



## **THE COMMONWEALTH OF THE BAHAMAS**

### **‘m.v Bahamas Celebration’**

**IMO Number 7904891**

**Official Number 8001571**



**Report of the investigation into the grounding of the  
Bahamas Celebration at Freeport Bahamas on  
31<sup>st</sup> October 2014**

*The Bahamas conducts marine safety or other investigations on ships flying the flag of the Commonwealth of the Bahamas in accordance with the obligations set forth in International Conventions to which The Bahamas is a Party. In accordance with the IMO Casualty Investigation Code, mandated by the International Convention for the Safety of Life at Sea (SOLAS) Regulation XI-1/6, investigations have the objective of preventing marine casualties and marine incidents in the future and do not seek to apportion blame or determine liability.*

*It should be noted that the Bahamas Merchant Shipping Act, Para 170 (2) requires officers of a ship involved in an accident to answer an Inspector's questions fully and truly. If the contents of a report were subsequently submitted as evidence in court proceedings relating to an accident this could offend the principle that a person cannot be required to give evidence against himself. The Bahamas Maritime Authority makes this report available to any interested parties on the strict understanding that it will not be used as evidence in any court proceedings anywhere in the world*

*This investigation has been conducted with the cooperation and assistance of the United States Coast Guard (USCG).*

Date of Issue: 21<sup>st</sup> April 2016

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# 1 SUMMARY

- 1.1 On the evening of 31<sup>st</sup> October 2014, the *Bahamas Celebration* sailed from Freeport, Grand Bahama for West Palm Beach, Florida. The vessel is a Ro-Ro/Passenger vessel, and was engaged on a liner service between these two ports. The distance from Freeport, Grand Bahama to West Palm Beach is 73 nautical miles. The vessel schedule required a speed of 5.4kts in order for arrival the following morning to allow passengers to go ashore in West Palm Beach.
- 1.2 The vessel's departure from Freeport was initially scheduled for 1945 on 31<sup>st</sup> October. This was delayed due to squally weather. The vessel finally departed her berth at 2010 with assistance from a harbour tug, *Svitzer Grand Bahama*, as the vessel's stern thruster was not operational.
- 1.3 The vessel proceeded outbound along the leeward side of the fairway and to port of the intended course and the leading lights. During this transit the vessel made contact with an undetermined point on the eastern shore at approximately 2018. Watertight compartments 6 & 7, containing auxiliary engines 1, 2, 3 and 4 (compartment 6) and engines 5 and 6 (compartment 7) were breached through significant raking damage to the side shell plating close to the tanktop, along the port side of the vessel. They suffered rapid flooding. Watertight doors in the machinery spaces which were left open at sailing were immediately closed.
- 1.4 The vessel lost propulsion and electrical power and the Master contacted Freeport Harbour Control for assistance. Three tugs were dispatched to proceed to the aid of the stricken vessel.
- 1.5 The vessel was returned to her original berth on the North side of Basin No.1 and secured port side alongside at 2202.
- 1.6 Passengers were disembarked via the shore gangway system, once it was adjusted to cope with the vessel's 5° list to port. There were no reported accidents or injuries to passengers or crew.
- 1.7 The vessel was subsequently salvaged alongside her original berth and declared a constructive total loss.

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## 2 GENERAL INFORMATION

### 2.1 Vessel Information

- 2.1.1 The *Bahamas Celebration* was a Roll on–Roll off/ Passenger Ferry registered at Nassau, Bahamas. The vessel was of welded steel construction having a working bow ramp. Previously in service in the North Sea, she had the following principal particulars:

Official Number	-	8001571
IMO Number	-	7904891
Call Sign	-	C6XJ3
Built	-	1981 – Howaldswerke Deutch Werft
Conversions	-	1992 – Astilleros Espanoles, Cadiz (Lengthened)
Length overall	-	205.25 m
Length BP	-	181.6 m
Breadth	-	26.6 m
Depth	-	8.0 m
Gross Tonnage	-	35855
Net Tonnage	-	19854
Deadweight	-	3255
Class Entry	-	Det Norske Veritas
Propulsion	-	2x Stork-Werkspoor Type 20 TM 410
Brake Shaft Power	-	17412 kW (each)
Service Speed	-	22kts
Carrying capacity	-	1686 passengers (max)
Complement	-	810 passengers
	-	378 crew
Cargo Capacity	-	650 Cars

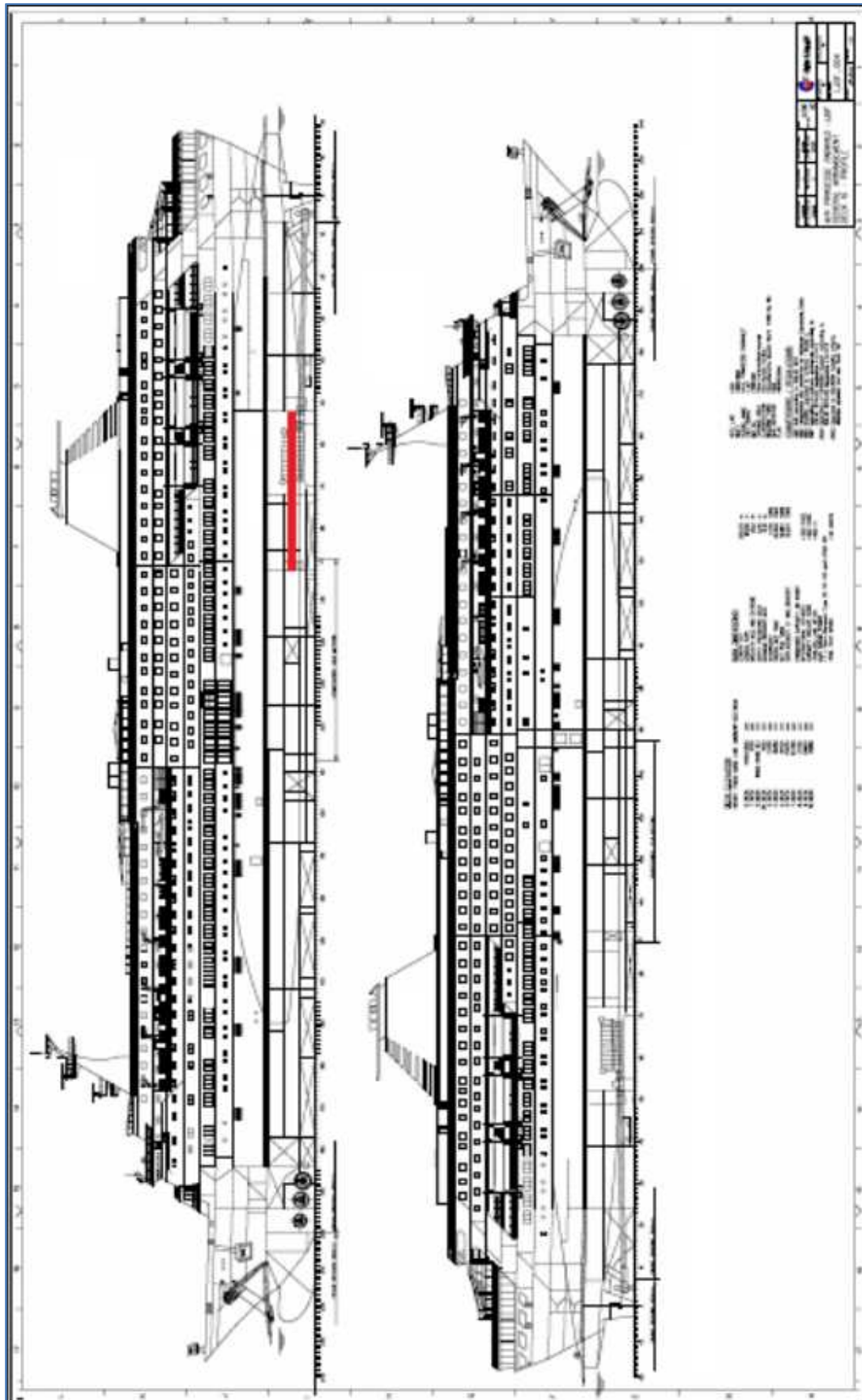


Fig: 1 Bahamas Celebration General Arrangement Plan – area of damage



- 2.1.2 The vessel was powered by twin Stork Werkspoor Type 20 main engines capable of developing 9705 kW (13200 bhp) driving 2 Wartsila controllable pitch propellers. It was also provided with six (6) main diesel alternators that developed a total of 7954 kW.
- 2.1.3 The vessel was built in 1981 at the HDW Yard in Germany and formerly named *Prinsesse Ragnhild*. At the time of the incident, the vessel was owned by Celebration Cruise Holdings, and managed by FleetPro Ocean Inc.
- 2.1.4 The vessel was first registered under the Bahamas Flag in 2008 and DNV GL was the Classification Society and Recognized Organization. The vessel complied with all statutory and international requirements and certification.

## **2.2 Change of Manager**

- 2.2.1 On the 1<sup>st</sup> January 2014 the flag administration was advised of a change of the ISM Company for the *Bahamas Celebration* from International Shipping Partners Inc. to FleetPro Ocean Inc.

## **2.3 Ships Certification**

- 2.3.1 The *Bahamas Celebration* Passenger Ship Safety Certificate (PSSC) was issued by DNV-GL on 18<sup>th</sup> September 2014 in Sunrise, Florida. The Passenger Ship Safety Certificate was valid for short international voyages.

## **2.4 Port State and Flag Inspections**

- 2.4.1 The last Port State Control inspection was conducted by the United States Coast Guard in West Palm Beach on 25<sup>th</sup> August 2014. Following the inspection four deficiencies were noted, relating to: fire doors, stowage of inflammable liquids, fire detection systems and oil discharge posters.
- 2.4.2 The last Bahamas Annual Inspections was carried out by a BMA Inspector in West Palm Beach on the 18<sup>th</sup> March 2014, no deficiencies were noted.

## **2.5 Bridge and Engine Room manning upon departure**

- 2.5.1 The Safe Manning Document was issued by the Bahamas Maritime Authority on 29 September 2013 and valid until 28 September 2018. The safe manning document required a marine crew of 22 persons. The manning of the vessel surpassed the statutory requirements.

- 2.5.2 The manning of the bridge for the departure of the *Bahamas Celebration* from Freeport consisted of:
- Master
  - Staff Captain
  - 2<sup>nd</sup> Officer
  - Deck Apprentice Officer
  - AB (Quarter Master) – Helmsman
- 2.5.3 The manning in the Engine Room for the departure of the *Bahamas Celebration* from Freeport consisted of:
- Chief Engineer
  - Staff Engineer
  - 3<sup>rd</sup> Engineer
  - Chief Electrician
  - 2 x Motorman

## **2.6 Crew Particulars**

### **2.6.1 Master**

The Captain 61 years of age, was an experienced seafarer, qualified under the provisions of STCW Regulation II/2 to sail as Master by Denmark. He held a valid flag state endorsement issued by the Bahamas on 7<sup>th</sup> September 2011 with an expiry date of 18<sup>th</sup> December 2014. He also held a valid Pilotage Certificate issued by the Freeport Harbour Company Ltd. Port Director on 30<sup>th</sup> December 2013 and valid until the 31<sup>st</sup> December 2014.

### **2.6.2 Staff Captain.**

The Staff Captain was an experienced seafarer of 49 years of age, qualified under the provisions of STCW Regulation II/2 to sail as Master by the Philippines. He held a valid flag state endorsement issued by the Bahamas on 18<sup>th</sup> November 2011 with an expiry date of 31<sup>st</sup> August 2016.

### **2.6.3 Navigator/Officer of the Watch**

The 2<sup>nd</sup> Mate was an experienced seafarer of 37 years of age, qualified under the provisions of STCW Regulation II/2 to sail as Officer of a Navigational Watch by Croatia. He held a valid flag state endorsement issued by the Bahamas on 21<sup>st</sup> October 2010 with an expiry date of 19<sup>th</sup> August 2015.

### **2.6.4 Chief Engineer**

The Chief Engineer was an experienced engineer of 57 years of age, qualified under the provisions of STCW Regulation III/2 to sail as Chief Engineer by the Croatian authorities. He held a valid flag state endorsement, issued by the Bahamas on 21<sup>st</sup> October 2010 with an expiry date of 19<sup>th</sup> August 2015.

## 2.7 Drills

- 2.7.1 On the morning of the 31<sup>st</sup> October 2014, while the vessel was alongside in Freeport, the *Bahamas Celebration* held a Fire Drill and an Abandon Ship Drill in accordance with the drill schedule. Passenger Safety Briefings were held on departure from West Palm Beach and Freeport.

## 2.8 Fatigue

- 2.8.1 There was no objective evidence to indicate that fatigue played any part in the incident.

## 2.9 Substance Abuse

- 2.9.1 Post incident alcohol testing was carried out on the Master and Staff Captain within one hour of the incident by the Ship's Doctor, in front of witnesses. All tests were negative, indicating that alcohol was not a contributory factor.

## 2.10 Port of Freeport

- 2.10.1 Freeport is a free trade zone on the island of Grand Bahama, in The Commonwealth of the Bahamas. Freeport is a multi-purpose port offering Passenger, Container and General Cargo facilities. It also has a large oil terminal with inshore deep water jetties and full storage facilities ashore. In addition it provides extensive dry docking and repair services.



Fig: 2 Freeport – *Bahamas Celebration* berthed Berth No. 3

## 2.11 Weather

- 2.11.1 Updated weather information was obtained from the Navtex<sup>1</sup> transmissions prior to the departure from Freeport. The forecast warned of a low pressure system in position near 23°N 65°W about 750nm south east of Freeport, with a cold frontal system north of Palm Beach Florida, 80nm east north east of Freeport. The cold front was slowly moving in a south easterly direction towards Freeport.

The local forecast for Freeport for the 31<sup>st</sup> October 2014 for 1800 – 2400:

Wind W-NW  
Average Wind Speed 12 – 16kts  
Gusting winds above 25kts at times.

## 2.12 Vessels in Vicinity

- 2.12.1 Ship Name: *Polymnia 1* (Tanker)  
Flag: Malta  
IMO: 9575955  
Gross Tonnage: 155,651  
Year of Build: 2011

The *Polymnia 1*, berthed starboard side alongside berth No. 6 on No. 1 Jetty Borco Oil Terminal.

- 2.12.2 Ship Name: *Svitzer Grand Bahama* (Tug)  
Flag: St. Vincent & The Grenadines  
IMO: 9359430  
Gross Tonnage: 330  
Year of Build: 2007

The *Svitzer Grand Bahama* is a Freeport harbour tug, which assisted with the unberthing and salvage of the *Bahamas Celebration*.

- 2.12.3 Ship Name: *Diamond Cay* (Tug)  
Flag: St. Vincent & The Grenadines  
IMO: 9361536  
Gross Tonnage: 329  
Year of Build: 2006

The *Diamond Cay*, *Smit Rhone* and the *Svitzer Owl*, responded to the urgent request from the *Bahamas Celebration* for assistance.

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<sup>1</sup> Navtex - is an international automated medium frequency direct-printing service for delivery of navigational and meteorological warnings and forecasts information.

- 2.12.4 Ship Name: *Smit Rhone* (Tug)  
Flag: Bahamas  
IMO: 9190509  
Gross Tonnage: 353  
Year of Build: 2000
- 2.12.5 Ship Name: *Svitzer Owl* (Tug)  
Flag: St. Vincent & The Grenadines  
IMO: 9578567  
Gross Tonnage: 442  
Year of Build: 2012

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### 3 NARRATIVE OF EVENTS

All times noted in this narrative are given in the style of the standard 24 hour clock, without additional annotation and the local time is Eastern Standard Time – UTC -5 hours.

#### 3.1 General

- 3.1.1 The *Bahamas Celebration* provided regular overnight services between West Palm Beach, Florida and Freeport, Grand Bahama. The ship departed every other day on two-night “Bahamas round-trip”. The passage plan indicated a berth to berth distance of 73nm, operating at a slow speed of 5.4kts to maintain her schedule.

#### 3.2 Arrival in Freeport

- 3.2.1 Freeport has a compulsory pilot requirement for all vessels over 500 gt. However the Master of the *Bahamas Celebration* held a Pilot Exemption Certificate. Vessels enter the dredged channel from the vicinity of the pilotage boarding ground. To enable a safe passage through the entrance channel, leading lights are visible to the north of the turning basin on an alignment of 022°.
- 3.2.2 On 31<sup>st</sup> October at 0716, the *Bahamas Celebration* entered the Freeport Harbour from sea. She then turned in the Outer Harbour Turning Basin at 0722 and made fast port side alongside Berth No.3 in Basin No.1 at 0748. Basin No.1 has three berths and no other vessels were berthed within Basin No.1 at the time.

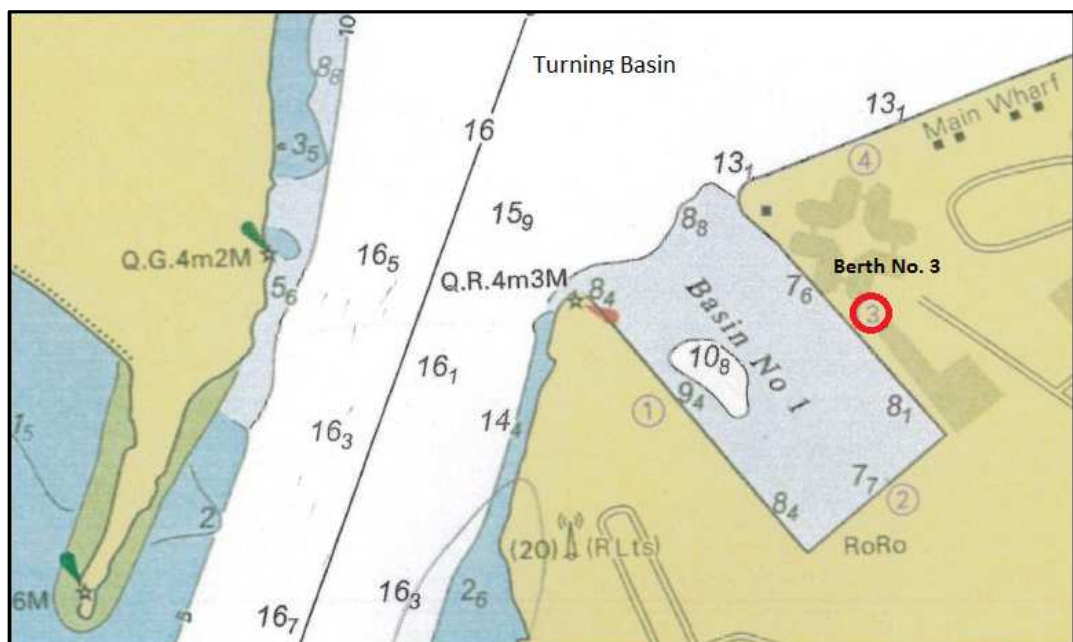


Fig: 3 Basin No. 1 – *Bahamas Celebration* berthed on No. 3 berth.

- 3.2.3 The vessel's Passenger Shell Door #4 was opened at 0720, the Bow Door was opened at 0750 and the No. 2 Aft Ramp was lowering into position at 0800.



- 3.2.4 The *Bahamas Celebration* arrived with 792 passengers and 378 crew members on board.

### 3.3 Bahamas Celebration departure plan

- 3.3.1 The intended departure plan for the *Bahamas Celebration* was to move astern from the berth onto the leading lights. Once clear of Basin No.1, the bow thruster would be engaged to move the ship's head to starboard. When on the leading lights astern, on a heading of 202°, the vessel would proceed outbound through the entrance channel for West Palm Beach (see fig. 4).

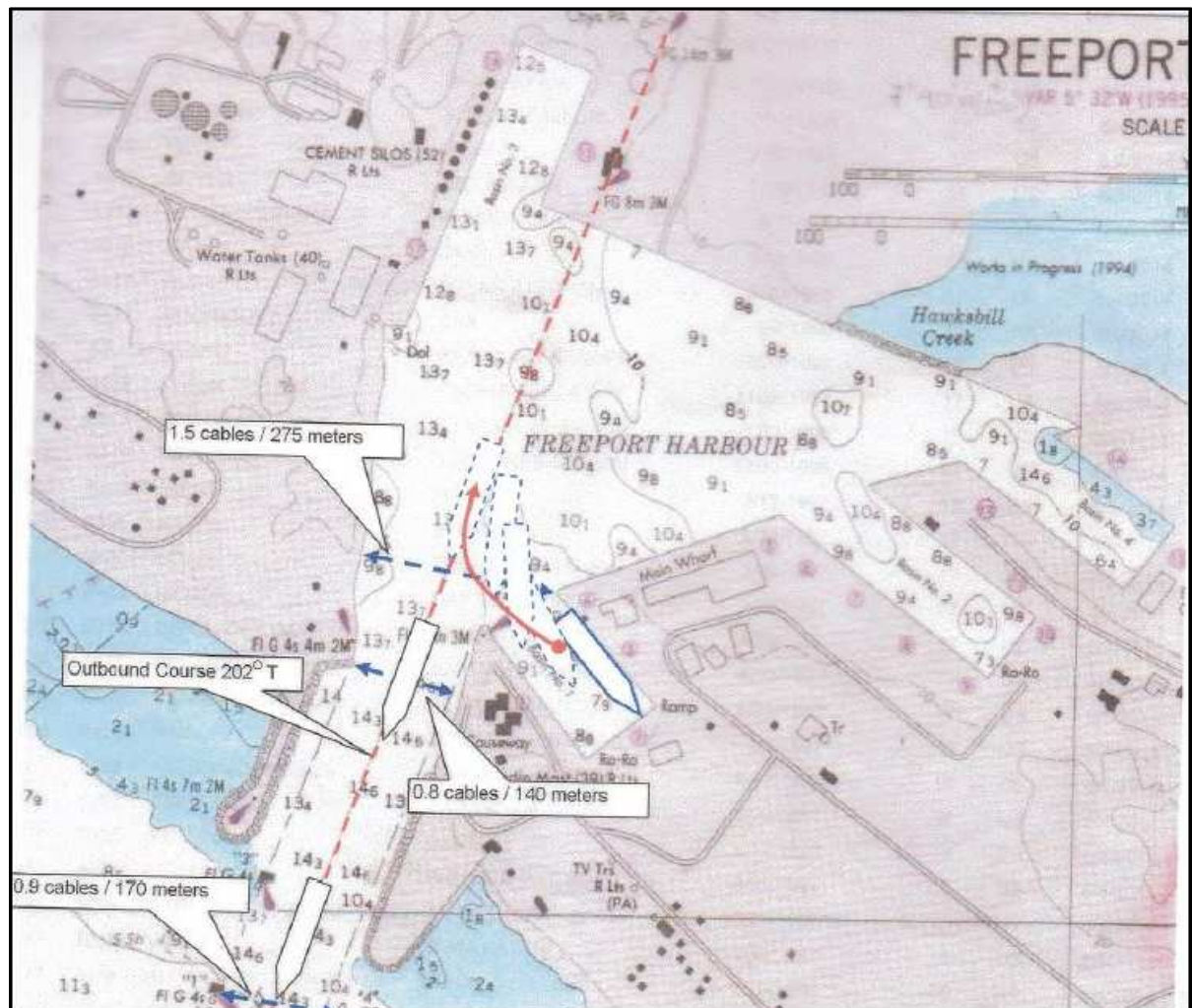


Fig: 4 *Bahamas Celebration* proposed departure track

### 3.4 Departure from the berth

- 3.4.1 The *Bahamas Celebration* was scheduled to depart Freeport in the early evening of the 31<sup>st</sup> October 2014 bound for Palm Beach, Florida.

- 3.4.2 At 1800 once all passengers had been counted on board, a Safety Briefing<sup>2</sup> was carried out in the Ocean View Room. This consisted of ‘Welcome on Board’ video which included safety information, lifejacket donning instructions and evacuation procedures. Immediately prior to departure a further safety announcement was made.
- 3.4.3 The vessel’s Pre-Departure Checklist was completed at 1950 prior to sailing. The checklist was answered in the positive in all respects with the exception of the Pilot Card (the Master has an exemption and would not require a pilot) and the Stern Thruster which was not operational due to failure of an oil seal, a replacement being on order. The Checklist was stated to have been verified by the Staff Captain and reported to the Master. The Check List was not signed off by the officer concerned.
- 3.4.4 The Stern Thruster had been out of service for a month, causing the thruster not to rotate. During this period the manufacturer attended the vessel on several occasions in order to carry out a repair. The thruster was subsequently used on three voyages. However as the thruster would not fully retract and house, the decision was taken to withdraw it from service, pending satisfactory repair.
- 3.4.5 In preparation for the departure of the *Bahamas Celebration*, due to the defective stern thruster and weather conditions, Freeport harbour control instructed the harbour tug *Svitzer Grand Bahama* to standby the *Bahamas Celebration*. The *Bahamas Celebration* departure draft was 5.75m forward and 6.05m aft.
- 3.4.6 At 1940 the *Svitzer Grand Bahama* was standing by, to assist the *Bahamas Celebration* with unberthing from berth No. 3. The *Bahamas Celebrations* two bow thrusters were started at 1943, with the Tug *Svitzer Grand Bahama* made fast on the starboard quarter at 1953. The main engines were placed on stand-by at 1954.
- 3.4.7 On completion of loading, in preparation for the return passage, No.2 Aft Ramp was raised, and the Bow Door closed and secured at 1945. All visitors were disembarked, the passenger gangway landed and the No.4 Shell Door used by passengers secured at 1954. On board for the voyage to West Palm Beach were 810 passengers and 378 crew.
- 3.4.8 The vessel was about to sail but with the wind gusting 34kts from the north west, the Master decided to delay the departure until the squall cleared. The wind speed eased to about 15kts after 10 minutes, the mooring lines were singled up and let go at 2010. Assisted by the *Svitzer Grand Bahama*, the vessel moved astern into the Outer Harbour Turning Basin at 2014.
- 3.4.9 When the vessel departed from Freeport, the Bridge Team consisted of Master; Staff Captain; Duty 2<sup>nd</sup> Officer; Apprentice Officer and Helmsman.

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<sup>2</sup> As the vessel was engaged in a Short International Voyage of less than 24 hours, a safety briefing may take place as required by SOLAS Chapter III Regulation 19.2.2, in lieu of a drill.



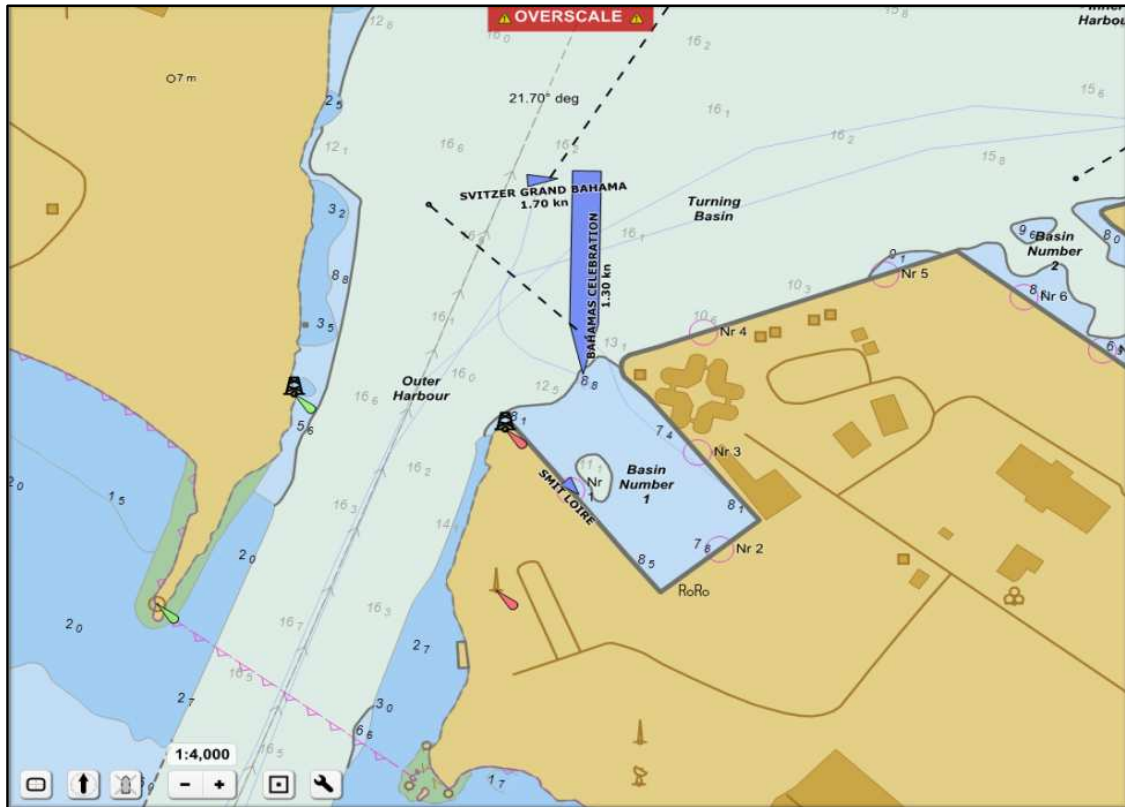


Fig: 5 Vessel departs from berth.

### 3.5 Actions of the Ship

#### The Master's statement:

##### 3.5.1 Extract from the Master's Statement:

*"The tug was instructed to back easy, shortly after the tug was instructed to all stop, at this time the Bahamas Celebration was in the turning basin. A short time afterwards the tug was instructed to come in and push slow, which he did, and shortly the tug was instructed to stop."*

3.5.2 *At about 2010<sup>3</sup>, as the stern of the Bahamas Celebration was passing berth No.1, the tug got instructions to back at 100%, which we did. At this time the wind speed and direction was 9kts WSW."*

3.5.3 As the vessel cleared the basin wall knuckle on her portside and entered the turning basin, the wind increased to 35kts as a further squall moved in. The tug *Svitzer Grand Bahama* took the load on the towing line to assist the vessel moving astern towards the leading light track. Once the astern movement was completed, the Master commenced navigating along the channel to sea. At 2016 the vessel was on a heading of 220° with a speed of 3.3kts proceeding to the centre of the channel.

<sup>3</sup> Time in Master's statement conflicts with the timeline of the VTS data.

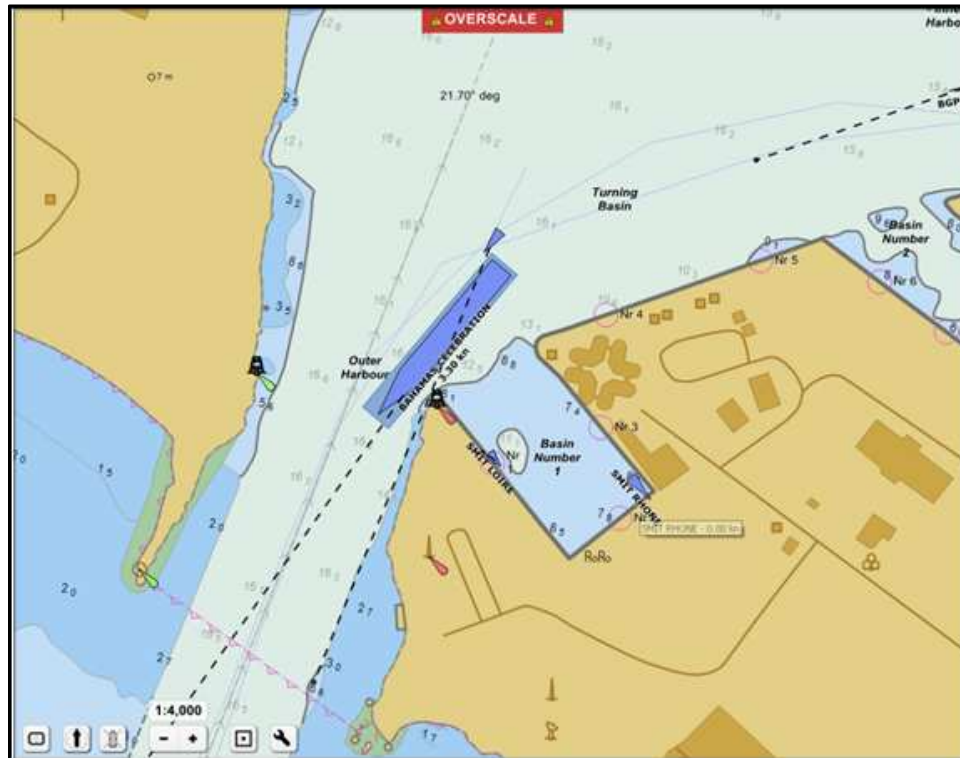


Fig: 6 Vessel passing berth No. 1 Time: 2016

- 3.5.4 The *Bahamas Celebration* continued on a southerly track at 3.3kts increasing to 5.4kts by 2019. At 2020 the Chief Engineer notified the Bridge that water was entering Compartment No.6 where auxiliary engines 1, 2, 3 and 4 were located. The Master told the 2<sup>nd</sup> Officer to close watertight doors from the bridge. Following investigation by the 3<sup>rd</sup> Engineer, the Chief Engineer confirmed that all watertight doors were closed. Information obtained from VTS data, received from the Freeport Harbour Company, indicated the vessel was about 200 metres from the north-west end of No: 2 jetty of the Borco Oil Terminal.
- 3.5.6 At 2025 the vessel's main engines stopped and the vessel started to drift in a south-easterly direction towards the Borco Oil Terminal jetty. At 2026, and with the oil jetty fast approaching, the *Bahamas Celebration* instructed the tug *Svitzer Grand Bahama* to release the line from the starboard quarter and come round to the port quarter and push full (100%). The Master also requested additional tug resources to assist the vessel immediately. Harbour tugs *Diamond Cay*, *Smit Rhone* and *Svitzer Owl* were dispatched to render additional assistance.
- 3.5.7 The general alarm was sounded at 2040 but this was followed almost immediately by a total failure of the electrical power system at 2042. The Master used the Public Address system to make a passenger announcement on the incident. The emergency generators automatically started and lighting was restored. At 2047 the emergency team were at the embarkation deck, awaiting instructions to prepare the lifeboats.
- 3.5.8 The engine room was evacuated and secured at 2055.



### 3.6 Actions of the Freeport Harbour Company

- 3.6.1 At 2045 the Port Director and Pilot boarded the *Bahamas Celebration* in response to the distress message from the Master. The Master reported a possible breach of the vessel's hull and reported to Freeport Harbour Control, the vessel as being "Not under Command". The harbour Port Director and the Pilot boarded the vessel about 1000 metres south of the outer oil jetty, (No.2 Jetty – BORCO Oil Terminal). Berthed on No. 2 jetty at the time, starboard alongside was the tanker – *Polymnia I*, registered in Malta.

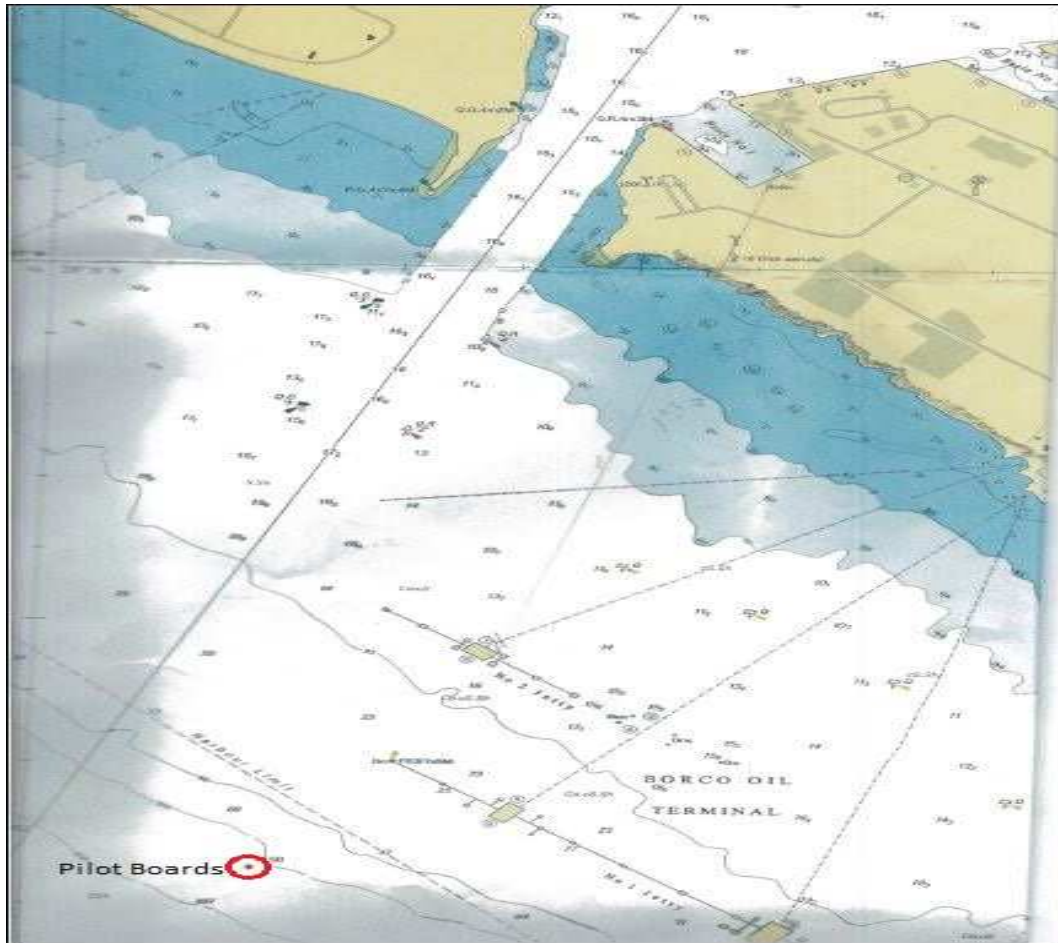


Fig: 7 Port Director and Marine Pilot board *Bahamas Celebration*

- 3.6.2 During the Master - Pilot exchange he confirmed that the ship's hull had been holed below the waterline and was taking in water with a loss of ships power. All areas of flooding were subsequently reported to have been contained.
- 3.6.3 The *Svitzer Grand Bahama* continued to stand by the *Bahamas Celebration* and by 2109 had been joined by the tugs *Svitzer Oil*; *Diamond Cay* and *Smit Rhone*. The tugs were instructed to make fast to the *Bahamas Celebration*. The *Bahamas Celebration* was now about 900 metres from the BORCO No.2 Jetty, with the distance slowly closing because of the continuing drift of the vessel. With the Pilot on board, preparations were made to tow the dead vessel back to Freeport.

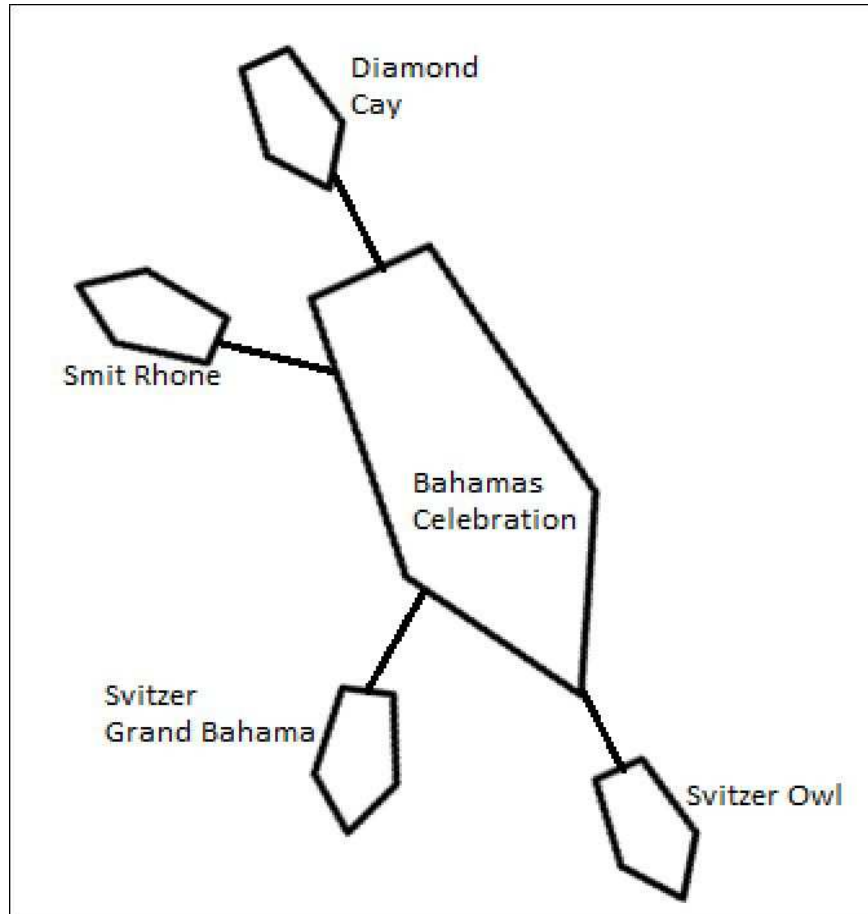


Fig: 8 Disposition of tugs

- 3.6.4 All four tugs having been made fast, the tow commenced, safely towing the *Bahamas Celebration* into the entrance channel. At 2135 the vessel was abeam of No: 1 and No: 2 sea buoy, finally berthing in Basin 1, portside alongside Berth No. 3 at 2148.
- 3.6.5 At 2202 the vessel was all fast at the original berth in Basin No.1. It was reported the vessel had 5° list to port.

### 3.7 Disembarkation of the Passengers

- 3.7.1 Passenger disembarkation was completed by 0200 on 1<sup>st</sup> November and was taken by coach to local hotels for the night. Arrangements were then made to repatriate them to West Palm Beach, by air, later that day.
- 3.7.2 Following on from the incident, the UCSG, issued a questionnaire about the incident to all passengers to be completed and returned. Responses were subsequently received from only 8 passengers. One response said the Master announced at about 2046 “*we had hit ground and that there was damage to the boat and that we were taking on water*”.

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## 4 ANALYSIS

### 4.1 Aim

- 4.1.1 The purpose of the analysis is to determine the contributory causes and circumstances of the accident as a basis for making recommendations to prevent similar events occurring in the future.
- 4.1.2 Discrepancies in timings existed in the statements from the ship's personnel and Pilots. These were reviewed against the VTS Data provided by the Freeport Harbour Company and times were reconciled to that datum.

### 4.2 General Observations

- 4.2.1 On the approaches and arrival at Freeport the *Bahamas Celebration* was using British Admiralty Chart No: BA 398 – Freeport Roads and Harbour. The chart was published 20<sup>th</sup> December 1974, Edition 8 17<sup>th</sup> April 2014, the latest chart correction being 3008/2014, with the main channel having a charted depth of 16.1 metres based on Freeport Harbour Company surveys of 2012.
- 4.2.2 The main entrance channel is centred on the leading lights on a heading of 022° inbound and 202° outbound. With the *Bahamas Celebration* visiting Freeport every second day, the bridge team would have been anticipated to be familiar with the port's characteristics.
- 4.2.3 The tidal stream in the approaches to Freeport are weak but can be influenced by the prevailing NE wind, occasional strong NW set may be experienced close to the harbour entrance. At the time of the incident the winds were generally from the west, gusting and veering from the NW.
- 4.2.4 The harbour limit of Freeport extends 7 cables<sup>4</sup> (0.7nm) from the coastline and incorporates the deep-water jetties at Borco Oil Terminal. A restricted area encompassing the harbour entrance and the oil terminal extends about 1½ nautical miles offshore, with a precautionary area extending a further mile outside the restricted area. Within the restricted area, vessels should keep well clear of the Borco Oil Terminal and should not pass between the jetties and the shore side of the terminal. The precautionary area should be used only for transit to Freeport or berthing at Borco Oil Terminal.

### 4.3 Weather Conditions

- 4.3.1 The vessel's pre-departure checklist was completed at 1950 on 31<sup>st</sup> October. The checklist verified that weather information was available.

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<sup>4</sup> 1 Cable = 0.1 nautical mile or 180 metres.

- 4.3.2 The vessel's Second Officer in his statement confirmed he had set the radar to a 6nm range scale, to observe the passage of a rain squall prior to sailing.
- 4.3.3 The weather information obtained from the vessel's Navtex forecast warned of a weak low pressure system near 23°N 65°W, that would slowly dissipate, with a weak cold front near Jupiter, Florida moving slowly SE.
- 4.3.4 Gale warnings were issued for an area north of latitude 27° North (Freeport is at latitude 26.5° North).
- 4.3.5 During post-accident interviews the Master reported that he observed wind gusts during the afternoon of 31<sup>st</sup> October as high as 17kts. This later dropped to 11~12kts. At 1945, when ready to sail, the wind was reported by the Master to have been steady, at less than 20kts and gusting to 22kts.
- 4.3.6 With the vessel about to sail, the passage of a squall was reported with wind gusts to 35kts. The sailing was therefore delayed and a tug was requested by Harbour Control to assist with the departure. The vessel departed the berth with wind speeds reported by the Master being 9kts. However, as the vessel entered the outbound channel, the Master reported that the wind speed had increased to 35kts.
- 4.3.7 The vessel's Staff Captain confirmed that sailing was delayed from 1945 to 2010 due to high wind speeds. Furthermore, the winds increased in speed again as the vessel passed the breakwater outbound.
- 4.3.8 The Second Officer reported that he had informed the Master that the wind had increased to 18kts as the vessel backed away from the berth and this had been acknowledged. This was followed by advice that the wind speed had increased to 24kts as the vessel approached the turning basin stern first, gusting to 30 - 35kts as the vessel entered the outbound channel.
- 4.3.9 Data from an automated weather station at West End Point, 16nm north-west of Freeport Harbour, indicates the wind to have been from south- south-west at 14kts and gusting to 18kts between 1900 and 1952. The wind dropped between 2000 and 2042 to south-south-west at 13kts, gusting to 17kts during that period.
- 4.3.10 The local marine weather forecast available on the bridge, was for west to north-west winds at 12 - 16kts, with the possibility of gusts 25 - 30kts at times.

#### **4.4 Passage Plan**

- 4.4.1 The vessel's passage plan for port departure consisted primarily of a single sheet of laminated A4 paper. This single sheet showed extracts from navigation charts to show Freeport on one side and West Palm Beach on the reverse.
- 4.4.2 The passage plan was supplemented by a Harbour Plan. This was prepared by the Navigating Officer, and was checked by the watch keeping officer and signed by



the Master as approved on 31<sup>st</sup> October 2014. No reference was made on the Harbour Plan regarding the defective Stern Thruster.

- 4.4.3 The departure from Freeport details the vessel moving stern first from the nominated berth at Basin No.1, into the Freeport Harbour turning basin. Thereafter the vessel would swing to starboard to a heading of 202° on the centreline of the outbound channel. The indication from the VTS data, suggests the vessel failed to align onto the leading lights and was significantly to port of the proposed track.

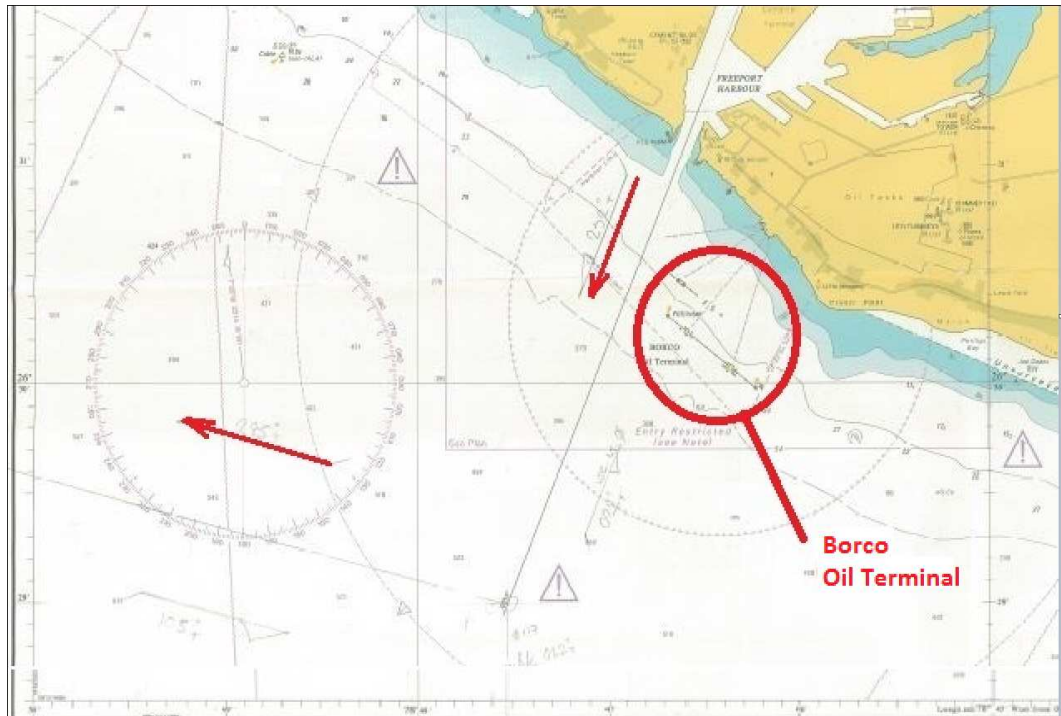


Fig: 9 Approaches to Freeport – Departure

- 4.4.4 At the harbour entrance, the width of the channel was 140 metres. With the centre line of the channel being 70 metres from the channel side, given the vessel's beam was 26.6 metres; the vessel had ample room to navigate the channel, had the vessel adhered to the leading lights. But insufficient account was taken of the north-west wind gusts, pushing the vessel onto the eastern shore and to port of the leading lights track.
- 4.4.5 The Master's Standing Orders issued on 19<sup>th</sup> October 2014 required that, "*during coastal navigation verify position every 15 minutes and pay particular attention to the any possible set and / or drift. Beam bearings and distances off of prominent marks to be noted on the chart and in the logbook*". Within the Master's Standing Orders, no mention is made with regard to frequent monitoring of the ships position during pilotage. Had frequent monitoring of the situation taken place by the Bridge team, the vessel may have aligned itself onto the leading lights as the vessel was setting towards the seawall on the eastern side of the channel. Thus the catastrophic events that followed would have been avoided.
- 4.4.6 The SMS Operations manual section 3.4.5 for passage plans states the following:



*“In addition certain information will be marked on the chart including:*

- .1 Course lines with true courses clearly marked*
- .2 Shading of no-go areas – this may be due to depth of water/restricted areas etc.*
- .3 Parallel index distances*
- .4 Wheel over positions*
- .5 Abort points and contingencies*
- .6 Reporting points to Pilots/Coastguard/Vessel Traffic Services etc.”*

4.4.7 The SMS Operations manual section 3.4.5 for use of electronic charts states the following:

*“As vessels are being fitted with ECDIS equipment, this can be an aid when planning and monitoring the voyage plan, however deck officers should be aware of the limitations of this equipment and understand that it must not be used as the primary means of navigation”.*

4.4.8 The vessel’s Transas electronic chart display system on the bridge was not the primary system of navigation and was marked “for reference only”. There was no indication of the use of parallel indexing<sup>5</sup> to monitor the vessels position while transiting the channel.

## 4.5 VTS DATA

4.5.1 The vessel’s track was reviewed from data supplied by the Harbour Authority and also from the vessel’s own Voyage Data Recorder

4.5.2 Vessel moved astern with tug *Svitzer Grand Bahama* fast to the starboard quarter pushing the stern to port to rotate the vessel after clearing the berth.

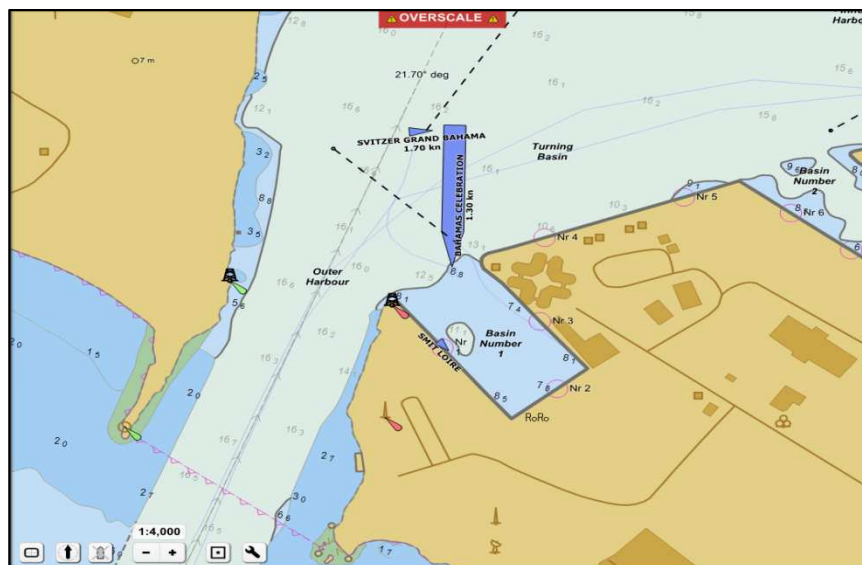


Fig: 10: 31<sup>st</sup> October Time: 2014

<sup>5</sup> Parallel Indexing - a navigational technique used to keep a safe distance from a navigational hazard

- 4.5.3 The *Bahamas Celebration* commenced its seaward transit, at the time the vessel was to the south-east of intended transit corridor. The vessel was unable to achieve a position in the centre of the channel as required, if following the leading lights. According to the VTS data, the vessel on a heading of 211° speed 3.9kts proceeding outbound. Over the next two minutes she was accelerating, however by 2018 the rate of acceleration reduced,



Fig. 11 Entrance Channel, eastern knuckle

- 4.5.4 The *Bahamas Celebration* continued to be set to port by the wind, throughout the outbound transit. The tug – *Svitzer Grand Bahama* remained secured on the starboard quarter.
- 4.5.5 The intended track of the ship was clearly shown on the chart as being on the leading lights on a heading of 202°. But the vessel remained to port of the approved track and continued to be set further to port as the available navigable water began to increase on the approach to the harbour entrance. By 2018 the vessel was now proceeding at 5.2kts. Over the next minute the rate of acceleration reduced, indicating the possibility the vessel made contact with the eastern side of the channel in way of the 5 metre shelf, as the *Bahamas Celebration* proceeded on passage. With the aid of the tug *Svitzer Grand Bahama* on the starboard quarter, the *Bahamas Celebration* managed to avoid Buoy No.4 on her portside of the channel.

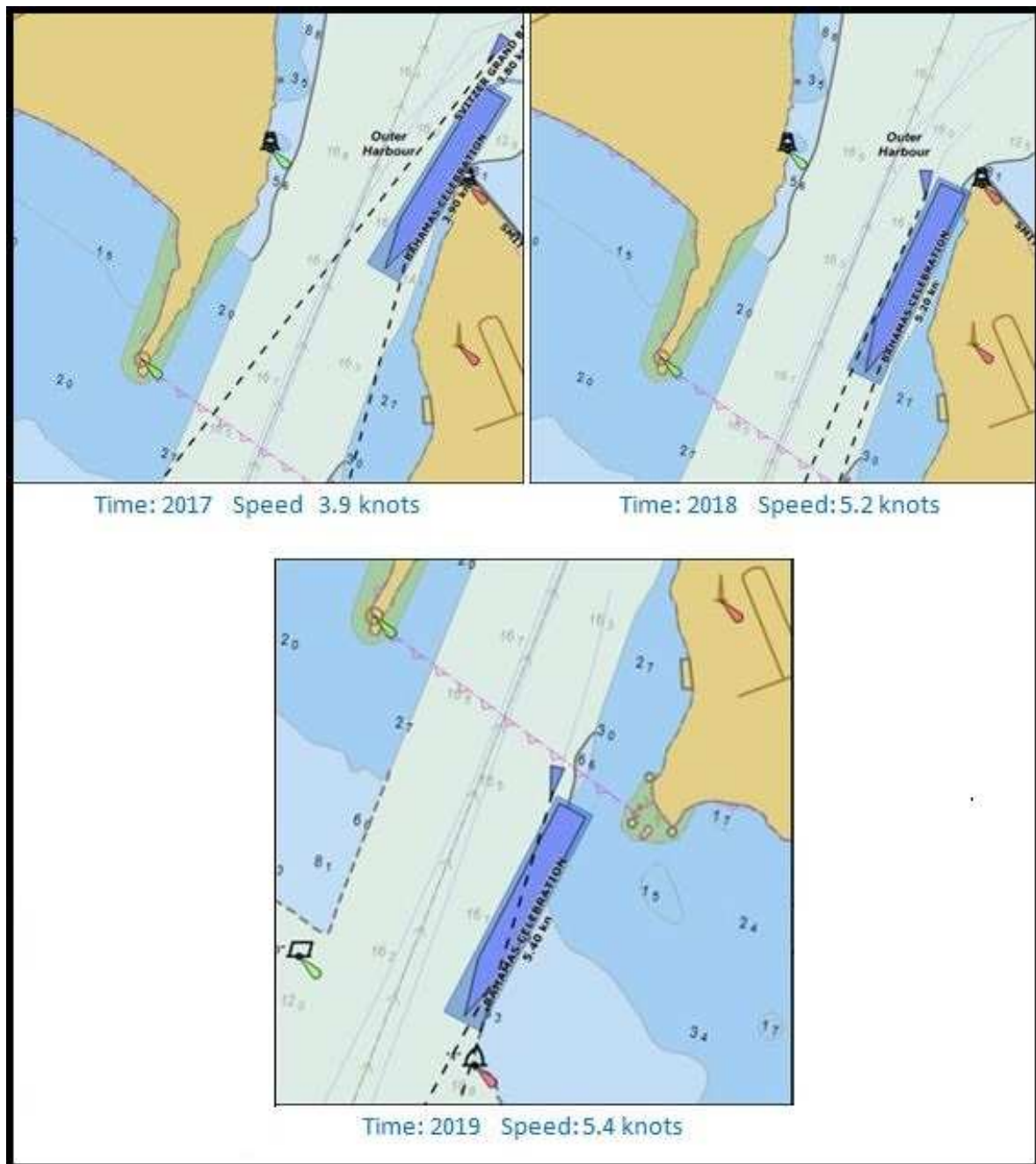


Fig. 12 Allision with eastern side of channel

- 4.5.6 By 2021, the Master was made aware of water entering the Auxiliary Engine Space, as the vessel passed close to the No.2 buoy on her port side with the *Svitzer Grand Bahama* still fast on the starboard quarter (fig 13).
- 4.5.7 At 2025 the main engines stopped, the vessel was 60 metres from the north-west end of No. 2 Jetty of the Borco Oil Terminal. The *Svitzer Grand Bahama* was now instructed by the Master to move to the portside in order to push the vessel to ensure that the stern cleared the jetty. He also requested additional tugs to render assistance.

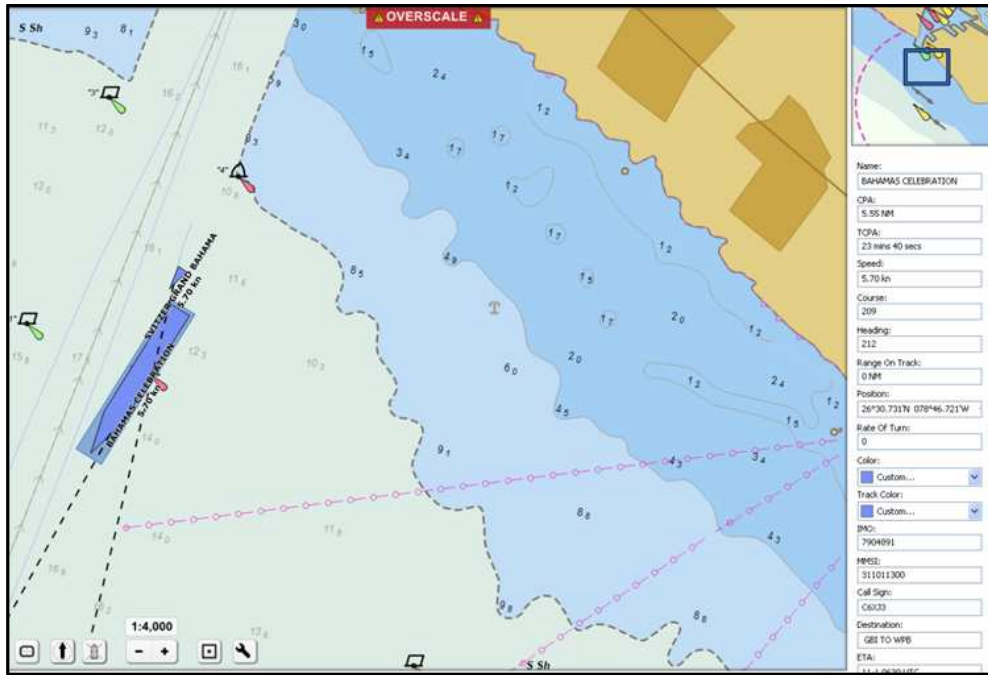


Fig: 13 Time: 2021 Ships Head 212° Speed 5.7kts

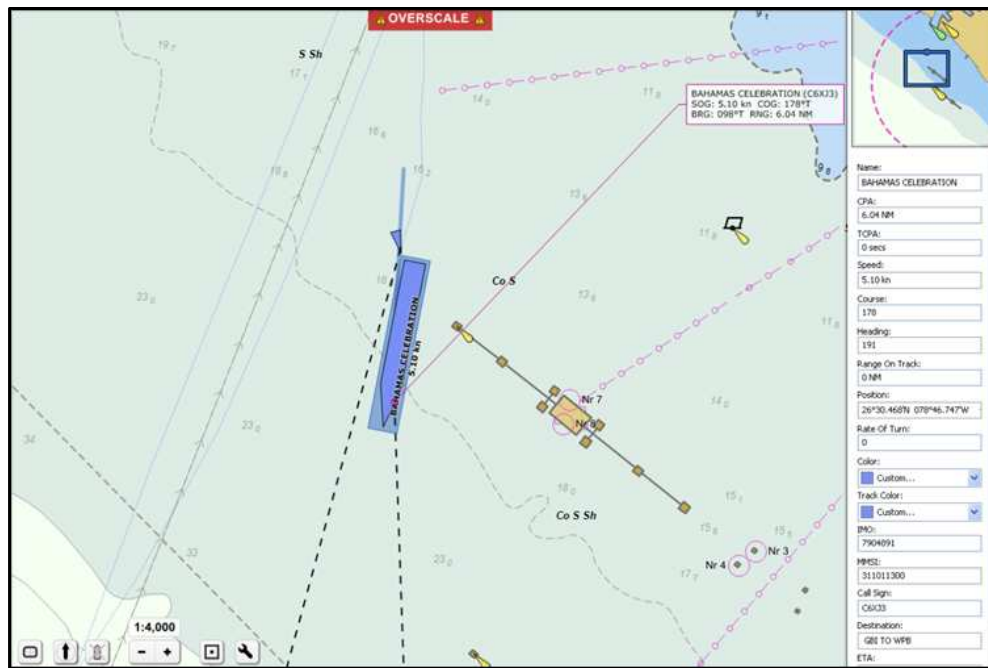


Fig: 14 Time: 2025 Ships Head: 191° Speed: 5.1kts

- 4.5.8 By 2033 the *Svitzer Grand Bahama* was in position on the portside, pushing in order to clear No. 1 Jetty of the Borco Oil Terminal which was 100 metres on the portside. Nearby on No.6 berth of No.1 jetty was the Maltese registered VLCC<sup>6</sup> *Polymnia I*, berthed starboard side alongside the Jetty (fig 15).

<sup>6</sup> VLCC – Very Large Crude Carrier



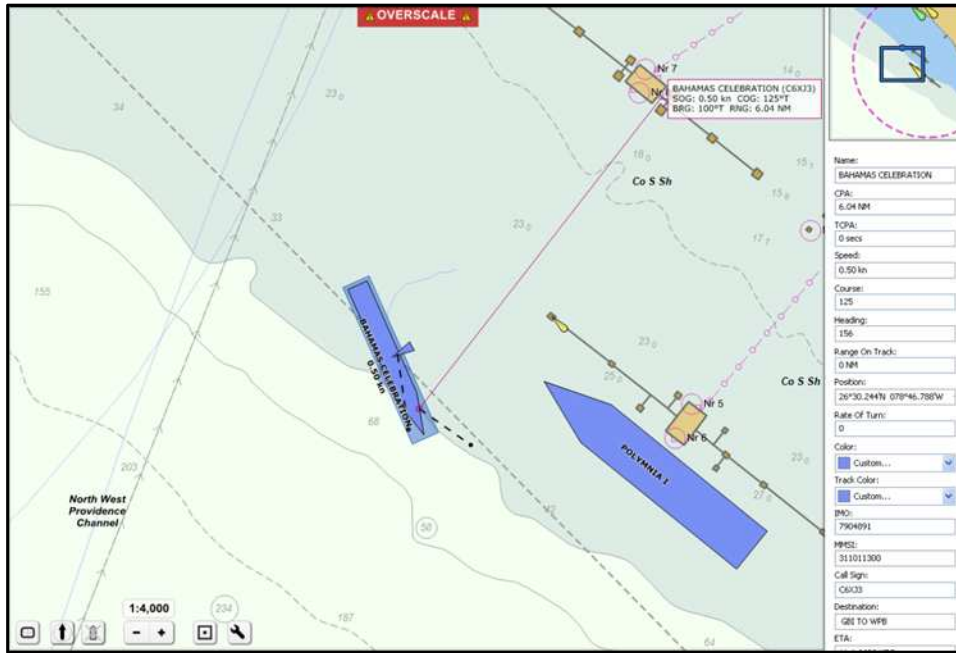


Fig: 15 Time: 2033 Ships Head: 156° Speed: 0.5kts

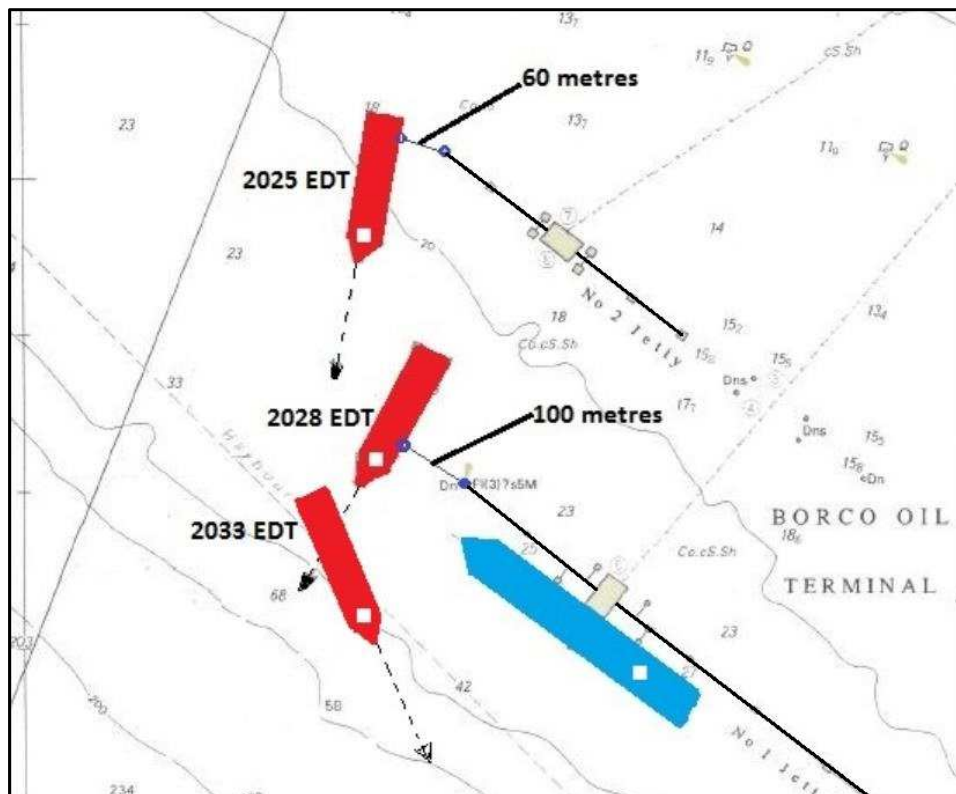


Fig: 16 Position of the *Bahamas Celebration* with respect to the Borco Oil Terminal

- 4.5.9 The vessel slowly drifted to the south at 1kts, by 2043 she was now about 400 metres from No: 1 jetty and the Polymnia 1, with the *Svitzer Grand Bahama* standing by on her portside (fig. 17).

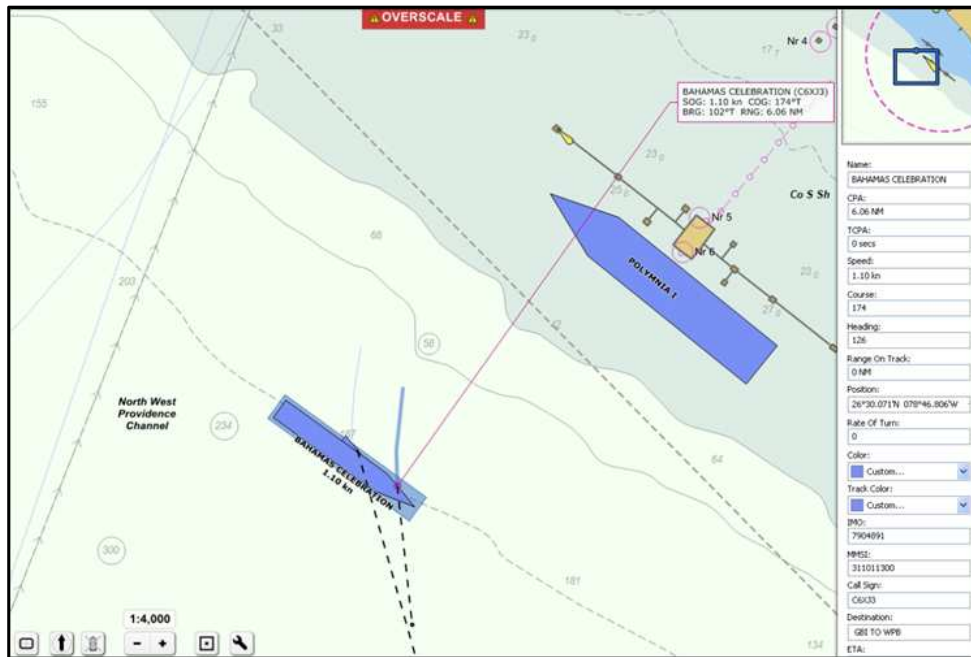


Fig: 17 Time: 2043 Ships Head: 126° Speed: 1.1kts

## 4.6 Voyage Data Recorder

4.6.1 The vessel was equipped with an Interschalt Model G4 Voyage Data recorder that was installed by Interschalt on 28<sup>th</sup> May 2014. The vessel was attended by an Interschalt technician on 2<sup>nd</sup> June 2014 during which time it was inspected and all components of the system were verified as operational.

4.6.2 A data backup was reported to have been performed by the Staff Captain during the passenger disembarkation. However the download media was found to be absent of any data. Having consulted Interschalt in order to determine why no data was present on the device they advised that:

*“Since 14th of September is the Voyage Data Recorder faulty. Final Recording Medium (FRM on top deck) and the USB flash drive are not found since this day. That is the reason why no data is on the USB medium.*

*Please note that the VDR G4 is making an automatic restart every Sunday at 00:30 UTC.*

*Every Sunday at 00:34 UTC was a VDR alarm appeared on bridge deck on the Remote Control Panel, which was also acknowledged by somebody.*

*The last automatic restart was performed on 26th October 2014, and the same alarms were appeared and alarm was acknowledged again.”*

4.6.3 The vessel’s recorded track (outlined in red in a clockwise direction) is reproduced below. The track clearly shows the vessel being off her intended route in the centre of the channel.



Fig: 18: AIS Track of *Bahamas Celebration*. Source: Freeport Harbour Company

- 4.6.4 The external unit hard drive to the VDR was removed from the vessel by investigators during the evidence gathering stage of the investigation. Interschalt assisted in the recovery of that data and the results of which have been reproduced within fig: 19.
- 4.6.5 The parametric data from the VDR is reproduced below for the time period 2000 - 2033 on 31<sup>st</sup> October, 2014.

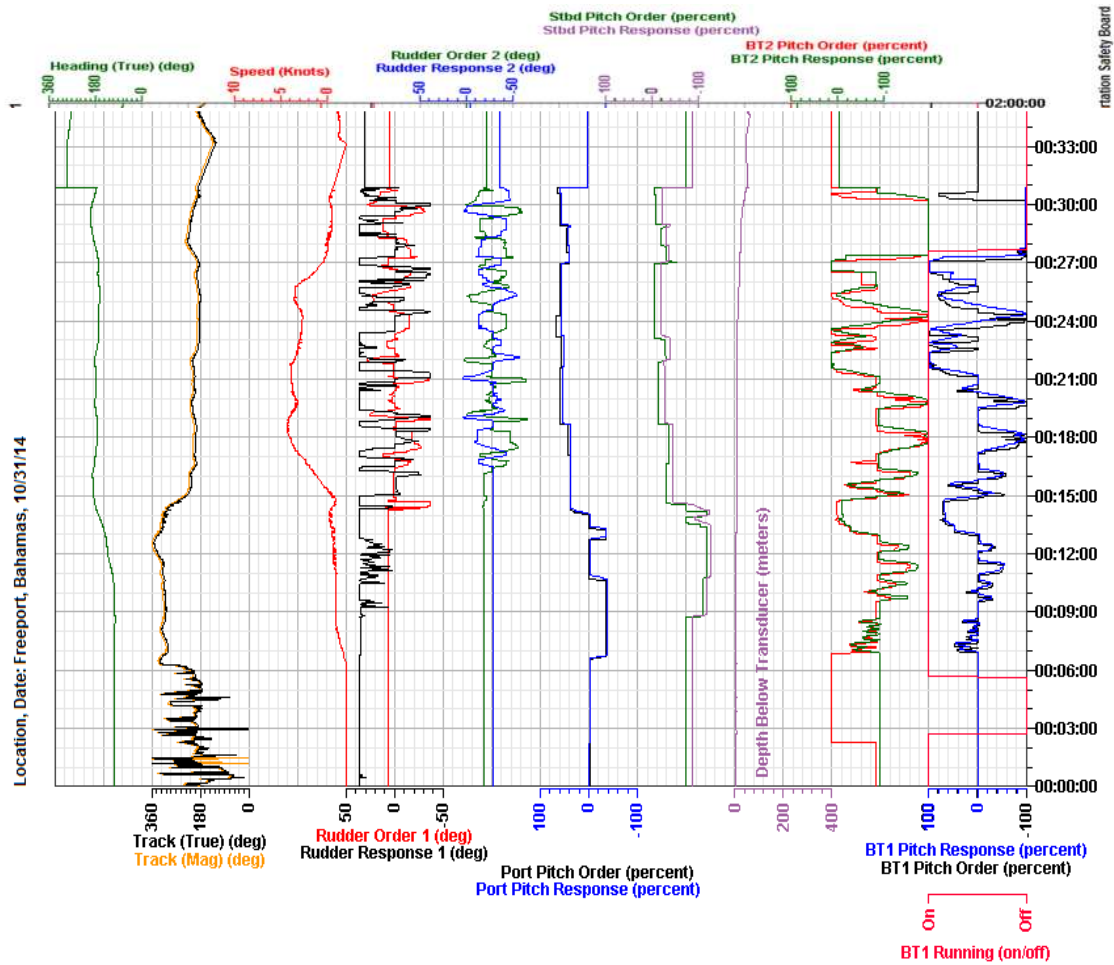


Fig: 19 Parametric data recorded by VDR between 20:00 and 20:33

4.6.6 The data, recorded against UTC time, corroborates the times referred to within the narrative section of this report, reinforced for clarity below:

20:07	Port engine 40% astern pitch
20:09	Starboard engine 40% astern pitch
20:10	Reported last line
20:12	Vessel heading 163°, speed 2.0kts
20:14	Rudder at hard to Starboard, both engines to 40% pitch ahead
20:14	Reported turning at basin
20:15	Vessel heading 215.2°, speed 1.5kts
20:16	Vessels heading 219.7°, speed 3.9kts
20:16	Reported clearing slip
20:18	Vessels heading 204.2°, speed 5.2kts



20:18	Vessel reported via VHF as clearing the harbour
20:18	Both bow thrusters set to 100% to starboard
20:19	Both engines to 60% pitch ahead, heading 203.5°, speed 5.4kts
20:19	Both bow thrusters set to zero
20:20	Both bow thrusters set to 100% to starboard, rudder order hard to starboard, vessels heading 209.5°, speed 5.2kts.
20:20	Engine room reports flooding to Auxiliary Engines 1 & 4

#### 4.7 Tug Assistance

- 4.7.1 The Freeport Harbour Tug *Svitzer Grand Bahama* received a call on 31<sup>st</sup> October 2014 at 1920 from Freeport Harbour Control. This call was to instruct the tug to assist the *Bahamas Celebration* unmooring and transit to sea as a consequence of the inoperative stern thruster and to mitigate the effects of the on-setting wind throughout the manoeuvres.
- 4.7.2 The tug was made fast on the vessel's starboard quarter, as instructed by the Master at 1945, and was advised that sailing would be delayed 10-15 minutes to allow a squall to pass.
- 4.7.3 Following the decision to commence manoeuvring the tug followed commands to "back easy" stop and push as the vessel entered the turning basin.
- 4.7.4 At approximately 2012 the tug Captain reported the vessel was moving astern, was passing the No.1 Slip outbound. He was then instructed to back at 100% by the Master of the *Bahamas Celebration*. The tug Captain reported the wind as being WSW at 9kts during this time.
- 4.7.5 The vessels Second Mate produced a diagram that detailed the position of the tug boat as follows:

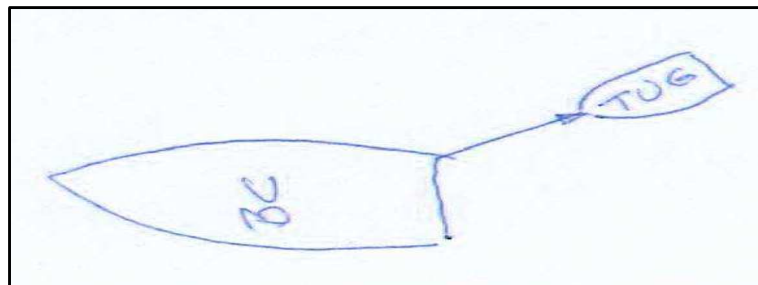


Figure 20 This diagram is verified by the Harbour Control AIS data.

- 4.7.6 At 2025, the tug was instructed to let go from the starboard quarter, proceed to the port side, to push 100%, and to call for additional tug assistance.

- 4.7.7 The Captain of the *Svitzer Grand Bahama* contacted additional tugs by radio. The *Svitzer Owl*, *Diamond Cay* and *Smit Rhone* all responded.
- 4.7.8 At 2045 a harbour Pilot boarded the *Bahamas Celebration* and the vessel was manoeuvred, with the assistance of the four attending tugs to her original berth.

#### **4.8 Watertight Doors**

- 4.8.1 In accordance with BMA Information Bulletin No. 96 “Maintaining Passenger Ships Watertight Doors During Navigation”, the RO<sup>7</sup> on behalf of the *Bahamas Celebration* applied for approval on 23 February 2009.
- 4.8.2 On the 26 February 2009 the Bahamas Maritime Authority agreed to the application. Being satisfied it met the provisions of Bulletin No. 96 and SOLAS II-1 Reg. 22.
- 4.8.3 The vessel had a notice regarding water tight doors posted in the chartroom. The notice stated that the watertight doors in positions 3 (Deck 0 - Main Engine space and Generator Room), 10 (Deck 1 - Main Engine space and Workshop) and 16 (Deck 0 - Tank Room and Provisions Spaces) were ‘B Category’<sup>8</sup>, and could be open for the length of time staff were working in those spaces. Other doors were ‘C Category’<sup>9</sup>, and were to be closed except to permit passage.
- 4.8.4 The pre-departure checklist completed at 1950 on 31<sup>st</sup> October 2014 indicates watertight doors were in a closed condition, although the checklist had not been correctly completed.
- 4.8.5 The Chief Engineer, when questioned, stated that the watertight doors 3 and 4 between the Main Engine Room and the Auxiliary Engines –space being Category B and C respectively remained open. These doors were subsequently closed from the bridge after the vessel struck and the hull breach occurred.
- 4.8.6 The Master stated he directed the Duty Officer to close all watertight doors once the Chief Engineer advised him the vessel was taking on water. This implies that the open watertight doors were closed shortly after 2020.
- 4.8.7 The flag State requirements for watertight door operation in the context of the allowance contained in SOLAS II-I Regulation 22 are found in BMA Bulletin 96:

##### *“3.1. Potentially hazardous situation*

*3.1.1. A potentially hazardous condition is defined as being when the ship is on a voyage:*

- *In waters with high traffic density*

---

<sup>7</sup> RO – Recognised Organisation, at the time Det Norske Veritas

<sup>8</sup> Watertight doors should be closed and are made to remain open only when personnel are working in the adjacent compartment.

<sup>9</sup> Watertight doors are to be kept closed at all times and may be opened only for sufficient time to allow transit of personnel through the compartment.

- *Near coastal waters*
- *In heavy weather*
- *In dangerous Ice conditions*
- *In waters where soundings are unreliable*
- *During periods of restricted visibility*
- *Within port limits or areas of compulsory pilotage*
- *When loose objects are nearby, which could potentially prevent the watertight door from being closed; or*
- *Under any condition which the ships Master considers the situation to necessitate all watertight doors to be closed.*

*3.1.2. The instructions shall state that while underway in potentially hazardous situations, every watertight door (except Category A doors for which the ship satisfies the floatability assessment criteria set out in MSC/Circ.1380) shall be closed except when a person is passing through it and if such a door is opened in such circumstances then it shall be closed immediately after passage has been affected. Unless an exemption has otherwise been provided.*

- 4.8.8 The Company SMS Operations Manual section 3.4.2 requires that “*Watertight doors are to be closed according to flag state requirements*”. Taking into account the categories of the watertight doors which were open during the departure from Freeport it is evident that neither flag state nor Company requirements were followed.

## **4.9 Flooding**

- 4.9.1 The Chief Engineer reported that the flooding to Compartments 6 & 7, containing the auxiliary engines, “*was rapid*”. The watertight doors were immediately closed from the bridge, this was confirmed by the Chief Engineer who sent the 3<sup>rd</sup> Engineer to verify that all watertight doors were closed.
- 4.9.2 Once fuel pumps in Compartment No.6 were submerged the main engines stopped. Ship staff was unable to restart the engines without a fuel supply and the engine room was evacuated once a headcount of all engine staff had been carried out.
- 4.9.4 Water was already in the lower deck stairwell outside the engine control room during the evacuation.
- 4.9.5 Once alongside, the Chief Engineer accessed the Engine Room via the emergency escape hatch. The main engine room (Compartment 5) was noted to be progressively flooding. Compartments 6 & 7 were flooded to the second deck level.
- 4.9.6 Subsequent underwater inspections revealed the hull had been opened in three areas: a 2.7m x 0.12m tear in Compartment 6; a 0.07m x 0.7m tear; and a 0.07m crack in Compartment 7.

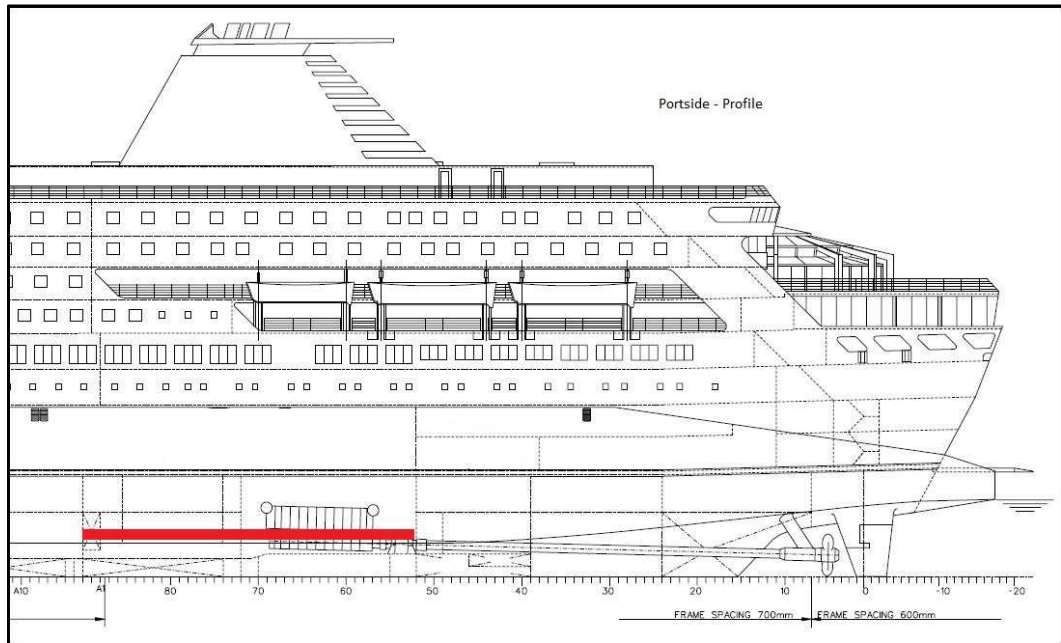


Fig: 21 Area of damage

#### 4.9.8 Later inspection revealed the following:

Deck 0: Compartments 5, 6, & 7 flooded to Deck 2 Level

Deck 1: Crew bar, Laundry & Crew cabins aft of Engine Room partly flooded

Deck 2: Car Deck – Water spraying from Ballast tank vents and sounding pipes

Progressive flooding was observed at the main entrance to the engine room, through the bulkhead penetrations for electrical cables, where the sealant had age-deteriorated.

### 4.10 Passenger Muster

4.10.1 On the morning of the 31<sup>st</sup> October 2014, with the vessel alongside at Freeport, a scheduled Fire and Abandon Ship drill was held.

4.10.2 A member of Guest Services Team attended the vessel's bridge to record drill details. Pre-printed forms are used to record the drills as follows:

- .1 Command Center muster – a record of the staff required at the Bridge to coordinate the emergency response.
- .2 Evacuation Zone Commander Check list – a report from the persons in charge of the three evacuation zones confirming that each has been evacuated.
- .3 Three separate Evacuation Zone reports that detail the emergency stations to be checked. Each report details the ID numbers of any missing crew members.

- .4 A pre-printed checklist to records times detailing each action by the crew with additional remarks as necessary.
  - .5 An Abandon Ship missing person list covering each of the lifeboat and life raft stations. These are used to determine if all crew is present and accounted for, and to identify those missing.
- 4.10.3 On the *Bahamas Celebration* the pre-departure passenger safety information is video based in a comparable way to that found in modern aircraft. It is purely voluntary and, if requested, Guest Services are directed to answer any passenger questions related to safety. There is no passenger muster but crew members are present at Muster Points to provide any answers on safety.
- 4.10.4 At approximately 2030, the Master sounded the 7 short and 1 long blast signal on the ships whistle and alarm bells for a General Emergency which was also the signal for passengers to proceed to muster points.
- 4.10.5 Following the sounding of the general alarm the Master made a Public Address announcement. In his interview, he recalled that the original advice was that the vessel had made contact with the side of the channel and was leaking. The vessel was reported not to be in any danger. The Master then stated that he would provide updates and, in fact, that he gave three updates before the PA system failed. Thereafter he used a megaphone at the Atrium to provide information to the passengers.
- 4.10.6 The Master advised that all Officers were directed to assist passengers as needed.
- 4.10.7 The Guest Relations Officer stated the following:
- .1 She felt unusual movement of the ship at 20:30 and left her cabin.
  - .2 The internal, lights were flickering on and off and the emergency lights were on.
  - .3 The Emergency Alarm sounded and she proceeded to the Bridge. The Master and Deck officers were present on the bridge.
  - .4 There were no pre-printed Muster forms available to record passenger details or record those present or missing. With no power there was no possibility to print out any checklists. She was unaware of any checklists for grounding, and stated that she had been given no guidance in this regard.
  - .5 The vessel has 9 Muster and 7 Emergency Stations. Records of the muster were made on a single sheet of blank paper. The records are noted as follows:

*ES M6 Incomplete no list*

*ES9 No guest in cabin, all clear D3 Aft*

*MS3 All pax crew*

*MS Port Side Lifer Deck 3 pax ready*

*MS4 144 Pax*

*ES7 Missing 531, 533, 810 811. 814*

*ES1 All clear 450 missing*

*ES7 531, 533, 561 still missing*

*ES7 618 present 809*

*ES*

- 4.10.8 There are no further records other than those listed above. The Muster is reported to have been cancelled once the vessel was taken under tow for the return to port.
- 4.10.9 The Guest Services Director subsequently took up her post at the Front Reception Desk where her role was to assist and reassure passengers. She recalled doing this and also ensuring that passengers did not return to their quarters once cabins were checked during the Muster. Each cabin door was marked with a sign once verified as empty. Decks 6 and 7 forward were confirmed as evacuated.
- 4.10.10 Passengers were directed to stay in public areas, and were served sandwiches and soft drinks.
- 4.10.11 Alarms bells are reported to have rung continuously, until shortly before docking.
- 4.10.12 Passengers are reported to have remained calm, with most wishing to disembark as soon as possible.
- 4.10.13 The vessel adopted a 5° list while approaching the berth. This delayed the disembarkation as the passenger gangway did not align with the vessel's side door.
- 4.10.14 The order of disembarkation was arranged to allow handicapped passengers to leave first, followed by Seniors, Mothers with young children and then a general evacuation, to the waiting coaches for transfer to local hotels.

#### **4.11 Passenger Interviews**

- 4.11.1 All passengers had disembarked and returned to their places of residence prior to the investigation team boarding the vessel at Freeport, Bahamas.
- 4.11.2 A questionnaire was devised by the United States Coast Guard to obtain an overview of the passenger's perceptions during this incident. A total of 359 passengers were contacted and requested to provide feedback. Of that number, 86 questionnaires were mailed to passengers, and 8 replies were received.

4.11.3 The sample size is not considered adequate to form definitive answers. However there is a common theme amongst those received:

- .1 Passengers were mostly unaware of their muster point;
- .2 Only a single announcement from the Public Address system was heard;
- .3 Alarm bells rang constantly;
- .4 The crew were generally poorly trained, and had either no information or conflicting information. Thus the passengers reported being confused and scared.

\*\*\*

## 5 CONCLUSIONS

- 5.1 The Bridge Team did not properly monitor the track of the vessel satisfactory once departed from the berth. The vessel turned to starboard in the turning basin well in advance of the intended position shown on the passage plan. This placed the vessel south of the intended centreline track on the port side of the channel.
- 5.2 The passage plan itself lacked adequate information, such as identifying sounding contours. This would have enabled the use of parallel indexing that would have provided a timely alert to the Bridge Team of the contact risk.
- 5.6 The chart which was in use for departure did not contain adequate specific navigational information – being marked only this outbound course lines clear of the departure channel. The Harbour Plan had not been updated to take account of the defective stern thruster.
- 5.7 Whilst still in the turning basin the vessel's required track may have been recovered if the tug used full power from the starboard quarter, pulling the vessel towards the north-west. This course of action could have been utilized in conjunction with the two bow thrusters, until aligned to the leading lights. Instead, the Master elected to put the engines ahead to gain forward momentum, in the mistaken belief that this would allow the vessel to move into the channel. As the vessel gained forward momentum, any ability for the tug to pull the stern to starboard was lost as the tug was only able to stream astern.
- 5.8 The Master's decision to use an assist tug in departing the port during the evening of 31<sup>st</sup> October was prudent given the possibility of forecast squalls along with the unserviceable stern thruster. However, the services of a local pilot to co-ordinate the tug assist was not considered necessary. Subsequently, the commands to the tug given by the Master counteracted the vessel's engine settings from 2010 onwards.
- 5.9 The vessel sailed with some watertight doors in the engine room open although the Bridge checklist showed that all watertight doors were closed. While the open doors were closed remotely from the bridge shortly after the grounding and while the status of the doors did not materially contribute to the flooding, the fact that doors were open when the vessel was manoeuvring from the berth towards sea was a direct contravention of flag State requirements for watertight doors in potentially hazardous situations as set out in BMA Bulletin 96 paragraph 3.1.1 and 3.1.2.
- 5.10 The VDR alarm and fault indicators were not understood by the vessel's staff. From 14<sup>th</sup> September 2014 onwards, the VDR raised a fault alarm and this was repeatedly accepted and cancelled by a member of the bridge team. No further action was taken to determine the fault and return the VDR to proper working order.



- 5.11 The muster of the crew and passenger was not completed following the incident. The vessel returned to the dock with no certain knowledge that all crew and passengers were accounted for.
- 5.12 There were no checklists available for Guest Services staff in the event of an actual emergency to record the individual Muster and Emergency Station reports. Furthermore there were no reports to facilitate a complete headcount.
- 5.13 The issues identified are concluded to stem from an imperfect implementation of the Company's Safety Management System.

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## 6 RECOMMENDATIONS

### **Recommendations for the Company:**

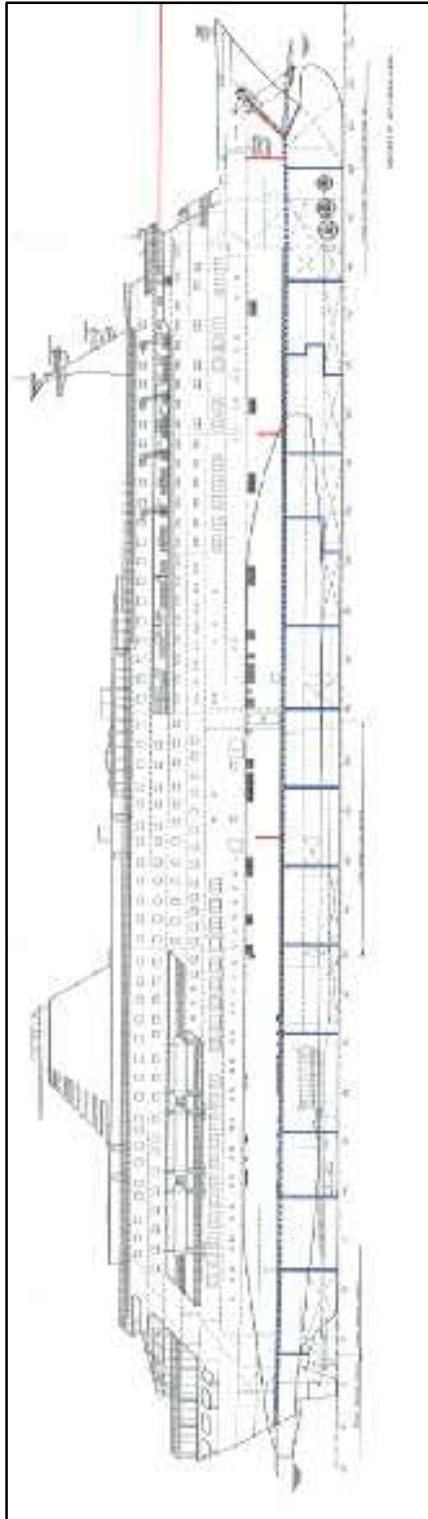
- 6.1 It should develop a practice of navigational audits to determine fleet wide understanding and compliance with the requirements of the Safety Management System and to improve the Bridge Team Management through training. Audits should be undertaken by an auditor, who is independent of vessel operations.
- 6.2 It should develop a policy to request a Harbour Pilot whenever the use of a tug is required to coordinate vessel/tug communications, while supporting the bridge team.
- 6.3 It should develop a practice whereby blank checklists are available on the bridge to allow full completion of effective musters in emergency situations and to determine whether any crew or passengers are unaccounted for.
- 6.4 It should ensure the correct use of watertight doors, in accordance with the BMA Information Bulletin No. 96, through training, familiarisation and audits.

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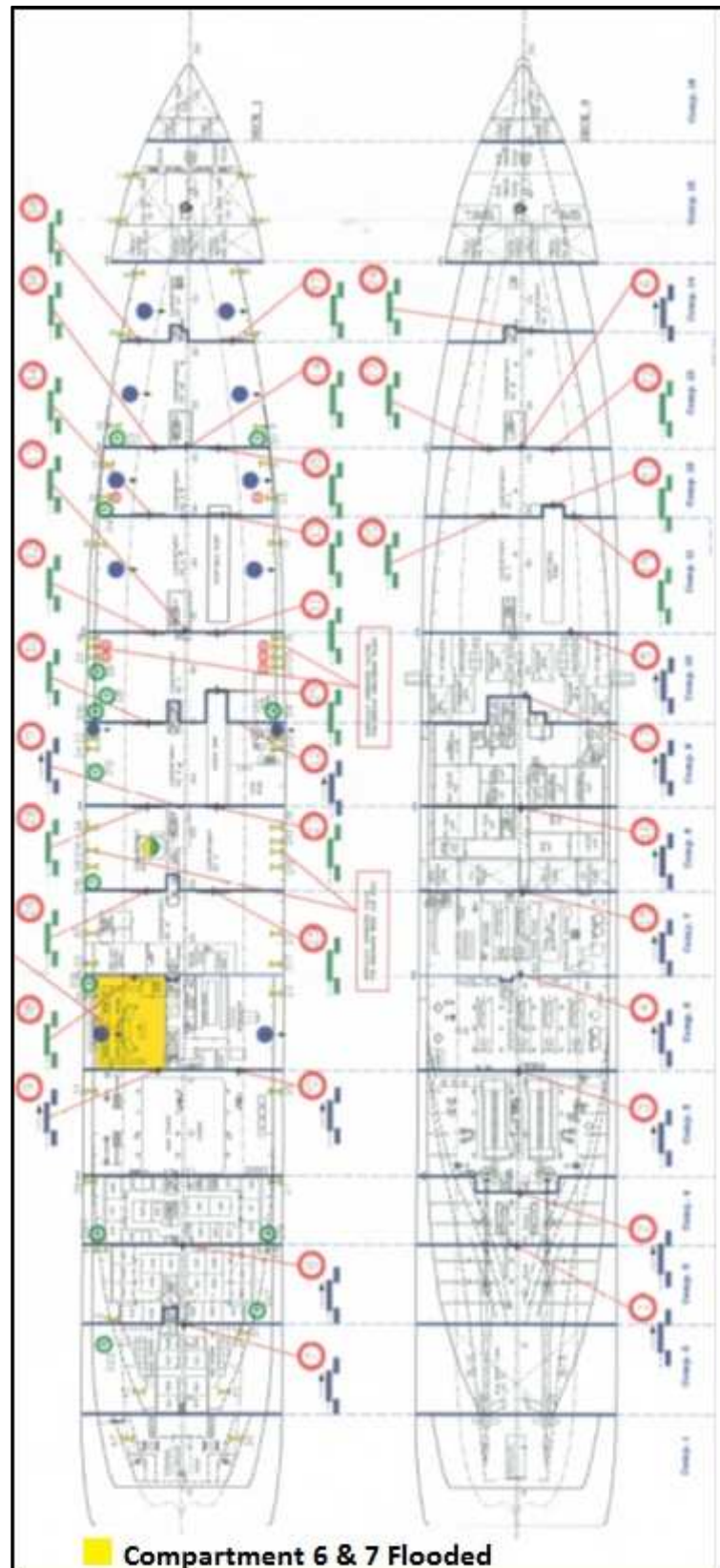
## **7 LIST OF APPENDIX**

- I Watertight subdivision and Doors
- II Navigation chart BA398 Freeport & Freeport Roads – in use
- III Passage Plan
- IV Photographs
- V Approaching BORCO OIL TERMINAL

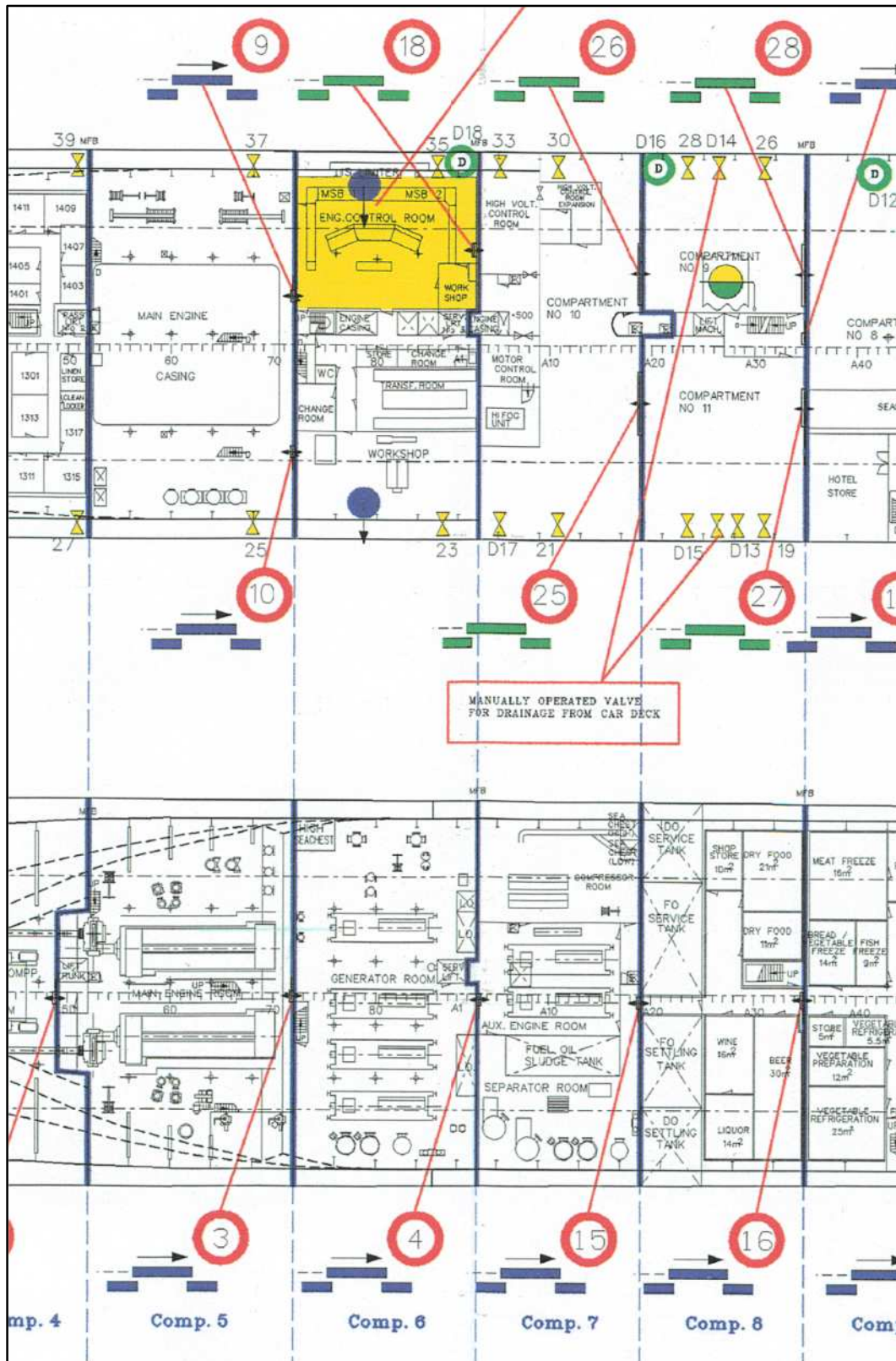
## Appendix I Watertight Subdivision and Doors



Engine room subdivision and watertight door locations



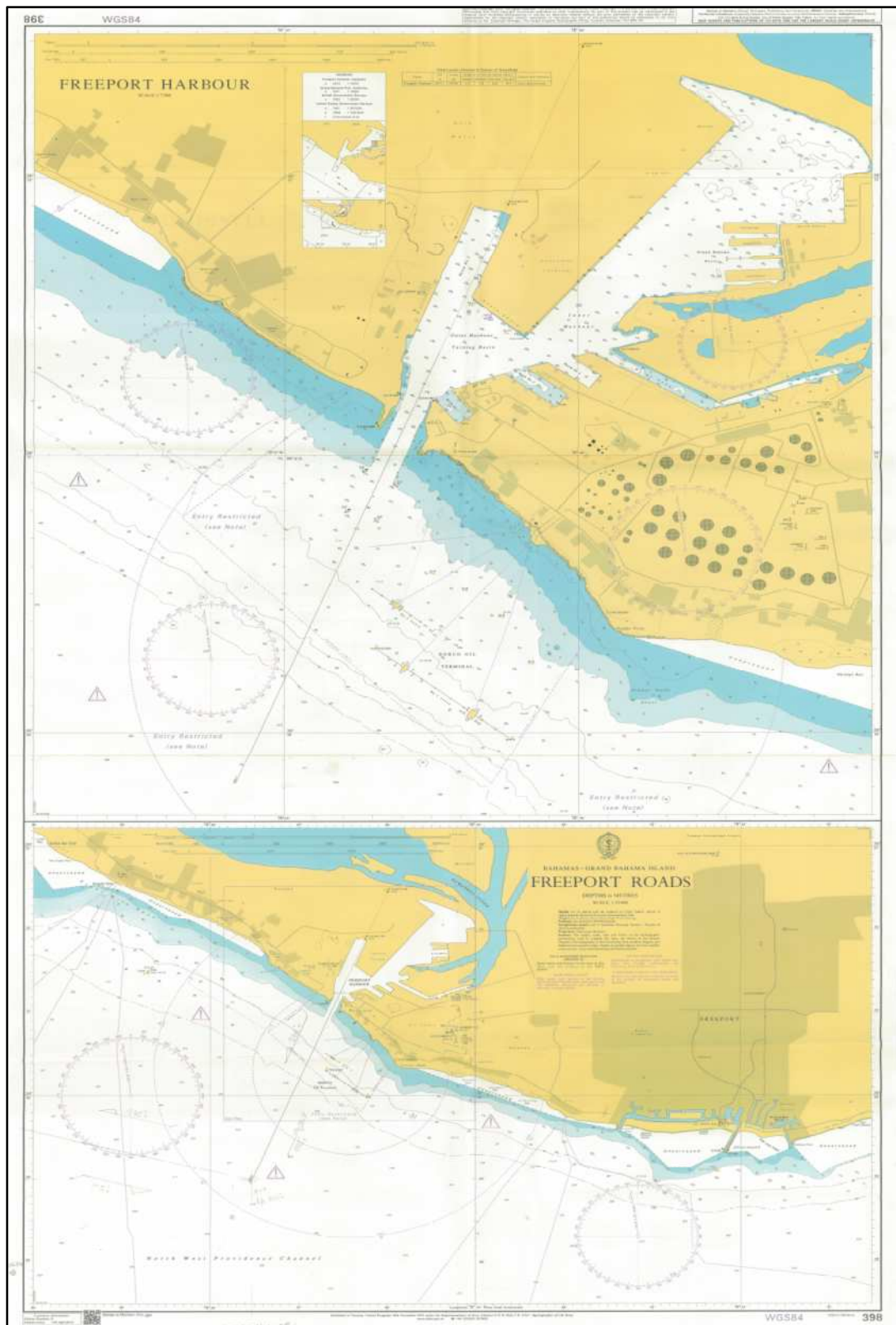
Detail of watertight door locations



Detail of engine room watertight door locations




## Appendix II Navigation chart BA398 Freeport & Freeport Roads



Actual charts in use on departure Freeport



## Appendix III – Passage Plan

 <b>VOYAGE INFORMATION FORM</b> <b>M.V. BAHAMAS CELEBRATION</b>		
Port of Departure	FREEPORT	Distance - Berth to Berth
Port of Arrival	WEST PALM BEACH	Distance Pilot to Pilot
Include information as applicable on speed restrictions, controlling depths, special reporting requirements, pilot boarding details, contingency plans, Port Emergency Contact information, berth information and any other information that may be considered		
Port of Departure Details		
CALL: FREEPORT HARBOUR CONTROL 1 HR BEFORE DEPARTURE VHF FREQUENCY: CH 14 and 16 DEPARTURE TIME @ <u>1945</u> Hrs.		
Port of Arrival Details		
CALL: PALM BEACH PILOT PALM BEACH HARBOR CONTROL CH: 12 VHF FREQUENCY: CH 14 and 16 CALL: 1 Hr before Pilot Stn Lt Bouy LW ETA : Pilot Station - <u>0645</u> Hrs		
Weather Information - General Synopsis of expected weather enroute (to be supported by regular Wx reports)		
WIND DIRECTION: <u>NW</u> WIND SPEED: <u>15-30 Kts</u> VISIBILITY: <u>Good</u>		
Additional Information		
Traffic Zone: Providence Channel, Straits of Florida Seasonal Current: Gulf Stream, Current Speed (Knots) - 1.5 - 2.2 (Transas) Current Direction - N-NNE Prominent Passing Points: (Lights, islands, shoals, crossing traffic, drillings rigs, under water, operations, etc.)		
<b>AREA</b>	<b>Features</b>	<b>Special Precaution</b>
Providence Channel	Shoal	Wide berth

Rev 0 - October 2011

FleetPro		VOYAGE PLANNING FORM		FleetPro			
Vessel: <b>MV BAHAMAS CELEBRATION</b>		Date: <b>31 Oct 2014</b>	Master: <b>Capt. Jens Haybye</b>				
Voyage No: <b>141030</b>		Prepared by: <b>3rd Officer : John Secreto</b>					
Port of Departure: <b>FREEPORT</b>		Port of Arrival: <b>WEST PALM BEACH</b>					
Draft: F - <b>m</b>		Draft: F - <b>m</b>					
A - <b>m</b>		A - <b>m</b>					
DEPARTURE PORT PARTICULARS							
Zone Time: <b>EST -0500</b>		Port Control: <b>16/14</b> Freeport Harbour Master					
VHF watch channels: <b>16.2</b>		Pilots: <b>0</b>					
WP	Lat N/S	Long E/W	Course	Distance	Dist. To Go	Spd	Remarks
465	26° 31.20' N	078° 46.4' W					in use: Chart # US 26323 & BA 398 (Berth)
117	26° 31.25' N	078° 46.52' W	295°	0.12	72.69	5.40	in use: Chart # US 26323 & BA 398 (Harbor Chart)
454	26° 29.0' N	078° 47.6' W	203°	2.44	70.25	5.40	in use: Chart # US 26323 & BA 398 (Harbor Chart)
200	26° 43.5' N	079° 59.9' W	284°	66.85	3.40	5.40	in use: Chart # US 11466, 26329 & BA 3688
452	26° 46.3' N	080° 00.6' W	322°	1.01	2.39	5.40	in use: Chart # US 11466 & BA 3684 (Berth)
116	26° 46.35' N	080° 02.27' W	272°	1.50	0.89	5.40	in use: Chart # US 11466 & BA 3684 (Berth)
90	26° 46.27' N	080° 02.51' W	225°	0.29	0.60	5.40	in use: Chart # US 11466 & BA 3684 (Berth)
121	26° 46.11' N	080° 02.84' W	276°	0.60	0	3.00	in use: Chart # US 11466 & BA 3684 (Berth)
Total				72.81			
ARRIVAL PORT PARTICULARS							
Zone Time: <b>EST -0500</b>		Distance Pilot to Pilot: <b>0.00</b>		Distance Berth to Berth: <b>0.00</b>			
VHF watch channels: <b>16.2</b>		Pilots: <b>0</b>		Port Control: <b>West Palm Beach Harbour Control</b>			
Publications for voyage:		All charts and publications corrected up to NM Wk: <b>98345/14</b>					
1 COAST PILOT 4		2014 Edition: 2014-09-01, 4300					
2 LIGHT LIST VOL.III		2014 Edition: 2014-09-01, 4300					
3 EAST COAST OF UNITED STATES		2014 Edition: 2014-09-01, 4300					
4							
Acknowledged and signed by all Navigating Officers:							
1 Staff Captain :		3 2nd Officer					
2 Nav. O / Safety O.:		4 3rd Officer					
Accepted by Master:							

FleetPro  
Form 10-11 (Rev. 8/2011)**HARBOR PLAN**

Port : WPS / <u>FREEPORT</u>	Voyage No: <u>141090</u>	Date: <u>31 Oct. 2014</u> Time: _____ hrs.
(*) Arrival / <u>Departure</u>	Draft Fwd: _____ m	Aft: _____ m

(\*) Sea Pilot Station to Berth / Berth to Sea Pilot Station

Gear tested (Tick):

Steering \_\_\_\_\_ Whistle \_\_\_\_\_ E/Room \_\_\_\_\_ Telegraphs \_\_\_\_\_ Phones \_\_\_\_\_ Clocks synchronized \_\_\_\_\_

Publication ready / Corrected (Tick)

Charts \_\_\_\_\_ Lights Lists \_\_\_\_\_ Pilot Book \_\_\_\_\_ Tide Tables \_\_\_\_\_ Tide Atlas \_\_\_\_\_

Weather forecast: 10-15 Kts WNWTides (Local time): High water: Time: 1442 Hrs Height: 1.1 MetersLow water: Time: 2113 Hrs Height: 0.1 Meters

Tidal Streams: Speed: \_\_\_\_\_ Knots Direction: \_\_\_\_\_

Restrictions:	Speed: Nil knots	Place: Nil <u>Ebbing</u>
Restrictions:	Air Draft: Nil m	Place: Nil
Restrictions:	Ferry Crossings: Nil	Place: Nil
Restrictions:	Underwater cables Nil	Place: Nil
Restrictions:	Locks / Swing Bridges Nil	Place: Nil

V.H.F. Channels:	To Harbor / Pilot Control: 14
V.H.F. Channels:	To Emergency Service: 16
Tugs:	Nil
Berthing:	Which side alongside (*) <u>Port</u> / Starboard
Gangway:	(*) Ship's Accommodation Ladder / Brow / Share Gangway
Mooring Arrangements:	Bow: 4 / 2
Mooring Arrangements:	Stern: 4 / 2

Prepared by Navigation Officer:	Name: _____	Signature: _____
Checked and completed by Officer of the watch :	Name: _____	Signature: _____
Approved by Master:	Name: _____	Signature: _____
Pilot / Conning Officer:	Name: _____	Signature: _____

(\*) Delete words which do not apply.

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**PRE-DEPARTURE CHECKLIST**

Port: WPB / <u>FREEPORT</u>		Date and Time : <u>21 Oct. 2014</u> <u>1900</u>	
	Check	Signature	
Charts and publications prepared	/		
Passage plan prepared, inspected and agreed	/		
Confirm sailing time with pilots and with the Port or Harbor Control	/		
Bridge and Engine clocks synchronized	/		
Gyro compass check, <i>Repeaters Synchronized and Gyro Error Checked</i>	/		
Magnetic compass checked	/		
Echo sounder tested, adjusted, aligned and marked	/		
G. P. S. checked and desired route entered	/		
A. I. S. Switch on and Updated	/		
Radars and ECDIS switch on and operational ( <i>Desired Route Entered</i> )	/		
Navtex on, with correct station programmed	/		
G.M.D.S.S. Eq. on, and programmed (VHF DSC, MF/HF, Inmarsat-C, etc.)	/		
Portable UHF Radios on desired channel & Radio check conducted	/		
Whistle tested	/		
Navigation and signal lights tested	/		
Pilot Card and Harbor Plan prepared	/		
Tidal information available	/		
Weather information available	/		
Departure draft: <i>Fwd - Amidships - Aft -</i>	/		
Propellers are clear ( <i>Before commencing test on Propellers and Rudders</i> )	/		
<b>Bridge Equipment :</b> <i>Including Internal Communication, Steering Gear (Port &amp; Starboard Side)</i> <i>Main Engine Pitch Control (Ahead and Astern) has been tested according to</i> <i>USCG 33 CFR 164.25</i>	/		
Deck log book entries on test and checks made	/		
<i>Departure stability calculated, and Logged</i>	/		
All passengers and crew onboard	/		
<i>All Visitors are off the vessel</i>	/		
Confirm clearance on board	/		
Fresh water hose disconnected	/		
Master informed – vessel ready to sail	/		
Ramp (if any) closed and secured	/		
All shell doors secured	/		
Bow Visor Manual Lock Secured ( <i>Confirmed Visually</i> )	/		
Water tight doors closed	/		
Bow thrusters started	/		
Stern thruster started	/		
Stand-by fore and aft called	/		
Engine & Thrusters on Bridge control	/		
<b>Additional Remarks:</b>			

Time Check List Completed: \_\_\_\_\_

Officer On Watch: 1730

REV.4-July 21, 2013

## Appendix IV Photographs

### 1). Vessel in berth 4<sup>th</sup> November 2014



### 2). Engine room skylight at car deck (Deck 2) 4<sup>th</sup> November 2014





**3). Internal flooding from vents on Deck 2 (Car deck) 4<sup>th</sup> November 2014**



**4). Progressive flooding through bulkhead penetrations 4<sup>th</sup> November 2014**



**5). Crew lounge at Deck 1 Zone 5 partly flooded 4<sup>th</sup> November 2014**



**6). Reefer spaces partly flooded Deck 0 Zone 4 4<sup>th</sup> November 2014**





**7). Vessels Transas display – “Not for navigational use” & “For reference only”:**



**8) Warning on Transas ECDIS:**



9). Engine control room after salvage team removed oil & water:

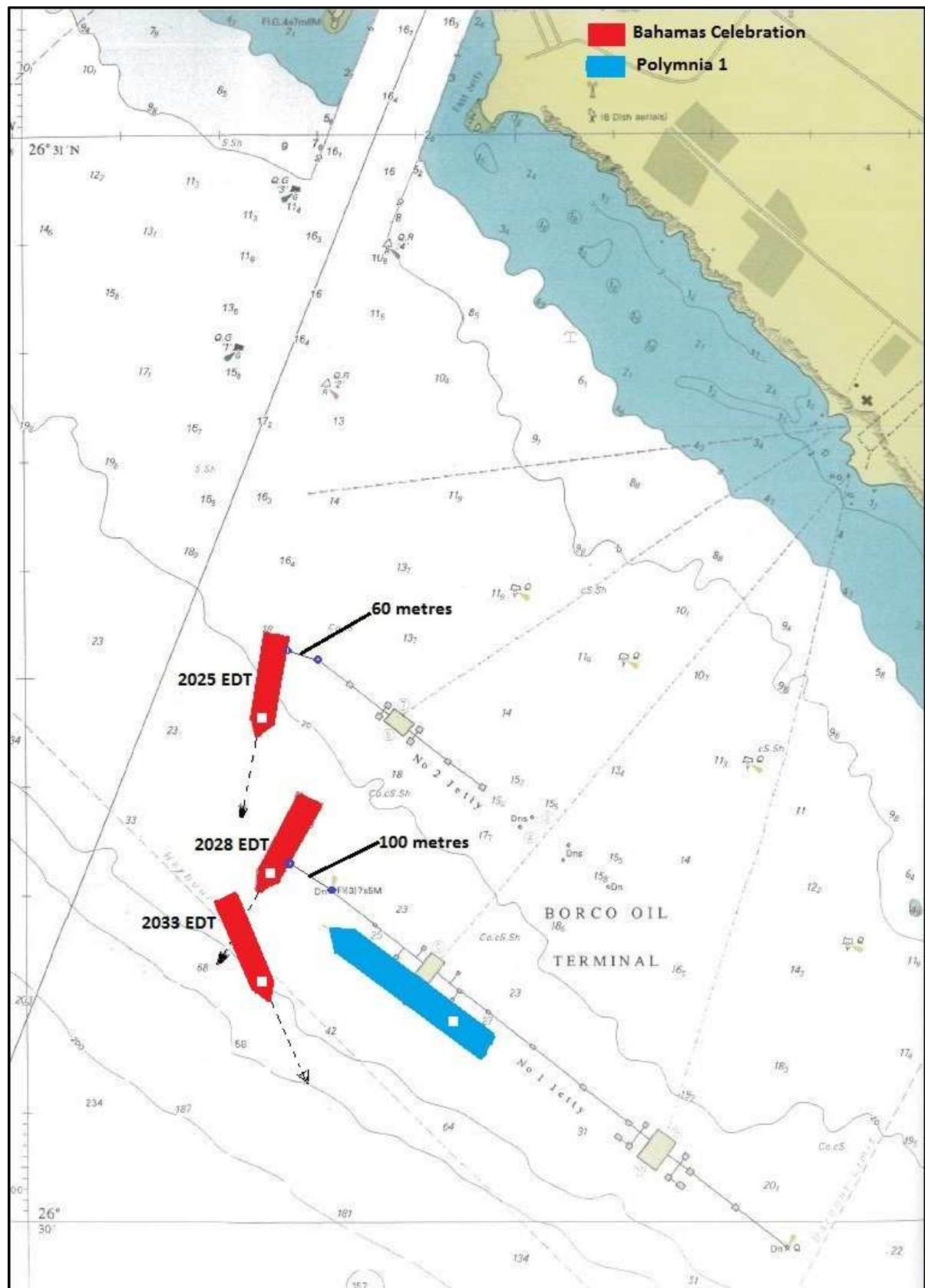


10). View of Freeport Harbour outbound channel from stern of vessel



Appendix V

Approaching BORCO OIL TERMINAL



Extract Chart: BA398

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