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**REPORT OF INVESTIGATION  
INTO THE LOSS OF THE  
FV "HONEYDEW II"  
OFF RAM HEAD,  
CO. WATERFORD  
ON 11th JANUARY 2007**

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

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**REPORT No. MCIB/135**



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## 1. SYNOPSIS

(Note: All times are GMT)

- 1.1 The Irish fishing vessel FV "Honeydew II" departed Kinsale on the morning of 10th January 2007 with a crew of four persons for a fishing expedition off the Southeast Irish Coast. On the evening of the 10th January as weather conditions deteriorated fishing operations were suspended and the vessel was secured to ride out the weather.
- 1.2 At about 03.00 hrs. on the morning of the 11th January 2007 in violent sea conditions the vessel suffered a major wave impact, which caused a sudden ingress of water resulting in rapid and catastrophic loss of stability.
- 1.3 The FV "Honeydew II" capsized and sank stern first in a matter of minutes, 3 miles South off Ram Head. Three crewmembers abandoned the vessel; of these, two managed to board a life raft and were rescued over 15 hrs. later. No distress call or emergency position beacon signal was received from the vessel.
- 1.4 Over the following weeks wreckage of the vessel was washed ashore along the Waterford and Wexford coast. The wreck of the vessel was discovered on the seabed on the 23rd January 2007. An extensive search of the wreck by Garda divers failed to locate the two missing men. The EPIRB was located 11 months later and following battery replacement was found to operate satisfactorily.

## 2. FACTUAL INFORMATION

### 2.1 Vessels Particulars

Name of Vessel	FV "Honeydew II"
Former Name	Shay Óg
Official Number	402177
Signal Letters	EIPZ
Length overall	22.70 metres
Registered length	21.17 metres
Beam	7.32 metres
Depth	3.81 metres
Gross tonnage	166 (127.51 GRT as built)
Year of build	1983
Builder	Baltimore Boatyard, Baltimore, Co. Cork
Main Engine	Baudouin 12M26
Power Output	447.66 kW

### 2.2 Vessel Construction

- 2.2.1 The FV "Honeydew II" was built at Baltimore Boatyard, Baltimore, Co. Cork in 1983. She was one of the last wooden fishing vessels of this size built in Ireland. She was built for bulk fishing of pelagic species and designed by McCaig Watson of Glasgow. She was of carvel form with a raked stem and transom stern. The deckhouse and engine room were situated aft. Her construction was of iroko on double oak frames. The photograph in Appendix 9.1 shows the vessel outside Kinsale circa, 2004. The general arrangement drawing in Appendix 9.2(a) shows the outline design for the vessel as she was built, and over her operating life some minor modifications were carried out. The profile plan in Appendix 9.2(b) shows the vessel with fishing equipment removed.
- 2.2.2 The basic layout of the vessel consisted of iroko planking on 34 main double oak frames at approximately 400mm intervals, with two half frames at the stem. Three steel bulkheads subdivided the vessel; the forward bulkhead at frame 5 formed the forward division between the fish hold and the forepeak space. The mid bulkhead located at frame 23 formed the aft division of the fish hold and the forward division of the engine room. A removable section was fitted central in this bulkhead to allow the removal of large machinery from the engine room. The third bulkhead at frame 34 formed the aft division of the engine room, the crew cabin and steering gear compartment lying behind this bulkhead.
- 2.2.3 At main deck level a shelter deck ran three quarters the length of the vessel, primarily of aluminium construction, and attached to the bulwark of the vessel. Within the shelter deck at the forward end two winches were fitted. The cod end hatch was fitted on the starboard side of the shelter deck; the hatch cover

was of a two-piece concertina construction approximately 2750mm in length and 1200mm in height and depth and was hinged on top of the shelter deck. The securing arrangement is unclear but it would have appeared to be held in place by four clips. Central in the top of the shelter deck was a landing hatch measuring 1650mm by 1600mm.

- 2.2.4 The fish hold consisted of a landing hatch, closed with a hatch cover measuring 1650mm by 1400mm., and raised 600mm above the deck level by a coaming. A smaller 'booby hatch' measuring 600 x 600mm was integral in the main hatch cover to allow access to the fish hold without the need to remove the main hatch cover. The fish hold was subdivided into a number of 'pounds' as shown in Appendix 9.2(b) running longitudinally to both port and starboard sides of the fish hold. Fitting of pound boards or aluminium partitions into stanchions creates the pound areas. Individual pounds can be used for the storage of catch and may also hold spare gear, provisions, ice or empty fish boxes. A forepeak store, accessed from within the shelter deck through a 600mm by 600mm hatch lay ahead of the fish hold.
- 2.2.5 The deckhouse comprising a combined galley and mess room area, with a ladder leading down to the crew cabin below and a stairway leading up to the wheelhouse deck. A toilet and shower room was located to the portside towards aft within the deckhouse. A number of external doors gave access to storage lockers and the main entrance to the engine room. The wheelhouse was above the deckhouse with access internally by stairs on the starboard side from the mess and externally by a non-weather-tight door at the starboard aft end of the wheelhouse. The skipper's cabin was located in the wheelhouse to the port aft side. The engine ventilation intake was located in the uptake aft of the wheelhouse.

## 2.3 Machinery

- 2.3.1 At the time of the accident the FV "Honeydew II" was fitted with a Baudouin main engine, model 12M26. The engine power output is stated to have been reduced to 447.66 kilowatts (kW) to comply with fisheries licensing requirements when fitted as a replacement engine in 2004. The engine was of vee configuration, 12 cylinders, turbo charged. The engine drove a 4 bladed variable pitch propeller through a Reintjes 4.57:1 reduction gearbox. The engine also provided power take offs to drive hydraulic power units, 110 and 24 Volt generators, bilge and service pumps
- 2.3.2 The vessel had originally been fitted with a Sach Diesel main engine, rated at 560 horsepower; this was replaced with a Poyaud engine in 1992. During 2004 this engine failed and was replaced by the Baudouin unit. The two earlier engines were of similar layout and power output.
- 2.3.3 The FV "Honeydew II" had a Cummins auxiliary engine stated to develop 175 kW; this engine replaced a previous engine of similar output. This engine is

reported to have been fitted in 1999. The engine drove an air compressor, hydraulic pump, cooling water pump for the hydraulic power pack, a bilge and general service pump and a 24-volt generator.

- 2.3.4 A small heating boiler and a normal selection of fishing machinery/equipment including net drums, winches, power block, cod end crane and a landing crane were onboard.

## 2.4 Vessel History

- 2.4.1 Originally named Shay Óg she fished out of Killybegs from her delivery until late 1994 when she was sold to an owner in Dingle where she remained until 1995. She was then sold to owners in Castletownbere and renamed FV "Honeydew II". Mr. Bohan purchased the vessel in June 2001 and the name FV "Honeydew II" was retained. The area abaft the wheelhouse over the shelter deck was slightly modified, seining gear removed and the net drum arrangement was changed after Mr. Bohan took ownership of the vessel.
- 2.4.2 At the time of change of ownership Ballycotton Marine Services Limited ("BMSL") on behalf of Mr. Bohan carried out a survey on the FV "Honeydew II". The survey report dated 30th May 2001, recorded 16 primary recommendations. The remedial work noted as being required in this survey is reported by BMSL as being completed on the 25th August 2001. A Radio Surveyor from the Marine Radio Affairs Unit ("MRAU") of the then Department of Marine and Natural Resources attended the vessel in October 2001. He was unable to issue a certificate to the FV "Honeydew II" at that time, as the required radio equipment had not been fitted. The BMSL report dated 25th August 2001 states that the GMDSS equipment was on order. In 2002 IMEC Southern Services Limited ("IMEC") and Dekkaman Marine Limited ("DML") completed the upgrade work on the radio equipment. An application was made to ComReg for a radio station licence in August 2002. No radio survey was carried out on the new GMDSS installation.
- 2.4.3 Between May 2001 and the time of the accident only two serious incidents are known to have occurred to the FV "Honeydew II". In late 2002 the vessel caught a net in her propeller, the vessel was disabled and was towed back to port. The damage caused to the stern gear during this incident required work on the propeller shaft and stern seal and eventually a major overhaul of the stern gear was carried out at Cork Dockyard in September 2005 to provide a satisfactory permanent repair to the problem.
- 2.4.4 In June 2004 the vessel suffered damage to its main engine; this required the FV "Honeydew II" to be towed into port by Ballycotton Lifeboat. Failure of the lubricating oil supply caused extensive damage to the engine. Following inspection, it was decided that the replacement main engine had to be fitted as outlined in section 2.3.1.

2.4.5 In 2003 the vessel was remeasured by the Marine Survey Office (MSO) to convert her tonnage measurement to GT. This was an office-based measurement, carried out from submitted drawings and no surveyor was required to attend the vessel.

## 2.5 Crew Particulars

At the time of the accident the FV "Honeydew II" had a four member crew onboard.

2.5.1 Mr. Ger Bohan (39) was the skipper and owner of the FV "Honeydew II". He held a Fishing Vessel Deck Officer Certificate of Competency, Second Hand (Limited) issued in 1992. He also held a Long Range Radio (Part 1) Certificate. Before purchasing the FV "Honeydew II" in 2001 he had previously fished a number of other vessels. He was regarded within the fishing industry as an experienced and competent skipper.

2.5.2 Mr. Tomasz Jagla (31) a Polish national who had lived in Ireland for around two years and had been fishing on the FV "Honeydew II" for that time. He had extensive fishing experience in Poland prior to coming to Ireland. Although he did not hold BIM fishing vessel basic safety training he had attended similar training in Poland, gaining certificates in first aid, fire fighting and personal survival techniques between 1999 and 2003.

2.5.3 Mr. Viktor Losev (47), a Lithuanian national who came to Ireland in April 2002 and had worked onboard the FV "Honeydew II" since then. He had previously worked as a mechanic on boats in Lithuania and held a diploma in engineering. No formal fishing vessel safety training is recorded.

2.5.4 Mr. Vladimir Kostyr (47), a Lithuanian national who was the newest crewmember, having commenced working on the FV "Honeydew II" when he came to Ireland in August 2006. Although not holding BIM basic safety training he held a certificate from the Republic of Lithuania issued under Regulation VI/1 of the convention on Standards of Training, Certification and Watchkeeping (STCW) which can be regarded as equivalent to the required BIM training. He held a qualification in industrial fishing/fishing technology.

## 2.6 Statutory Safety requirements at the time of sinking.

2.6.1 Merchant Shipping (Life Saving Appliances) Rules 1967 as amended, required the FV "Honeydew II" to carry two life rafts (a hydrostatic release was recommended but not required), four lifebuoys, two of these to be fitted with 30 metres of line and two with a Man Over Board (MOB) light and smoke signals, line throwing appliance, flares, and lifejackets.

2.6.2 Merchant Shipping (Fire Appliances) Rules, 1967 as amended, required the FV "Honeydew II" to be fitted with a fixed fire fighting system (as fitted during her 2001 refurbishment) fire extinguishers and an emergency fire pump.

- 2.6.3 Fishing Vessel (Radio Installations) Regulations, 1998, as amended.  
The FV "Honeydew II" was a Class II vessel requiring a radio survey every two years. This survey should ensure that the radio equipment that forms part of the Global Maritime Distress Safety System (GMDSS) is in satisfactory condition. The Regulations required the FV "Honeydew II" to carry Very High Frequency (VHF) and Medium Frequency (MF) radio equipment both fitted with Digital Selective Calling (DSC), a portable VHF radio, a Search and Rescue Transponder (SART), Navigational Telex (NAVTEX) and Electronic Position Indicating Radio Beacon (EPIRB). A means to provide emergency electrical power to the fixed radio equipment is also required. The regulations also set out the requirements to keep a radio log and operators qualifications.
- 2.6.4 Safety, Health and Welfare at Work (Fishing Vessel) Regulations, 1999.  
These Regulations apply EU Directive 93/103/EEC to Irish registered Fishing Vessels. The Regulations set out the roles of Department of Marine and Natural Resources, now Department of Transport, and Health and Safety Authority (HSA) in relation to the enforcement of the requirements. There is also a Memorandum of Understanding between the Department and the HSA. The Directive states the rules that the Member States should implement as a minimum concerning safety and health requirements to work on board fishing vessels. The requirements are mainly related to the obligatory equipment and design of the vessels. Appropriate standards of hygiene, information and training of workers are also part of the provisions. Article 3(2) sets out requirements for regular checks to be carried out on vessels and Article 13(3) requires Member States to report on the practical implementation of this Directive every four years.
- 2.6.5 Fishing Vessel (Certification of Deck and Engineering Officers) Regulations 1998 as amended.  
These Regulations require fishing vessels to be manned in accordance with the tables set out and the regulations specify the qualifications and number of crew required to be onboard fishing vessels over 17m. However, there is no requirement for fishing vessels under 500GT to carry a safe manning document and the majority of fishing vessels in this sector are less than 500GT. In the case of the FV "Honeydew II" the requirement was to carry a skipper holding a Certificate as 'Second Hand Limited or Special'.
- 2.6.6 Fishing Vessel (Basic Safety Training) Regulations, 2001.  
These Regulations require all fishermen on all sizes of fishing vessel who have not carried out training in accordance with S.I. 289 of 1988 to undergo a three-day safety training scheme. The Regulations came into force on a rolling basis dependant on the age of the fisherman between the 1st of March 2003 and the 1st of March 2008.
- 2.6.7 Merchant Shipping (Musters)(Fishing Vessels) Regulations, 1993.  
These Regulations require the skipper of a fishing vessel greater than 16.5m in length to draw up muster lists for their vessels and carry out regular drills. The

regulations also set out the requirements for the inspection and maintenance of life saving appliances, and fire fighting appliances. Records are required to be kept of the inspections and drills undertaken.

**2.6.8 European Communities (Minimum Safety and Health Requirements for Improved Medical Treatment on Board Vessels) Regulations, 1997.**

These Regulations specify the medical equipment to be carried onboard and detail differing levels of provision to be made on the vessel based on its size and operational profile.

**2.6.9 Collision Regulations (Ships & Water Craft on the Water) Order, 1984, as amended.**

These Regulations specify the navigation lights, shapes and signals that a vessel must carry as well as specifying the "Rules of the Road". No survey is required.

**2.6.10 Fishing Vessel (Personal Flotation Devices) Regulations, 2001.**

These Regulations require fishermen to wear lifejackets whilst on deck.

**2.7 Radio and Navigational equipment stated to be provided on board**

- 1 Magnetic Compass
- 1 Robertson Auto Pilot
- 1 Anritsu RA 725 Radar -x band
- 1 Furuno 1510 Mk II Radar -x band
- 1 Furuno NX 300 NAVTEX
- 1 Furuno GP 30 GPS
- 1 Raytheon 390 GPS
- 1 Sailor 406 EPIRB
- 1 Sailor 4000 Series 150 watt MF Radio with built in DSC
- 1 ICOM 401 VHF with ICOM DS -100 (GMDSS DSC Radio)
- 1 Sailor RT 407 VHF Radio
- 1 ICOM 56 VHF Radio
- 1 Jotron Tron SART
- 1 Jotron Tron TR20 VHF - Handheld VHF Radio

The wheelhouse was also provided with a plotter, echo sounder, CCTV system, engine instrument panel, 3-minute watch alarm, bilge, fire and gas leakage alarms.

**2.8 Lifesaving appliances stated to be provided on board**

- 1 unidentified 8-person life raft (possibly Beaufort) last service unknown
- 2 RFD Surviva 6 Life rafts -Serviced September 2006
- 2 Lifebuoys with self-activating Light & Smoke signal - Replaced January 2007
- 2 Lifebuoys with 30m Line attached
- 7 Lifejackets with lights
- 12 Parachute Flares

4 Line Throwing Apparatus (LTA) with 250 metres of line

The location of the these items is shown on the diagram in Appendix 9.3(a).

## 2.9 Vessel Monitoring System (VMS)

- 2.9.1 The Vessel Monitoring System ("VMS") is a satellite-based system, which uses Global Positioning System ("GPS") data from a fishing vessel to ascertain the position of a fishing vessel at certain intervals. In the case of Irish vessels the normal interval is two hours. This data is sent from the fishing vessel via satellite and a Land Earth Station ("LES") to the Fisheries Monitoring Centre (FMC) at the Irish Naval Base, Haulbowline, Cork. The data is automatically displayed on the monitoring system at FMC. The data comprises of the identifying characteristics of the vessel (Name, Fishing Number etc.) the date, time and position of the vessel expressed in Latitude and Longitude. The course and speed of the vessel as recorded on the vessels GPS system are also included. The requirement for carriage of such systems is a statutory requirement under Commission Regulation (EC) No. 2244/2003 of 18th Decemeber 2003 laying down detailed provisions regarding satelite-based vessel monitoring systems as enacted by Statutory Instrument S.I.183 of 2006.
- 2.9.2 The VMS does not form any part of the GMDSS system and cannot be considered a marine safety system. Its role is in fisheries monitoring. The VMS does not have any role in distress alerting. Despite the fact that it is not a safety system, it is examined in this section as it provided the most accurate record of the movements of the FV "Honeydew II" before the accident.
- 2.9.3 In order to try and manage the system, the FMC has established procedures to check all Irish fishing vessels at three fixed times each day, 06.00, 12.00 and 18.00 hrs. A number of random checks are also carried out during each 24-hour period. If during any of these checks, it has been observed that a vessel has failed to transmit, that vessel will be added to the "Daily VMS Check List". From approximately 09.30 hrs. each day, the FMC duty operator commences a phone check of all fishing vessels on this list. (Contact numbers for all Irish fishing vessels is maintained in the FMC).
- 2.9.4 It has been stated that the normal procedure is to attempt to contact the mobile telephone number submitted as the contact for a vessel. The contacts are made during 'normal office hours'. It is believed this policy existed as concerns had previously been raised about contact being made via home phone numbers around the clock, when a vessel had not transmitted causing needless anxiety amongst next of kin at home that an incident may have occurred with a vessel.
- 2.9.5 The FMC operator will eliminate from the list those vessels with which contact has been established. If after a minimum of three attempts the operator cannot establish contact, then the details will be forwarded on to the SFPA.

The SFPA Sea Fisheries Officer assigned to the homeport of the vessel will then try to establish the reason for the non-transmission.

## 2.10 Environmental Conditions

- 2.10.1 As environmental conditions appear to have played a major role in this incident, the meteorological information that would have been available to the skipper of the FV "Honeydew II" is contained in Appendix 9.4. The weather information is from Met Éireann and this in turn has been compared against forecast data from a separate provider of marine meteorological information, Nowcasting Limited. The Nowcasting forecast for the time and location of the accident is shown in graphical form in Appendix 9.5.
- 2.10.2 Actual recorded wind strength and barometric pressure at the two nearest weather stations, Roches Point and Met Buoy M5 are graphed in Appendix 9.6. The hourly reading from M5 for the period from 18.00 hrs. on the 9th January to 21.00 hrs. on the 11th January are given in Appendix 9.8.
- 2.10.3 On the day the FV "Honeydew II" sailed from Kinsale the first forecast that should have been received by the vessel from the Irish Coast Guard (IRCG) via Cork Coast Guard Radio was broadcast at 07.03 hrs. and detailed the 06.00 hrs. forecast by Met Éireann. This gave the Meteorological situation at 03.00 hrs. as; *a cold, unstable Northwest to West airflow covered Ireland, and a small depression of 997 near Anglesey continued to track Northeastwards. A weak ridge of high pressure was forecast to cross the country during the day, followed that evening and night by a very strong Southwest to West airflow and an occluding frontal system.*
- 2.10.4 A gale warning was associated with the Southwest to West airflow, which was detailed as for all Irish Coastal waters and the Irish Sea; *Winds from Northwest to West force 5 or 6 - reaching force 7 at times on the North Connacht and Ulster coasts and in the North Irish Sea. Local stronger gusts possible in showers. Decreasing West force 4 or 5 during the day. Backing Southwest later today and early tonight and increasing to reach strong gale force 9 or storm force 10. Veering West gale force 8 to storm force 10 overnight.*
- 2.10.5 The outlook for a further 24 hrs. until 06.00 hrs. Friday 12 January 2007; *Gale- to storm-force Westerly winds, decreasing fresh West to Northwest tomorrow night - later backing Southwest. Scattered showers rain in the West and South later tomorrow night*
- 2.10.6 A weak ridge crossed Ireland in the early afternoon of 10th January and a very strong Southwesterly airflow developed. The weather forecast transmitted by IRCG via Mine Head Coast Guard Radio at 19.03 hrs. gave details of the forecast made at 17.00 hrs. including wind from the Southwest at force 5 to 7, forecast to increase to gale force 8 and veering West and further increasing to strong gale force 9 later that night. The meteorological situation at 15.00 hrs. was

recorded as showing a weak ridge declining over Ireland and very strong Southwest airflow developing over the country, ahead of an advancing active frontal system from the Atlantic.

- 2.10.7 This forecast was repeated at 22.03 hrs. At 01.03 hrs. IRCG broadcast the details of the forecast made at 24.00 hrs. this contained broadly similar information as earlier forecasts but the wind was indicated as possibly reaching storm force 10. Winds were forecast to moderate in the afternoon of the 11th January. The meteorological situation recorded at 21.00 hrs. showed frontal troughs crossing Ireland in a gale force Southwesterly flow.
- 2.10.8 Met Éireann carried out a weather and sea condition report for the area within a 3-mile radius of where the accident took place. This information was derived by extrapolation of data from the nearest observation stations, Roches Point and Buoy M5. Archived weather charts, satellite/radar images and wave model data were used to produce this report as set out in Appendix 9.4.
- 2.10.9 In this report the sea state is given as very rough to high. The range of significant wave heights for the sea state 'very rough' is given as between 4 and 6 metres. For sea state 'high' significant wave heights of between 6 and 9 metres are given. It is also noted in this report that individual waves could have reached twice the height of the significant wave height giving possible maximum wave heights between 8 to 18 metres. Photographs of sea states and explanations of forecasting terms are given in Appendix 9.7(a) & 9.7(b)
- 2.10.10 The predicted tidal conditions for the nearest port are shown in Appendix 9.9(a). Appendix 9.9(b) shows the predicted tidal flow relative to the estimates course of the FV "Honeydew II" at 02.00 to 03.00 hrs. on the morning of the 11th January 2007.

### 3. EVENTS PRIOR TO THE INCIDENT

#### 3.1 Prior Vessel Operations

- 3.1.1 The FV "Honeydew II" was dry docked at Cork Dockyard Limited (CDL) Rushbrooke, Cork between the 7th and 11th September 2006, her last major dry docking prior to this was for remedial work to her stern gear in September 2005. During this docking she was cleaned, blasted and repainted. Anodes were replaced on the hull as required. A shipwright attended the vessel to make routine repairs to her timberwork and caulking.
- 3.1.2 Following this docking the vessel was dry docked again on the 13th October 2006. The vessel was only in dock for a day and the reason for the docking is unclear. Given only a day was required it is likely that minor adjustments had to be made to skin fittings or the stern seal. Those in the dry dock and marine engineering industries regarded Mr. Bohan as a conscientious owner who kept a well-maintained vessel.
- 3.1.3 Following her departure from dry dock the FV "Honeydew II" sailed for Kinsale, from where she set out on the morning of the 16th October for the first of 10 fishing expeditions she would make before the accident. The duration of the expeditions varied from 2 days to 5 days. The vessel fished off the Southern Irish coast, landing her catch in Kinsale. Typically she would spend two to three days in Kinsale before returning to the fishing grounds. Apart from the period around the Christmas holidays the FV "Honeydew II" only spent one extended period in Kinsale between the 23rd November and the 6th December within this three-month period.
- 3.1.4 In the timeframe of her last three months operation it is noted that VMS reports were not received from the FV "Honeydew II" on 16 separate occasions. In 7 of the cases of reports not being received the vessel was at sea, 6 of the 'misses' being single missed reports. However, between 15.54 hrs. on the 13th November 2006 and 13.02 hrs. on the 14th November 2006 11 reports were not received when the vessel was at sea, 5 miles Southeast of Ram Head when last polled. An explanation of the reasons behind this loss of VMS contact has not been established.
- 3.1.5 During the Christmas holidays the skipper visited a ship chandlery and purchased items of safety equipment for the vessel. These included a Man Over Board (MOB) combined smoke and light signal. The FV "Honeydew II" sailed from Kinsale on the 4th January 2007 and returned again on the evening of Monday the 8th January 2007. Again the VMS failed to poll that evening after the vessel was powered down. The FMC contacted the owner by mobile telephone on the morning of the 9th January and it was confirmed the vessel was alongside in Kinsale. Images of the vessel from the CCTV system in Kinsale harbour on the 8th January show the vessel arriving and discharging her catch. On the 9th January the vessel is seen shifting to come alongside with her starboard side to the berth. The images are of low quality but no damage to the vessel can be

noted in these images. A still image from the CCTV on the 9th January is shown in Appendix 9.11(a) & 9.11(b).

- 3.1.6 An overlay of VMS plots from the FV "Honeydew II" in the three months before the incident is shown in Appendix 9.10(a). For clarity this chart only covers operations in the area between the Kinsale and Mine Head. The location where the wreck of the FV "Honeydew II" was located is also plotted. It is of note that the wreck position is significantly to the North of the normal track lines of the FV "Honeydew II".
- 3.2 The final voyage**
- 3.2.1 Shortly before 06.00 hrs. the crew of the FV "Honeydew II" began to arrive at the Main Pier, Kinsale. CCTV footage shows the vessel powering up at 06.03 hrs and sailing at 06.16 hrs. A CCTV Still image is shown in Appendix 9.11(b). The VMS was activated and the first report sent at 06.18 hrs. Weather conditions at the time of sailing recorded at Roches Point were West to Northwesterly winds of 18 knots, forecast to moderate over the day and worsening in the evening. Having cleared the Old Head of Kinsale the vessel steamed a course 80° towards her planned fishing grounds. The course of the FV "Honeydew II" for this voyage as recorded by VMS polls is shown in Appendix 9.10(b).
- 3.2.2 The first trawl commenced around 09.30 hrs. 6 miles Southeast of Ballycotton and the fishing gear was towed for a little over four hours hauling around 14.00 hrs. A repair was made to a pump drive belt in the engine room around this time and the gear was shot again around 15.00 hrs. the weather began to worsen and the gear was hauled around 19.00 hrs. The catch was stowed and gear tidied away. About this time news came through regarding the loss of the "Pere Charles" off Dunmore East.
- 3.2.3 The catch between the two trawls that day was poor. Mr. Losev and Mr. Kostyr estimated there were no more than 10 full boxes of fish and about 20 boxes half filled. The forward pounds in the fish hold had been filled with ice before departure and it is estimated that a total of about 4 tonnes of ice was onboard.
- 3.2.4 The vessel was around 7 miles off the coast and following stowing of the gear, Mr. Jagla prepared a meal and the crew took short spells on watch to allow everyone to eat and get cleaned up. Around 22.00 hrs. Mr. Losev inspected the engine room and pumped the engine room and fish hold bilges. The bilges were at normal levels. Mr. Bohan kept watch from around 21.00 hrs. to shortly before 23.00 hrs. At 21.40 hrs. the VMS transmitted the FV "Honeydew II" at position 052° 01.6' N 007° 18.2' W making 3 knots on a heading of 2010. At about 22.00 hrs. the course was changed to 240° and the vessel steamed in the weather.
- 3.2.5 Skippers of fishing vessels would commonly adopt the practice known as 'dodging the weather' or just 'dodging' as a method to ride out poor weather. Essentially the vessel steams into the weather using sufficient engine power to

maintain effective steering, adjusting power and course as required. The objective is to avoid the vessel lying beam on across the weather, usually making little headway into the weather.

- 3.2.6 Shortly before 23.00 hrs. Mr. Kostyr stated the skipper handed over the watch to him. The exact time is unclear, as Mr. Bohan would appear to have been in the wheelhouse and made two telephone calls shortly after 23.00 hrs. Mr. Kostyr stated he had no concerns about taking watch and had kept watch on many occasions previously. The phone rang shortly into the watch and Mr. Bohan came back up to the wheelhouse for the call, Mr. Kostyr went back down below during the phone calls. At 23.36 hrs. the VMS showed the FV "Honeydew II" at position 052° 00.23 N 007° 23.76'W, 6 miles Southeast of Helvick Head. At this point the FV "Honeydew II" is recorded having a speed of 5.0 Knots and a heading of 270° .
- 3.2.7 It would appear Mr. Bohan was in the wheelhouse for about 30 minutes. As well as the phone call he spoke on the MF radio with the skipper of the "Rachel Jay" who was fishing 24 miles to the Southeast of him. They discussed the weather which Mr. Bohan described as poor but he was not overly concerned about it. They also discussed the loss of the "Pere Charles", which had sank earlier that evening. Mr. Bohan mentioned that there was water dripping from the compass (in the wheelhouse roof) and he was burning 70 litres of fuel an hour just going into the weather. The skipper of the "Rachel Jay" asked would he go into Dunmore East for the night but Mr. Bohan said he would dodge the weather for the night and see what conditions were like in the morning. The "Rachel Jay" still had her fishing gear out and Mr. Bohan asked if he would haul in or not.
- 3.2.8 At no point during the telephone conversations or radio call or in telephone calls made during his watch up until 23.00 hrs. did Mr. Bohan seem concerned about the prevailing weather conditions, the condition of the FV "Honeydew II" or the response of the vessel to the weather conditions. When Mr. Bohan finished his phone and radio calls Mr. Kostyr came back to the wheelhouse. Mr. Bohan then handed over the watch with instructions to call him at 03.00 hrs. or if a target or land appeared within 6 miles on the radar. Mr. Kostyr stated that the intended course was already set in the autopilot and the autopilot was active at this time. He also stated he was told to keep the bow of the vessel into the weather, that Mr. Bohan had a final look at instruments and went to bed sometime around 12.30 hrs. The skipper's cabin was adjacent to the wheelhouse.
- 3.2.9 Mr. Kostyr stated that over the course of his watch the plotted speed varied between 1.5- 4.5 knots. He estimated an average speed of 2.5 knots. He stated he was steering a course of 35° (North Northeast) but the heading of the vessel was moving between 30°-40° as the vessel yawed in a head sea. The waves were breaking over the bow. The course stated is contrary to the actual course taken by the vessel and the description of the wind and waves being on the bow. It is possible that the bridge instruments were incorrectly read, a common error would be to read the reciprocal compass heading which would in

this case have been 215° whereas the actual course from the last know position of the FV "Honeydew II" to the wreck site is 240° .

- 3.2.10 The position of FV "Honeydew II" should have been transmitted by the VMS at between 01.30 and 01.40 hrs. This poll did not take place. Mr. Kostyr describes the weather as worsening over the course of the watch, the worse weather was after 02.00 hrs. The "Rachel Jay" hauled her gear between 01.00 and 01.30 hrs. and her skipper called the FV "Honeydew II" on MF radio. When he received no reply he assumed Mr. Bohan was getting a few hours sleep. It is not clear what frequency the MF radio had been left on at the end of their conversation earlier. It is considered most probable that the Single Side Band (SSB) MF radio had been used for this call and the DSC radio would have been left on stand by on the distress frequency.
- 3.2.11 In spite of the deteriorating weather conditions, Mr. Kostyr felt no need to call the skipper. His stated instructions were to call the skipper around 03.00 hrs. or if a target showed on the radar. The radar appears to have been set on a 6-mile radius but this is not certain in subsequent statements made by Mr. Kostyr. A degree of confusion also seemed to exist as to what defined a target. Land and ships having been initially considered targets but subsequently revised to be ships alone.
- 3.2.12 Having firstly stated that he saw no land or lighthouses Mr. Kostyr subsequently stated that he saw a lighthouse and land to the starboard side but beyond six miles. It is unclear how the skipper's instructions to keep the bow into the weather were to be maintained without altering the preset course on the autopilot. Mr. Kostyr has also stated that the water depth was 30 fathoms at the end of his watch. This would place the vessel a mile more off shore. It is possible that the echo sounder that recorded water depth was reading in metres. A reading of 30 metres would provide a more accurate correlation to the actual vessel position.

### 4. THE INCIDENT

- 4.1 Mr. Kostyr stated he called Mr. Bohan at 02.45 hrs. He said Mr. Bohan had requested to be called at this time. He stated Mr. Bohan got up almost immediately, came into the wheelhouse and looked at the bridge instruments.
- 4.2 Mr. Kostyr stated there was little or no conversation between him and the skipper and he simply indicated for him to go down to the cabin to get some rest. Mr. Kostyr left the wheelhouse and was descending the stairs between the wheelhouse and the galley/mess room when he felt a powerful impact. He stated the impact appeared to be on the forward portside and the vessel immediately listed to port and the pitching motion of the vessel into the weather stopped.
- 4.3 Mr. Bohan shouted for Mr. Jagla and Mr. Kostyr called for Mr. Losev. Mr. Jagla and Mr. Losev were in the cabin below the mess room. Mr. Losev and Mr. Jagla climbed up from the cabin, Mr. Jagla came up first. Mr. Jagla and Mr. Kostyr went into the wheelhouse where Mr. Bohan had taken the vessel off automatic pilot and was attempting to turn the boat. Mr. Kostyr stated that Mr. Jagla pushed him ahead of him out the wheelhouse door and immediately went to the starboard aft life raft. Mr. Kostyr released the senhouse slip securing the raft and they both lifted the raft and threw it overboard. Mr. Kostyr stated that they had to lift the raft back and up to get it to clear the rail as the vessel already had a list in excess of 30° to port at this time. Mr. Jagla pulled the painter and the raft inflated. Mr. Kostyr stated that at some time after leaving the wheelhouse Mr. Jagla took a lifebuoy and placed it over his head with one arm through it. (The photograph in Appendix 9.3(b) shows two lifebuoys and the life raft on the starboard side of the wheelhouse) The launching procedure poster for the life raft is shown in Appendix 9.17(c).
- 4.4 Mr. Losev having come up from the cabin remained momentarily in the wheelhouse, he said Mr. Bohan had the radio in his hand saying "help, help, help" Mr. Losev went out the wheelhouse door where he said that Mr. Kostyr and Mr. Jagla had launched the life raft. At this point the vessel is described as being listed to port by at least 60° to 70°. Mr. Losev went back into the wheelhouse and describes seeing Mr. Bohan forced up against the bulkhead by a wall of water, as some of the portside wheelhouse windows started to shatter.
- 4.5 Mr. Losev then described how the vessel's rate of list to port increased even more rapidly and the FV "Honeydew II" almost completely capsized. He swam clear of the wheelhouse and was washed clear of the vessel and ended up a few metres from the life raft. Mr. Jagla was also in the water having either jumped or been washed over the side. Mr. Kostyr clung to the side of the overturning hull and climbed upward toward the keel. From this position he saw the raft with two figures swimming close to it. The main engine and lights had both been working until this time but as the vessel turned over the engine stopped and the main lights went out, the emergency lights appeared to come on for a second and they too went out.

- 4.6 Mr. Losev described how Mr. Jagla made it to the entrance of the life raft but was unable to pull himself into the raft due to the lifebuoy around him. Mr. Losev describes the lifebuoy having a flashing light attached to it. Another large wave came and washed them both away from the side of the raft. Mr. Losev swam back towards the raft and as he got close saw a person in the entrance. He initially thought it was Mr. Jagla but in fact it was Mr. Kostyr who had jumped from the hull. Both men boarded the raft and described seeing the bow of the FV "Honeydew II" disappear beneath the waves about 30 seconds later. They called for Mr. Jagla but could no longer see him or the flashing light that had been attached to his lifebuoy.
- 4.7 It is difficult for the survivors to put an accurate time span on events but Mr. Kostyr stated that the time on the wheelhouse computer was 02.45 hrs. when he called Mr. Bohan. Mobile phone records show the last phone to show a signal was that of the skipper at 02.49 hrs. Modelling of the capsize sequence would indicate that from the start of the incident to the vessel sinking as little time as 4 minutes would have elapsed.
- 4.8 Both Mr. Losev and Mr. Kostyr have stated they did not cut the painter that attached the life raft to the FV "Honeydew II". They state Mr. Jagla must have cut the painter. This seems unlikely, as if Mr. Jagla was in a position to cut the painter, he would have been able to board the life raft.
- 4.9 It has also been stated by both survivors that Mr. Bohan and Mr. Jagla were wearing only light clothing at the time of the incident, this combined with recorded water temperature at buoy M5 of 10.5° would have meant their possible survival time would have been measured in minutes rather than hours.

## EVENTS AFTER THE INCIDENT

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### 5. EVENTS AFTER THE INCIDENT

- 5.1 The two crew members, when they could see no sign of the two missing crew decided to batten down the life raft, as a large amount of water was entering through the canopy opening. They bailed out as much water as possible and around 08.00 hrs. deployed the second sea anchor. The raft is equipped with two sea anchors (drogues), one of which deploys automatically upon raft inflation.
- 5.2 In spite of the fact the survivors stated that the skipper attempted to make a radio distress call before the vessel sank, no station received this transmission. The closest IRCG station is at Mine Head less than five miles North of the wreck site and a French fishing vessel "Ar Lanes" was at position 051° 52' N 007° 19' W, 12 miles Southeast of the FV "Honeydew II" at the approximate time of the incident and has stated that no distress transmission was heard. The Emergency Position Indicating Radio Beacon EPIRB that was carried on the vessel failed to contact a satellite and commence a distress alert sequence.
- 5.3 The FV "Honeydew II" had failed to make scheduled VMS contact between 01.30 and 01.40 hrs. on the 11th January and made no VMS transmissions after the 23.36 hrs. poll on the 10th January 2007. The VMS including procedures for dealing with non-transmitting vessels is detailed in section 2.9. The FV "Honeydew II" was recorded as a non-transmitting vessel and the FMC attempted to contact the skipper on his mobile phone at about 10.30 hrs. on the 11th January. No reply was received and the list of non-transmitting vessels was subsequently sent by e-mail at 12.45 hrs. to the SFPA. It is not clear what action, if any was taken by the SFPA upon receipt of this information.
- 5.4 A French fishing vessel, the "Gwennelli", that was alongside in Kinsale had been in contact with the FV "Honeydew II" on the 10th January at 15.19 hrs. using Satellite C communication however their attempts to contact the FV "Honeydew II" at 06.47 hrs., 09.52 hrs. and 13.00 hrs. on the 11th January all failed. Over the course of the day the wife and friends of the skipper had also failed to make contact with the vessel. Initially no one was unduly worried, as it was not uncommon for the vessel to be out of mobile phone coverage but as evening approached and it became clear that no one had been able to contact the vessel by telephone or radio concern began to be felt.
- 5.5 Over the course of the day the two survivors in the life raft saw no sign of any rescue craft. They had taken some medication from the life raft first aid kit for a headache. They both also felt ill due to the motion of the life raft and having been covered in diesel oil swimming to the life raft and possibly swallowing a quantity of diesel and seawater. They took one portion of water and food rations between them. They used some hand flares but did not succeed in attracting attention.
- 5.6 At 17.06 hrs. the Skipper of the "Rachel Jay" contacted the Marine Rescue Coordination Centre (MRCC) Dublin to advise of concerns about the FV "Honeydew

II" stating that last contact had been over 16 hrs. ago when the vessel was 6 miles from Mine Head. At 17.10 hrs. Mr. John Tattan a fisherman from Ballycotton contacted FMC to state that the wife of the skipper was concerned about the FV "Honeydew II" and the boat had not been in contact since 01.00 hrs. that morning.

- 5.7 MRCC Dublin began a radio communications search (calling the FV "Honeydew II" on normal working radio frequencies) but no response was received to these calls. A port search was also carried out at this time. During the initial MRCC port and communication searches FMC polled the FV "Honeydew II" on its VMS equipment, again no response was received and it was noted the last position for the vessel was at 23.36 hrs. the previous day the 10th January 2007.
- 5.8 MRCC Dublin then broadcast a Pan Pan relay for the FV "Honeydew II" at 17.29 hrs. At 17.43 hrs. the LE "Emer", which was proceeding to the "Pere Charles" search area, was tasked to search for the FV "Honeydew II". At 17.58 hrs. the Waterford based rescue helicopter, R117, which had just returned from the "Pere Charles" search was tasked for the search. At 18.04 hrs. MRCC Dublin broadcast a May Day relay message. At 18.12 hrs. Ballycotton lifeboat was tasked to the search and at 18.35 hrs. reported it was proceeding. Initially the search commenced from the last known position of the vessel, the 23.36 hrs. VMS position.
- 5.9 At 18.39 hrs. R117 reported it was departing for the search area having refuelled at Waterford Airport. R117 proceed from Waterford Airport South, crossing the coast near Tramore before heading Southwest towards the last VMS position of the FV "Honeydew II". A little over ten minutes into the flight a flare was spotted by one of the helicopter crew and the life raft containing Mr. Losev and Mr. Kostyr located at position 051° 59'N 007° 12.8'W at 18.51 hrs. Both men were recovered from the life raft at 19.06 hrs.
- 5.10 Both survivors had limited spoken English but were able to pass on basic details of the incident to the crew of the helicopter. When the survivors were assessed by the crew on R117 and deemed not in immediate need of medical attention it was decided to keep on scene and continue searching. R177 returned to base at Waterford Airport at 20.57 hrs. The Dublin rescue helicopter R116 then arrived to take over the air search.
- 5.11 Ballycotton Lifeboat recovered the second uninflated life raft at position 52° 00.36'N 007° 11.04'W at 21.33 hrs. Pound boards, topside planking and general debris were recovered between 1 to 2.5 miles to the Northeast of the survivor's life raft position in the initial search. Appendix 9.14 shows detail of the marine debris field. R116, fishing vessels, the oil tanker "Breaksea", and Ballycotton and Dunmore East lifeboats continued searching until 02.30 hrs. on the morning of Friday 12th January 2007. LE "Emer" remained on scene over night and the search resumed in the morning.

- 5.12 The following day the 12th January the debris field was spread up to 12 miles to the East of the life raft position. Recovered items included more bulwark and topside planking, fish boxes, pound boards and clothing. In the afternoon timber debris and oil drums had come ashore at Bunmahon Co. Waterford, 10 miles to the North West of the life raft position. On the 12th and 13th January timber debris also came ashore at Ballyteige Beach 25 miles to the Northeast of the life raft position.
- 5.13 Over the following week from the 14th to the 21st January, during extensive sea and air searches, a substantial amount of debris was recovered, mainly from Ballyteige Bay and further to the East between Kilmore Quay and Carnsore Point, Co. Wexford. This included timber from the port bow with part of the vessel name, lifebuoys, fish boxes, gas cylinders, first aid kits, light plywood sheets, clothing and effects. To the West near Clonea Strand, Dungarvan, Co. Waterford, fish boxes and wellingtons were found.
- 5.14 Survivors were only able to give extremely limited information regarding the position of the incident and possible location of the wreck and it was not until almost two weeks after the sinking on the afternoon of the 23rd January, sonar contact was made by a fishing vessel 5 miles Southwest of Mine Head with a target believed to be the FV "Honeydew II". A grapple was used to recover a piece of handrail that was believed to have come from the FV "Honeydew II". The wreck was marked at location 51° 55.006N 007° 37.183'W.
- 5.15 The following day 24th January 2007 members of the Garda Water Unit (GWU) of An Garda Síochána using the Customs cutter R.C.C. Suirbheir as an operations/ diving platform conducted a dive on the site and confirmed the wreckage as that of the FV "Honeydew II". Over seven days until the 31st January 2007 the GWU conducted extensive dives and searched the wreck of the FV "Honeydew II" and the adjacent seabed. The presence of netting and ropes as well as the precarious position the vessel was lying in, with the topside of the wheelhouse and top of the shelter deck effectively holding the vessel in position placed severe challenges on those involved in the diving operations.
- 5.16 The GWU recorded video footage of these dives and the FV "Honeydew II" is seen lying on her port side turned to an angle of approximately 120° and with her bow pointed in a Southerly direction. The water depth at chart Datum is between 28 to 30 metres. Regrettably in spite of a very extensive search the bodies of the two missing crewmen were not recovered. A number of items, including some safety equipment were removed from the vessel. An analysis of the divers video is made in section 6.4.
- 5.17 On the 20th February 2007 a member of the public reported a large number of fish boxes being washed ashore at Bunmahon beach Co. Waterford. The IRCG unit from Bunmahon attended and recovered over 80 fish boxes; these boxes were identified as coming from the FV "Honeydew II". It is believed that these boxes floated free from the FV "Honeydew II" following the break up of the shelter deck and it becoming further detached from the main hull.

- 5.18 In April 2007 a further inspection was made of the wreck site, on this occasion an Irish Naval Service Remote Operated Vehicle (ROV) was used. The Commissioners of Irish Lights (CIL) lighthouse tender "Granuaile" was used as the operating platform. The wreck was seen to have started to break up at this time. The portside of the vessel had almost completely collapsed; the stem of the vessel was lying on the seabed.
- 5.19 The shelter deck had become detached from the vessel. The photograph in Appendix 9.15 shows the starboard of the stem post. In this photograph the starboard planking can be seen detached from the vessel frames. The ROV was also used to examine the seabed in the vicinity of the wreck. No significant new items of debris were noted. The condition of the vessel was such that it would have been futile to attempt to raise it from the seabed.
- 5.20 On the 18th December 2007 a member of the public reported on object marked FV "Honeydew II" on the beach in Courtown Co. Wexford. This was recovered by IRCG and identified as the Sailor EPIRB from the FV "Honeydew II". An initial examination showed the EPIRB to be in good condition and a more detailed examination was made in the presence of the equipment manufacturer and the principal radio surveyor. The results of the examination and tests carried out on the EPIRB are detailed in section 6.3

## 6. FINDINGS

### 6.1 Examination of recovered items

- 6.1.1 As has been detailed in Sections 5.11 to 5.13 a substantial amount of debris was recovered from both sea and shore search areas. The examination of the lifesaving appliances and EPIRB is dealt with separately. A further factor to be considered is that a common debris field existed with the "Pere Charles" accident site, although the majority of recovered debris came from the FV "Honeydew II". A significant amount of debris that could not be linked to either accident was also recovered, primarily general marine debris that had been disregarded.
- 6.1.2 The services of a consultant timber technologist were engaged to examine recovered timber. 10 pieces of plywood were recovered, 5 pieces formed a sign with the letters "GUARD". This is believed to have been a sign board used when the FV "Honeydew II" had been engaged in guard ship duties at an earlier date. 4 pieces of plywood appear to be part of a cover that was fitted around a hydraulic tank that was located within the shelter deck against the deckhouse.
- 6.1.3 Several softwood boards (fish pound boards) were recovered, at least 6 of these are believed to have come from the FV "Honeydew II". A smaller soft wood block (probably Sitka Spruce) block 240 x 130 x 65mm and a longer piece of softwood 600 x 130 x 35mm were also recovered.
- 6.1.4 Only five sections of iroko, the original hull planking were recovered. The largest piece measured 800 x 165 x 55mm and had two nails intact at both ends and a single nail in the middle. The smaller iroko sections were up to 560mm long but were fragments or splinters of irregular section.
- 6.1.5 A large section of double oak frame was recovered from the seabed approximately 90 metres from the wreck site two weeks after the accident. Appendix 9.16(a) shows a photograph of this timber. Two 280 x 16mm bolts originally joined the two oak sections. The two pieces were 200 x 100mm in section, one was 1000mm in length the other 950mm. There was a curve in both pieces, the shorter piece curving more sharply.
- 6.1.6 The end of the longer piece is broomed with separation of fibres suggestive of repeatedly striking a hard surface. A larch strip 45 x 45mm in section is nailed to the concave side of this piece. One end is the original cut, the other end broken over a length of 290mm. Boat nails remain embedded in the convex face with heads sheared off suggestive of planks broken off due to a sideways force.
- 6.1.7 The shorter piece is broken at both ends, the split occurring in line with the boltholes. There is no indication of significant decay in either piece. The two sections would appear to be one of the port side frames from between frame 12

to frame 16. It is unclear how it came to its location on the seabed but possibly it broke off and floated clear of the wreck on the bottom with sections of planking attached.

- 6.1.8 The effect of repeatedly striking the seabed as it floated clear of the wreck may have caused the brooming of the end of one section. Significant amounts of 5-6 mm diameter metal disc were noted in both pieces. These discs are discarded metal punchings that were used as ballast when the vessel was being constructed and are not considered relevant to the investigation.
- 6.1.9 Two smaller pieces of oak were recovered ashore, one 1200 and 700mm long respectively. These cannot conclusively be identified as coming from the FV "Honeydew II".
- 6.1.10 Approximately 20 pieces of dark wood identified as larch of various lengths and up to 200mm thick were recovered. Painted blue on the outside and white inside, all would appear to have come from the bulwark of the FV "Honeydew II". Some pieces had nails still intact others the nails had pulled through. One piece showed signs of surface degradation and suggestion of an earlier fracture.
- 6.1.11 Eleven pieces of spruce (White Deal) were recovered including some with a portion of the vessel name on them. A photograph is shown in Appendix 9.16(b). The longest piece is 2500mm and appears to have been the top bulwark plank, running from the stem post aft. This plank has three 25mm thick by 400mm long boards nailed to the back. There is evidence of earlier re-clenching on this and other planks. Appendix 9.16(c) shows these backing pieces on the top bulwark plank.
- 6.1.12 Up to five nails (or evidence of nail holes) are visible at a various frames spaces on this plank. With some frames spaces having only two. Certain the nails show little sign of corrosion and this along with the condition of some of the planks, is suggestive of recent replacement. It is of note that the Spruce planking has been attached using round wire nails in places.
- 6.1.13 The overall condition of the recovered timber was good. Minor localised decay was present in a small number of pieces but there was no evidence of significant loss of strength in the timber examined. The recovered material does point to significant planking renewal. This would be expected in a vessel of this age (25 years old) and indicates the FV "Honeydew II" has been maintained to a reasonable standard over her life. The evidence of round nails, re-clenched planks and the three backing pieces described in section 6.1.11 would not be considered a satisfactory permanent repair. It is not known when this work was undertaken.
- 6.1.14 The damage noted in the recovered sections of the bulwark planking shows signs of fracture in bilateral directions, an element of external (outward) fracture is expected in the context of a stern first sinking where trapped air remaining within the hull will tend to force out the timber at the highest point. There was

evidence of considerable inward deflection and fracture to these timbers. Inward deflection and fracture would also be caused if a compartment was watertight at the time of sinking. However the number of openings in the shelter deck space including the cod end hatch and freeing ports eliminate this as a cause of the inward deflection of the bulwark timbers. There is no evidence of mechanical impact damage to either side of these timbers.

6.1.15 As well as the timber, lifesaving equipment and EPIRB, a large number of miscellaneous items were also recovered from the FV "Honeydew II" during the sea and shore search. These are not examined in detail in this report, as they are not believed to have relevance to the incident. The items included fish boxes, clothing and footwear, lights, food and supplies.

## **6.2 Examination of Lifesaving appliances from FV "Honeydew II".**

6.2.1 The starboard life raft (RFD 6 Person life raft Serial No. DO6SU36187 - 28m Painter) used by Mr. Losev and Mr. Kostyr to abandon the FV "Honeydew II". Following their rescue from the life raft as detailed in Section 5.9 it was recovered by the Irish Naval Service vessel L.E. Emer and landed ashore at the Naval Base Haulbowline, it was initially examined onboard the L.E. Emer at Haulbowline and then transferred to the premises of an independent life raft service station. This raft was then examined in the presence of the service agent, an independent service agent and the MCIB investigator on the 25th January 2007.

6.2.2 The life raft had been deflated for transport and was subsequently inflated for inspection and apart from minor scuffing damage associated with the recovery and transport of the raft, it was found in a condition consistent with normal deployment.

6.2.3 On inspection of the life raft it was noted that the righting ladder was cut at the rear of the raft. 18.2m of painter line were found with emergency pack contents (both ends cut). A further 2.7m of painter were found tied to outer grab lines (both ends cut). The painter had been cut 780mm from the buoyant tube. This combines to a total of 20.9 metres of painter line. Due to the absence of the rubber extrusion tube at the end of the painter it is concluded that approximately 7 metres of the onboard side of the painter were missing and mostly likely still attached to the vessel.

6.2.4 The painter-cutting knife was recovered inside the life raft. The knife is shown in the lower photograph in Appendix 9.17(a). The knife is stored in a pocket inside the life raft entrance attached by a lanyard as shown in the upper photograph in Appendix 9.17(a). This shows the knife in the port life raft after test inflation. The contents of the life raft were intact apart from one portion of food and water used, four hand flares used, one parachute flare used and one smoke signal used.

- 6.2.5 One drogue line was cut and found inside raft tied to grab lines. The second drogue was found with the emergency pack contents. The condition and position of the painter and drogue lines is consistent with the description given by Naval Service personnel of how the life raft was recovered including cutting and tying up of the ladder, painter and drogue lines
- 6.2.6 The port life raft (RFD 6 Person Life raft Ser. No. DO6SU32827 with 36m Painter) was recovered as detailed in Section 5.11. On the 25th January with the same persons as detailed in Section 6.2.1 present it was examined. This life raft was observed in its container with the burst bands intact. Approximately 2 metres of its painter line extended from container. The burst bands were removed for safety reasons before testing. The service engineer then manually activated the life raft and the life raft inflated to its full potential and no defects were found.
- 6.2.7 It is concluded that it was most likely the hydrostatic release functioned correctly to allow the life raft to be released. The reason for the life raft not inflating is that its painter was not connected to the deck of the vessel. A photograph of the inflated life raft is shown in Appendix 9.17(b).
- 6.2.8 Apart from the life rafts a number of other items of safety equipment were recovered from the FV "Honeydew II". Three lifebuoys and one MOB signal were recovered. One MOB signal was still attached to the vessel on the seabed. A number of pyrotechnics were recovered but they were in an unsafe condition for examination. One lifejacket was recovered.
- 6.3 Information regarding and examination of the EPIRB**
- 6.3.1 As set out in Section 5.2 no EPIRB signal was received from the FV "Honeydew II". Initial investigation showed a Kannad EPIRB was registered to the FV "Honeydew II". The cover of this EPIRB was recovered during the shore search. It subsequently transpired that the Kannad EPIRB had been removed from the vessel during work to upgrade her equipment to GMDSS standard following Mr. Bohan purchase of the vessel. A Sailor EPIRB had been fitted by IMEC carrying out work on behalf of the main radio/electronics contractor Dekkaman Marine.
- 6.3.2 Appendix 9.12(a) shows the programming certificate for this EPIRB dated 15th August 2002 and Appendix 9.12(b) shows the EPIRB registration card. The registration card is unsigned but also dated 15th August 2002. In the normal course of events the owner would have signed this registration card and forwarded it to the then Department of Marine and Natural Resources for input into the national EPIRB database. There is no record of it being received or the change of EPIRB being noted on this database.
- 6.3.3 IMEC have stated that the new EPIRB was fitted on the starboard side of the wheelhouse in August 2002. Photographs taken in February 2006 show the base bracket for the EPIRB but the EPIRB, hydrostatic release and cover are missing.

Appendix 9.12(c) shows a similar EPIRB. Appendix 9.3(b) shows the stated original location of the Sailor EPIRB. Appendix 9.12(f) shows this area in closer detail.

6.3.4 The EPIRB has a painter (shown in the coiled position in the photograph in Appendix 9.12(c), which was nearly completely uncoiled at the time of recovery. This would have had the effect of making the EPIRB susceptible to becoming easily trapped on a rocky shoreline.

6.3.5 The EPIRB was recovered as recorded in Section 5.20. The EPIRB was tested on the 29th January 2008 in the presence of a representative of the manufacturer, the Principal Radio Surveyor and MCIB investigator. The results of these tests are set out below.

1. The EPIRB battery voltage was checked and a reading of 519.0 mV obtained which indicated that the battery was discharged. The lithium battery had a manufacture date of July 2002 with an expiry date of June 2008.
2. The discharged battery was replaced with a new battery and an "on air" test was conducted which gave the following readings

Frequency	406017.8 kHz
Level	210
Hex	9F4A4930B2DC4D1
Country Code	250
User	Maritime User Protocol
ID	EIPZ
Specific Beacon	0
Homing freq	121.5 kHz
National Use	Undefined
Type	Manual and Automatic

3. Two live tests were conducted using a screened Faraday cage and the results were as follows

1st Live test	
Frequency	406024.9 kHz
Level	212
Hex	9F4A4930B2DC4D1
Country code	250
ID	EIPZ

2nd Live test	
Frequency	406024.8 kHz
Level	212
Hex	9F4A4930B2DC4D1
Country code	250
ID	EIPZ

- 6.3.6 The tests indicated that the EPIRB was correctly programmed and functioned satisfactorily when the new battery was installed. The tests were carried out using a GMDSS Futronic test box and a screened Faraday cage. The EPIRB produced a normal transmitted signal output in both test and full transmitting mode and no defect that would have resulted in the battery discharging was noted.
- 6.3.7 The EPIRB manual operation cover slide switch was in the manual operation position. The photograph in Appendix 9.12(c) shows the manual switch in the normal test position and the photograph in Appendix 9.12(d) shows the switch in the manual position. Marine growth around this switch indicates that the slide switch was in this position for a considerable period of time and no impact marks were noted on the switch which could point to the switch cover being dislodged or moved by rubbing against rocks or seabed.

Even when the slide is in the manual position, the switch button that the slide switch normally covers must be pressed to activate the EPIRB. The EPIRB will automatically activate when two contact screws at the base of the unit are immersed in water. This older model of EPIRB has no time/date stamp function so it is not possible to determine when it activated.

- 6.3.8 The EPIRB was subsequently examined by staff at the Marine Institute, Galway. They noted that the marine growth present on the EPIRB was ubiquitous to Irish coastal waters and could not point to a location where the EPIRB may have been in the 11 months between the loss of the vessel and the recovery of the EPIRB. Marine growth was noted in two distinct phases that would point to the EPIRB having come to rest at two points on the shore. The photograph in Appendix 9.12(e) shows a general view of the EPIRB including marine growth.

#### **6.4 Examination of video footage of the wreck site.**

- 6.4.1 The vessel was discovered lying in a little less than 30 metres of water 3 miles Southeast of Ram Head. The wreck location was discovered initially by sonar search and a grapple hook dropped by the "Rachel Jay" recovered a section of handrail on the evening of Tuesday 23rd January 2007. On the following day members of GWU undertook a preliminary dive on the site and confirmed the vessel identity. The vessel was lying in a Southerly direction and had come to rest on her starboard side lying at an angle of 120° to the horizontal.
- 6.4.2 A shot line was attached to her starboard side rail adjacent to the wheelhouse. Substantial horizontal buckling of the starboard side top of the wheelhouse is evident. The wheelhouse door was missing. Some panels within the wheelhouse had come down, and wiring and cable runs were loose. The SART (Search and Rescue transponder) was found at the starboard wheelhouse window. Radios, radars and monitors are in place. Within the deckhouse, including cabin and mess room areas, similar damage as noted to the wheelhouse area is present.

- 6.4.3 Externally a hatch cover with sheared hinges was lying ahead of the wheelhouse. The landing crane, cod end crane and net drum support structure was deformed and sheared. The damage to and movement of the drum mountings were consistent with the vessel striking the seabed stern first. Moving along the starboard side, the cod end hatch (two piece concertina) was missing. The hatch was connected to the upper shelter deck by three hinges all of which had sheared.
- 6.4.4 Within the shelter deck space the winch mountings at the forward end of the space had broken from the deck. At least one stanchion had become detached. The photograph in Appendix 9.18(a) shows the top of the port winch looking forward towards the area of damage on the port bulwark (not clearly visible in the photograph). The hatch leading to the forepeak store is open.
- 6.4.5 The main fish hold hatch is in place but significantly depressed downward at its aft end and is photographed in Appendix 9.18(b). This would indicate the fish hold was intact at the time of sinking and water pressure pressed in the hatch cover until the booby hatch opened. The booby hatch is shown in greater detail in the photograph in Appendix 9.18(c).
- 6.4.6 On the final day of diving on the wreck site divers made an external sweep along the starboard side of the vessel. As they reached the stem post at least the uppermost plank was noted missing from the stem post aft. See Appendix 9.18(d) photograph. The quality of this image is poor and the area in question is circled. Further exploration into this area revealed more planks missing and the plank with the start of the vessel name was forced back inside the bulwark. Photographs in Appendix 9.18(e) and 9.18(f) show the detail of this area.
- 6.4.7 Moving further aft along the portside a further area of substantial damage was noted aft of Frame 9 in the area above the bilge keel. The bilge keel itself, whilst still fully attached and initially at its forward end undamaged, had been deflected downward nearly 70° from its original position. The approximate extent of both damage areas is shown marked onto a photograph of the FV "Honeydew II" out of water in Appendix 9.18(g). Photograph in Appendix 9.18(h) shows some of the damage area. Stanchions and some internals from the fish hold had fallen clear and lay on the sea bed. A length of chain was ranged out over the seabed.
- 6.4.8 Damage observed to the port forward bulwark, taken in conjunction with the timber debris recovered from this area, is consistent with wave damage causing the planking at this location to fail.
- 6.4.9 Damage to the planking on the port side area of the fish hold, taken in conjunction with the signs of depression in the fish hold hatch cover were consistent with the bottom impact damage caused as the vessel fell over from her stern unto her port side.

## 6.5 Casualty Simulation.

- 6.5.1 In order to explore possible causes of the loss of the FV "Honeydew II", a stability model of the vessel was generated using TRIBON software. As no stability book existed for the vessel this model makes a number of estimations. The estimations are based on information gathered from docking records that give normal lightship drafts. Lightship weights are taken from records of syncrolift dockings at Castletownbere Fisheries Harbour. In spite of these estimations it is still considered that the model presents an accurate reflection of the particulars of the intact state of the vessel and allows various damage scenarios to be considered.
- 6.5.2 Apart from witness statements that the FV "Honeydew II" capsized, examination of the wreck site from video footage as set out in Section 6.4 shows the vessel sank stern first and two major damage areas exist.
- 6.5.3 The model considers the vessel being comprised of a number of weathertight and watertight sections. Survivors statements, examination of photographs of the vessel afloat and examination of the status of various doors, hatches and openings at the wreck site has been used to develop what can be considered the most likely scenario of events that led to the loss of the vessel.
- 6.5.4 The damage on the port side of the fish hold is considered to have occurred on the seabed as set out in Section 6.4.9. For confirmation of this a scenario was also developed to consider this damage occurring on the surface. In conjunction with this scenario as the extent of the damage length is not fully clear, two possible damage areas were considered;  
1] The Fish Hold area only and 2] The Fish Hold and Engine Room
- 6.5.5 Within the fish hold, there is subdivision into pounds. These pounds will not form a fully watertight barrier but will provide a restriction to flooding across the full width of the fish hold, tending to cause a list. However neither of these two scenarios when modelled in a simulation caused the vessel to capsize and sink in a manner consistent with survivor testimony or the position of the wreck on the seabed.
- 6.5.6 The scenario considered most likely based upon survivor statements, examination of the wreck and stability modelling is that a large ingress of water occurred in the shelter deck, initially at least through the port bulwark forward between the stem of the vessel and frame 5. It is possible, although not modelled, that water entered through the cod end hatch as the FV "Honeydew II" listed and turned to the South.
- 6.5.7 As set out in the model sequence shown in Appendix 9.19 the FV "Honeydew II" would have listed rapidly to port until an external downflooding point became immersed. The downflooding would have primarily occurred through the engine room vent and to a lesser extent through the wheelhouse port windows that had

been smashed open. From the wheelhouse this flooding would have passed down into the galley and cabin areas.

- 6.5.8 It cannot be estimated at what point in the sequence the booby hatch into the main fish hold was forced open. However once downflooding had commenced into the engine room and cabin areas the rapid sinking of the vessel was unavoidable.

## **6.6 Compliance with Relevant Statutory requirements**

- 6.6.1 The lifesaving appliances required to be carried by the FV "Honeydew II" to comply with the Merchant Shipping (Life Saving Appliances) Rules 1967 would appear to have been correct. One extra life raft was carried which would appear to be an old Beaufort type that was one of two placed on the vessel, possibly in the early to mid 1990's.
- 6.6.2 The two other life rafts were recently serviced and apart from the non-connection of the painter on the port life raft, appear satisfactory. Based on items of lifesaving apparatus recovered and invoices from equipment suppliers for other items including pyrotechnics all the required equipment was onboard. There is no survey or inspection regime required under these regulations.
- 6.6.3 The fire fighting equipment as recorded by BMSL complies with the requirement of the 1967 regulations
- 6.6.4 As no radio survey was completed the vessel did not comply with the Fishing Vessel (Radio Installations) Regulations, 1998, as amended. The radio equipment stated to have been fitted and carried would, subject to inspection and test during survey, have been sufficient for a Class II fishing vessel. The arrangement for storage and automatic operation of the EPIRB cannot be confirmed. The capacity and change over arrangements for the emergency source of energy (radio batteries) as stated to have been installed would appear adequate but in the absence of a radio survey this cannot be confirmed. From details supplied by the MRAU it would appear that at least 80% of Class II fishing vessels did not hold a radio certificate at the time of the accident. The operator of the GMDSS radio equipment is required to hold a LRC certificate, Mr. Bohan only held a Part 1 LRC as so the vessel was not in compliance with this section of the regulations.
- 6.6.5 Art. 3.2 of Council Directive 93/103/EC of 24 November 1993 [concerning the minimum safety and health requirements for work on board fishing vessels] requires that "Member States shall take the measures necessary to ensure that, as regards compliance with the Directive, vessels are subject to regular checks". This requirement was not contained in the transposing Statutory Instrument which gave legal effect to the Directive in Irish Law - the Safety, Health and Welfare at Work (Fishing Vessels) Regulations 1999 - S.I. 325 of 1999. No records of any inspections or reports on Irish compliance with this Directive have been made.

- 6.6.6 The Certificate of Competency held by Mr. Bohan as (detailed in Section 2.5) satisfied the requirement for the skipper's qualification under the Fishing Vessel (Certification of Deck and Engineering Officers) Regulations 1998. The rated power of the FV "Honeydew II" at 447 kW meant no engineer officer was required. There was no minimum manning requirements for the FV "Honeydew II". The only other manning requirements were for all crew (born after the 1st March 1966 at the time of the accident) to have completed basic safety training.
- 6.6.7 In addition to the statutory requirements of the Fishing Vessel (Certification of Deck and Engineering Officers) Regulations a number of Marine Notices have been issued by the Maritime Safety Directorate (MSD) Ireland. Including Marine Notice 9 of 2002 - Keeping A Safe Navigational Watch On Board Fishing Vessels and Marine Notice 10 of 2002 -Manning of Fishing Vessels. A Marine Notice, unless given that function in primary or secondary legislation, is essentially advisory. However, it is unclear how the MSD and Department of Transport saw the recommendations contained in these Marine Notices being achieved, as the statutory requirements were for only one qualified watchkeeper.
- 6.6.8 All crewmembers onboard the FV "Honeydew II" were in compliance with the Fishing Vessel (Basic Safety Training) Regulations, 2001. As outlined in Section 2.5 three crewmembers had undertaken equivalent training and only one crewmember (Mr. Losev) had not undertaken basic safety training. Such training would not have been a requirement for him until the 1st March 2008.

# CONCLUSIONS

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## 7. CONCLUSIONS.

- 7.1 That the FV "Honeydew II", shortly before 03.00 hrs. on the morning of 11th January, for reasons unknown departed from its normal routing towards Kinsale and entered an area of decreasing water depth 3 miles from Ram Head. The effect of the water shoal and prevailing severe weather conditions combined to produce a significantly more treacherous sea condition than had been encountered in the previous hours.
  - 7.1.1 The stated fuel consumption of 70 litres per hour indicates that nearly 65% engine power was being used.
  - 7.1.2 The estimated average speed between the last VMS position and the incident location was in excess of 3 knots, which in the prevailing weather and tidal conditions was higher than would be expected.
  - 7.1.3 The situation was compounded by lack of basic navigation and position plotting skills by the bridge watchkeeper who appeared unaware of the actual position of the vessel or the fact it was moving into shallower water.
- 7.2.1 The primary reason for the loss of the FV "Honeydew II" is that a wave or waves caused sections of the port bulwark between the stem post and frame five to fail catastrophically and be forced inward. This allowed a large quantity of water to rapidly flood into the shelter deck space. The wave within the shelter deck caused the light plywood cover around the hydraulic tank to break up. A considerable quantity of water probably became lodged behind the sill at the port side of the deckhouse causing an immediate port list.
- 7.2.2 The bulwark planking at the bow of the vessel on both port and starboard side had been previously renewed. The area was prone to berthing damage and some of the repairs may have been recent and only temporary in nature. Photographs in Appendix 9.20(a) and 9.20(b) show this area.
- 7.2.3 Previous impacts in this bow area may have created unseen damage to the half frame behind this planking.
- 7.3 The broken plywood, together with small items of fishing gear had the effect of blocking or at least severely restricting the freeing ports. Even if the freeing ports were not obstructed it is unlikely they would have been capable of coping with an inrush of water. The quantity of water on the shelter deck made capsize inevitable. The further downflooding through the engine room intake and crew cabin area and possibly also the fish hold booby hatch caused the vessel to sink quickly from the capsized position.
- 7.4 Apart from wave damage a number of other hypotheses have been put forward to explain the damage to the vessel; of these the possibility of the FV "Honeydew II" colliding with a floating or semi-submerged object is the only one

that could possibly have occurred. While this case cannot be entirely ruled out, based on the observations of damage sustained and modelling of the vessel it is considered extremely unlikely.

- 7.5 The failure of the EPIRB to initiate a distress alert, given no defect was found in the EPIRB unit, can only be explained by its failure to float free of the vessel. The EPIRB was either within the vessel or stored externally and became trapped in netting as the vessel capsized. Apart from confirming that the EPIRB was not in its original fitted position, its location on the vessel at the time of the incident is unknown.
  - 7.5.1 The VMS fitted did not form part of the GMDSS equipment and had no role in distress alerting.
- 7.6 The failure of the vessel to transmit a radio distress signal cannot be readily explained. The radio equipment recorded as having been fitted on the FV "Honeydew II" appeared to be satisfactory and was operating normally three hours before the incident. In the absence of the required radio survey, the adequacy of its emergency power supply and ability to transmit DSC distress alerting are not clear. A photograph in Appendix 9.21 shows the MF and VHF radios fitted to the FV "Honeydew II", the DSC alert button clearly visible.
  - 7.6.1 The Skipper of the FV "Honeydew II" had on two previous occasions made contact with IRCG due to the vessel losing power. Logs of these incidents show he was familiar with the call out procedure for requesting help and had on both previous occasions correctly made early contact with IRCG even though his situation was not perilous. He would have been familiar with the GMDSS equipment onboard the vessel. The stated distress message of 'help, help' seems hard to believe.
- 7.7 The fact that two crew survived this incident is extraordinary given the weather conditions and the speed at which the incident unfolded. The statements of survivors relating to this incident, being mindful of the trauma and shock they endured, at times appear to be confused and contrary to the actual physical evidence from the wreck.
- 7.8 The starboard life raft is not considered to have had any defect; the port life raft inflated successfully on test and the only explanation for its failure to inflate is that its painter was not made fast to the vessel via the weak link.
- 7.9 Efforts with state bodies to ensure compliance with the statutory safety provisions in force at the time of this accident and applicable to the FV "Honeydew II" needs to be addressed.

## 8. RECOMMENDATIONS

- 8.1 It is notable a large number of factors that have been identified in this report as being causal had already been identified in many earlier reports from the MCIB and the report of the Fishing Vessel Safety Review Group (FVSRG).
- 8.2 It is noted that since this tragedy the Minister for Transport signed the Regulations Merchant Shipping (Safety of Fishing Vessels) (15-24 metres) Regulations 2007, S.I. 640 of 2007. It is considered that implementation of these Regulations will deal with the causes of this casualty and the many other casualties of Fishing Vessels in the 15-24 metre length category. However, it is noted that FV “Honeydew II” would have come within the scheme by 1st October 2010.

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## APPENDICES

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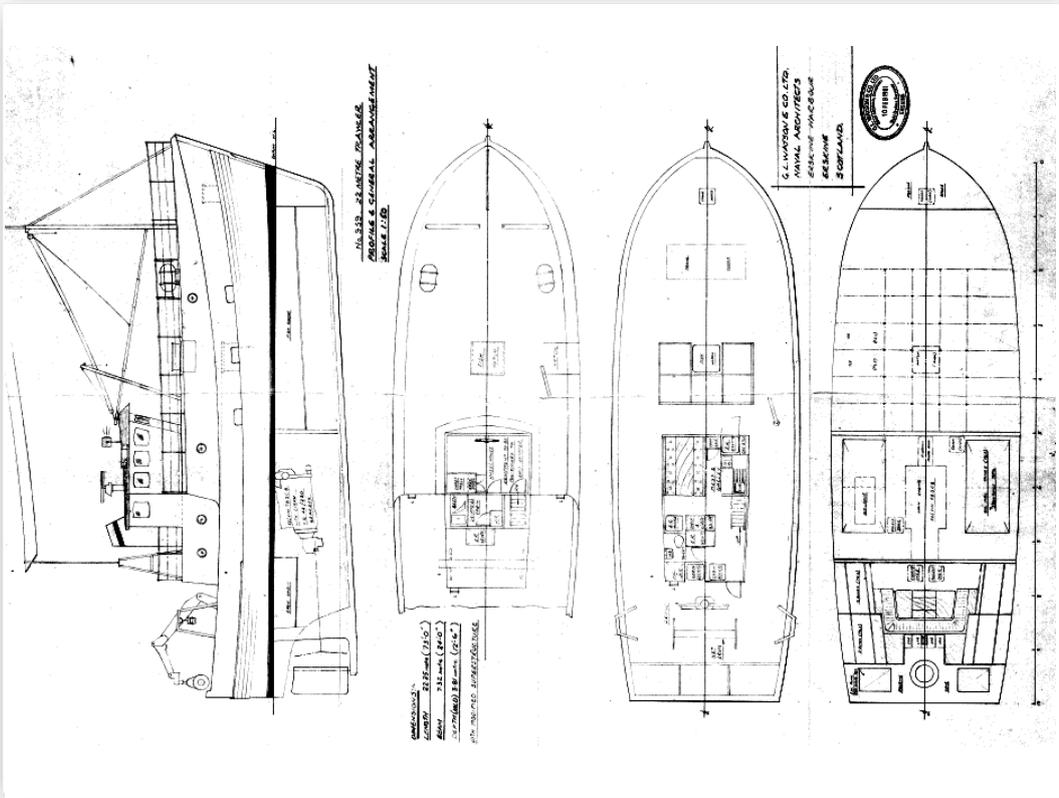
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Appendix 9.1 Photograph of FV "Honeydew II" afloat.

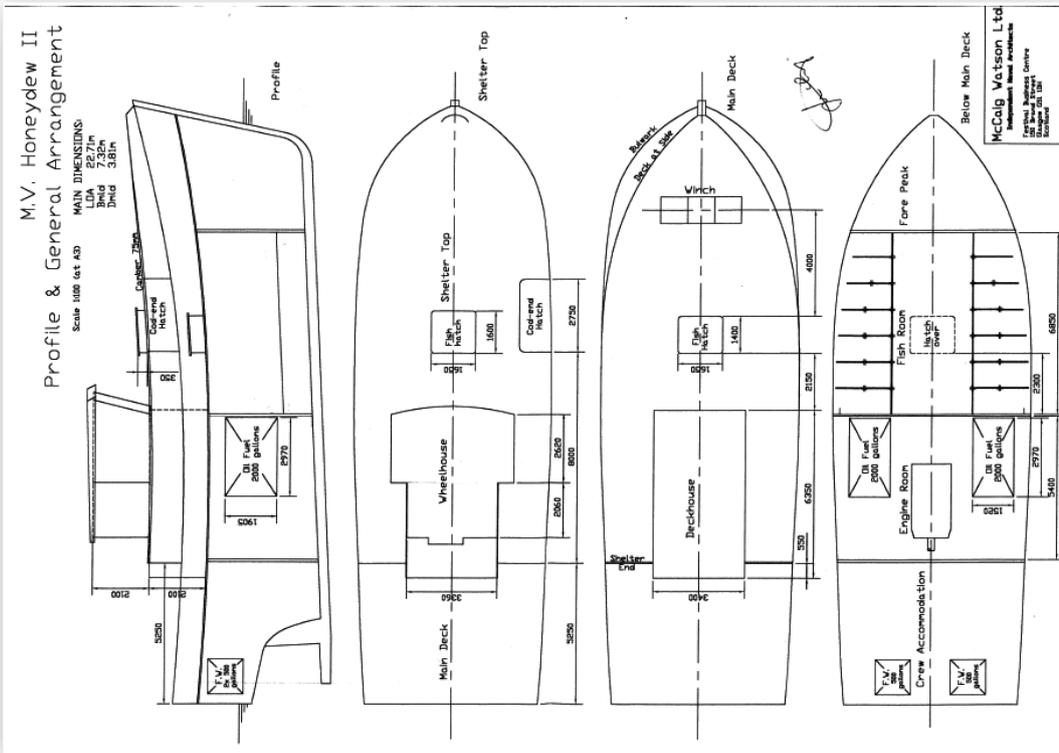


# APPENDIX 9.2

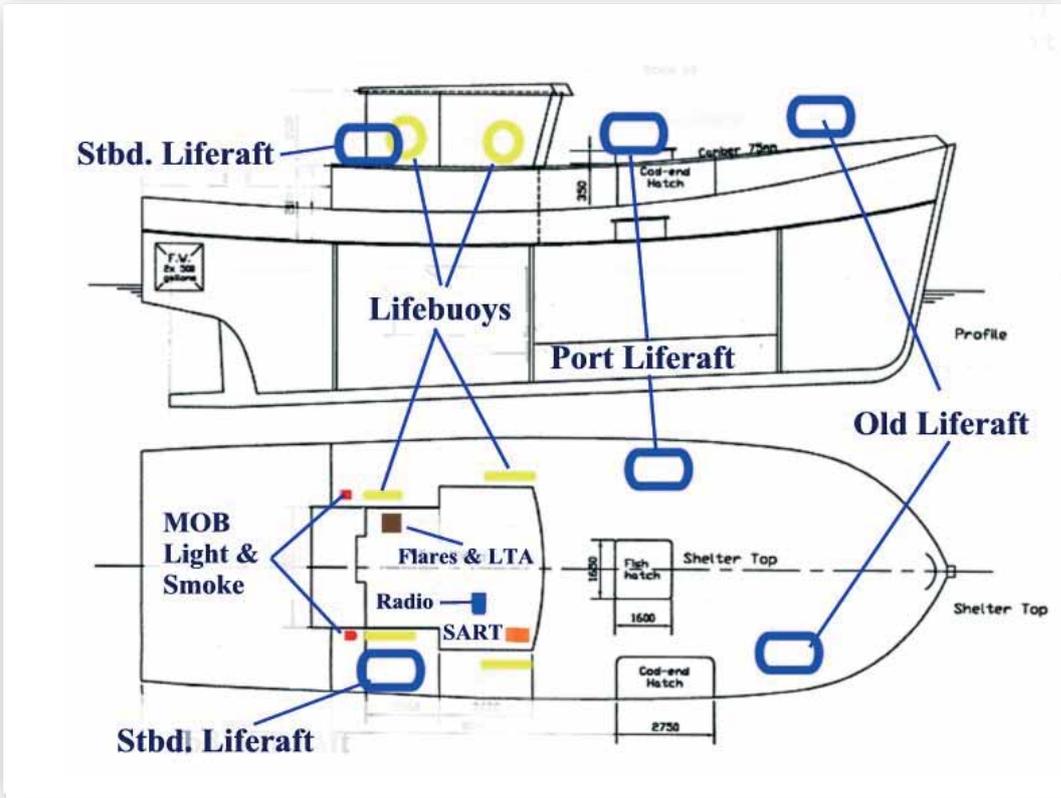
Appendix 9.2(a) General arrangement old .



Appendix 9.2(b) General arrangement lines plan.



Appendix 9.3(a) Diagram showing items of LSA.



Appendix 9.3(b) Photograph of starboard side.



## Appendix 9.4 Met Eireann Weather Report

	<p>WeatherDial Fax Product Code 0021</p> <p><b>General Forecast Division</b></p> <p>Fax : 1570 131 838</p> <p><b>Sea Area Forecast</b></p>	
---	--	---

**Sea Area Forecast until 0600 Wednesday 10 January 2007**  
**Issued at 0600 Tuesday 09 January 2007**

**1. Gale warning:** In operation

**Small craft warning:** In operation

**2. Meteorological situation at 0300:** A depression of 962 hPa off the northwest coast of Scotland is moving eastwards and maintains a strong to gale force southwesterly airflow over Ireland. An associated cold front is crossing the country.

**3. Forecast for coasts from Valentia to Slyne Head to Rossan Pt :**

**Wind:** West to Southwest force 5 to 7, decreasing force 4 to 6 this morning, veering west to northwest this evening, becoming northwesterly force 4 or 5 tonight and becoming westerly overnight

**Forecast for coasts from Rossan Pt to Malin Head to Belfast Lough :**

**Wind:** Southwest force 7 or gale force 8, veering west to southwest this morning, becoming west to northwest force 6 to gale force 8 this evening, decreasing force 5 or 6 overnight

**Forecast for coasts from Belfast Lough to Carnsore Pt to Valentia and for the Irish Sea :**

**Wind :** Southwest gale force 8 and touching strong gale force 9 for a time in the Irish sea, decreasing force 7 or gale force 8 this morning, veering west to southwest force 5 to 7 this afternoon, becoming west to northwest tonight and decreasing force 5 or 6 overnight

**Weather for all sea areas :** Rain, clearing southeastwards this morning with scattered showers following. More rain spreading from the southwest this evening, clearing overnight

**Visibility for all sea areas :** Moderate or poor, increasing good today, decreasing moderate or poor in showery rain this evening and tonight

**3a. Warning of heavy swell :** On southwest, west and north coasts

**4. Outlook for a further 24 hours until 0600 Thursday 11 January 2007:** Moderate to fresh westerly winds, backing southerly on Wednesday afternoon and increasing gale force 8 to storm force 10 on Wednesday night. Fair weather, heavy rain spreading from the West on Wednesday evening and night.

Appendix 9.4 Met Éireann Weather Report

**Warning of heavy Atlantic swell: On southwest, west and north coasts**

**Text of Gale Warning**

Southwesterly gales this morning on coasts from Belfast Lough to Carnsore Pt to Valentia and on the Irish Sea, occasionally reaching strong gale force for a time on the Irish Sea  
AND  
West to Southwest gales today on coasts from Rossan Pt to Malin Head to Belfast Lough, later veering west to northwest

**Text of Small Craft Warning**

West to southwest winds will reach force 6 or higher this morning on coasts from Valentia to Slyne Head to Rossan Pt  
AND  
West to northwest winds will reach force 6 or higher on all coasts this evening and for a time tonight

Coastal Reports	at 5 AM
Malin Head	West-Southwest, 36 Knots, Gust 55 Knots, Nearby rain, 16 Miles, 977, Rising slowly
Rosslare	Southwest, 27 Knots, Gust 46 Knots, Light rain, 8 Miles, 992, Steady
Roche's Pt (Automatic)	Southwest, 28 Knots, Gust 39 Knots, Greater than 10 Miles, 992, Steady
Valentia	Southwest, 15 Knots, Gust 31 Knots, Cloudy, 5 Miles, 991, Rising slowly
Belmullet	West, 23 Knots, Gust 42 Knots, Rain shower, 7 Miles, 983, Rising
Dublin Airport	Southwest, 26 Knots, Gust 38 Knots, Recent rain, 9 Miles, 986, Steady
Buoy M1 53° 8'N, 11° 12'W	West-Southwest, 24 Knots, Gust 37 Knots, WAVE HT 06.3 m, 986, Rising
Buoy M2 53° 28'N, 5° 26'W	South-Southwest, 29 Knots, Gust 40 Knots, WAVE HT 03.0 m, 986, Steady
Buoy M3 51° 13'N, 10° 33'W	N/A,
Buoy M4 54° 40'N 9° 4'W	West-Southwest, 30 Knots, Gust 42 Knots, WAVE HT 04.8 m, 979, Rising slowly
Buoy M5 51° 41'N 6° 41'W	Southwest, 32 Knots, Gust 46 Knots, WAVE HT 05.5 m, 994, Steady
Buoy M6 53° 04'N 15° 56'W	N/A,

Sea Crossings	State of sea until 0600 Thursday 11 January 2007
Dublin - Holyhead	Mostly rough, moderate for a time tonight and tomorrow
Rosslare - South Wales	Mostly rough, moderate for a time tonight and tomorrow
Cork - South Wales	Mostly rough to very rough, decreasing rough for a time
Rosslare - France	Very rough to high decreasing very rough
Cork - France	Very rough to high decreasing very rough

Next update before 1300 Tuesday, 09 January 2007

A detailed forecast may be obtained by dialling *Weatherdial* on 1550 123 855.

Calls cost € 0.95 per minute (Incl. VAT).

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## Appendix 9.4 Met Eireann Weather Report

	WeatherDial Fax Product Code 0021 General Forecast Division Fax : 1570 131 838 Sea Area Forecast	
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Sea Area Forecast until 1800 Thursday 11 January 2007  
Issued at 1700 Wednesday 10 January 2007

1. **Gale warning:** In operation.

**Small craft warning:** See gale warning.

2. **Meteorological situation at 15:00 hours:** A weak ridge declines over Ireland. A very strong southwest airflow develops over the country, ahead of an advancing active frontal system from the Atlantic. The associated deep depression will pass to the north of Scotland tonight.

3. **Forecast for coasts from:** Valentia to Erris Head to Belfast Lough

**Wind:** Southwest gale force 8 imminent; veering west and increasing storm force 10 overnight.

**Weather:** Widespread rain imminent with drizzle and mist. A clearance to squally showers later tonight.

**Forecast for coasts from:** Belfast Lough to Carnsore Point to Valentia and the Irish Sea

**Wind:** Southwest F5 to 7; increasing gale force 8 early tonight; veering west and further increasing strong gale force 9 later tonight.

**Weather:** Fair for a time. Widespread rain overnight, clearing to blustery showers tomorrow morning.

**Visibility for all sea areas:** Poor in rain, but sometimes good tomorrow.

3a. **Warning of heavy swell:** on southwest, west and northwest coasts.

4. **Outlook for a further 24 hours until 1800 Friday 12 January 2007:** Gale to storm force westerly winds soon backing southwest and decreasing strong. Winds will increase to gale force again later. Widespread showers. Further rain later.

Appendix 9.4 Met Éireann Weather Report

Warning of heavy Atlantic swell: NIL
--------------------------------------

<b>Text of Gale Warning</b>
-----------------------------

Southwest gales or strong gales tonight on all Irish coastal waters and on the Irish Sea. Winds will reach storm force on coasts from Valentia to Erris Head to Belfast Lough.
--

<b>Text of Small Craft Warning</b>
------------------------------------

See gale warning.
-------------------

Coastal Reports	at 4 PM
Malin Head	South, 16 Knots, Cloudy, 26 Miles, 1008, Falling slowly
Rosslare	Southwest, 07 Knots, Fair, 13 Miles, 1017, Rising slowly
Roche's Pt (Automatic)	Southwest, 16 Knots, Greater than 10 Miles, 1017, Rising slowly
Valentia	Southwest, 15 Knots, Gust 25 Knots, Recent rain shower, 21 Miles, 1016, Falling slowly
Belmullet	Southwest, 26 Knots, Gust 39 Knots, Recent rain, 15 Miles, 1007, Falling rapidly
Dublin Airport	Southwest, 09 Knots, Gust 21 Knots, Fair, 21 Miles, 1014, Rising slowly
Buoy M1 53° 8'N, 11° 12'W	South-Southwest, 29 Knots, Gust 38 Knots, WAVE HT 05.0 m, 1010, Falling rapidly
Buoy M2 53° 28'N, 5° 26'W	West, 20 Knots, WAVE HT 01.7 m, 1014, Rising slowly
Buoy M3 51° 13'N, 10° 33'W	N/A.
Buoy M4 54° 40'N 9° 4'W	South-Southwest, 22 Knots, WAVE HT 04.4 m, 1008, Falling rapidly
Buoy M5 51° 41'N 6° 41'W	West-Southwest, 17 Knots, WAVE HT 03.0 m, 1018, Rising slowly
Buoy M6 53° 04'N 15° 56'W	N/A.

Sea Crossings	State of sea until 1800 Friday 12 January 2007
Dublin - Holyhead	Rough
Rosslare - South Wales	Very rough
Cork - South Wales	High
Rosslare - France	High
Cork - France	High

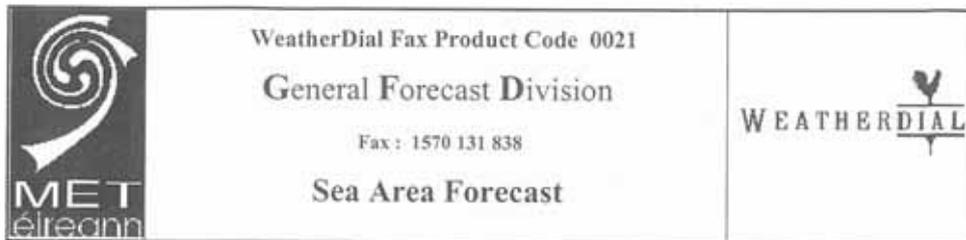
Next update before 1900 Thursday 11 January 2007

A detailed forecast may be obtained by dialling *Weatherdial* on 1550 123 855.

Calls cost € 0.95 per minute (Incl. VAT).

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## Appendix 9.4 Met Eireann Weather Report



Sea Area Forecast until 2400 Thursday 11 January 2007  
Issued at 2400 Wednesday 10 January 2007

**1. Gale warning:** In operation.

**Small craft warning:** See gale warning.

**2. Meteorological situation at 21:00 hours:** Frontal troughs are crossing Ireland in a gale force southwest flow. The associated deep depression will pass to the north of Scotland tonight and the flow over Ireland will veer westerly.

**3. Forecast for coasts from:** Loop Head to Erris Head to Howth Head and the North Irish Sea

**Wind:** Southwest veering west gale force 8 to storm force 10, with severe gusts, and possibly reaching violent storm force 11 between Erris Head and Belfast Lough. Winds veering more west to northwest by mid morning, and decreasing westerly force 7 or gale force 8 Thursday evening and night.

**Forecast for coasts from:** Howth Head to Carnsore Point to Loop Head and the South Irish Sea

**Wind:** Southwest veering west gale force 8 or strong gale force 9 and very gusty, and possibly reaching storm force 10. Winds becoming more west to northwest in direction Thursday morning. Winds decreasing force 6 to gale force 8 during the afternoon and evening, and further moderating west to southwest force 5 to 7 Thursday night.

**Weather for all areas:** Widespread heavy rain at first, but clearing to blustery squally showers later tonight. Some heavy showers on Thursday, with hail and thunder on West and North Coasts. But becoming mainly fair later in the day, before another spells of rain spread from the Atlantic Thursday evening and Thursday night.

**Visibility for all sea areas:** Poor in rain and heavy showers, otherwise moderate to good.

**3a. Warning of heavy swell:** on all Atlantic Coasts.

**4. Outlook for a further 24 hours until 2400 Friday 12 January 2007:** Gale or strong gale force and gusty southwest winds. Rain and fog becoming widespread by Friday morning.

**Appendix 9.4 Met Éireann Weather Report**

**Warning of heavy Atlantic swell: on all Atlantic Coasts.**

**Text of Gale Warning**

Southwest veering west gale to storm force winds on all Irish coastal waters and on the Irish Sea. Winds may reach violent storm force 11 at times on coasts from Erris Head to Malin Head to Belfast Lough.

**Text of Small Craft Warning**

See gale warning.

Coastal Reports	at 11 PM
Malin Head	South-Southwest, 40 Knots, Gust 64 Knots, Light rain, 4 Miles, 986, Falling very rapidly
Rosslare	Southwest, 29 Knots, Gust 55 Knots, Cloudy, 10 Miles, 1009, Falling rapidly
Roche's Pt (Automatic)	Southwest, 40 Knots, Gust 54 Knots, Greater than 10 Miles, 1009, Falling rapidly
Valentia	Southwest, 32 Knots, Gust 50 Knots, Recent rain, 4 Miles, 1007, Falling rapidly
Belmullet	West-Southwest, 35 Knots, Gust 61 Knots, Light rain, 3 Miles, 992, Falling rapidly
Dublin Airport	Southwest, 25 Knots, Gust 42 Knots, Mod. rain, 4 Miles, 1002, Falling very rapidly
Buoy M1 53° 8'N, 11° 12'W	Southwest, 40 Knots, Gust 57 Knots, WAVE HT 07.2 m, 998, Falling rapidly
Buoy M2 53° 28'N, 5° 26'W	Southwest, 34 Knots, Gust 47 Knots, WAVE HT 03.2 m, 1004, Falling very rapidly
Buoy M3 51° 13'N, 10° 33'W	Southwest, 38 Knots, Gust 53 Knots, WAVE HT 05.0 m, 1010, Falling rapidly
Buoy M4 54° 40'N 9° 4'W	Southwest, 39 Knots, Gust 56 Knots, WAVE HT 05.5 m, 989, Falling very rapidly
Buoy M5 51° 41'N 6° 41'W	Southwest, 39 Knots, Gust 50 Knots, WAVE HT 04.7 m, 1011, Falling rapidly
Buoy M6 53° 04'N 15° 56'W	West, 28 Knots, Gust 45 Knots, WAVE HT 08.3 m, 996, Steady

Sea Crossings	State of sea until 2400 Friday 12 January 2007
Dublin - Holyhead	Rough to very rough
Rosslare - South Wales	Very rough
Cork - South Wales	High
Rosslare - France	High
Cork - France	High

Next update before 0600 Thursday 11 January 2007

A detailed forecast may be obtained by dialling *Weatherdial* on 1550 123 855.

Calls cost € 0.95 per minute (Incl. VAT).

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## Appendix 9.4 Met Éireann Weather Report

**MET ÉIREANN**  
*The Irish Meteorological Service*Glasnevin Hill,  
Dublin 9, Ireland.Cnoc Ghlas Naíon  
Baile Átha Cliath 9, Éire.  
www.met.ieTel: +353-1-806 4200  
Fax: +353-1-806 4247  
E-mail: met.eireann@met.ie

**Weather Report for a 3 mile radius of position 51:54.998N 7:37.175W  
(approx 4 nm ESE of Ram Head near Ardmore Co Waterford)  
between 23:00 hours 10<sup>th</sup> January 2007 and 04:00 hours 11<sup>th</sup> January 2007.**

**General Meteorological Situation:**

A deep depression (950 hPa) was positioned just South of Iceland and its associated frontal system passed over Ireland in a strong gale force Southwesterly airflow. The frontal system with rain and squally showers reached the area under investigation around midnight

**Winds:** Southwest strong gale force 9 with gusts up to 60 knots**Weather:** Rain and squally showers**Visibility:** Moderate, poor in rain and showers**Sea state:** Very rough to high\*

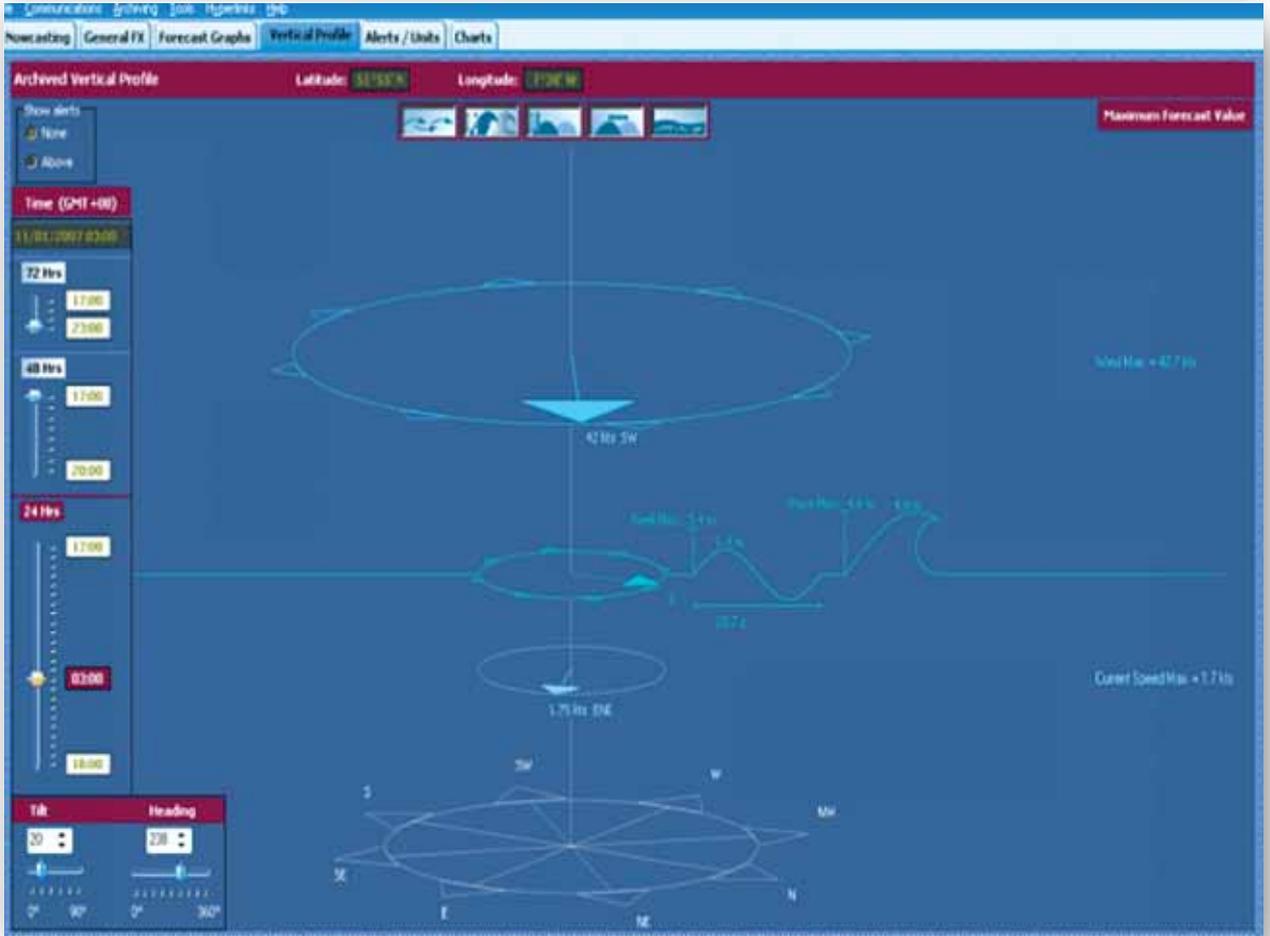
(\*)

Please note that individual waves could have reached twice the height of the significant wave height as explained in attachment 4)

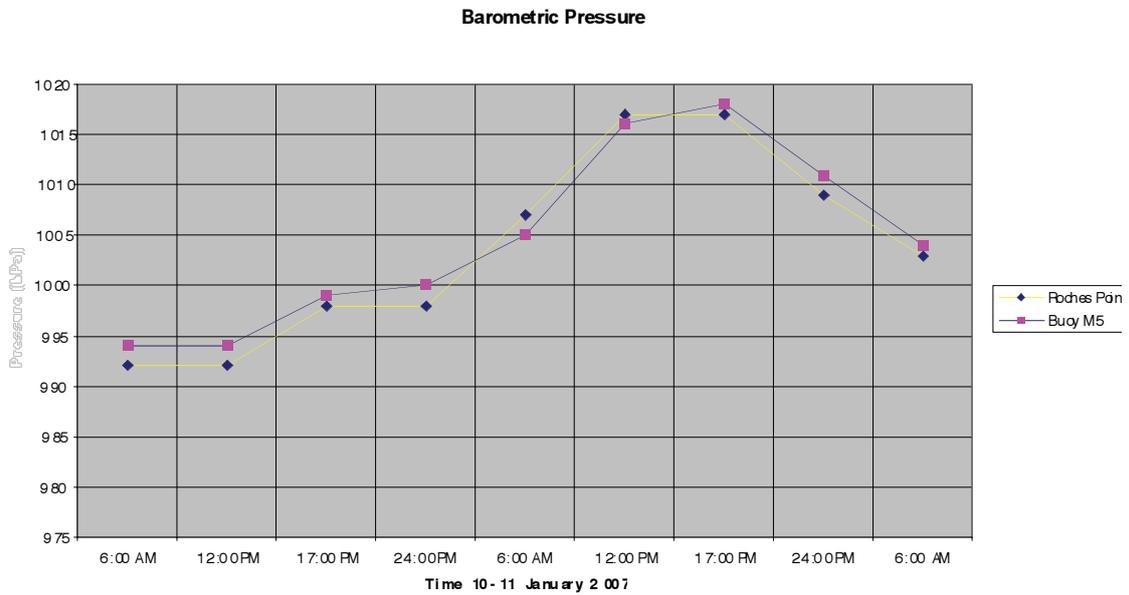
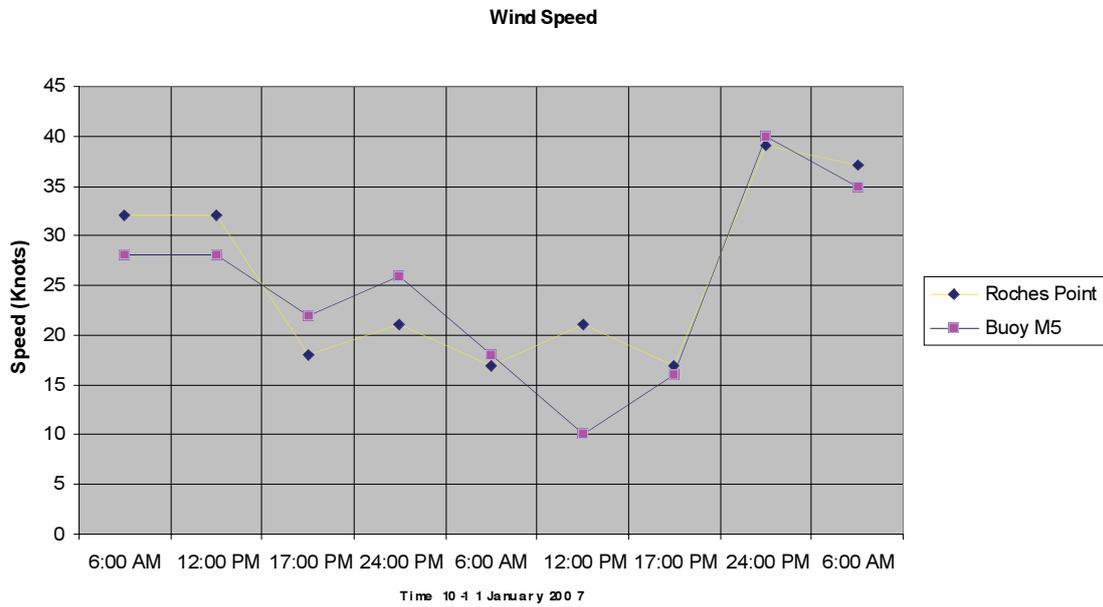
A handwritten signature in black ink, appearing to read 'W. Phelan'.

Willemien Phelan, MSc.  
Marine Meteorologist  
Phone: 01 8064285  
Email: [willemien.phelan@met.ie](mailto:willemien.phelan@met.ie)

Appendix 9.5 Nowcasting forecast graphical



## Appendix 9.6 Wind speed & barometric pressure graphical



Appendix 9.7(a) Photographs of sea states



## Appendix 9.7(b) Forecasting terms

### Explanation of terminology used in Met Eireann's Marine Weather Reports Beaufort Scale of wind force:

Force	Description	Wind Speed (km/hr)	Wind Speed (knot)	Land Signs	Sea State	Sea Height (Metres)*
0	Calm	0 - 0.9	0 - 0.9	Smoke rises vertically	Mirror Smooth	0
1	Light Air	1 - 5	1 - 3	Smoke Drifts	Scaly Ripple	0.1(0.1)
2	Light Breeze	6 - 11	4 - 6	Leaves rustle, wind vane moves	Small wavelets, crests do not break	0.2(0.3)
3	Gentle Breeze	12 - 19	7 - 10	Light flag will wave, small twigs and leaves move constantly	Large wavelets, crests may break	0.6(1.0)
4	Moderate Breeze	20 - 28	11 - 16	All flags extended, small branches move, dust and paper blow about	Small waves some white horses	1.0(1.50)
5	Fresh Breeze	29 - 38	17 - 21	Small trees begin to sway	Moderate waves, many white horses	2.0(2.5)
6	Strong Breeze	39 - 49	22 - 27	Large branches move	Large waves with foam crests	3(4)
7	Near Gale	50 - 61	28 - 33	Walking into wind difficult, whole trees move	White foam from breaking waves blown in streaks	4(5.5)
8	Gale	62 - 74	34 - 40	Twigs break from trees, walking difficult	High long waves	5.5(7.5)
9	Strong Gale	75 - 88	41 - 47	Slight structural damage	High waves, dense streaks of foam	7(10)
10	Storm	88 - 102	48 - 55	Trees uprooted, structural damage	Sea white, violent waves	9(12.5)
11	Violent Storm	103 - 117	56 - 63	May cause widespread damage, rare inland	*Exceptionally high waves	11.5(16)
12	Hurricane	118+	64+	Causes devastation.	*Air filled with foam and spray	14+

\* For Sea Height the values in brackets refer to the Probable Maximum Wave Height

#### Visibility

##### Descriptions of visibility mean the following:-

- Good: more than 5 nautical miles (9km)
- Moderate: 2 - 5 nm (4 - 9 km)
- Poor: 0.5 to 2 nm (4km)
- Fog: less than 0.5 nm (1,000m)

#### State of Sea

Descriptive Term	Wave Height in metres
Calm	0-0.1
Wavelets	0.1-0.5
Slight	0.5-1.25
Moderate	1.25-2.5
Rough	2.5-4
Very Rough	4-6
High	6-9
Very high	9-14
Phenomenal	Over 14

Appendix 9.8 M5 Buoy data

Met Éireann

20070109\_11M

Observations for Buoy M5 for the time period 1800 9<sup>th</sup> January 2007 to 2100 11<sup>th</sup> January 2007

Buoy M5 (51.7N,6.7W)						
Date	Time	Direction [°]	Speed [knots]	Gusts [knots]	Period [s]	Sea height [m]
09/01/2007	18:00	200	18	28	8	4.0
09/01/2007	19:00	210	19	28	7	4.1
09/01/2007	20:00	210	19	29	9	4.4
09/01/2007	21:00	220	20	27	8	3.8
09/01/2007	22:00	210	18	24	8	4.3
09/01/2007	23:00	210	21	26	8	4.0

Table 1: Buoy M5 observations for 09<sup>th</sup> January 2007

Buoy M5 (51.7N,6.7W)						
Date	Time	Direction [°]	Speed [knots]	Gusts [knots]	Period [s]	Sea height [m]
10/01/2007	00:00	200	21	27	8	4.2
10/01/2007	01:00	220	23	39	7	4.0
10/01/2007	02:00	230	21	29	7	3.7
10/01/2007	03:00	330	21	33	8	3.9
10/01/2007	04:00	330	21	31	7	3.6
10/01/2007	05:00	310	17	32	7	3.4
10/01/2007	06:00	290	22	27	7	3.5
10/01/2007	07:00	290	24	30	8	3.6
10/01/2007	08:00	300	22	32	7	3.8
10/01/2007	09:00	300	20	28	8	3.5
10/01/2007	10:00	300	21	31	8	3.8
10/01/2007	11:00	290	21	29	8	3.6
10/01/2007	12:00	280	21	25	8	3.4
10/01/2007	13:00	280	17	26	8	3.4
10/01/2007	14:00	260	18	24	8	3.1
10/01/2007	15:00	260	15	23	7	3.1
10/01/2007	16:00	240	17	23	7	3.0
10/01/2007	17:00	230	18	30	7	2.9
10/01/2007	18:00	230	22	32	7	3.1
10/01/2007	19:00	230	28	35	7	3.2
10/01/2007	20:00	220	31	41	7	3.7
10/01/2007	21:00	220	34	43	7	4.1
10/01/2007	22:00	220	33	43	7	4.3
10/01/2007	23:00	220	39	50	7	4.7

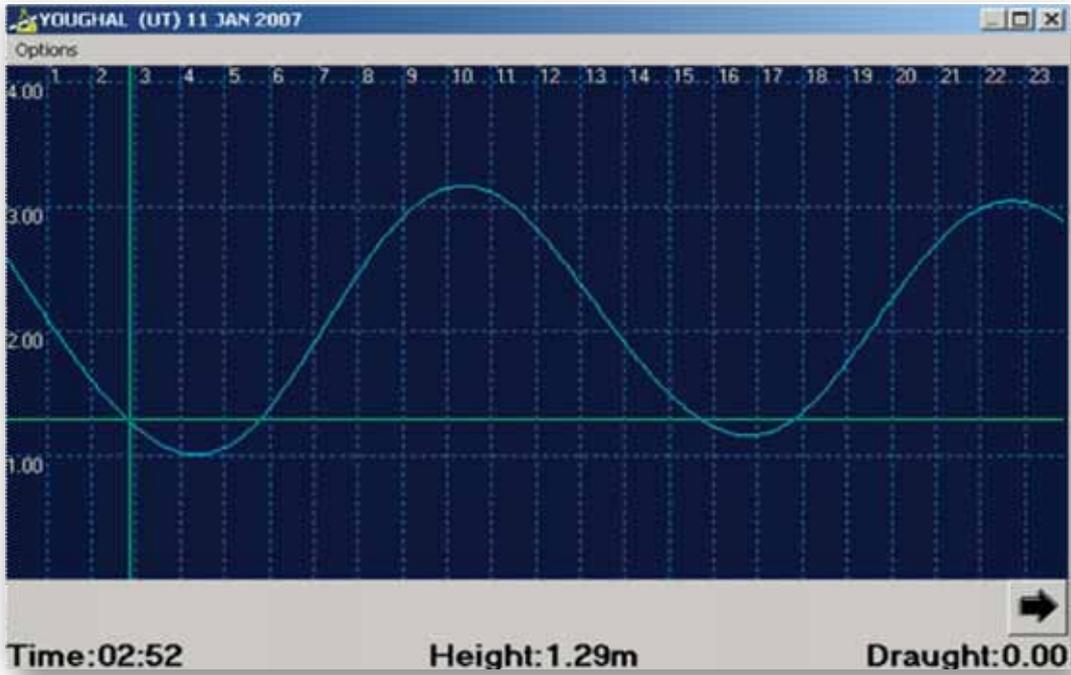
Table 2: Buoy M5 observations for 10<sup>th</sup> January 2007

Appendix 9.8 M5 Buoy data

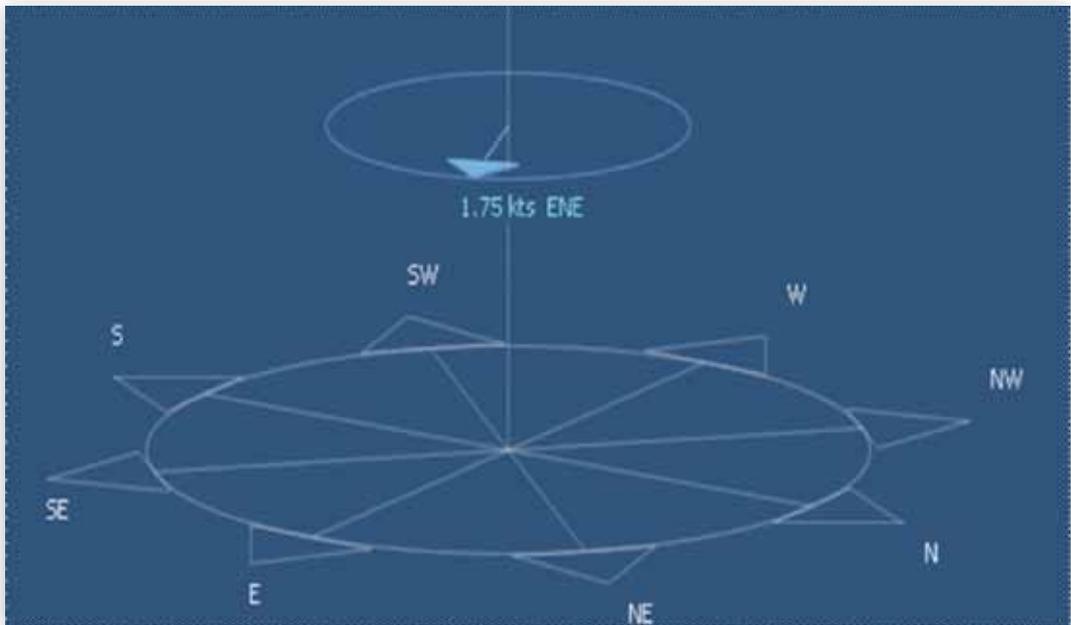
Buoy M5 (51.7N,6.7W)						
Date	Time	Direction [°]	Speed [knots]	Gusts [knots]	Period [s]	Sea height [m]
11/01/2007	00:00	220	40	52	8	5.0
11/01/2007	01:00	220	39	54	7	6.1
11/01/2007	02:00	220	39	51	8	6.4
11/01/2007	03:00	220	38	51	8	5.8
11/01/2007	04:00	220	38	56	8	6.4
11/01/2007	05:00	230	37	54	9	7.3
11/01/2007	06:00	230	38	51	9	6.9
11/01/2007	07:00	230	39	52	9	6.9
11/01/2007	08:00	240	36	51	9	6.7
11/01/2007	09:00	250	32	49	9	6.4
11/01/2007	10:00	250	33	49	9	6.6
11/01/2007	11:00	250	35	46	8	6.3
11/01/2007	12:00	260	36	48	8	5.5
11/01/2007	13:00	260	25	46	7	5.2
11/01/2007	14:00	260	28	–	8	5.1
11/01/2007	15:00	260	26	39	8	4.6
11/01/2007	16:00	260	27	38	9	5.0
11/01/2007	17:00	260	27	38	8	4.6
11/01/2007	18:00	280	25	39	8	4.5
11/01/2007	19:00	270	24	35	9	4.3
11/01/2007	20:00	250	18	32	8	4.1
11/01/2007	21:00	250	18	27	8	4.0

Table 3: Buoy M5 observations for 11<sup>th</sup> January 2007

Appendix 9.9(a) Tidal graph.

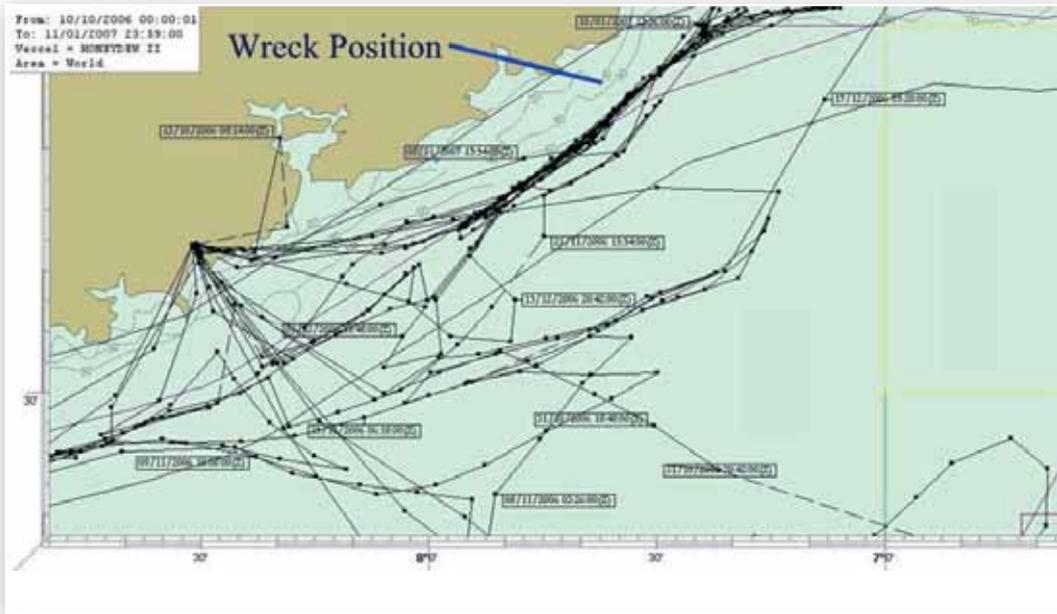


Appendix 9.9(b) Tide and current graph

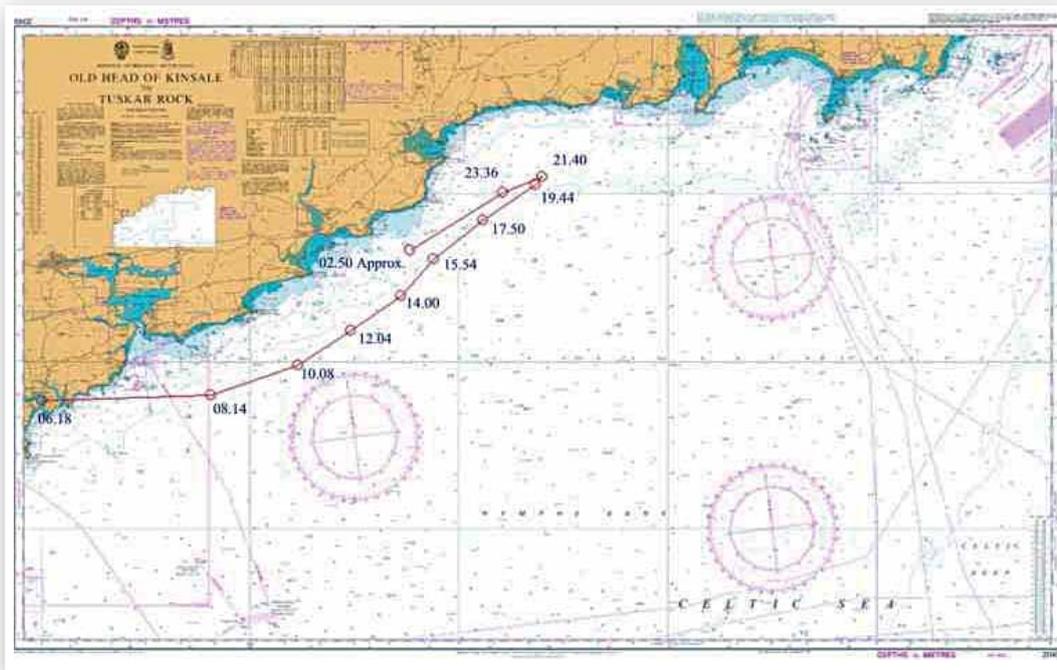


# APPENDIX 9.10

Appendix 9.10(a) Chart of earlier voyages



Appendix 9.10(b) Chart of Voyage 10/11th January



Appendix 9.11(a) CTV 09.01.2007 Kinsale.



Appendix 9.11(b) CTV 10.01.2007 Dept. Kinsale



Appendix 9.12(a) EPIRB programming certificate

**PROGRAMMING CERTIFICATE**

**406MHz EPIRB**

**EPIRB DETAILS**

Vessel : **HONEYDEW 11**

Brand : **Sailor**

Model : **Satellite EPIRB**

Category : **1 - AUTO**

Serial No : **66 - 3735**

Battery Replacement Date : **Jun, 2008**

**PROGRAMMING**

As : **RADIO CALL SIGN**

Flag : **250 IRELAND**

Coding : **EIPZ**

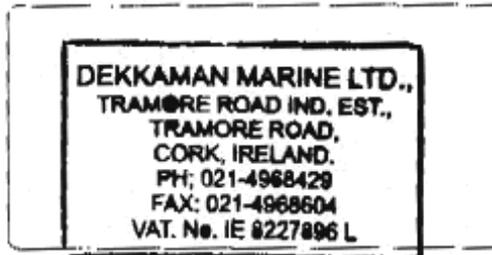
Protocol : **CALL SIGN**

Unique ID : **9F4A4930B2DC4D1**

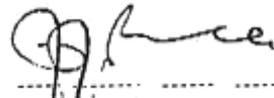
Programmed Message : **FFFE2F4FA52498596E268A423590**

**DEALER / SUPPLIER**

**DEALER STAMP / ADDRESS**



Dealer's Signature

  
(J. J. CONNELL)

Date **15th AUGUST/2002**

Appendix 9.12(b) EPIRB Registration Card

**REGISTRATION FORM**

---



**Roinn na Mara**  
**Department of the Marine**

**406 Mhz EPIRB REGISTRATION CARD**

<p>Name of Vessel: <b>HONEYDEW 11</b></p> <p>Call Sign: <b>EIPZ</b></p> <p>Type of Vessel: <i>(PLEASE CIRCLE)</i></p> <p>Merchant <input checked="" type="radio"/> <b>Fishing</b> <input type="radio"/> Passenger Ship</p> <p>Passenger Boat <input type="radio"/> OilRig Platform</p> <p>Pleasure Craft <input type="radio"/> Other</p> <p>MMSI: <b>250 139 400</b></p> <p>Fishing Vessel I.D.: _____</p> <p>Beacon Maker's Name and Type Number (from label): <b>SAILOR 406 AUTOMATIC</b></p> <p>Beacon Serial No.: (from label) <b>66-3735</b></p> <p>Is EPIRB fitted with a float-free device? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>Call Sign encoded in beacon? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</p>	<p>Owner's Name: <b>MR GSR BOHAN,</b> Address: _____</p> <p>Telephone No.: _____ <i>Alternative ON-SHORE 24 Hour contact details (name, address, tel. no. etc.)</i></p> <p>Radiocommunication Facilities:</p> <p>VHF <input checked="" type="checkbox"/> MF <input checked="" type="checkbox"/> HF <input checked="" type="checkbox"/></p> <p style="text-align: center;">A      B      C      M</p> <p>Inmarsat: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Owner's Signature: _____</p> <p>Date: <b>15 AUG / 02</b></p>
--	---

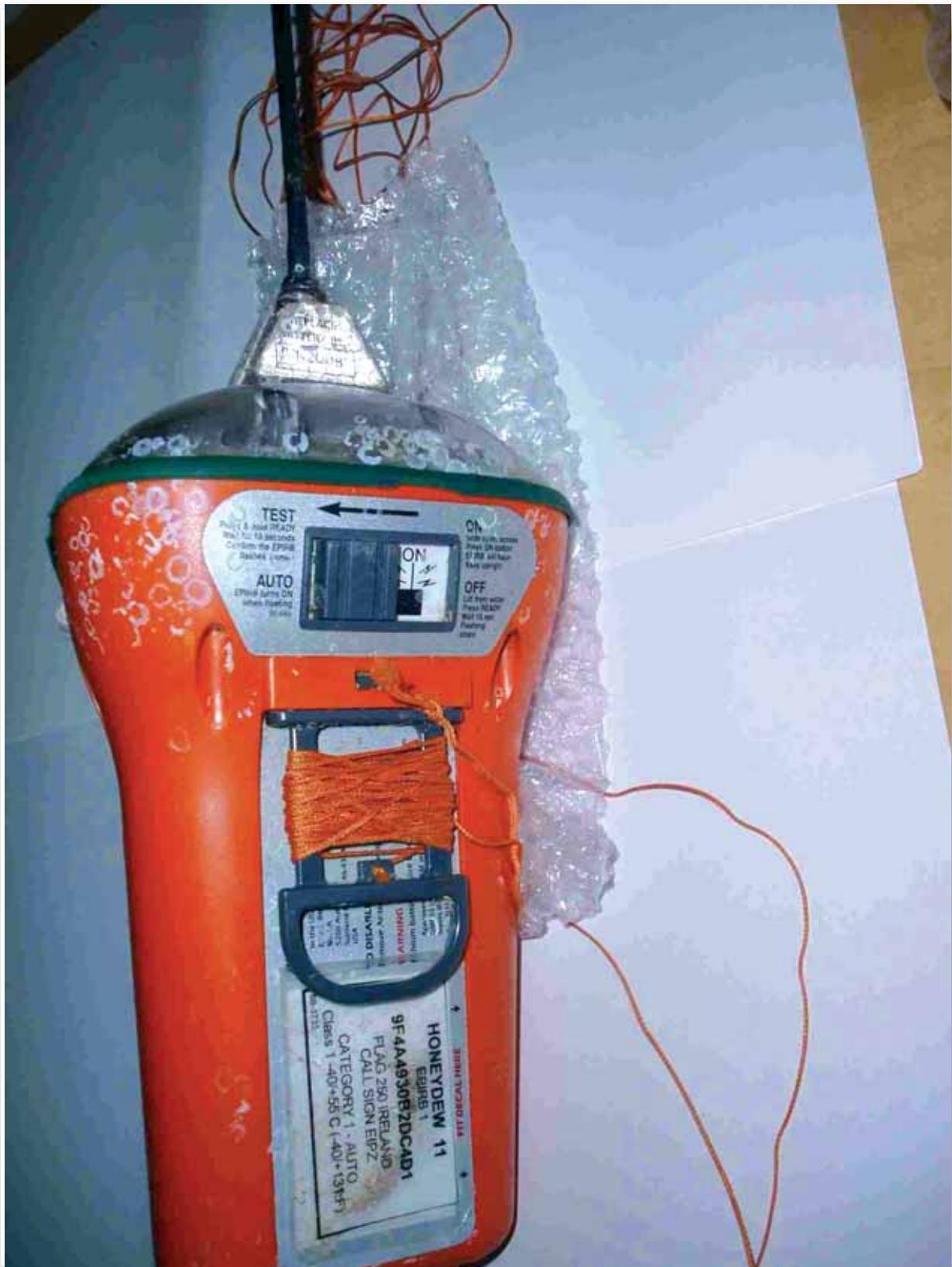
Appendix 9.12(c) EPIRB similar to one carried



Appendix 9.12(d) EPIRB anneal switch



Appendix 9.12(e) EPIRB recovered



Appendix 9.12(f) EPIRB original location







Appendix 9.15 Photograph of stem post from ROV.



Appendix 9.16(a) Photograph of double oak frame.



Appendix 9.16(b) Photograph of bulwark timber (Name).



Appendix 9.16(d) Photograph of bulwark timber.



## APPENDIX 9.17

Appendix 9.17(a) Photograph showing painter knife/life raft contents



Knife in  
raft pocket



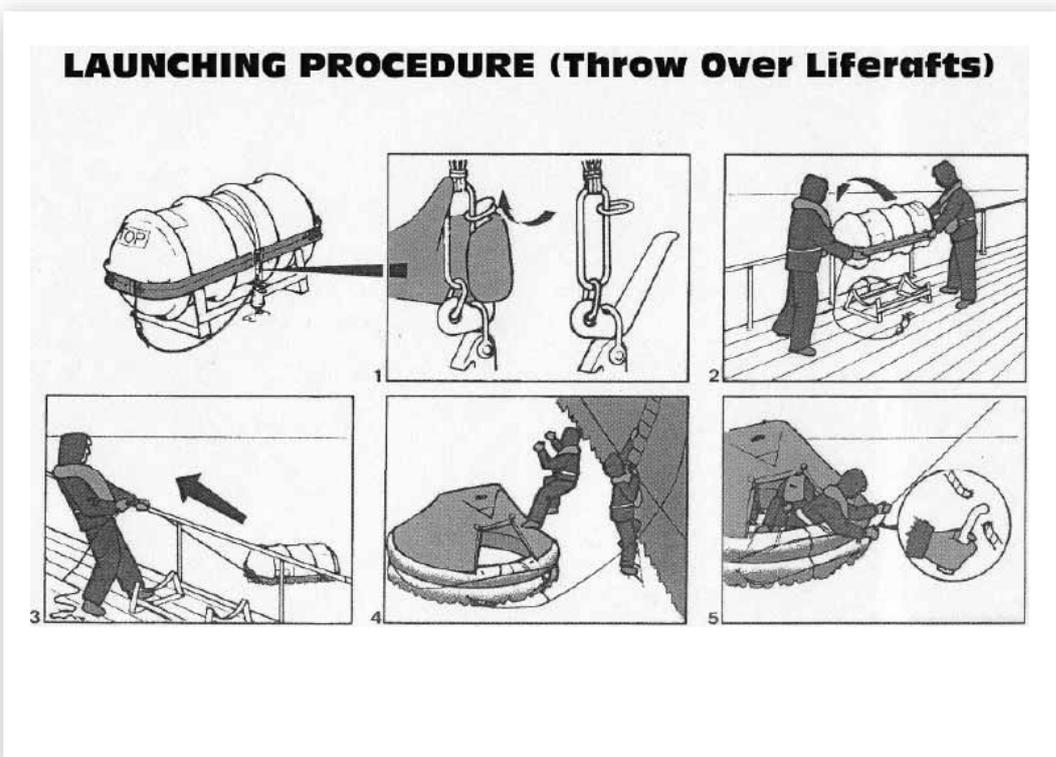
Painter Knife

25- 1-2007  
11:14:25

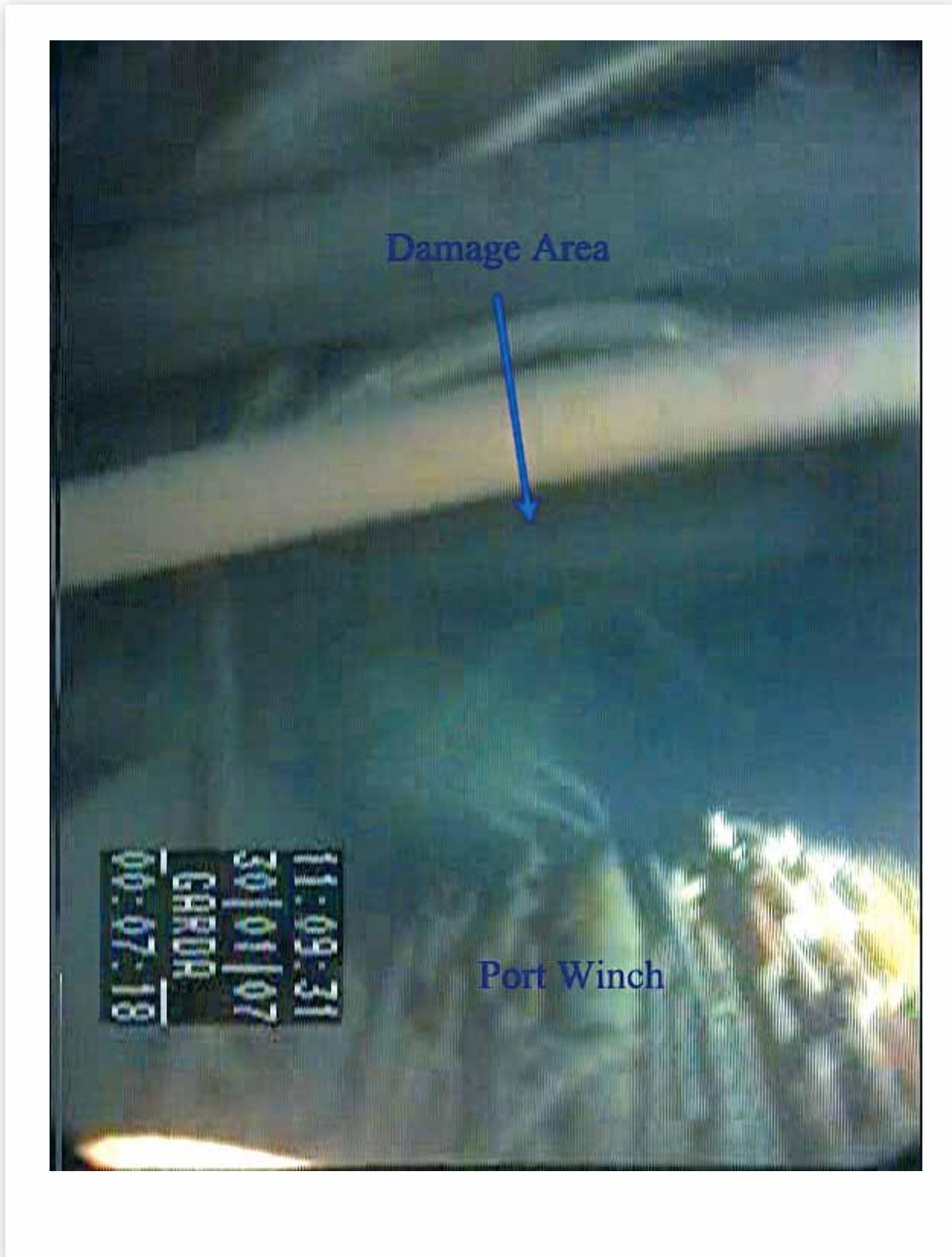
Appendix 9.17(b) Photograph showing port life raft inflated.



Appendix 9.17(c) Photograph of life raft launching procedure.



Appendix 9.18(a) Photographs of winch and internal damage



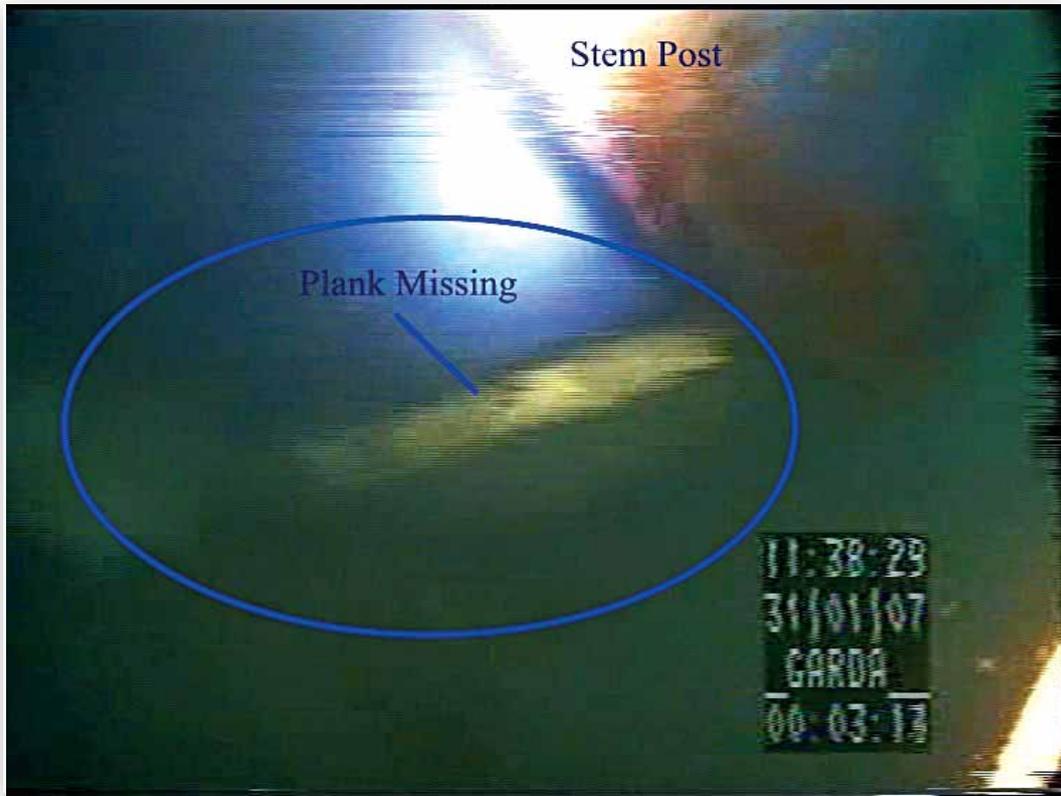
Appendix 9.18(b) Damaged hold hatch cover.



Appendix 9.18(c) Hold booby hatch



Appendix 9.18(d) Damage at stem post.



Appendix 9.18(e) Damage at port bulwark.



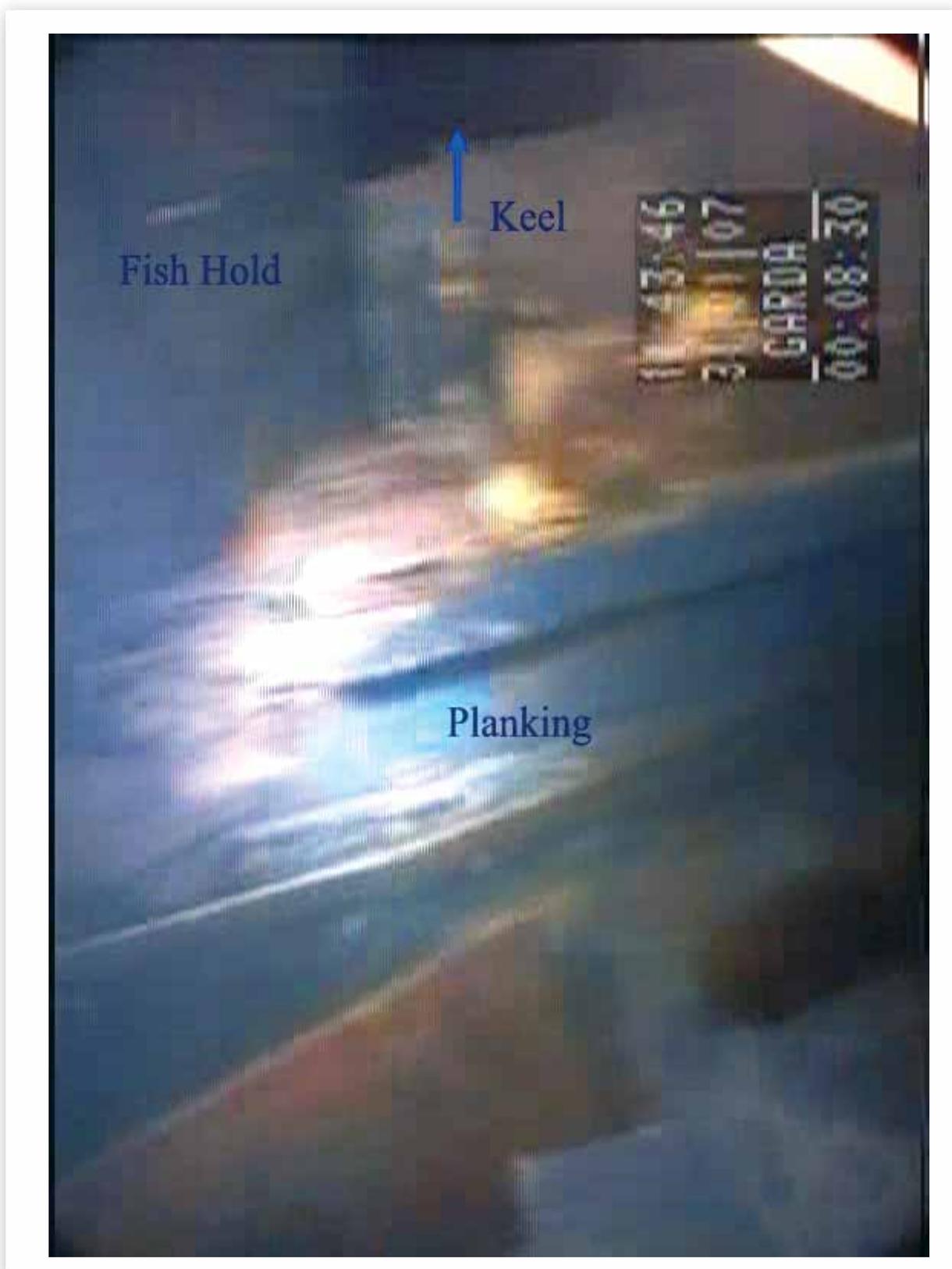
Appendix 9.18(f) Damage at vessel name (port).



Appendix 9.18(g) Damage areas shown on vessel docking.



Appendix 9.118(h) Port fish hold.



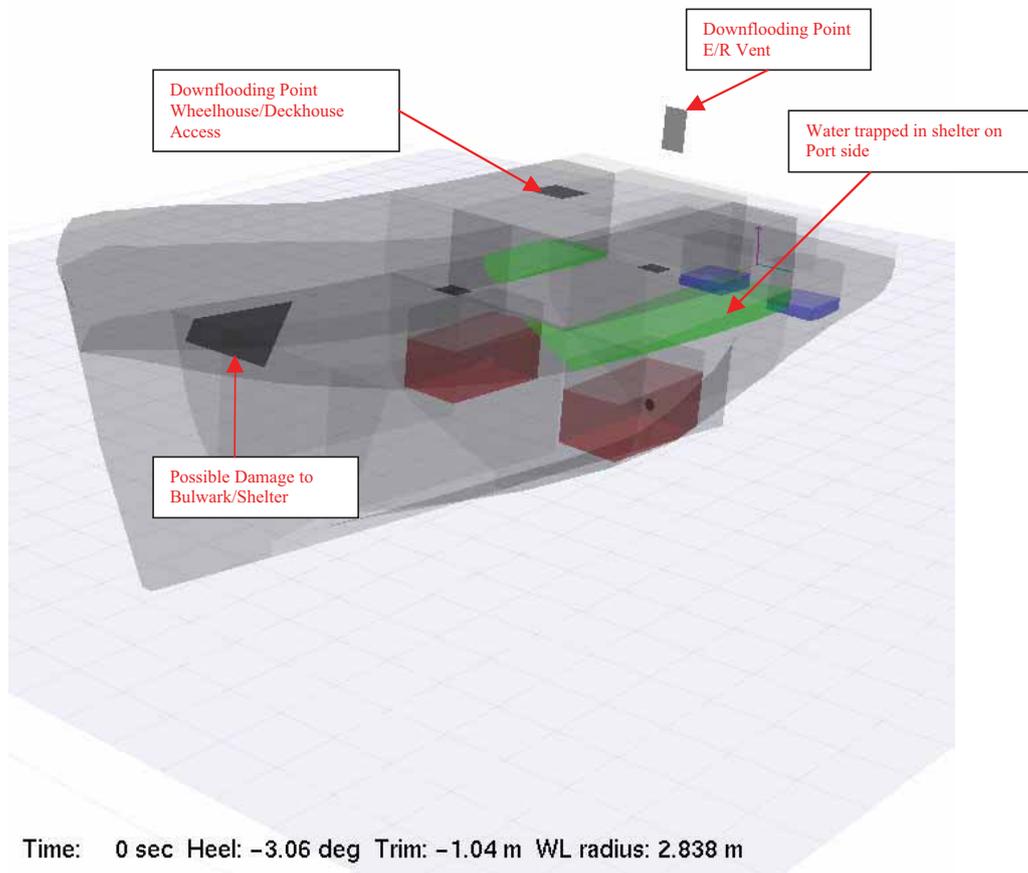
## Appendix 9.19 Casualty simulation.

### CASUALTY SIMULATION

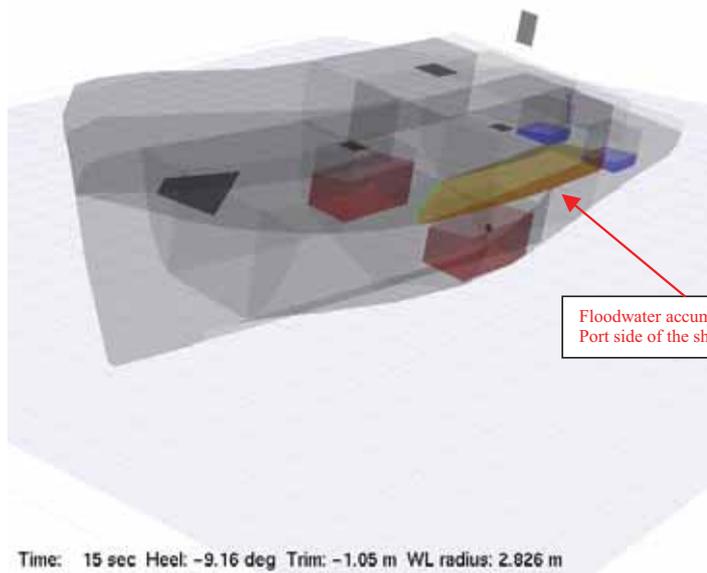
The following stills are taken from the capsize simulation run on the Honeydew II.

Initially at time equals zero it is assumed there has been ingress of water through the shelterdeck due to damage caused by a large wave.

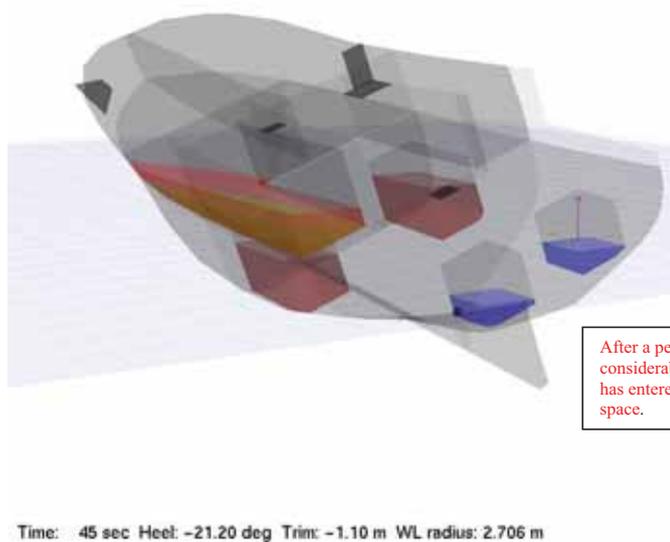
Water is assumed to enter the shelterdeck space through the damaged bulwark/shelter.



Appendix 9.19 Casualty simulation.

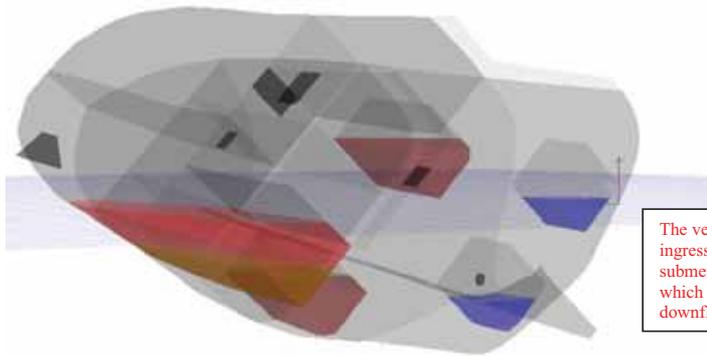


Floodwater accumulates on the Port side of the shelterdeck



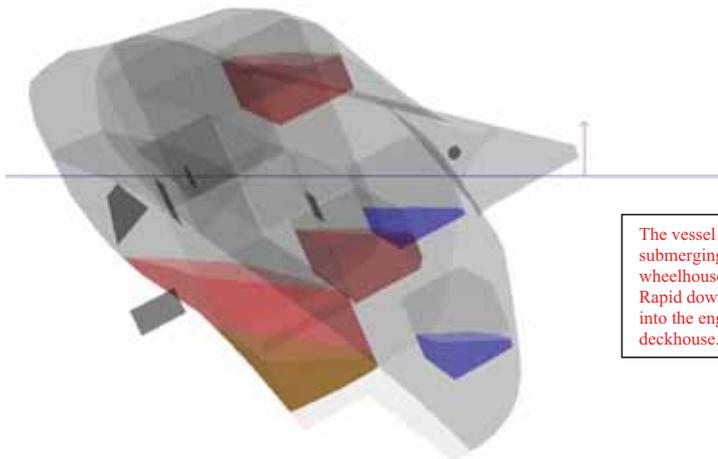
After a period of 45 seconds a considerable quantity of water has entered the shelterdeck space.

Appendix 9.19 Casualty simulation.



The vessel continues to list as water ingresses. The vessel is close to submerging the area of damage forward, which will lead to catastrophic downflooding.

Time: 105 sec Heel: -48.41 deg Trim: -1.64 m WL radius: 1.844 m

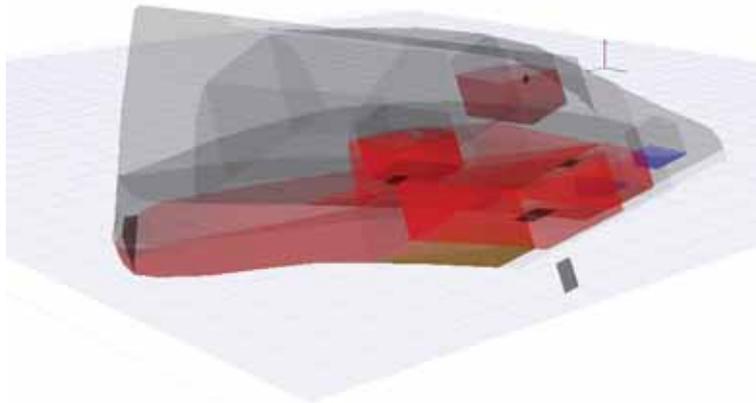


The vessel has capsized submerging the E/R Vent and wheelhouse/deckhouse access. Rapid downflooding will occur into the engine room and deckhouse.

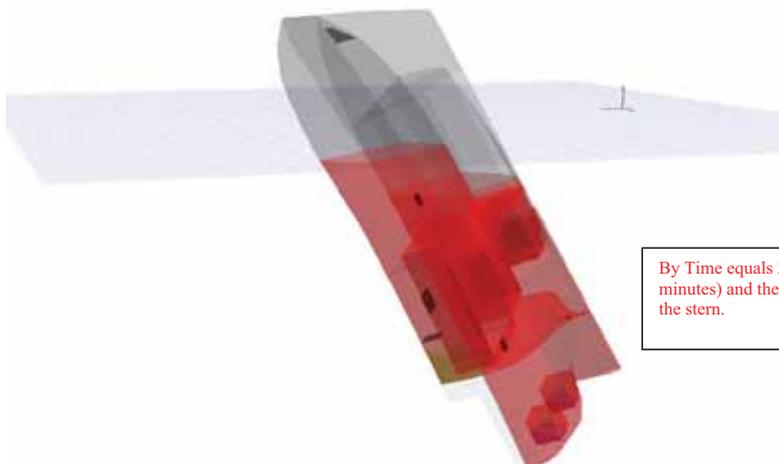
Time: 120 sec Heel: -116.95 deg Trim: -3.82 m WL radius: -1.803 m

Appendix 9.19 Casualty simulation.

The vessel is now flooding the engine room through the submerged vents, the aft accommodation is flooding through the deckhouse access and the hold is flooding through the booby hatch.



Time: 150 sec Heel: -145.35 deg Trim: -4.95 m WL radius: -1.972 m



By Time equals 255 seconds (~4 minutes) and the vessel is sinking by the stern.

Time: 255 sec Heel: -221.16 deg Trim: -41.94 m WL radius: 3.838 m

## APPENDIX 9.20

Appendix 9.20(a) Photograph of port bow.



Appendix 9.20(b) Photograph of starboard bow.



Appendix 9.21 Photographs of radios (Similar to ones fitted)



## 9. LIST OF CORRESPONDENCE RECEIVED

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An Garda Síochána	83
MCIB Response	83
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MCIB Response	92

## An Garda Síochána

oifig Chéantóir Phearsanta  
an Chóimisinéara,  
An Garda Síochána,  
Páirc an Fhionnuisce,  
Baile Átha Cliath 8.

Tel/Teileafón: (01) 66 62015 / 16 / 18  
Fax/Facs: (01) 66 62013



Office of the Commissioner's  
Personal Assistant  
Garda Headquarters,  
Phoenix Park,  
Dublin 8

Láithreán Gréasáin / Website:  
www.garda.ie

Ríomhpost / E-mail:  
commissioner@garda.ie

Luaigh an uimhir tharaghta seo a leanas le  
do thoil:  
Please quote the following ref. number:

P.A. 2.1K  
Your Ref: MCIB/135

Mr John G. O'Donnell B.L.  
Chairman  
Marine Casualty Investigation Board  
Leeson Lane  
Dublin 2

**Re: Draft Report of the investigation into the loss of the FV "Honeydew II" off  
Ram Head, Co. Waterford on 11 January 2007**

Dear Chairman

I am directed by the Commissioner to refer to your correspondence of 2 February 2009 in  
the above and to advise you that An Garda Síochána concurs with the recommendations  
set out in points 8.1 and 8.2.

Yours sincerely

  
**B CORCORAN**  
CHIEF SUPERINTENDENT  
PERSONAL ASSISTANT  
TO COMMISSIONER

12 March 2009



Ráiteas Misin / Mission Statement:

An leibhéal insoicthe is airde a bhaint amach maidir le Cosaint Phearsanta, Tiomantas don Phobal agus Slándáil Stáit.  
To achieve the highest attainable level of Personal Protection, Community Commitment and State Security.

### MCIB RESPONSE

The MCIB notes the contents of this letter.



SFPA Headquarters,  
Unit G,  
West Cork Technology Park,  
Clonakilty,  
Co. Cork.  
Tel: 023-8859300  
Fax: 023-8859796

12<sup>th</sup> March 2009

Mr John G O'Donnell B.L.  
Chairman  
Marine Casualty Investigation Board

**DRAFT REPORT HONEYDEW II**

Dear Mr O'Donnell

I refer to your draft report into the loss of the fishing vessel HoneyDew II.

I have noted the contents of this report and have no additional comments to make.

I would like to again express the condolences of the Sea-Fisheries Protection Authority to the bereaved families.

Yours sincerely

Seamus Gallagher  
Director of Operations  
Sea-Fisheries Protection Authority



***SFPA Mission Statement***

*"The Sea-Fisheries Protection Authority's mission is to enforce Sea Fisheries Conservation legislation and Seafood Safety legislation fairly and consistently to ensure that the marine fish and shellfish resources from the waters around Ireland are exploited sustainably and may be consumed safely for the long-term benefit of all".*

**MCIB RESPONSE**

The MCIB notes the contents of this letter.



An Roinn Fiontar, Trádála agus Fostaíochta  
Department of Enterprise, Trade and Employment  
Oifig an Árd Rúnaí • Office of the Secretary General

**Mr John G. O'Donnell, B.L.**  
**Marine Casualty Investigation Board,**  
**Leeson Lane, Dublin 2.**

Dear Mr. O'Donnell,

I acknowledge receipt of your draft Report on the loss of the FV "Honeydew II", on 3 February 2009. I note that your Board's function is to establish the causes of marine casualties with a view to making recommendations for the avoidance of similar marine casualties. As you know this Department has no day-to-day, operational responsibilities in relation to Marine safety but has policy responsibilities in the area of occupational health and safety and funds the Health and Safety Authority. Under the Safety Health and Welfare at Work Act 2005 ("the 2005 Act"), all non-domestic, workplaces, including working fishing vessels, may be inspected by the Health and Safety Authority ("the Authority").

From 2005 to 2007, the regulatory framework for dealing with marine safety issues was significantly enhanced by a body of primary and secondary legislation, dealing with both marine issues and occupational health and safety generally, put in place by the Department of Transport and this Department. For example, the bulk of the provisions of the Safety, Health and Welfare At Work (Fishing Vessels) Regulations of 1999 (SI. 325/1999 ) have now been superseded, for vessels in the 15-24 metre category, by the more comprehensive provisions of the Merchant Shipping (Safety of Fishing Vessels)(15-24 metres) Regulations 2007 (SI. 640/2007) under which the Department of Transport is specified as enforcing authority – see also Reg12(3).

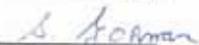
When considering the transposition of EU legislation on occupational health and safety, the specific Statutory Instruments should be read in conjunction with associated instruments of generic application like the 2007 "General Applications" Regulations and, in particular, the provisions of the 2005 Act. For example, the powers conferred on the Authority by the 2005 Act are what has enabled it to carry out its inspections of fishing vessels.

There is no doubt that strong, engaged and effective working arrangements between all the Bodies with complementary or intersecting remits in the area of marine safety, e.g., the Maritime Safety Directorate, the Authority, BIM, the Marine Casualty Investigation Board and, possibly, the Naval Service, help secure optimum outcomes in terms of occupational health and safety in the Marine sector and the best use of related public resources. The Department supports this principle and I believe that the Authority is also strongly committed. The recent strengthening of links between BIM and the Authority is a welcome development in this regard.

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This Department's contact on the matter is Francis Rochford (6313060).

Yours sincerely,

  
**Sean Gorman**  
**Secretary General**  
5 March 2009

## MCIB RESPONSE

The MCIB notes the contents of this letter.



The Metropolitan Building, James Joyce Street, Dublin 1, Ireland.  
Telephone: 1890 289 389 Fax: 01 - 614 7020 Website: www.hsa.ie

Mr John G. O'Donnell, B.L.  
Marine Casualty Investigation Board,  
Leeson Lane,  
Dublin 2.

02<sup>nd</sup> March 2009.

Re: **Draft response to the MCIB re its draft report of the investigation into the loss of the  
FV "Honeydew II" of Ram Head, Co Wicklow on 11<sup>th</sup> January 2007.**

Dear Mr O'Donnell,

The Authority acknowledges receipt of the above draft report on the 3<sup>rd</sup> February 2009 and the provision of the opportunity for observations on its content.

The Authority notes the Marine Casualty Investigation Board's function as stated in the report is to establish the causes of marine casualties with the view to making recommendations for the avoidance of similar marine casualties.

The Authority takes particular note of the identified primary reason for the loss of the FV "Honeydew II" as stated at 7.2.1 of the report and the reference to the additional large number of factors identified as being causal at 8.1 of the report.

The Authority has taken account of the specific recommendations (8.1 and 8.2) contained within the report.

Yours Sincerely,

Martin O'Halloran.

Chief Executive Officer.



EXCELLENCE  
THROUGH  
PEOPLE

HEALTH AND SAFETY AUTHORITY  
AN tÚDARÁS SLÁINTE AGUS SÁBHÁILTEACHTA

## MCIB RESPONSE

The MCIB notes the contents of this letter.

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Naval Base,  
Haulbowline,  
Cork  
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18-02-09

**Mr John G.O'Donnell**  
Chairman  
MCIB

**Observations on MCIB Draft report of the investigation into the loss of FV "Honeydew II" off Ram Head Co Waterford on 11<sup>th</sup> January 2007**

1. Hereunder please find my observations on the above Draft Report. I have observations on the following sub paragraphs;
  - 2.2.2 Spelling mistake
  - 2.9.2 The FMC remit, which was established in 2003, does not cover Search and Rescue. FMC role is to assist in fisheries monitoring and enforcement. A Fishing vessel's VMS unit (Black box) transmits information at set intervals to FMC. (FMC also has the capability to poll VMS and get information from VMS at other times.) The FMC monitors the fishing vessels compliance with regulations. This may requires a follow up process for non-compliant vessels, which involves levels of verification, which could take up to a number of days. The staffing and operating procedures at the FMC reflects this fact .On the other hand a system designed for maritime safety would prompt an immediate response to any emergency and its staffing and operating procedures would similarly reflect this.
  - 2.9.4 Impression that all contact details is by mobile phone. The FMC contacts fishing vessels by means agreed with the skipper of that vessel. Some Skippers use mobile phone contact details other use Satellite phone contact details.



- 3.2.4 /3.2.6 VMS does not poll a position. VMS transmits its position at set times. Wording in sub para misleading
- 3.2.10 First line misleading VMS should have transmitted between 0130 hrs and 0140 hrs but this transmission did not take place.

2. Submitted



**T.A. Tuohy**  
Commander NS  
Naval Headquarters

**MCIB RESPONSE**

The MCIB notes the contents of this letter and has made amendments where necessary.



Nautic House, Marsh Rd, Skibbereen, Co. Cork, Ireland

17<sup>th</sup> February, 2009

MR. JOHN B. O'DONNELL, B.L.  
CHAIRMAN,  
MCIB,  
LESSON LANE,  
DUBLIN 2.

RE:- Draft Report of the Investigation into the loss of the FV "Honeydew II".

Dear Sir,

Thank you for your draft report received on 2<sup>nd</sup> February re above.

I have read this report and have no further comments or observation to make.

Yours sincerely,

JOHN KELLEHER,  
SAFETY PRODUCTS MANAGER  
C H MARINE LTD.



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Company Reg. No. 298371 VAT Reg. No. IE8298371W Directors: J.P. Bendon N.A. Bendon

**MCIB RESPONSE**

The MCIB notes the contents of this letter.

**Head Office**  
Transport House, Kildare Street, Dublin 2, Ireland.

**Príomh-Oifig**  
Teach Iompair, Sráid Chill Dara, Baile Átha Cliath 2, Éire.

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3<sup>rd</sup> January 2009

Ms Eve Reddin,  
Secretariat,  
MCIB

**MCIB Draft report FV 'Honeydew II'**

Dear Ms Reddin,

With regard to para 6.3.2 of the Draft Report in respect of the registration of EPIRB's, the Coast Guard recognises the difficulty that incorrectly or unregistered EPIRB's present to the rescue services. Significant advancements have been made in recent years in taking the 'search' out of search and rescue (SAR), which includes the use of EPIRB's and GMDSS DSC alerts. For such equipment to fulfil its potential the electronic database available to the Coast Guard Marine Rescue Coordination staff must be 24/7 available, reliable, accurate and up to date.

The Coast Guard is continuing to work towards improving its awareness of fishing vessel traffic in Irish waters. Existing arrangements exist to receive VMS information from the Naval Service on a 24/7 basis in the event of our being notified of a missing fishing vessel. Further work is continuing with the Department of Defence on the possible integration of this data live onto the Coast Guards electronic maritime awareness plots in our Coordination Centres in Malin, Valentia and Dublin. It is hoped to integrate the VMS picture with the picture currently available for merchant vessels subject to AIS and LRIT carriage requirements.

The development of an integrated maritime surveillance picture in relation to fishing vessels will be significantly enhanced over the coming years with the requirement to fit AIS to all fishing vessels down to 15m length overall by October 2010. Not only will this give a near live picture of fishing vessel traffic within VHF range of our coast (approximately 40 miles) it will enable Coast Guard watch staff backtrack historical data to rapidly find last known position, identify other vessels close by and isolate hoax or false mayday alerts. Outside AIS range VMS data will remain available. It should be mentioned that the surveillance picture is not a replacement for alerting the Coast Guard of an incident and VHF, EPIRB, phone call or other means of mayday notification must still be received to initiate a response. The Coast Guard therefore strongly endorses the fitting of AIS to smaller fishing vessels and owners should consider early installation ahead of the deadlines required by the Merchant Shipping (Safety of Fishing Vessels) (15 – 24 metres) Regulations 2007.

Coast Guard HQ, Leeson Lane, Dublin 2.

*Irish Coast Guard*  
GARDA CÓSTA NA hÉIREANN



Yours sincerely,



Chris Reynolds,  
Director,  
Irish Coast Guard,  
Department of Transport.



Coast Guard HQ, Leeson Lane, Dublin 2.

Irish Coast Guard  
GARDA CÖSTA NA HEIRIANN



**MCIB RESPONSE**

The MCIB notes the contents of this letter.