

Extract from The United Kingdom Merchant Shipping (Accident Reporting and Investigation) Regulations 2012 – Regulation 5:

“The sole objective of the investigation of an accident under the Merchant Shipping (Accident Reporting and Investigation) Regulations 2012 shall be the prevention of future accidents through the ascertainment of its causes and circumstances. It shall not be the purpose of such an investigation to determine liability nor, except so far as is necessary to achieve its objective, to apportion blame.”

NOTE

This report is not written with litigation in mind and, pursuant to Regulation 14(14) of the Merchant Shipping (Accident Reporting and Investigation) Regulations 2012, shall be inadmissible in any judicial proceedings whose purpose, or one of whose purposes is to attribute or apportion liability or blame.

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This investigation has been conducted with the co-operation and assistance of the Comisión de Investigación de Accidentes e Incidentes Marítimos.

SUMMARY

At 0308 UTC on 12 December 2012, the dry cargo vessel *Beaumont* ran aground on Cabo Negro on the north Spanish coast while on passage from La Coruña to Avilés (**Figure 1** overleaf). At the time of the grounding she was proceeding at full speed, and the officer of the watch (OOW) was asleep.



Photograph courtesy of Faversham Ships Ltd

An inspection of the vessel's internal compartments quickly established that, despite being driven hard aground on a rocky ledge, there was no breach of the hull. Nine hours later, with the assistance of a salvage tug, *Beaumont* was successfully refloated and continued to Avilés under her own power, where she was further inspected before departing for a repair yard.

Grounding of MV *BEAUMONT* Cabo Negro, Spain 12 December 2012

The MAIB investigation identified that the OOW had fallen asleep soon after sending his night lookout off the bridge. Available bridge resources, that could have alerted the crew and/or awoken a sleeping OOW were not used, resulting in *Beaumont* steaming at 11.5 knots with no-one in control on the bridge for over an hour.

The vessel's manager, Faversham Ships Ltd, has amended its Safety Management System (SMS) to include mandatory use of lookouts during hours of darkness, effective use of all navigational aids and compulsory use of bridge navigational watch alarm systems¹ (BNWAS). In addition, Faversham Ships Ltd has re-emphasised the need for masters to; assert their power of overriding authority to delay sailing if necessary, and to use available manpower equitably. In view of the actions already taken, no recommendations have been made.

¹ Bridge navigational watch alarm system: An onboard alerting system which monitors bridge activity to detect operator incapacity. An OOW is required to either reset the system regularly or operate navigation equipment within certain time intervals. If the system is not reset as required, visual and audible alarms are generated on the bridge. If the OOW does not respond, the alarm is transferred to other areas of the vessel to notify crew members of the OOW's incapacity.

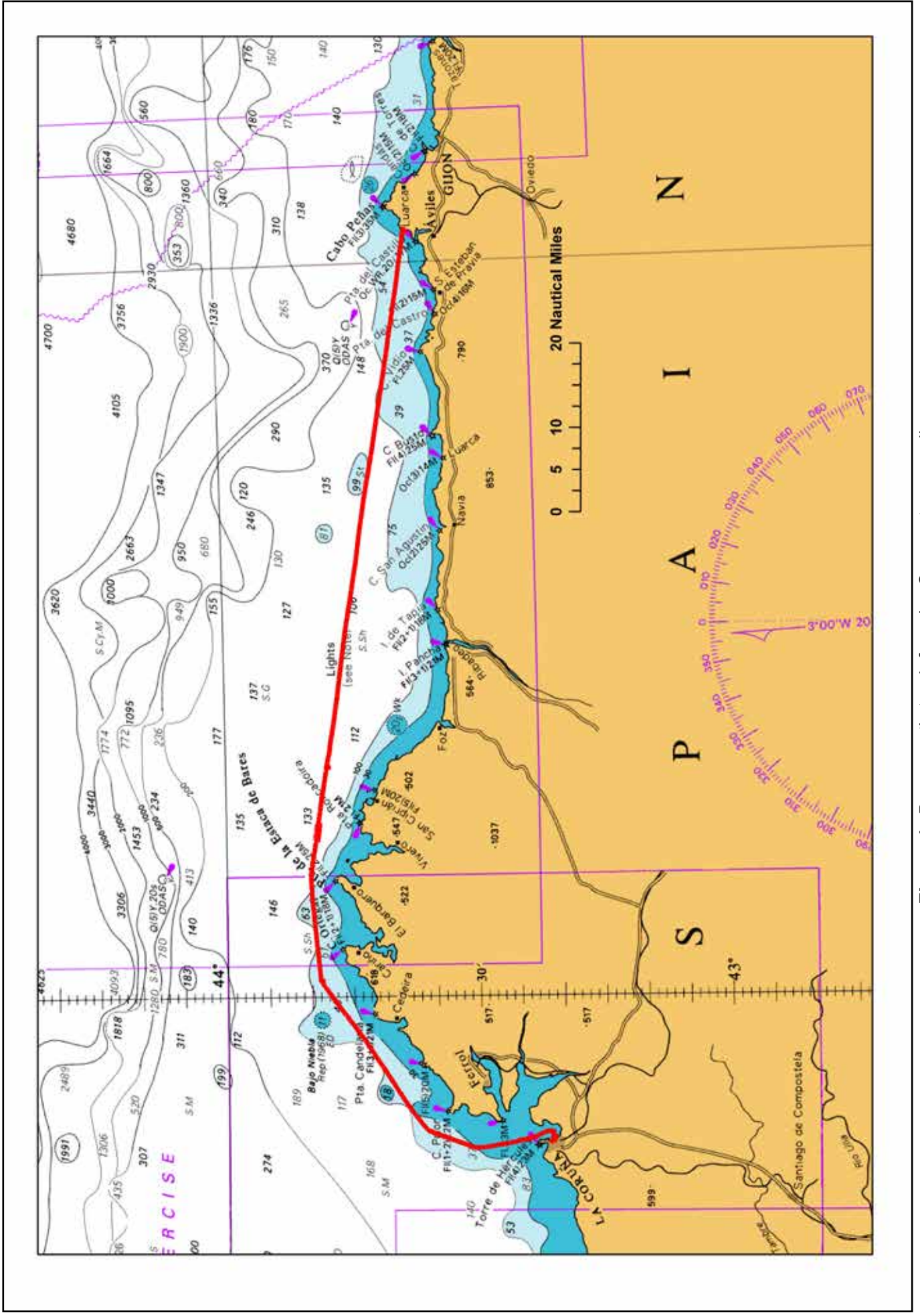


Figure 1: Beaumont's track from La Coruna to grounding

FACTUAL INFORMATION

Vessel

Beaumont was a 2545gt dry cargo vessel registered in Faversham, UK. She was owned by Atlas Navigation Ltd, managed by Faversham Ships Ltd and was classed with Germanischer Lloyd. The vessel's length was 88.6m and her draught in ballast was 3.7m aft. At the time of the accident her bridge equipment included:

- Relevant paper charts (the primary means of navigation).
- An electronic chart system (ECS) with cross-track error set at 1 cable either side of the planned route. The audio cross-track alarm was barely audible.
- Two global positioning systems (GPS) interfaced with the ECS and radars.
- Two radars. One of these was set on the 6 mile range scale, the other on the 12 mile range; no guard zones were set on either radar.
- Echo sounder, which was switched off.
- BNWAS (**Figure 2**), which was switched off.
- Autopilot, switched on and with audible off-course alarm set.
- Two VHF radios. One unit was set on VHF Channel 12, the other on Channel 16.



Figure 2: Bridge navigation watch alarm system's control

Manning and watchkeeping

Beaumont sailed with the minimum permitted safe manning of six.

The vessel's two navigating officers, the master and chief officer, shared navigational watches equally, with the master on watch between 0600 – 1200 and 1800 – 2400.

The 44-year old master had been employed by Faversham Ships Ltd for 8 years and was on his fourth trip as master of *Beaumont*. He held a UK-issued STCW² class II/2 Master's Certificate of Competency.

The 49-year old chief officer held an STCW class II/2 Master's Certificate of Competency obtained in Poland and endorsed with a UK Certificate

of Equivalent Competency. He had worked for Faversham Ships Ltd for 4 years and had sailed as chief officer on *Beaumont* twice previously. In addition to the navigational watchkeeping, the chief officer was responsible for overseeing loading and discharging of cargo.

The chief engineer had worked for Faversham Ships Ltd for many years and had served as engineer several times on board *Beaumont*. He had sailed with both the master and chief officer previously.

The vessel carried three Filipino deckhands, who regularly worked for Faversham Ships Ltd. The deckhands' duties included general upkeep of the vessel, referred to as 'day work', and assisting with the loading and discharging of cargo. Two of the deckhands were dedicated night lookouts

² STCW: The International Convention on Standards of Training, Certification and Watchkeeping for Seafarers.

for the master and chief officer when at sea. The third deckhand was the vessel's cook, but he was available to act as a lookout if required.

Environment

The environmental conditions at the time of the accident were benign, with light offshore winds and a moderate swell; it was dark with good visibility, and high water occurred 1 hour 13 minutes before the grounding.

Beaumont's bridge environment was described as 'pleasant'; it was quiet, and the starboard bridge wing door was about 75mm ajar to provide some limited ventilation.

NARRATIVE

At 2350 on 9 December *Beaumont* anchored at Betanzos anchorage after almost 4 day's passage from Ghent. At 1545 the following day she was moored alongside in La Coruña. Once alongside, the vessel was secured for the night and, following a brief trip ashore, the master and chief officer had a full night's rest, as did the rest of the crew.

Discharge of *Beaumont's* cargo of rapeseed meal commenced at 0700 on 11 December and was completed at 1245. The discharge was overseen by the chief officer and carried out by stevedores, assisted as required by the deckhands who were carrying out routine deck work. While the cargo was being discharged, the master carried out administrative tasks and, since the chief officer was busy on deck, he completed the vessel's passage plan to their next port of Avilés, 120 nautical miles from La Coruña.

At 1517, *Beaumont* departed La Coruña in ballast for Avilés. Soon after departure, the chief officer relieved the master on the bridge, leaving the deckhands to continue cleaning and preparing the holds for their next cargo. The master went to his cabin to rest before taking over from the chief officer again at 1800.

Following his handover to the master the chief officer went below and, at around 1900, went to bed. By that time the deckhands had completed their preparation of the cargo holds and at about 1930 the master's night lookout (deckhand 1) joined him on the bridge. During his watch the master monitored *Beaumont's* progress along the navigational track using the ECS, and he plotted

the vessel's position on the paper chart every 2 hours. The vessel's course was maintained by the autopilot. Both radars were operational but no guard zones had been set. Neither the echo sounder nor the BNWAS was switched on.

The 1800 – 2400 watch was uneventful with little traffic and good sea conditions and visibility. Just after 2200, the master, cognisant that deckhand 1 would be needed to assist the Avilés pilot on board around 0300 and for subsequent mooring and cargo loading operations, dismissed him to the mess deck to rest but on the condition that he remained ready to return at short notice if required. The master was alone on the bridge from just after 2200 until handing over to the chief officer at midnight.

The chief officer awoke at 2330 and arrived on the bridge at about 2350 to take over from the master. During his handover, the master drew attention to the content of his written night orders (**Figure 3**), which included requirements to observe general watchkeeping duties and compliance with Faversham Ships Ltd SMS standing orders. In particular, the master emphasised the need for the chief officer to call the Avilés pilot by radio 2 hours before *Beaumont* was due to arrive at the port, and to call all hands 30 minutes before the pilot's arrival. The chief officer's night lookout, deckhand 2, had not arrived on the bridge by the time the watch handover was completed and the master expressed concern at his absence, suggesting that the chief officer might wish to call him. The chief officer indicated that he did not need a lookout as the environmental conditions were fairly benign. The master made a slight correction to *Beaumont's* course before leaving the bridge. No further corrections were made during the chief officer's watch, despite it being visibly apparent that the vessel had breached the ECS's cross-track error boundary. Deckhand 2 arrived for his lookout duties a few minutes after the master had left the bridge.

At about 0055, the chief officer was required to call the Avilés pilot to provide information about *Beaumont's* expected arrival time, but it slipped his mind. Around 0130, the chief officer, like the master before him, sent his lookout below to rest in the mess deck. When deckhand 2 left the bridge, the chief officer was seated on the comfortable port side bridge chair (**Figure 4**) and the starboard bridge wing door was about 75mm ajar. At 0308, *Beaumont* ran aground on Cabo Negro, at a speed of 11.5 knots.

12.12.12, LA CORUNA ~ AVILES

APPROACHING

- Follow COLREGS, keep sharp look out,
- Follow Master/company standing orders.
- Give wide berth to all approaching/fixing vessels.
- Navigate with extra caution on approaching.
- call AVILES Pilot ch:12, 2 hrs before arrival
- call me, crew/crew to HR before Pilot
- call me if any doubt or any time if needed.
Have a safe watch

Figure 3: Master's night orders

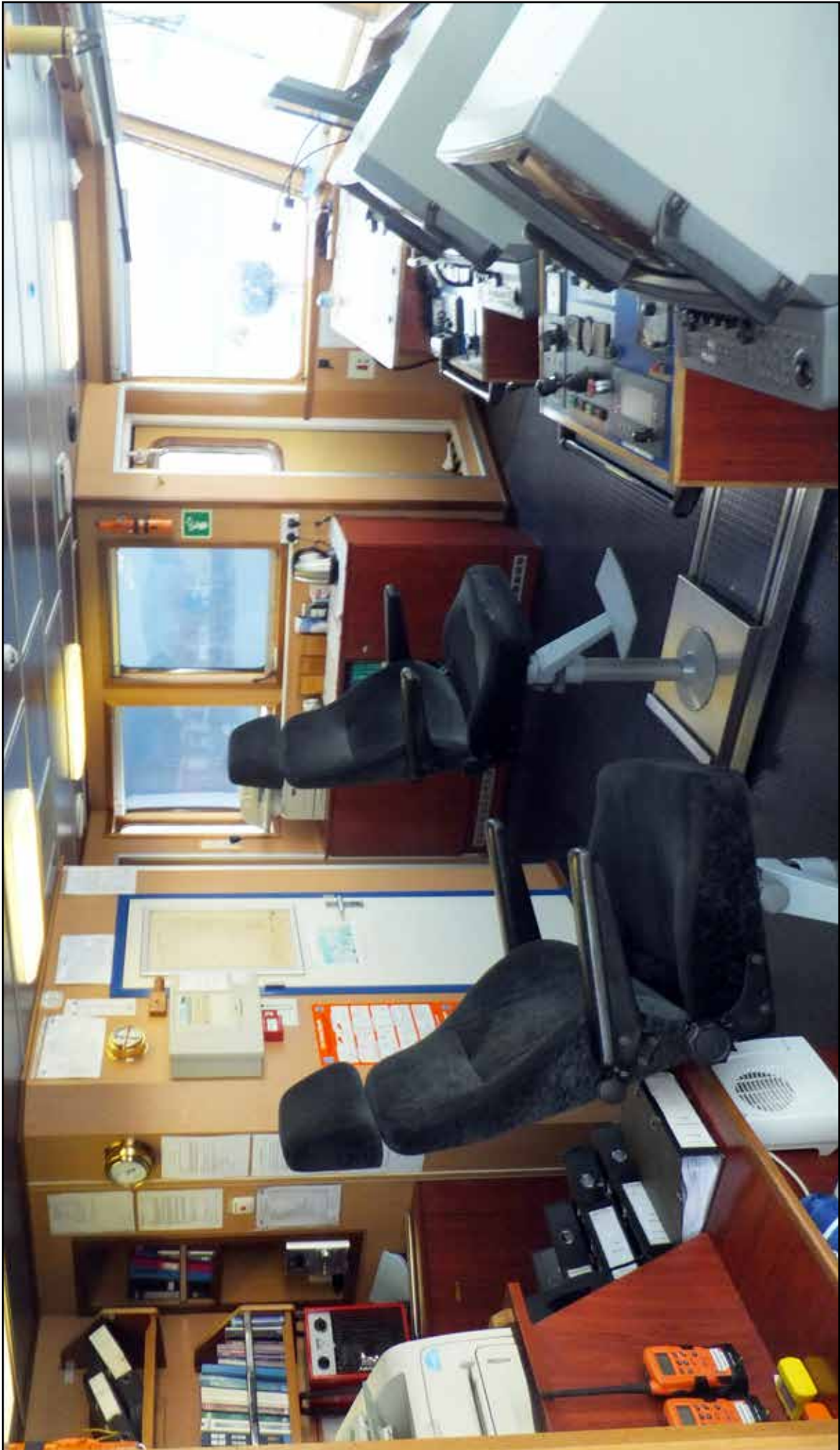


Figure 4: Bridge chairs

Following the accident, the chief officer recalled attempting to call the Avilés pilot at 0155 and again shortly after 0200, receiving no reply. No calls from *Beaumont* were heard by Avilés pilot station. The vessel's position at 0200 was recorded on the chart. The chief officer thought he fell asleep shortly after 0200.

Actions following the grounding

Beaumont's crew, with the exception of the chief officer, were awoken by the vessel running aground. The master ran to the bridge, where he found the chief officer still asleep. He roused him and simultaneously placed the engine control to neutral. The chief officer awoke confused and was shocked to find that the ship was aground. There was no indication that the chief officer was under the influence of alcohol or other narcotic.

The master sounded the general alarm and, as the crewmen mustered, gave them instructions and duties designed to establish the vessel's condition. In view of the chief officer's state of shock, the master insisted he remain with him on the bridge until the situation was stabilised. It was quickly confirmed by the crew that *Beaumont* was held fast forward while her stern was in deep water. She was not pounding and not believed to be in imminent danger of breaking up as the tide fell. The master transmitted by radio a 'Pan Pan' urgency call giving *Beaumont's* circumstances, and this was received by the Gijón coastguard which deployed SAR³ assets to the scene. At the first available opportunity the master contacted Faversham Ships Ltd's designated person ashore (DPA), informing him of the situation and he, in turn, liaised with all necessary parties.

After ballast water had been pumped out, further internal inspection revealed that although *Beaumont's* double-bottom tanks and bow thruster compartment had been damaged, the vessel was not holed.

As daylight broke and the tide continued to fall, *Beaumont's* situation became more apparent (**Figure 5**), with much of her underwater hull visible. During the early morning, the tug *Maria de Maeztu* arrived on scene and passed a tow line to *Beaumont*. Low water was at 0806 and as the tide rose *Beaumont* began to refloat. At 1216 *Beaumont* came free of Cabo Negro with the use of her own engines and the assistance of *Maria de*

Maeztu. Refloating did not appear to have caused any additional damage to the vessel and, following an inspection by the Avilés harbour authorities, *Beaumont* was given permission to enter the port.

Management systems

Faversham Ships Ltd's SMS was compiled for the company by an independent ISM auditor in 2002 and had undergone various reviews and amendments since that time.

The SMS confirmed the master's overriding authority for the vessel's safety. In particular, it stated that "*The Master may delay any sailing or passage ...which in his judgement might affect the safety of the vessel or its personnel.*" An internal audit of the vessel in January 2012 had specifically noted that this master was aware of the concept of a master's overriding authority.

The SMS referred to the International Chamber of Shipping's Bridge Procedures Guide (BPG), the STCW Code and the COLREGS⁴ as the models for watchkeeping. Additionally, it specified that the OOW should make use of radar and the echo sounder, and stipulated the need for lookouts in various operational conditions, such as congested waters and restricted visibility. The SMS did not specifically require lookouts to be posted during the hours of darkness.

As required by the SMS, the master produced his own dedicated standing orders and written night orders (**Figure 3**).

Hours of rest

The chief officer recorded 14.5 hours of rest for the day preceding the accident, including meal breaks.

For the same period, deckhand 1's recorded rest hours were 13, while deckhand 2's were 16. These figures were inaccurate as examination revealed their actual rest hours were nearer 8 and 11 respectively. The cook's hours of rest for the preceding day were recorded as 15.5.

³ SAR: Search and Rescue

⁴ COLREGS: The International Regulations for Preventing Collisions at Sea 1972 (as amended).

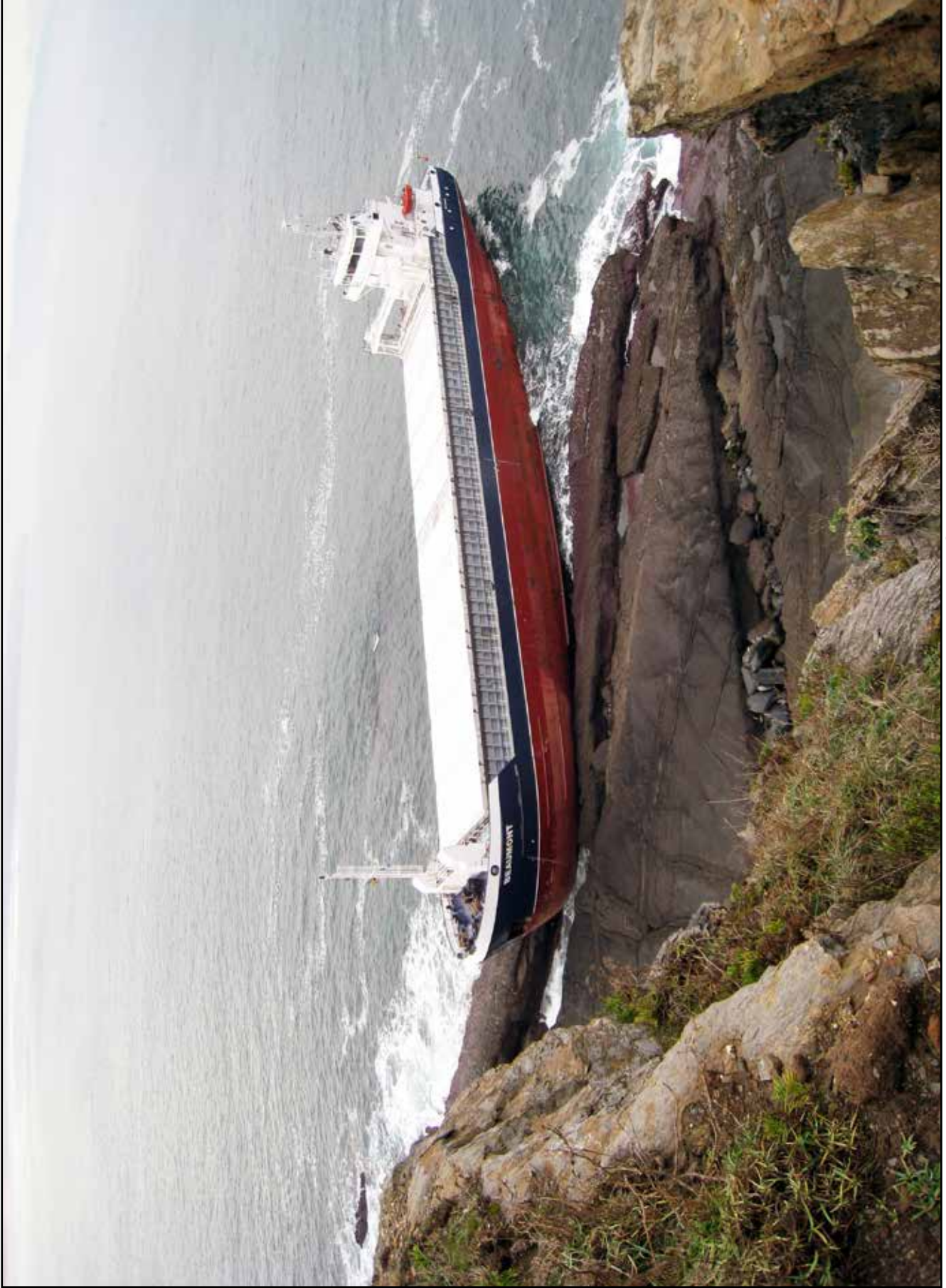


Figure 5: Beaumont aground on Cabo Negro

ANALYSIS

Beaumont ran aground after the chief officer fell asleep on watch due to lack of stimulation and probable fatigue. Lack of stimulation occurred as a result of being alone in a quiet, cosy bridge environment where none of the available safeguards had been utilised. The chief officer's fatigue would appear to be a result of the change to his pattern of work and rest on the day preceding the grounding.

Period asleep

The effect of the vessel running aground was such that it woke all of the crew except the chief officer, who had to be roused by the master. This depth of sleep suggests that he might have been asleep for longer than he believed, and casts doubt on whether he did attempt to call the Avilés pilot by radio or fix the vessel's position at 0200. In any event, the Avilés pilot did not hear any radio transmissions from *Beaumont*, despite the shore station being well within radio range and continuously manned. Had the radio calls been made as indicated, the lack of response should have prompted the chief officer to become increasingly concerned, leading to a high state of arousal. His attention should have been further focused by the fact that the ship was then only 50 minutes away from the pilot station, and in 20 minutes he was due to call the crew to prepare for pilot embarkation.

Taking the above into account, it is likely that the chief officer fell asleep within 2 hours of taking over the navigational watch from the master.

Hours of work and rest

In the days leading up to the accident, the chief officer had maintained the 0000 to 0600 watch. However, for the 24-hour period preceding the accident this routine was reversed. While the vessel was alongside he was the duty night officer but was expected to rest from midnight (when he would normally be on watch) and work through from 0700 to 1200, (when he would normally be asleep). It is likely that this change of routine impacted upon his quality of sleep during the night

in port. He did have over 4 hours' rest before taking over the watch from the master at midnight on 11 December, and appeared to be fit and well at that time. However, within 1 hour of taking the watch the chief officer failed to call the pilot station, despite specific instructions in the master's night order book (which he had signed) and the master's verbal reminder to him at the watch handover. This suggests that weariness was already affecting his cognitive ability.

Faversham Ships Ltd's SMS relied on the STCW Code⁵ to provide a reference for its crews on the requirement for lookouts to be posted during the hours of darkness. This Code also stipulates that lookouts should be well rested before keeping a watch, and only exceptionally working up to 14 hours a day.

Had deckhand 1 remained on the bridge until midnight, he would have worked 16 hours in total that day.

Effective use of bridge resources

The chief officer was in contravention of the STCW Code when he sent the lookout below at 0130. However, the master had also sent his lookout below during the previous watch, and had not insisted that a lookout was present on the bridge before leaving it at midnight. Sending lookouts below during hours of darkness was not uncommon on *Beaumont* as, without such informal arrangements for compensatory rest, the deckhands would have been unable to carry out prolonged day work in port. By sending their lookout's below, both the master and the chief officer removed an important control measure for maintaining a vigilant watch.

On 11 December the cook had worked about 8.5 hours, so could have taken a watch as a lookout to enable the other deckhands to get more rest. Alternatively, the master could have exercised his overriding authority for the vessel's safety and not

⁵ STCW, Section A – VIII/2; paragraph 15:...The officer in charge of the navigational watch may be the sole look-out in daylight...

sailed from La Coruña until he was satisfied that the watchkeepers and lookouts were adequately rested.

Beaumont was also equipped with navigational aids fitted with alarm functions that, if used effectively, could have provided additional stimulation to prevent the chief officer from falling asleep:

- Both radars had guard zone facilities which could have been set to alarm if targets such as land or vessels came within a predetermined range.
- The echo sounder, which the SMS stipulated was to be used, was not switched on. It too had an alarm function which could have been set to activate if the under keel clearance reduced to less than a predetermined setting, as it would have done as the vessel approached the shore.
- The ECS's cross-track error facility detected when the vessel strayed more than 1 cable distance from her planned route, prompting audible and visual alarms. The ECS alarm was sounding and flashing at the time of the accident but the volume had been adjusted to render it barely audible.

Notwithstanding the benefits of these systems, it is possible that the chief officer could have slept through these alarms, given the depth of his slumber. However, though not required by regulation at the time of the accident, *Beaumont* was also equipped with a BNWAS. This device was specifically designed and fitted to alert or draw attention to an incapacitated OOW. However, the vessel's managers did not specifically require the BNWAS to be in operation at sea and consequently it was seldom, if ever, used by the bridge watchkeepers.

Faversham Ships Ltd should have required the appropriate use of navigational aids and ensured that the BNWAS was operational at all times while at sea, to ensure that all the available safeguards for maintaining a proper watch were in place.

CONCLUSIONS

- The chief officer fell asleep on watch as a result of insufficient stimulation and probable fatigue following a change of work and rest pattern.
- There was no lookout on the bridge, as required during the hours of darkness, allowing the chief officer to fall asleep unnoticed.
- It was not unusual for lookouts to be dismissed from the bridge during the hours of darkness.
- By including the AB/cook on the look-out duty roster, there would have been sufficient manpower for a dedicated lookout to be maintained during the hours of darkness, whilst ensuring personnel did not work excessive hours.
- *Beaumont's* master did not exercise his overriding authority for the safety of the vessel to delay sailing from La Coruña until his watchkeepers and lookouts were adequately rested.
- Navigational aids were not used effectively to ensure a vigilant and effective watch was maintained at all times.
- The vessel was equipped with a BNWAS. However the ship's managers did not require that this equipment was used at sea and it was seldom, if ever used by the bridge watchkeepers.

ACTION TAKEN

Faversham Ships Ltd has:

- Revised its SMS to require:
 - The use of lookouts during the hours of darkness
 - The use of radar and echo sounder alarm facilities
 - The use of BNWAS when vessels are underway.
 - Paper charts are used as the primary means of navigation.
- Where technically possible, linked BNWAS systems with autopilots so that the watch keeping alarm is operational whenever the autopilot is in use.
- Issued a Fleet Circular that has:
 - Reiterated and supported the masters' power of overriding authority to delay any sailing which may affect the safety of the ship or crew.
 - Reminded masters that deck work must be effectively managed to ensure watch personnel are adequately rested before sailing, and that all watch ratings are used equitably.
- Implemented procedures to compare crew members' hours of rest records with deck log entries, to ensure accuracy.
- Re-configured the volume control on *Beaumont's* ECS alarms.

RECOMMENDATION

In view of the actions already taken, no recommendations have been made.

SHIP PARTICULARS

Vessel's name	<i>Beaumont</i>
Flag	UK
Classification society	Germanischer Lloyd
IMO number	9319416
Type	Dry Cargo
Registered owner	Atlas Navigation Ltd
Manager(s)	Faversham Ships Ltd
Construction	Steel
Length overall	88.6m
Registered length	84.99m
Gross tonnage	2545
Minimum safe manning	6
Authorised cargo	Dry cargo

VOYAGE PARTICULARS

Port of departure	La Coruña
Port of arrival	Avilés
Type of voyage	Coastal
Cargo information	In ballast
Manning	6

MARINE CASUALTY INFORMATION

Date and time	12 December 2012, 0308 UTC
Type of marine casualty or incident	Serious Marine Casualty
Location of incident	Cabo Negro, Spain
Place on board	Whole ship
Injuries/fatalities	None
Damage/environmental impact	Plate and frame damage; no pollution
Ship operation	On passage
Voyage segment	Arrival
External & internal environment	SE Beaufort F2; moderate swell; good visibility; darkness. Warm bridge with little ventilation.
Persons on board	6