x electric bilge pump manually activated by switching on/off on the switchboard in engine room.
- There was no high level bilge alarm fitted to the vessel.
- 2.8 **Moana** was used for rock lobster fishing and lining. There were no watertight subdivisions in the vessel.



- 2.9 **Moana** had a Safe Ship Management Certificate issued by SGS M&I Dunedin, on 14 July 2003, which was valid until 19 July 2007. The Dunedin based Maritime Safety Inspector (MSI) of the Maritime Safety Authority, carried out a Flag State Inspection on **Moana** on the 23 July 2003, when the vessel's Certification and safety equipment were inspected. These were found to be in good order and no deficiencies were found. The MSI considered the vessel was extremely well maintained.
- 2.10 The Owner/Skipper held a Commercial Launch Master's Certificate, #222, which he obtained in 1987. The Skipper first started commercial fishing in Australia, followed by a move to Scotland where he also fished commercially. In 1985, he started fishing with his father out of Oamaru. His local knowledge of the sea area off Oamaru was very extensive and his father stated that he always maintained a very high safety culture.
- 2.11 The weather on 21 January was settled in the morning with a northeast wind of 20 – 25 knots developing in the afternoon. The sea state consisted of a 1 – 2 metre swell and sloppy. This was in line with the New Zealand MetService forecast that was issued shortly after 0600 hours on 21 January. The conditions should not have unduly affected the vessel.
- 2.12 Observations made of the sunken **Moana** by divers, indicated that the engine was still in gear with the engine throttle set at three quarters ahead speed. The echo sounder switch was in the on position as was the radio. The vessel was lying on her port side. Above the water line, amidships, 2 or 3 planks were found sprung and 1 additional plank, fairly well forward, towards the stem, had also sprung. There was slight movement to the planks on both sides of the bow. The hatch from the fore deck was missing but was later recovered 10 miles to the south. There was no damage to the hatch or its surrounds. The above indicates that the vessel had not been in collision with a fixed or floating object. The hull damage noted by the divers would have been caused when the vessel hit the sea bottom.
- 2.13 Gear found on board included 2 x lifejackets, one of which was still in a plastic bag. The EPIRB was still on board. Flares and smoke floats were in a watertight container. The second lifebuoy was still attached to the vessel. The fact that the two lifejackets were still on board and the lack of any distress call by the Skipper points to the fact that something must have occurred for him to suddenly lose his footing/balance and fall over the side of the boat. There was nothing fouled around the propeller and the rudder looked to be in order but hard over to port.
- 2.14 Divers attached a rope to the hull as a marker and removed items from the vessel. The hull of **Moana** was subsequently raised from the sea bed and transferred ashore.
- 2.15 The radio operator said that when the vessel was inspected by divers, there was a drop line still attached to the pot hauler with the hooks still fully baited indicating that the Skipper could have fallen over the side not long after leaving the fishing grounds (Hepburn's). The sea conditions at the time were 20 to 25 knots from the northeast. The run line from Hepburn's to Oamaru would have resulted in a beam sea on the vessel's starboard side. The position where the vessel was located was 5 miles to the south of her normal run line. The two fish bins were retrieved on 22 January 2004, south of where the vessel foundered. The rope used to fasten them on board was noticed by the divers to be only attached by one end, indicating that the bins could have moved before the vessel foundered. When the bins were retrieved there was fish in one of them. The other lifebuoy and light were picked up 2-3 miles south of the vessel's sunken position just before dark on 21 January.
- 2.16 The Skipper's cellphone, which kept ringing until about 2000 hours, must have been left on board and only stopped when the vessel sank.



Contributing Factors

N.B. These are not listed in order of importance.

- 3.1 The lack of any distress message by the Skipper indicates that he was overcome by a very sudden catastrophic event which prevented him from accessing any communication equipment. It cannot be discounted that injury or a medical event rendered the Skipper unconscious but, on the balance of probability, it is more likely that some other event caused him to fall overboard, between the time of leaving the fishing grounds at the 'Hepburn's' and the boat being observed by Witnesses 1, 2 and 3.
- 3.2 The description of the vessel by Witness 2 and its position, clearly shows that it must have been **Moana**. Her statement that the vessel was still upright, albeit rolling, indicates that there had been no shifts of any significant weights on board, such as the two fish bins, which might have caused the vessel to suddenly list and possibly upset the balance of the Skipper.
- 3.3 With a relatively low freeboard, a low gunwale and the reported heavy rolling of the vessel in rough beam seas it is considered that sufficient quantities of water would have been shipped on board to eventually overwhelm the ability of the cockpit to drain clear and cause the engine room to flood through the non-watertight door to this space. Without any watertight subdivision, the water would have permeated the whole hull, with resultant loss of reserve buoyancy, causing the vessel to capsize and sink. The white/grey smoke observed by Witness 2 may have been caused by an electrical short circuit as the water rose within the engine room.
- 3.4 The New Zealand Admiralty Pilot Book (NP51) gives the average sea temperature off the east coast of the southern part of the South Island to be about 14° Centigrade in January. At this temperature, hypothermia, generally known as exposure, and defined as the general lowering of the central body temperature would have started to affect the Skipper within about one hour of his falling overboard. Without a lifejacket, he would have become quickly exhausted and drowned. This lowering of the central body temperature, if not checked, will quickly lead to death. If the Skipper had been wearing a lifejacket this would not only have assisted him by providing buoyancy and thermal protection, it would have also significantly reduced the need to moving his arms and legs to stay afloat. In this manner, the reduction of body movement, especially movement of limbs, would have considerably extended the time before hypothermia started to take effect. It should, of course, be noted that the Skipper's decision not to wear a lifejacket was common with the majority of commercial fishermen. This is not necessarily to spurn the safety benefits conferred by using such equipment but because the wearing of a lifejacket affects their ability to work unhindered while fishing.
- 3.5 The lack of any communication equipment. A sudden catastrophic fall from the boat would have prevented the Skipper from accessing the extensive communication equipment that he had on board. However, waterproof hand-held VHF radios are available and are the most effective means of signalling distress. They can be carried on the person and, if kept in a sealed waterproof plastic bag, can be used effectively whilst still in the bag. Similarly, a cell phone, although less effective for distress purposes, can also be used in this manner without loss of signal strength or clarity. To be always available, cell phones should be kept in a person's pocket. Other distress equipment should be stored where they are readily available in the event of an emergency, no matter how sudden or unexpected.



Cause

Human Factor

<input type="checkbox"/> Failure to comply with regulations	<input type="checkbox"/> Drugs & Alcohol	<input type="checkbox"/> Overloading
<input type="checkbox"/> Failure to obtain ships position or course	<input type="checkbox"/> Fatigue	<input type="checkbox"/> Physiological
<input type="checkbox"/> Improper watchkeeping or lookout	<input type="checkbox"/> Lack of knowledge	<input type="checkbox"/> Ship Handling
<input type="checkbox"/> Misconduct/Negligence	<input type="checkbox"/> Error of judgement	<input type="checkbox"/> Other . . .

Environmental Factor

<input type="checkbox"/> Adverse weather	<input type="checkbox"/> Debris	<input type="checkbox"/> Ice	<input type="checkbox"/> Navigation hazard
<input type="checkbox"/> Adverse current	<input type="checkbox"/> Submerged object	<input type="checkbox"/> Lightning	<input type="checkbox"/> Other . . .

Technical Factor

<input type="checkbox"/> Structural failure	<input type="checkbox"/> Wear & tear	<input type="checkbox"/> Steering failure
<input type="checkbox"/> Mechanical failure	<input type="checkbox"/> Improper welding	<input type="checkbox"/> Inadequate firefighting/lifesaving
<input type="checkbox"/> Electrical failure	<input type="checkbox"/> Inadequate maintenance	<input type="checkbox"/> Insufficient fuel
<input type="checkbox"/> Corrosion	<input type="checkbox"/> Inadequate stability	<input type="checkbox"/> Other . . .

- 4.1 In the absence of any witnesses, the cause of the loss of the Skipper can only be surmised. Although the vessel would have been subjected to a beam sea on her return passage, the sea conditions were not that significant to have caused undue concern to a Skipper of that experience who always maintained a high safety culture.



Opinions & Recommendations

- 5.1 The tragic loss of the Skipper and the foundering of *Moana*, occurring only some nine months after the loss of *Time Out* and about two months before the loss of the Skipper on *Diane*, in approximately the same area, represents yet another fatality which might have been avoided if a lifejacket had been worn and there had been means to readily access communication equipment.
- 5.2 A person falling overboard and vessel capsizes/founderings are so sudden that there is little or no opportunity to use a cell phone, VHF radio, to grab flares or an EPIRB. In such circumstances, the use of a hand-held VHF or a cell phone that is carried on the person, and kept in a sealed watertight bag, may realistically be the only means of achieving rescue. Further, whilst a number of lifejackets that are currently available on the market are clearly unsuitable for use, particularly for a commercial fisherman, due to their bulk and hence inability to work unhindered, inflatable lifejackets can be purchased and either worn or carried around the waist in a manner similar to a money belt so as to be available in the event of an emergency. They will enable a person to continue working, give suitable buoyancy and, as previously stated, will aid in reducing the onset of hypothermia.
- 5.3 On the basis of the above it is recommended that a copies of this report be forwarded to FishSAFE and to the Education and Communication Division of the Maritime Safety Authority with a request that they consider critically the practicality and safety benefits of carrying a cell phone/hand-held VHF and the wearing of an inflatable lifejacket, particularly where there is a sole occupant on board. If this is considered appropriate, it is recommended that they promulgate their use to industry as widely as possible.

