



Leeson Lane, Dublin 2.  
Telephone: 01-678 3485/86.  
Fax: 01-678 3493.  
email: [info@mcib.ie](mailto:info@mcib.ie)  
[www.mcib.ie](http://www.mcib.ie)

The Marine Casualty Investigation Board was established on the 25th March, 2003 under the Merchant Shipping (Investigation of Marine Casualties) Act, 2000.

The copyright in the enclosed report remains with the Marine Casualty Investigation Board by virtue of section 35(5) of the Merchant Shipping (Investigation of Marine Casualties) Act, 2000. No person may produce, reproduce or transmit in any form or by any means this report or any part thereof without the express permission of the Marine Casualty Investigation Board. This report may be freely used for educational purposes.

**REPORT OF INVESTIGATION  
INTO LOSS OF THE  
MFV "AINMIRE"  
30 MILES NW OF BUTT OF  
LEWIS, SCOTLAND  
ON  
29th APRIL 2010**

**REPORT No. MCIB/183  
(No.11 of 2011)**



Report MCIB/183 published by The Marine Casualty Investigation Board.  
Published 26th August 2011.

	PAGE
1. SYNOPSIS	4
2. FACTUAL INFORMATION	5
3. EVENTS PRIOR TO THE INCIDENT	8
4. THE INCIDENT	11
5. EVENTS FOLLOWING THE INCIDENT	12
6. FINDINGS	13
7. CONCLUSIONS	14
8. RECOMMENDATIONS	16
9. APPENDICES	17
10. CORRESPONDENCE RECEIVED	24

## 1. SYNOPSIS

(Note all times are UTC)

- 1.1 The Irish Fishing vessel “*Ainmire*” experienced an uncontrollable inrush of water into the engine room early on the morning of 29th April 2010. The vessel foundered and sank some hours later. The crew were rescued by another fishing vessel without injury or loss of life.

## 2. FACTUAL INFORMATION

### 2.1 Vessels particulars

Name of Vessel	FV “ <i>Ainmire</i> ”
Official Number	402965
Signal Letters	EI 3756
Length Overall	19.29 meters
Registered Length	16.46 meters
Beam	6.11 meters
Depth	2.94 meters
Gross Tonnage	80.93 Tons
Year of Build	1993
Builder	Sheepswerft Visser B. Holland
Main Engine	Cummins KT19M02
Power Output	319 Kw

### 2.2 Vessel construction

The FV “*Ainmire*” was of carvel welded steel construction. She was one of a series of Vivier “crabber” vessels built by the Sheepswerft Visser B. Holland yard in the 1990’s.

### 2.3 General layout of vessel

2.3.1 Plans of the vessel were not available, however a sister vessel the “*Amy Jane*” was examined and the main points of pumps, piping and layout confirmed with Mr. Ross Classon the owner of the “*Ainmire*”. (Plan attached in appendix 9.3)

2.3.2 The vessel had a 30 cubic meter Viver tank in the hold to preserve the catch. This tank was fed with seawater from two pumps in the engine room which pumped seawater into the bottom of the tank. The tank had overflow drains in the coming where the water drained overside above the waterline. Both pumps were stated on departure from port and kept running throughout the whole voyage.

2.3.3 The suctions for these pumps were in the forward end of the engine room and were 130mm (5 inch) diameter pipes which had butterfly valves about 600 mm (approx 2 ft) above the bottom of the hull.

### 2.4 Machinery

2.4.1 The main engine was a Cummins KT19M02. Cooling water was circulated through a box cooler on the port side. The engine drove a single screw through a reduction gearbox.

- 2.4.2 There were two auxiliary generators supplying electric power. Cooling water for these was circulated through box coolers on the starboard side.
- 2.4.3 There were two electric pumps for the Viver system with 130mm (5 inch) diameter seawater inlets at the forward end of the engine room. The butterfly valves were approximately 600mm above the shell plating. There were grids on the outside of these pipes bolted to the hull.
- 2.4.4 The other engine room seawater inlet was a 76mm (3 inch) diameter inlet at the starboard side of the engine for the hydraulic oil cooling.
- 2.4.5 There was an electric bilge pump with suction through a valve manifold so various compartments could be pumped out. A second general service pump could also be connected to this manifold. Both these pumps were electrically powered and located just underneath the engine room floor plates. There was no manual pump or pump outside the engine room.

## 2.5 Vessel history

- 2.5.1 The vessel was built in Holland for Mr. Ross Classon in 1993 and remained in his ownership throughout its history.
- 2.5.2 The vessel was built to Lloyd's class and remained in class until 2007.
- 2.5.3 Alterations to the vessel since construction included:
- The attaching of anodes inside the VIVER tank because the welds in the top of the tank were eroding.
  - The replacement of the Main engine in 1998. The new engine of the same make and model was installed with Lloyd's approval.
  - The inlet and outlet pipes for the Viver pumps were originally galvanised steel. The outlet pipes from the pumps to the tank were replaced with heavy grade stainless steel pipes. The inlet pipes were never replaced.
  - The original Viver system only allowed one pump to operate at a time. In 2005 the electrical switching arrangement was changed to allow both pumps operate simultaneously.

## 2.6 Crew particulars

### **Skipper**

Mr. Ross Classon (Nationality - Irish)

Holder of a Fishing Vessel Second Hand Certificate  
with limited endorsement - 16/1/89

Certificate of service Class 3 fishing vessel service 18/1/91

LRC Radio cert 18/11/99

**Mate**

Fjodor Kulakas (Nationality - Latvian)  
STWC 95 from Latvia  
With vessel for 8 years

**Crew members**

Dimtrijs Stukalo (Nationality - Latvian)  
STWC 95 from Latvia  
Joined vessel in December 2009  
Previously on UK reg fishing vessels

Deniss Satalova (Nationality - Latvian)  
Sea survival course (Latvia)

Christopher Classon (Nationality - Irish)  
Sea survival course (Greencastle)

**2.7 The certificates on board at time of sinking were:**

1. C.O.C Radio 2007
2. Registration 1993
3. Fishing License
4. Tonnage Certificate
5. Stability Book
6. Compass Deviation Card
7. Lloyds, survey lists and certificates for main engine.
8. Liferaft servicing
9. Fire Extinguishers servicing
10. Tonnage GT Calculation Book.
11. Skipper & Crew list.
12. Radio Logbook.

**2.8 Environmental conditions**

2.8.1 The weather conditions before and during the incident were good.

2.8.2 Sunrise was at approximately 05:00 hrs. UTC at the vessels position.

### 3. EVENTS PRIOR TO THE INCIDENT

#### 3.1 Prior vessel operations

3.1.1 A condition survey report was completed by Gordon C Beatt of Pirie & Smith Ltd. Aberdeen on 17th May 2005.

3.1.2 On 4th July 2005 “*Ainmire*” was dry docked in Den Helder, Holland at the Visser yard, a full Lloyd’s class survey was completed by Mr. Neils Mul (Annual survey, docking, tailshaft and engine survey including inspection of box cooler seals). Routine maintenance and servicing of equipment was carried out including renewal of anodes and antifouling.

3.1.3 An annual Lloyds Survey was completed at Ullapool by Mr. Morrison on 25th September 2006.

3.1.4 On 30th October 2006 the vessel was slipped at Mc Duff Frazerburgh, Scotland. The routine maintenance including fuel pumps, anodes and antifouling.

3.1.5 On 8th July 2007 it was agreed with underwriters, Sunderland Marine, to suspend Lloyds Class due to the increase in fees required by Lloyds. A factor in this agreement was that the Irish Department of Transport were introducing Code of Compliance surveys for vessels over 15m and less than 24 meters LOA. Mr. Classon contacted the survey office at Ballybunion by telephone to arrange for a survey only to be informed the department was not in a position to accept applications for such a survey at that time but they would contact him in due course.

3.1.6 On 22nd July 2007 the vessel was slipped at Killybegs Co. Donegal Ireland. Maintenance and repairs carried out by Mooney boats & Owen Byrne Engineering. A Radio survey was completed by Mr. Aidan Jennings - Radio Surveyor. A survey for B.I.M was completed by Mr. S. Mc Nelis, this included ultrasonic hull thickness measurements.

3.1.7 On 19th September 2007 Marine Notice No. 7/2007 was issued informing all owners and operators of fishing vessels that there were new safety regulations for fishing vessels of 15m length overall but less than 24 m in length. The regulations were to come into effect as follows:

- I. On 1st October 2007 for new vessels.
- II. On 1st October 2008 for vessels the keel of which was laid on or after October 1997.
- III. On 1st October 2009 for vessels the keel of which was laid on or after October 1997.

The “*Ainmire*” fell into the third group of vessels.



- 3.1.8 On 24th July 2008 the vessel was slipped Frazerburgh. All repairs/ maintenance were carried out by Mc Duff Shipyard. The Viver inlet pipe suction were power washed, the grids removed and any marine growth removed.
- 3.1.9 On 1st June 2009 the vessel was dried out alongside the pier at Ullapool. The underwater hull washed and anodes were viewed, coolers, rudder, thruster were all checked. The Viver inlet pipe suction were power washed but not closely inspected as the vessel was dried out on a slipway and there was not enough clearance to remove the grids.
- 3.1.10 On the 3rd July 2009 the owner Mr. Classon received a letter from Mr. James Snelgrove Deputy Chief Surveyor, Dept. Transport informing him that the "Ainmire" would require a survey under the regulations before the 1st October 2009 and that his vessel would not be permitted to operate beyond that date unless the vessel was issued with a Fishing Vessel Safety Certificate.
- 3.1.11 On the 10th July 2009 Mr. Ross Classon sent a completed application form "Application for Survey or Inspection by the Marine Survey Office" along with his credit card details and a letter requesting a date and location for the survey as the vessel was operating out of Ullapool. The credit card was debited and a receipt issued by the Mercantile Marine Office (MMO) on the 13th July 2009.
- 3.1.12 Examination of the survey material from Lloyds showed that Mega Ohm meter tests were done on all electrical equipment at least every 2 years. In 2008 Mega Ohm meter tests were done in response to earthing problems being frequently indicated on the earth detection panel in the wheelhouse.
- 3.1.13 Examination of Lloyd's survey material showed that regular hull thickness readings were taken by ultrasound. This was also done in surveys for BIM. The thickness reading obtained did not indicate any problem with excessive corrosion of the shell plating.
- 3.1.14 In July 2009 the Vessel's RFD Life raft was condemned and replaced by a raft hired from Atlantic Marine Killybegs.

### 3.2 The final voyage

- 3.2.1 The vessel was operating out of the port of Ullapool, Scotland and departed that port on 28th April 2010 at 02:00 hrs. She arrived at her fishing grounds 30 to 40 miles North West of the Butt of Lewis at 10:00 hrs. that morning.
- 3.2.2 The fishing pattern was to lift one lay of 110 pots, empty and re-bait them and then proceed to another lay of 110 pots some 9 to 10 miles away and lift and re-lay them. The pots were usually left for 48 hours between lifts.

- 3.2.3 The vessel completed lifting both set of pots by 23:00 hrs. on 28th April and was proceeding back to the first set with the intention of lifting at 07:30 hrs. on 29th April.
- 3.2.4 Watches were set and the vessel was proceeding to the first set of pots. Mr. Ross Classon was taking over the watch from the mate Mr. Fjodor Kulakas at 04.00 hrs. on 29th April.
- 3.2.5 The weather conditions were: Wind SW 3/4, Vis GOOD, Sea State GOOD.

## 4. THE INCIDENT

- 4.1 Mr. Ross Classon was taking over the watch at 04:00 hrs. from Mr. Fjodor Kulaks when the engine bilge alarm sounded. He accepted this alarm on the panel, and approximately 7 minutes later the high level engine bilge alarm sounded.
- 4.2 Mr. Ross Classon immediately went to the engine room and discovered water up to the plates in the engine room. He reached below the water and closed the two inlet valves to the Vivier sea water circulating system. This did not alter the inflow of water.
- 4.3 Mr. Ross Classon then started the electric bilge pump and opened the engine room suction valve on the manifold. The bilge pump was located at the forward end of the engine room just under the plates and was under water at this point.
- 4.4 Mr. Ross Classon returned to the wheelhouse and called all hands. He instructed them to don the survival suits and prepare to abandon the vessel.
- 4.5 Mr. Ross Classon transmitted a MAYDAY call on channel 16 VHF. The position was read from the GPS receiver and given as 58° 37.87'N 007° 11.52'W
- 4.6 The MAYDAY call was answered by HM Coast Guard at Stornoway at 04:30 hrs. and the fishing vessel "*Our Hazel*" which was 6 miles to the NW responded that they were proceeding to the casualty. Coast Guard Helicopter R100 was tasked and the Stornoway lifeboat launched.
- 4.7 At 05:00 hrs. "*Our Hazel*" was alongside and the crew were transferred from the "*Ainmire*". The helicopter arrived at 05:09 hrs. With the crew confirmed as safe the Lifeboat was stood down at 05:09 hrs. and the helicopter returned to base.
- 4.8 The "*Our Hazel*" had a petrol driven portable pump and an attempt was made to start this and put it on board the "*Ainmire*" but there was not enough fuel and this idea was abandoned.
- 4.9 "*Our Hazel*" then passed a tow rope to the "*Ainmire*" and towed the vessel for about 5 miles until the "*Ainmire*" listed heavily to starboard and the tow was released. Shortly after the "*Ainmire*" sank at 08:50 hrs. The position at that time was 58° 36.97'N 007° 01.24'W in a depth of 96 to 100 meters of water (53-55 fathoms).

## EVENTS FOLLOWING THE INCIDENT

---

### 5. EVENTS FOLLOWING THE INCIDENT

- 5.1 The hydrostatic releases on the liferaft and EPIRB operated and they both floated to the surface. These were both recovered from the water on to “*Our Hazel*”, and the EPIRB was switched off.
- 5.2 By the time the “*Our Hazel*” reached Ullapool at 20:15 hrs. two chambers of the liferaft had deflated.
- 5.3 At approximately 20:00 hrs. Mr. Ross Classon received a telephone call from the Fisheries Monitoring Centre at Haulbowline, Cork. They reported that the vessel had disappeared from their plot. Mr. Classon informed them that the vessel had sunk.
- 5.4 The crew of the “*Ainmire*” was brought to Ullapool. The Latvian crew was flown back home to Latvia that evening. Mr. Ross Classon returned to Ireland that day and Mr. Christopher Classon returned a few days later.
- 5.5 Mr. Ross Classon reported the loss of the vessel to the Marine Survey Office (MSO) on 6th May 2010 by telephone and e-mail.
- 5.6 On 30th July 2010 Mr. Classon received a letter informing him that his application for survey was received on 10th July 2009 and that the required fee was paid and that the department was therefore in a position to undertake the survey of the vessel at a location and on a date to be agreed.

## 6. FINDINGS

- 6.1 The vessel experienced a sudden and large inflow of seawater into the engine room. Measurements taken on the sister vessel “*Amy Jane*” along with Mr. Ross Classon’s estimate of the time between the two bilge alarms suggest a flow rate of 1.2 cu meters per minute.
- 6.2 The influx of water appeared to be on the starboard side as witnessed by the skipper Mr. Ross Classon and the vessel listed to starboard just before she sank.
- 6.3 The three sea water inlets in the engine room all had shut off valves some distance from the shell plating. Failure of one of these pipes would result in the inrush of water experienced.
- 6.4 The location of the bilge pump under the plates resulted in it being flooded and unable to pump. Under the current regulations there was no requirement for the vessel to have a second pump operated by independent power.
- 6.5 No emergency pump was carried, and the portable pump from F/V “*Our Hazel*” failed due to lack of fuel.
- 6.6 The vessel continued to take water for nearly 5 hours until she became unstable and heeled over and sank.
- 6.7 The weather at the time was good and in dawn conditions the crew was able to abandon the vessel without loss of life or injury.
- 6.8 The hydrostatic releases on liferaft and EPIRB operated satisfactorily, however, two chambers of the Life Raft deflated after about 12 hours.
- 6.9 The last survey carried out on the vessel was on 22nd July 2007 by Mr. S. Mc Nelis, on behalf of B.I.M after which there was no independent survey up to the loss on 29th April 2010.
- 6.10 The vessel had been maintained to Lloyd’s class from construction in 1993 until 8th June 2007. Had she been still in class there would have been annual Lloyds surveys and a full class survey in 2010 (Annual survey, docking, tailshaft and engine survey including inspection of box cooler seals).
- 6.11 In July 2009 the owner of the vessel had sent a completed application form along with the survey fee and a letter requesting a date and location for the survey as the vessel was operating out of Ullapool. The credit card was debited and a receipt issued by the Mercantile Marine Office on the 13th July 2009. The owner assumed that his application had been received by the MSO and was reasonably expecting a response to his questions about date and location, as there were two months to the October 1st deadline.
- 6.12 The owner of the vessel had a legal obligation to operate the vessel in accordance with the law and should not have operated the vessel after the 1st October 2009 without a Fishing Vessel Safety Certificate.

## 7. CONCLUSIONS

7.1 The inrush of water into the engine room could have been from a number of sources:

- A breach in the shell plating. There were no reports of an impact that would indicate a collision with a submerged object. The condition of the shell plating was found to be good at the last survey in July 2007, and any rapid corrosion would more likely lead to pinholes and a slower ingress of water.
- Failure of tail shaft seal. Again there were no indications of problems with this area.
- Failure of box cooler seals. These had been inspected in 2005 and would have been due another inspection in 2010 if the vessel was being maintained to Lloyds Class. There was nothing in the previous survey histories to indicate that the seals on the box coolers deteriorated between surveys and required renewal. Failure of the seals would likely produce a slow leak and not the inrush of water experienced.
- Failure of skin fittings. There were three skin fittings in the engine room. The two 130mm (5 inch) diameter Viver inlets at the forward end and the 75mm (3 inch) diameter hydraulic oil cooling water inlet on the starboard side of the engine.
- The Viver inlet pipes had butterfly valves about 600 mm inboard of the hull connection. Failure of one of these sections of pipe would have resulted in the inrush of water experienced.
- The Hydraulic oil cooling water inlet pipe had a valve about 400 mm inboard of the hull. Failure of this section of pipe would have resulted in the inrush of water experienced.
- It is reasonable to conclude that the inrush of water was due to the failure of one of these pipes.

7.2 The cause of the failure of these pipes could be attributed to a number of factors:

- The pipework between the hull and the valves on all 3 fittings was constructed of galvanised steel and had never been renewed during the life of the vessel (17 years). These pipes had seawater passing through them continuously when the vessel was at sea. The inlets were regularly cleaned due to build up of marine growth, and this fouling could have damaged the galvanising and left the steel exposed. There is no record that the thickness of these pipes was measured by ultrasound or other means.
- There was corrosion in the welds in the Vivier tank and anodes were fitted in the tank. Sections of the piping on the high pressure side of the Vivier system were replaced due to corrosion over the years with heavy grade stainless steel pipe, particularly on the bends. This would indicate that corrosion was a

potential problem in the system, particularly along welded joints.

- These pipes were connected to electrical machinery and the possibility of corrosion due to stray currents cannot be ruled out as earth faults had been observed since the last inspection of the pipes. Such corrosion could be quite rapid and seriously weaken the pipes.

- 7.3 The estimated inflow of water was 1.2 m<sup>3</sup>/minute (72 m<sup>3</sup>/hour) and under the current regulations for this vessel, the bilge pump should have had a minimum capacity of 2.354 m<sup>3</sup>/minute (141 m<sup>3</sup>/hour). The bilge pump should have been able to counter the inflow of water.
- 7.4 The location of the electrically powered bilge pump, and general service pump under the floor plates resulted in them being underwater and not operating. Had the electric motors been higher up in the engine room or powered by hydraulic motors they may have continued to operate long enough for the vessel to be towed to shallow water or safe harbour.
- 7.5 Had there been an external pump operated by independent means it may have reduced the rate of inflow of water long enough for the vessel to be towed to shallower water.
- 7.6 The owner had failed to respond to the information in respect of surveys published in the Marine Notice No 7/2007. The MSO had drawn his attention to this by its letter on 3rd July 2009 and the owner had responded promptly with a survey application and fee paid by 13th July 2009. The owner had included a letter with his application asking for a date and location for the survey. At this point communications broke down as the MSO did not acknowledge his application or respond to this letter.
- 7.7 The owner received a receipt for the survey fee on 13th July 2009 from the Mercantile Marine Office; this was not an acknowledgement that the MSO was processing the application.
- 7.8 The owner should not have continued to operate the vessel without a Fishing Vessel Safety Certificate after 1st October 2009. The owner should have been in communication with the MSO to confirm a survey appointment before that date.
- 7.9 The vessel should not have been allowed operate after 1st October 2009 without a Fishing Vessel Safety Certificate. The Department of Transport is the governing authority in respect of marine legislation and tasked to ensure that owners and his/her vessels comply with the regulations. Failure of an owner to fulfil their legal obligation to operate the vessel in accordance with law should not be allowed to continue without action from the governing authority. At the very least a failure by an owner should be communicated to them in a timely manner and if the situation persists then the Department has the option to exercise its powers under the law.

## 8. RECOMMENDATIONS

- 8.1 Large sea water inlets in the engine compartment of this type of vessel leave it vulnerable to severe flooding if they fail. These pipes should be checked for signs of corrosion annually, particularly around the welded joint at the hull. Periodic ultrasonic thickness testing of the pipes between hull and valve should be considered.
- 8.2 Stray currents can rapidly erode pipework and electrical equipment connected to them should be checked regularly with a Mega Ohm meter.
- 8.3 The second vulnerable factor with this vessel was the location of the bilge pump(s). Being located under the engine room plates they were flooded before they could make an impact on the inflow of water. Under current regulations a vessel of this length is not required to have a second bilge pump powered by independent means. When assessing the bilge pumping arrangements the location and operation of the bilge pumps under a flooded engine room situation should be considered.
- 8.4 Owners of all vessels have a legal obligation to operate their vessels in accordance with law and should be aware of the regulations and codes of practice that apply to them. In addition Owners & Skippers of vessels should obtain and read all Marine Notices on a frequent basis; these are readily available on the Department of Transport website.
- 8.5 The new form Survey 6 Date: 23 February 2009 titled "Application for Survey or Inspection by the Marine Survey Office" was completed by the owner of the "*Ainmire*". This form is used for all survey applications and whilst comprehensive it may not accommodate all situations. In addition the receipt for fees is issued by the Mercantile Marine Office, so the issuing of a receipt is not necessarily a guarantee that the application is being dealt with by the MSO. The MSO should have a system in place whereby an owner receives a prompt acknowledgment of his application and a contact person with whom to liaise, preferably the surveyor who is going to carry out the survey.



9. LIST OF APPENDICES

	PAGE
9.1 Photograph of MFV “ <i>Ainmire</i> ” afloat.	18
9.2 Location of incident.	19
9.3 General arrangement of engine room.	20
9.4 Photographs of arrangements on MFV “ <i>Amy Jane</i> ”.	
(a) Access to the port & starboard valves for VIVER suction.	21
(b) VIVER suction valve showing inlet pipe to hull.	21
(c) The hydraulic oil cooling water inlet.	22
(d) Bilge valve manifold.	22
(e) VIVER Pump (note stainless outlet pipe on bend).	23
(f) VIVER Tank.	23

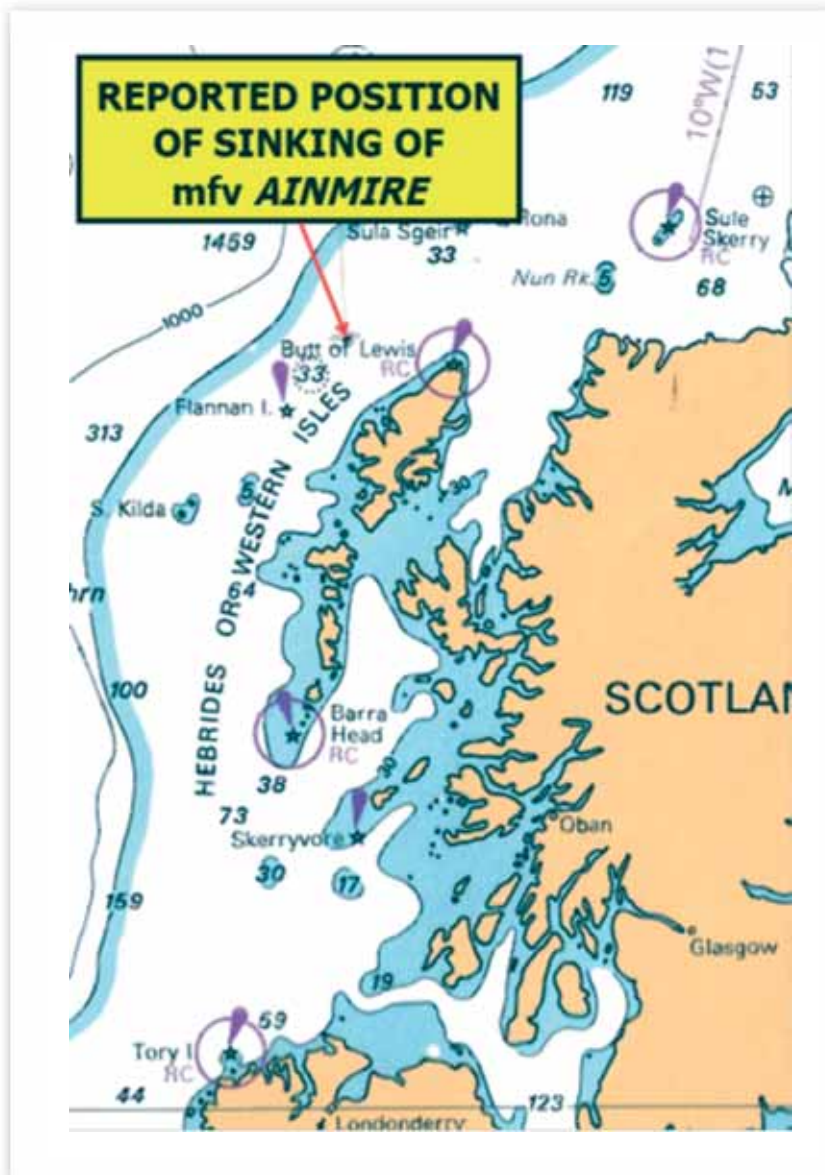
## APPENDIX 9.1

---

Appendix 9.1 Photograph of MFV “Ainmire” afloat.

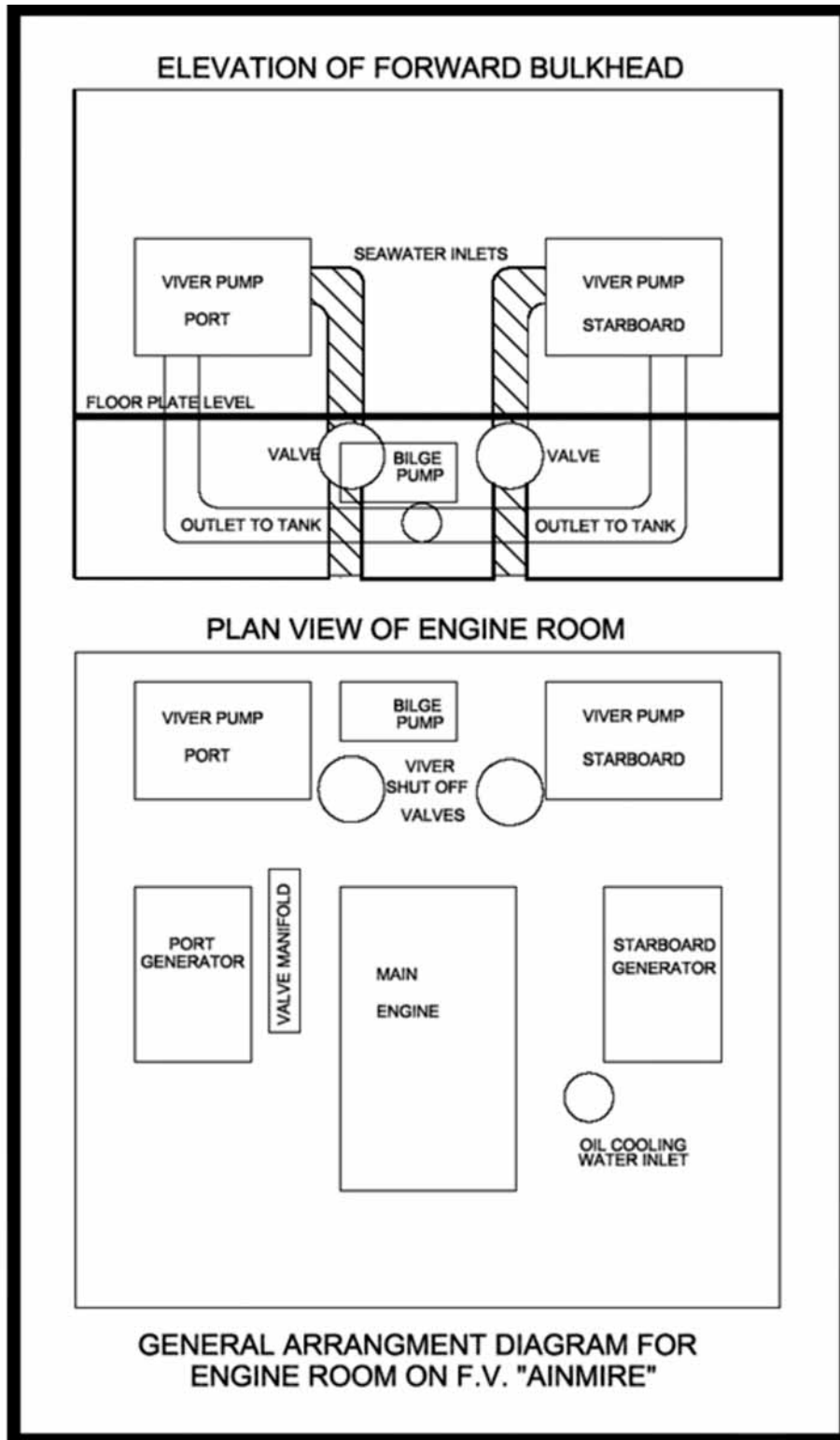


Appendix 9.2 Location of incident.



## APPENDIX 9.3

### Appendix 9.3 General arrangement of engine room.



Appendix 9.4 Photographs of arrangements on MFV "Amy Jane".



(a) Access to the port & starboard valves for VIVER suction.

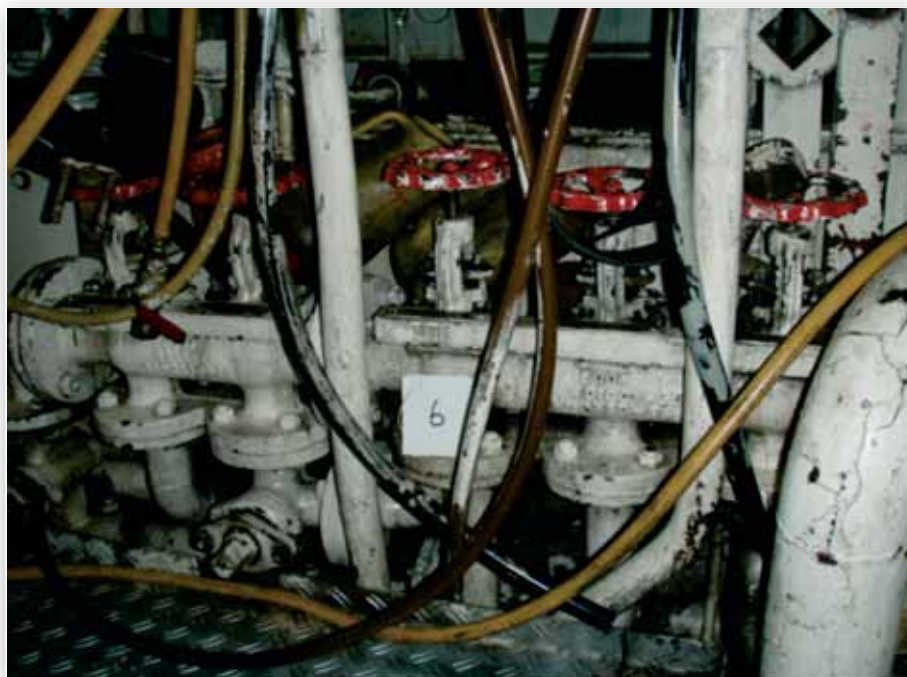


(b) VIVER suction valve showing inlet pipe to hull.

Appendix 9.4 Photographs of arrangements on MFV “Amy Jane”.



(c) The hydraulic oil cooling water inlet.



(d) Bilge valve manifold.

Appendix 9.4 Photographs of arrangements on MFV "Amy Jane".



(e) IVER Pump (note stainless outlet pipe on bend).



(f) VIVER Tank.

## 10. CORRESPONDENCE

The draft report was circulated under section 36(1) of the Merchant Shipping (Investigation of Marine Casualties) Act, 2000 on 20th May 2011. The Board received no comments in relation to the draft report.