

**NATIONAL TRANSPORTATION SAFETY BOARD  
Office of Research and Engineering  
Vehicle Recorder Division  
Washington, D.C. 20594**



**GROUP CHAIRMAN'S FACTUAL REPORT OF INVESTIGATION**

**DCA15MM017**

**By Doug Mansell**

The reader of this report is cautioned that the transcript of a voyage data recorder audio recording is not a precise science, but is the best product possible from a Safety Board group investigative effort. The transcript, or parts thereof, if taken out of context, could be misleading. The transcript should be viewed as an accident investigation tool to be used in conjunction with other evidence gathered during the investigation. Conclusions or interpretations should not be made using the transcript as the sole source of information.

**NATIONAL TRANSPORTATION SAFETY BOARD**  
Vehicle Recorder Division

August 31, 2015

## **Voyage Data Recorder**

### **Group Chairman's Factual Report By Doug Mansell**

#### **1. EVENT SUMMARY**

For a summary of the accident, refer to the *Accident Summary Report* in the docket for this investigation.

#### **2. GROUP**

A group was convened May 12-14, 2015 for transcriptions of the respective voyage data recorders for the vessels involved in this accident. The participating group members are listed below.

Chairman:	Doug Mansell Vehicle Recorder Specialist National Transportation Safety Board
Member:	Eric Stolzenberg Marine Safety Investigator, Investigator in Charge National Transportation Safety Board
Member:	Rob Jones Marine Safety Investigator National Transportation Safety Board
Member:	Mike Morris Presiding Officer Houston Pilots
Member:	Mike Usher Compliance Coordinator Board of Pilot Commissioners for Harris County Ports
Member:	Alphard Romero Director, Quality Assurance and Training Liberian International Ship and Corporate Registry
Member:	Nick Kotsovolos Senior Marine Superintendent, North America Maersk Tankers

### 3. DETAILS OF INVESTIGATION

The NTSB Vehicle Recorder Division received data from the following Voyage Data Recorders (VDRs):

Vessel: **Conti Peridot, IMO 9452634**  
Recorder Manufacturer/Model: **Furuno VR-3000**  
Recorder Serial Number: **4417-2646**

Vessel: **Carla Maersk, IMO 9171503**  
Recorder Manufacturer/Model: **Consilium SVDR**  
Recorder Serial Number: **0078389**

#### 3.1 VDR Carriage Requirements

Chapter V of the International Convention for the Safety of Life at Sea (SOLAS), Regulation 20, specifies VDR carriage requirements. Ships larger than 3,000 gross tons constructed after July 2002 must be equipped with a VDR. Cargo ships larger than 20,000 gross tons constructed prior to July 2002 must be equipped with a simplified VDR (S-VDR). Table 1 summarizes the requirements for VDR and S-VDR.

**Table 1.** VDR and S-VDR required parameters

Parameters to be Recorded	VDR	S-VDR
Date and Time	X	X
Ship's Position	X	X
Speed	X	X
Heading	X	X
Bridge Audio	X	X
VHF Communication Audio	X	X
Radar	X	X
AIS	X	if no radar interface available
Depth (echo sounder)	X	
Alarms	X	
Rudder Order/Response	X	
Engine Order/Response	X	
Hull Openings, Watertight Doors	X	
Accelerations and Hull Stress	if fitted	
Wind Speed and Direction	X	

*Note: At a minimum, the most recent 12 hours are required to be stored.*

Investigation authorities are to be able to download and replay the VDR data without delay. The software, instructions and special parts necessary for data extraction and replay should be contained within the main unit of the VDR.<sup>1</sup>

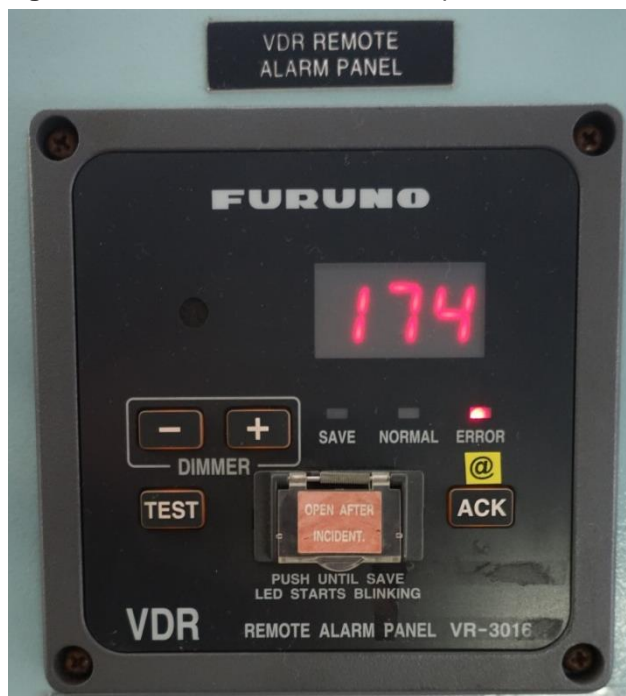
Commissioned in 2011, the Conti Peridot was equipped with a Furuno VR-3000 VDR. Commissioned in 1999, the Carla Maersk was equipped with a Consilium S1 S-VDR.

<sup>1</sup> This requirement is thoroughly documented in International Maritime Organization (IMO) Maritime Safety Committee (MSC) Resolution 333(90), IMO Safety of Navigation (SN) Circular 246, and International Electrotechnical Commission (IEC) 61996-1.

### 3.2 Conti Peridot VDR - Furuno VR-3000

After the collision, the operator initiated preservation of recorded data by pressing the SAVE button on the VDR Remote Alarm Panel. Figure 1 shows the Remote Alarm Panel, as found upon investigator arrival to download the VDR data. Data extraction from the VDR was delayed until a vendor provided the required software for data extraction; the required software and instructions for download and playback were not within the VDR main unit for investigation authorities, nor was the onboard crew able to provide them to investigators. Figures 2 and 3 show the VDR main unit exterior and interior, respectively, as found upon arrival. Attempts to download VDR data were unsuccessful on the first day. Documentation of the most recent VDR annual inspection, accomplished on December 27, 2014, is provided in attachment 1.<sup>2</sup> With vendor assistance, the NTSB received a partial (2-hour) copy of VDR data on March 11, 2015. A complete (13-hour) copy of the extracted data was received and verified on March 27, 2015.

**Figure 1.** Furuno VDR remote alarm panel, as investigators arrived onboard (March 10, 2015)



<sup>2</sup> SOLAS Chapter V, Regulation 18, requires annual performance tests for VDRs. IMO MSC Circular 1222 identifies annual testing guidelines for VDRs.

**Figure 2.** Furuno VDR main unit, exterior



**Figure 3.** Furuno VDR main unit, interior



The VDR aboard Conti Peridot stored approximately 13 hours of bridge audio, radar and parametric data. Table 2 lists the five audio tracks from microphones on and around the bridge that were recorded; each channel's audio quality is indicated in the table. The Furuno VDR records multiple (1-hour duration) WAV audio files for each channel. Each channel's consecutive WAV files were stitched together into a single WAV file for playback and group transcription. The Furuno VDR records the radar video image every 15 seconds; other parameters are recorded in text files, 15 seconds in duration, as data is received.<sup>3</sup> Specialized software was used to parse the data files and output the desired data into a single CSV data file.

**Table 2.** Conti Peridot VDR Audio Quality

Channel Number	Content/Source	Quality *
V1	FM-8800S VHF1 W/H Console	Good <sup>†</sup>
V2	FM-8800S VHF2 Radio Space	Good <sup>†</sup>
M1/M2	VR-5011 Bridge Wing Stbd & Port	Fair
M3/M4	VR-5011 Over X&S-Band Radar	Poor <sup>‡</sup>
M5/M6	VR-5011 Over Radio & Chart Space	Poor <sup>‡</sup>

\* Audio Quality Rating Scale provided in 3.6 Description of Audio Events.

<sup>†</sup> VHF audio, when recorded, was clear, without background noise. Several VHF transmissions to/from the vessel were not recorded on the VHF audio channels. The source(s) of VHF recordings may not have been the VHF radios predominately used by pilot and crew.

<sup>‡</sup> Background sounds were often unintelligible, and it was difficult to discern conversation or other sounds likely emanating from the bridge.

### 3.3 Carla Maersk S-VDR - Consilium S1

After the collision, the operator initiated preservation of recorded data by pressing the BACKUP button on the VDR Remote Control Unit. Figures 4 and 5 show the Remote Control Unit and the VDR main unit exterior, respectively, as found upon investigator arrival to download the VDR data. Figure 6 shows the investigator kit, secured inside the VDR main unit. With the provided investigator kit, data extraction and verification was accomplished onboard the vessel on March 12, 2015 <sup>4</sup>, without difficulty.

<sup>3</sup> VDRs receive data 'sentences' formatted according to National Marine Electronics Association (NMEA) and International Electrotechnical Commission (IEC) 61162 standards.

<sup>4</sup> Initial access to Carla Maersk was limited to incident response personnel. Once secured at anchor in Barbour's Cut, investigation authorities were able to board the vessel.

**Figure 4.** Consilium VDR remote control unit, as investigators arrived onboard (March 12, 2015)



**Figure 5.** Consilium VDR main unit, exterior



**Figure 6.** Consilium VDR investigator kit, secured inside the main unit



The S-VDR aboard Carla Maersk stored approximately 31 hours of bridge audio, radar and parametric data. Table 3 lists the three audio tracks from microphones on and around the bridge that were recorded; each channel's audio quality is indicated in the table. The Consilium S-VDR records multiple (1-minute duration) mp2 audio files for each channel. Each channel's consecutive mp2 files were stitched together into a single WAV audio file for playback and group transcription. The Consilium S-VDR records the radar video image every 15 seconds; other parameters are recorded in text files, 60 seconds in duration, as data is received.<sup>5</sup> Commercial software was used to parse the data files and output the desired data into a single CSV data file.

**Table 3.** Carla Maersk VDR Audio Quality

Channel Number	Content/Source	Quality *
M1	Wing STBD Side, Wing PORT Side	Fair
M2	Bridge Center Bridge Communication	Good
	Table Bridge Chart Table	
M5	Sailor RT5022	Good †

\* Audio Quality Rating Scale provided in 3.6 Description of Audio Events.

† VHF audio, when recorded, was clear, without background noise. Several VHF transmissions to/from the vessel were not recorded on the VHF audio channels. The source(s) of VHF recordings may not have been the VHF radios predominately used by pilot and crew

### 3.4 Timing and Correlation

Timing on the audio transcript was established using the timestamp—contained in the filename—of each audio file. Common radio transmissions recorded on both ships were found to match (within one second) between both ships. Timing on the parametric data was established using the timestamps in the NMEA sentences. Time has been adjusted from coordinated universal time (UTC) to central daylight time (CDT), the local time of the accident.

<sup>5</sup> VDRs receive data 'sentences' formatted according to National Marine Electronics Association (NMEA) and International Electrotechnical Commission (IEC) 61162 standards.



### **3.5 Overlays, Plots and Corresponding Tabular Data**

The following figures contain data recorded on the voyage data recorders of the respective ships. GPS data is presented in graphical overlays generated using Google Earth. The weather and lighting conditions, and marine traffic depicted in satellite imagery, in Google Earth are not necessarily the conditions present at the time of recording.

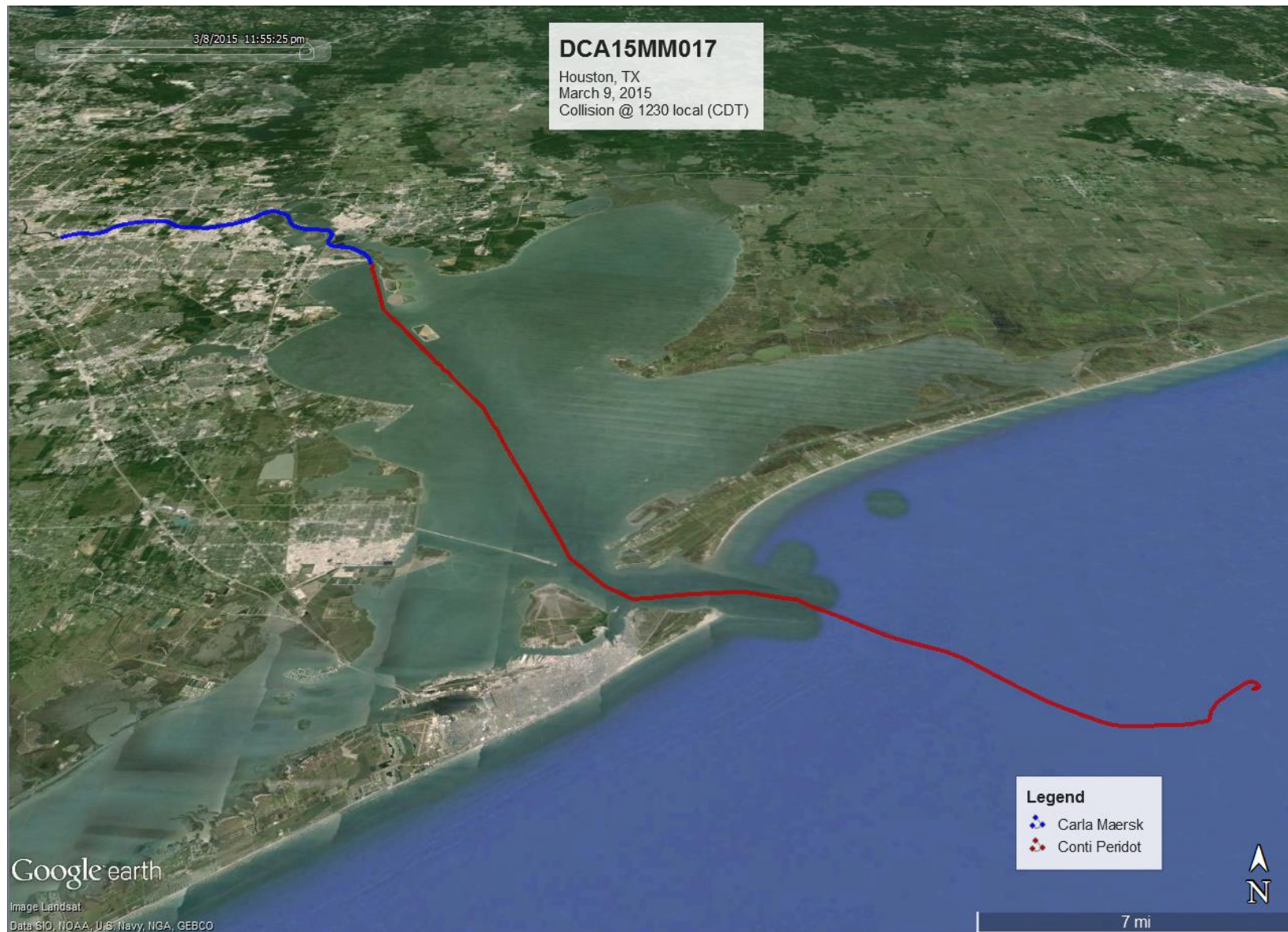
Figure 7 is an oblique overhead view (north up) of the track history for each vessel on the day of the collision. Carla Maersk, indicated in blue, was outbound from Buffalo Bayou; with pilot onboard, the vessel departed the dock at approximately 0952 CDT. Conti Peridot, indicated in red, was inbound from anchorage at sea; the vessel was under way at approximately 0803 CDT, and pilot boarded at approximately 0933.

Figure 8 is an oblique overhead view (north up) of the track history for each vessel, displaying Upper Galveston Bay of the Houston Ship Channel.

Figure 9 is an oblique overhead view (north up) of the track history for each vessel, displaying the site of the collision, near buoys 89 and 90 at Morgans Point. The track history extends beyond the time of collision until the end of recording.

Tabular data extracted from the voyage data recorder NMEA strings of Carla Maersk and Conti Peridot are included as Attachments 2 and 3, respectively. These attachments are provided in electronic comma-delimited (CSV) format.

**Figure 7.** GPS track history of both vessels



**Figure 8.** GPS track history of both vessels





**Figure 9.** GPS track history of both vessels



### 3.6 Description of Audio Events

Audio transcriptions for Conti Peridot and Carla Maersk spanned about 31 minutes and 26 minutes, respectively, including about 1 minute after the collision. As indicated in tables 2 and 3, the audio quality of VDR recordings ranged from poor to good. The audio quality rating scale is provided in figure 10. Table 4 summarizes the timing of events related to the accident.

**Figure 10.** Audio quality rating scale

<b>Audio Quality Rating Scale</b>	
The levels of recording quality are characterized by the following traits of the VDR information:	
<b>Excellent Quality</b>	Virtually all of the crew conversations could be accurately and easily understood. The transcript that was developed may indicate only one or two words that were not intelligible. Any loss in the transcript is usually attributed to simultaneous bridge/radio transmissions that obscure each other.
<b>Good Quality</b>	Most of the crew conversations could be accurately and easily understood. The transcript that was developed may indicate several words or phrases that were not intelligible. Any loss in the transcript can be attributed to minor technical deficiencies or momentary dropouts in the recording system or to a large number of simultaneous bridge/radio transmissions that obscure each other.
<b>Fair Quality</b>	The majority of the crew conversations were intelligible. The transcript that was developed may indicate passages where conversations were unintelligible or fragmented. This type of recording is usually caused by bridge noise that obscures portions of the voice signals or by a minor electrical or mechanical failure of the VDR system that distorts or obscures the audio information.
<b>Poor Quality</b>	Extraordinary means had to be used to make some of the crew conversations intelligible. The transcript that was developed may indicate fragmented phrases and conversations and may indicate extensive passages where conversations were missing or unintelligible. This type of recording is usually caused by a combination of a high bridge noise level with a low voice signal (poor signal-to-noise ratio) or by a mechanical or electrical failure of the VDR system that severely distorts or obscures the audio information.
<b>Unusable</b>	Crew conversations may be discerned, but neither ordinary nor extraordinary means made it possible to develop a meaningful transcript of the conversations. This type of recording is usually caused by an almost total mechanical or electrical failure of the VDR system.

**Table 4.** Timeline of events

Event	Conti Peridot	Carla Maersk
VDR recording starts	23:57 (March 8, 2015)	05:01 (March 8, 2015)
Pilot enters bridge	09:34	09:07
Vessel underway	08:05	09:55
VDR transcription starts	12:00	12:06
Collision		12:30
VDR transcription ends	12:31	12:32
VDR recording ends	12:57	12:55

*Note: Unless otherwise indicated, all events occurred on March 9, 2015.*

*All times are approximate. Time indicated is CDT (HH:MM).*

VDR audio of the master-pilot exchange and the post-collision response onboard each vessel were not reviewed or transcribed by the VDR group; however, select NTSB investigators did review portions of the audio to support elements of the investigation relevant to human factors and incident response.

As part of the Safety Board's accident investigation process, the crew involved was offered an opportunity to review their respective vessel's group transcript. As of this publication date, no response has been received.

# Voyage Data Recorder Transcript

A full transcript from 1200 to 1231 was prepared for the bridge audio from the Conti Peridot. A full transcript from 1206 to 1232 was prepared for the bridge audio from the Carla Maersk. The following consolidated transcript is in a three-column format with the bridge audio from the Conti Peridot in the left column, VHF communication in the center column, and bridge audio from the Carla Maersk in the right column.

## LEGEND

<b>Capt-A</b>	Voice identified as the master of Conti Peridot
<b>Mate-A</b>	Voice identified as the 1 <sup>st</sup> mate of Conti Peridot
<b>Helm-A</b>	Voice identified as the helmsman aboard Conti Peridot
<b>Pilot-A</b>	Voice identified as the pilot aboard Conti Peridot
<b>Capt-B</b>	Voice identified as the master of Carla Maersk
<b>Mate-B</b>	Voice identified as the 1 <sup>st</sup> mate of Carla Maersk
<b>Helm-B</b>	Voice identified as the helmsman aboard Carla Maersk
<b>Pilot-B</b>	Voice identified as the pilot aboard Carla Maersk
<b>Bridge</b>	Unidentified source of audio
<b>Crew-?</b>	Voice of someone other than the master, 1 <sup>st</sup> mate, helmsman or pilot
<b>VHF</b>	VHF radio transmission from source other than Conti Peridot or Carla Maersk
<b>?</b>	Unidentified voice
<b>*</b>	Unintelligible word(s)
<b>#</b>	Expletive
<b>@</b>	Non-pertinent word
<b>( )</b>	Questionable insertion
<b>[ ]</b>	Editorial insertion

Note 1: Times are expressed in central daylight time (CDT). Time correlation is a result of merging both VDR transcripts – each generated independently – and applying an offset to align common VHF radio transmissions. Transcript time alignment between the two vessels is considered to be within one second.

Note 2: Generally, only radio transmissions to and from the accident vessels are transcribed. Though select radio transmissions from other sources are included, the majority of VHF radio transmissions are not.

Note 3: Words shown with excess vowels, letters, or drawn out syllables are a phonetic representation of the words as spoken.

Note 4: A non-pertinent word, where noted, refers to a word not directly related to the operation, control or condition of the vessel.

Note 5: Unintelligible conversations and comments on the bridge of either vessel are not transcribed.

Note 6: Ship-to-ship VHF communications noted in this combined transcript are a consolidated product of both VDR transcriptions. When the independent group transcriptions from each vessel's audio recording disagree, footnotes cite the transcription determined by each group.

**Conti Peridot Bridge Audio**

**VHF Ship-to-Ship Communication**

**Carla Maersk Bridge Audio**

March 8, 2015 23:57:00  
----- **START OF RECORDING** -----  
March 9, 2015 12:00:05  
----- **START OF TRANSCRIPT** -----

March 8, 2015 05:01:00  
----- **START OF RECORDING** -----

March 9, 2015 12:05:42  
----- **START OF TRANSCRIPT** -----

12:00:05  
**Bridge** [sound similar to alarm tone]  
12:00:10  
**Pilot-A** three two six.  
12:00:12  
**Helm-A** three two six.  
12:00:17  
**Bridge** [sound similar to alarm chirp]  
12:00:20  
**Helm-A** heading three two six now sir.  
12:00:21  
**Pilot-A** (thank) you.  
12:00:34  
**Bridge** [sound similar to alarm chirp]  
12:01:05  
**Bridge** [sound similar to alarm tone]  
12:01:15  
**Bridge** [sound similar to alarm chirp]  
12:01:17  
**Bridge** [sound similar to alarm chirp]  
12:02:05  
**Bridge** [sound similar to alarm tone]  
12:02:41  
**Pilot-A** three two seven.  
12:02:43  
**Helm-A** three two seven.



### Conti Peridot Bridge Audio

12:02:51  
**Bridge** [sound similar to alarm chirp]  
12:03:06  
**Bridge** [sound similar to alarm tone]  
12:03:32  
**Bridge** [sound similar to two alarm chirps]  
12:03:51  
**Bridge** [sound similar to telephone ring]  
12:04:21  
**Bridge** [sound similar to alarm tone]  
12:05:00  
**Bridge** [sound similar to alarm tone]  
12:05:03  
**Bridge** [sound similar to alarm chirp]  
12:06:02  
**Pilot-A** starboard twenty.  
12:06:03  
**Helm-A** starboard twenty.  
12:06:08  
**Helm-A** rudder starboard twenty now sir.  
  
12:06:27  
**Pilot-A** midship.  
12:06:28  
**Helm-A** midship.  
12:06:29  
**Pilot-A** port twenty.  
12:06:30  
**Helm-A** port twenty.

### VHF Ship-to-Ship Communication

### Carla Maersk Bridge Audio

12:06:14  
**Bridge-?** [unintelligible conversation]  
12:06:19  
**Bridge-?** I don't know.  
12:06:20  
**Bridge-?** [unintelligible conversation]

### Conti Peridot Bridge Audio

12:06:35  
**Helm-A** rudder port twenty (now) sir.  
12:06:38  
**Bridge** [sound similar to alarm tone]  
12:06:39  
**Bridge** [sound similar to alarm chirp]  
12:06:41  
**Pilot-A** hard to port.  
12:06:42  
**Helm-A** hard port.  
12:06:46  
**Helm-A** rudder hard port \* sir.  
12:06:49  
**Bridge** [sound similar to alarm chirp]  
12:06:50  
**Bridge** [sound similar to alarm tone]  
12:06:52  
**Bridge** [sound similar to alarm chirp]  
12:06:53  
**Bridge** [sound similar to two alarm chirps]  
12:06:53  
**Pilot-A** midship.  
12:06:53  
**Helm-A** midship.  
12:07:00  
**Helm-A** rudder midship now sir.  
  
12:07:04  
**Pilot-A** port twenty.  
12:07:05  
**Helm-A** port twenty.

### VHF Ship-to-Ship Communication

### Carla Maersk Bridge Audio

12:06:53  
**Pilot-B** port ten.  
12:06:53  
**Helm-B** port ten.  
  
12:07:03  
**Pilot-B** \*\*. hey cap.  
  
12:07:06  
**Mate-B** captain.

### Conti Peridot Bridge Audio

12:07:09  
**Helm-A** rudder port twenty now sir.

12:07:18  
**Bridge** [sound similar to chime]

### VHF Ship-to-Ship Communication

### Carla Maersk Bridge Audio

12:07:07  
**Capt-B** yeah.  
12:07:09  
**Pilot-B** half ahead.  
12:07:10  
**Helm-B** half ahead.  
12:07:12  
**Bridge** [sound similar to Engine Order Telegraph (EOT) bell]  
12:07:13  
**Capt-B** yes.  
12:07:14  
**Pilot-B** it's shut out.  
12:07:16  
**Pilot-B** \*\* right over here... no visibility.

12:07:19  
**Bridge-?** \* (midship).  
12:07:21  
**Helm-B** midship.  
12:07:22  
**Pilot-B** starboard ten.  
12:07:23  
**Helm-B** starboard ten.  
12:07:27  
**Pilot-B** starboard twenty.  
12:07:30  
**Helm-B** starboard twenty.  
12:07:31  
**Bridge-?** starboard (twenty).

### Conti Peridot Bridge Audio

12:07:32  
**Pilot-A** midship.

12:07:33  
**Helm-A** midship.

12:07:34  
**Pilot-A** steady.

12:07:34  
**Helm-A** steady.

12:07:36  
**Pilot-A** three... three (four) five.

12:07:38  
**Helm-A** three four five \*. (heading). three four five now sir.

12:07:48  
**Bridge** [sound similar to alarm tone]

### VHF Ship-to-Ship Communication

### Carla Maersk Bridge Audio

12:07:32  
**Pilot-B** inbound ships... about four or five of them out there. but they can't see anything.

12:07:37  
**Capt-B** uh-huh.

12:07:38  
**Pilot-B** I'm thinking about going into Barbour's Cut there. gettin' a lay berth.

12:07:44  
**Pilot-B** midship.

12:07:45  
**Helm-B** midship.

12:07:49  
**Capt-B** \*\* I don't know but I mean at this one we drop anchor?

12:07:52  
**Pilot-B** no. I think we \* keep going.

12:07:54  
**Bridge-?** how far out \*\*\*?

12:07:56  
**Pilot-B** I really don't like \*. inbound ships. when it's— when you can't see.

### Conti Peridot Bridge Audio

12:08:01  
**Pilot-A** three four three.  
12:08:02  
**Helm-A** three four three.

12:08:41  
**Helm-A** \* three four three now sir.

### VHF Ship-to-Ship Communication

### Carla Maersk Bridge Audio

12:08:02  
**Pilot-B** starboard ten.  
12:08:03  
**Helm-B** starboard ten.  
12:08:05  
**Capt-B** you want to lay by and wait for them to pass?  
12:08:09  
**Capt-B** and uhh. keep going or wait?  
12:08:13  
**Pilot-B** I was just thinking about gettin' a lay berth and when they open the channel just go.  
12:08:21  
**Pilot-B** it's just gettin' worse and worse.  
12:08:26  
**Pilot-B** if there wasn't any inbound ships I wouldn't really care any.  
12:08:38  
**Pilot-B** I don't know.  
12:08:40  
**Capt-B** uhhh. \*\*\*.  
12:08:42  
**Pilot-B** huh?  
12:08:44  
**Capt-B** \*\*\*.  
12:08:45  
**Pilot-B** starboard ten.  
12:08:45  
**Helm-B** starboard ten.

**Conti Peridot Bridge Audio**

12:08:57  
**Bridge-?** I can't see \*\*.

12:09:10  
**Bridge** [sound similar to three alarm chirps]  
12:09:13  
**Bridge** [sound similar to alarm chirp]

**VHF Ship-to-Ship Communication**

12:09:25  
**VHF-172** two two eight one seventy two. I'm  
outbound here at the point.

**Carla Maersk Bridge Audio**

12:08:46  
**Bridge-?** yeah.  
12:08:46  
**Bridge-?** starboard ten.  
12:08:47  
**Pilot-B** \* coming this way.  
12:08:50  
**Pilot-B** on— right over there by the— by  
Barbour's Cut. you see it... I mean.  
next. mile or so it's goin' be— we won't  
be able to see anything.  
  
12:09:01  
**Pilot-B** midship.  
12:09:02  
**Helm-B** midship.  
12:09:04  
**Pilot-B** I'm really thinking about goin' in there  
and gettin' a lay berth.  
12:09:07  
**Capt-B** where is this lay berth \*.  
12:09:09  
**Pilot-B** inside here. if I don't have any tugs  
(in) there. might have to go on in there  
and just go to the basin and just drop  
the hook \*\*\* tug boat.

### Conti Peridot Bridge Audio

12:09:29  
**Bridge** [sound similar to alarm chirp]  
12:09:33  
**Bridge** [sound similar to alarm chirp]  
12:09:35  
**Bridge** [sound similar to alarm chirp]  
12:09:38  
**Bridge** [sound similar to four alarm chirps]

12:09:47  
**Bridge** [sound similar to alarm chirp]

12:09:50  
**Bridge** [sound similar to alarm chirp]  
12:09:55  
**Bridge** [sound similar to alarm chirp]  
12:09:57  
**Bridge** [sound similar to alarm chirp]

12:10:01  
**Bridge** [sound similar to alarm chirp]  
12:10:02  
**Bridge** [sound similar to alarm chirp]

### VHF Ship-to-Ship Communication

### Carla Maersk Bridge Audio

12:09:40  
**Pilot-B** huh?  
12:09:41  
**Capt-B** uhhhh. \*\*\* this guy ahead. he just \*.  
12:09:47  
**Pilot-B** yeah.  
12:09:48  
**Pilot-B** \* there's about four or five ships out in the bay that are inbound. now if there wasn't any inbound ships I wouldn't care.

12:09:59  
**Pilot-B** starboard ten.  
12:10:00  
**Helm-B** starboard ten.

### Conti Peridot Bridge Audio

12:10:04  
**Bridge** [sound similar to alarm chirp]  
12:10:07  
**Bridge** [sound similar to alarm chirp]  
12:10:11  
**Bridge** [sound similar to alarm chirp]  
  
12:10:19  
**Bridge** [sound similar to three alarm chirps]  
  
12:10:25  
**Bridge** [sound similar to alarm chirp]  
12:10:29  
**Bridge** [sound similar to alarm chirp]  
12:10:30  
**Bridge** [sound similar to alarm chirp]

### VHF Ship-to-Ship Communication

### Carla Maersk Bridge Audio

12:10:07  
**Pilot-B** I don't know.  
  
12:10:15  
**Bridge-?** I think (we) keep going \*.  
12:10:18  
**Capt-B** ya it's ahhh—  
  
12:10:21  
**Pilot-B** this is the last place to (get a) boat  
though. berth though. right here.  
  
12:10:45  
**Capt-B** would be doing better if we... wait for  
the tugs here.  
12:10:50  
**Pilot-B** port ten.  
12:10:51  
**Helm-B** port te—  
12:10:51  
**Pilot-B** I don't think they got any tugs here.  
when we go in there—  
12:10:53  
**Helm-B** port ten mister pilot?



**Conti Peridot Bridge Audio**

**VHF Ship-to-Ship Communication**

**Carla Maersk Bridge Audio**

12:10:55  
**Pilot-B** no.  
12:10:55  
**Pilot-B** port ten captain.  
12:10:57  
**Bridge-?** port ten.  
12:10:57  
**Bridge-?** port ten ya.  
12:10:58  
**Pilot-B** uh. so we can go up in here where there's a ba— a turning basin. and just drop the anchor until a tug boat shows up.  
12:11:09  
**Bridge-?** \*.  
12:11:09  
**Pilot-B** port ten.  
12:11:11  
**Helm-B** port ten.  
12:11:12  
**Pilot-B** (they can \* slow).  
12:11:19  
**Bridge-?** \*.  
12:11:22  
**Pilot-B** then you got all these little # running around.  
12:11:25  
**Bridge-?** \*.  
12:11:27  
**Pilot-B** about.  
12:11:29  
**Pilot-B** midship.  
12:11:30  
**Helm-B** midship.

### Conti Peridot Bridge Audio

12:11:38  
**Pilot-A** three... three four four.

12:11:42  
**Helm-A** three four four.

12:11:59  
**Helm-A** \* three four four now sir.

### VHF Ship-to-Ship Communication

### Carla Maersk Bridge Audio

12:11:32  
**Pilot-B** about uhhh.

12:11:39  
**Bridge-?** @ [first name].

12:11:39  
**Capt-B** (left outside). uhhh.

12:11:41  
**Bridge-?** (call sign... call sign.) yeah.

12:11:42  
**Capt-B** yeah.

12:11:43  
**Bridge-?** [unintelligible conversations,  
simultaneous]

12:11:47  
**Pilot-B** thirteen minutes.

12:11:50  
**Pilot-B** starboard ten.

12:11:51  
**Helm-B** starboard ten.

12:11:57  
**Bridge-?** uhhh.

12:12:01  
**Pilot-B** starboard fifteen.

12:12:02  
**Helm-B** starboard fifteen.

12:12:04  
**Capt-B** (\* prediction how long do you stay?)

12:12:06  
**Pilot-B** starboard twenty.

### Conti Peridot Bridge Audio

12:12:14  
**Bridge** [sound similar to alarm chirp]  
12:12:17  
**Bridge** [sound similar to alarm chirp]  
12:12:19  
**Bridge** [sound similar to alarm chirp]  
12:12:21  
**Bridge** [sound similar to two alarm chirps]  
12:12:24  
**Bridge** [sound similar to two alarm chirps]

12:12:50  
**Pilot-A** three four three.  
12:12:52  
**Helm-A** three four three.

### VHF Ship-to-Ship Communication

### Carla Maersk Bridge Audio

12:12:07  
**Helm-B** starboard twenty.  
12:12:08  
**Pilot-B** I'm sure (there) is. but I haven't got it yet.  
12:12:12  
**Pilot-B** I noticed they're predicting it to be overnight.

12:12:41  
**Pilot-B** \*\*\*. I don't know.\*\*.  
12:12:47  
**Pilot-B** midship.  
12:12:47  
**Helm-B** midship.  
12:12:48  
**Pilot-B** steady.  
12:12:49  
**Helm-B** steady.

12:12:56  
**Capt-B** how many in Barbour's (cut)?

### Conti Peridot Bridge Audio

12:13:06  
**(Helm-A)** (\*\* now sir.)

12:14:36  
**Pilot-A** three four one.

12:14:38  
**Helm-A** three four one.

12:14:53  
**Helm-A** heading three four one now sir.

### VHF Ship-to-Ship Communication

### Carla Maersk Bridge Audio

12:12:58  
**Pilot-B** huh.

12:12:59  
**Capt-B** how many in Barbour's cut?

12:13:00  
**Pilot-B** well there's one right here.

12:13:05  
**Pilot-B** one.

12:13:08  
**Pilot-B** two. three. four.

12:13:10  
**Pilot-B** four.

12:13:17  
**Pilot-B** one this size... two this size... one  
kinda small... three this size.

12:13:32  
**Capt-B** \*\*\*.

12:13:36  
**Pilot-B** yeah. but it's bad south. about a mile  
from here it's zero.

12:13:46  
**Bridge-?** [sound similar to clearing of throat]

12:14:50  
**Pilot-B** 'ep. it's up to you... we can keep  
(moving) and see if we can make it.

**Conti Peridot Bridge Audio**

**VHF Ship-to-Ship Communication**

**Carla Maersk Bridge Audio**

12:14:56  
**Capt-B** I— I mean don't know really. \*\*\*. I cannot see anything.

12:15:03  
**Bridge-?** \*\*.

12:15:07  
**Pilot-B** the ship that's right here. he just. he just come out of it. he (can) see like this now. but he was in zero \*\*\* until a few minutes ago.

12:15:22  
**Pilot-B** all the way out.

12:15:26  
**Pilot-B** starboard ten.

12:15:27  
**Helm-B** starboard ten.

12:15:30  
**Pilot-B** starboard twenty.

12:15:30  
**Helm-B** starboard twenty.

12:15:43  
**Pilot-B** this is our last chance \*.

12:15:45  
**Capt-B** I bet that is. eh. \*\* I mean \*\*\* safe \*\*\*.

12:15:53  
**Pilot-B** midship.

12:15:54  
**Helm-B** midship.

12:15:55  
**Capt-B** [unintelligible]

12:16:02  
**Bridge-?** [cough]

### Conti Peridot Bridge Audio

12:16:10  
**Bridge** [sound similar to alarm tone]

### VHF Ship-to-Ship Communication

12:16:07  
**VHF-?** hey @ [first name]. \*\*\* (see) you on one.<sup>6</sup>

12:16:13  
**VHF-?** thank you @ [first name].<sup>7</sup>

### Carla Maersk Bridge Audio

12:16:08  
**Capt-B** \*\*.

12:16:14  
**Pilot-B** okay.

12:16:14  
**Capt-B** \*\* to go and wait for ah... the channel to open.

12:16:20  
**Pilot-B** port ten.

12:16:20  
**Helm-B** port ten.

12:16:21  
**Pilot-B** well.

12:16:23  
**Bridge-?** [sound similar to sigh]

12:16:26  
**Pilot-B** midship.

12:16:26  
**Capt-B** is it difficult to say—

12:16:27  
**Helm-B** midship.

---

<sup>6</sup> Conti Peridot Group Transcription: [n/a]  
Carla Maersk Group Transcription: hey @ [first name]. \*\*\* (see) you on one.

<sup>7</sup> Conti Peridot Group Transcription: [n/a]  
Carla Maersk Group Transcription: thank you @ [first name].

### Conti Peridot Bridge Audio

12:16:33  
**Bridge** [sound similar to alarm tone]

12:16:52  
**Bridge** [sound similar to alarm chirp]

12:17:20  
**Pilot-A** slow ahead.  
12:17:21  
**Bridge-?** slow ahead.  
12:17:21  
**Pilot-A** (excuse me). half ahead.  
12:17:23  
**Pilot-A** half ahead.

### VHF Ship-to-Ship Communication

### Carla Maersk Bridge Audio

12:16:28  
**Capt-B** –when it will be all \* clear? \* how long...

12:16:31  
**Pilot-B** it'd be a day or two. maybe.

12:16:51  
**Bridge-?** [sound similar to clearing of throat]

12:16:55  
**Pilot-B** \* just say the word.

12:16:58  
**Pilot-B** there's tows. all them tows are out there too.

12:17:07  
**Capt-B** do you think you can go inside there without tugs?

12:17:10  
**Pilot-B** I think so. port ten.

12:17:12  
**Helm-B** port ten.

12:17:12  
**Pilot-B** but I got to do something quick. it's up to you.

### Conti Peridot Bridge Audio

12:17:24  
**Bridge-?** half ahead.  
12:17:33  
**Bridge** [sound similar to alarm tone]  
  
12:17:49  
**Bridge** [sound similar to door closing]  
12:17:49  
**Bridge-?** \*\*\*.  
12:17:52  
**Pilot-A** roger understand that. thank you.

12:18:19  
**Bridge** [sound similar to chime]

### VHF Ship-to-Ship Communication

12:17:55  
**Pilot-A** captain (@ [first name])... (we'll) see you on (the) one (whistle).<sup>8</sup>  
12:17:57  
**VHF-?** [unintelligible response]<sup>9</sup>  
12:18:01  
**Pilot-A** be safe.<sup>10</sup>

### Carla Maersk Bridge Audio

12:17:33  
**Pilot-B** starboard ten.  
12:17:34  
**Helm-B** starboard ten.  
12:17:38  
**Pilot-B** see there's a ship right here and I can't see him.

12:18:27  
**Pilot-B** midship.

---

<sup>8</sup> Conti Peridot Group Transcription: captain (@ [first name])... (we'll) see you on (the) one (whistle).  
Carla Maersk Group Transcription: [n/a]

<sup>9</sup> Conti Peridot Group Transcription: [unintelligible response].  
Carla Maersk Group Transcription: [n/a]

<sup>10</sup> Conti Peridot Group Transcription: be safe.  
Carla Maersk Group Transcription: [n/a]



### Conti Peridot Bridge Audio

12:18:33  
**Bridge** [sound similar to alarm]

### VHF Ship-to-Ship Communication

12:18:41  
**VHF-?** captain the channel is closed.<sup>11</sup>

### Carla Maersk Bridge Audio

12:18:28  
**Helm-B** midship.

12:18:36  
**Pilot-B** port ten.

12:18:36  
**Helm-B** port ten.

12:18:39  
**Capt-B** that's impossible eh. \*\*\*. and this one is we have some visibility so.

12:18:45  
**Pilot-B** yeah but the next ones that we meet we're out in the middle of the soup.

12:18:50  
**Pilot-B** midship.

12:18:50  
**Helm-B** midship.

12:18:53  
**Pilot-B** starboard ten.

12:18:54  
**Helm-B** starboard ten.

12:19:02  
**Pilot-B** midship.

12:19:02  
**Helm-B** midship.

12:19:06  
**Pilot-B** port ten.

---

<sup>11</sup> Conti Peridot Group Transcription: *captain the channel is closed.*  
Carla Maersk Group Transcription: *[n/a]*

### Conti Peridot Bridge Audio

12:19:15  
**Bridge** [sound similar to door closing]

12:19:32  
**Bridge** [sound similar to alarm]

### VHF Ship-to-Ship Communication

### Carla Maersk Bridge Audio

12:19:07  
**Helm-B** port ten.  
12:19:09  
**Pilot-B** midship.  
12:19:10  
**Helm-B** midship.  
12:19:10  
**Pilot-B** steady.  
12:19:11  
**Helm-B** steady.  
12:19:13  
**Bridge-?** (#). [either Pilot-B or Capt-B]  
12:19:15  
**Pilot-B** this is our last chance.  
12:19:17  
**Pilot-B** I don't think we... I think we're just gonna have to keep going because. (I dunno).  
12:19:23  
**Capt-B** the one ahead of us. uh. almost. they disappear.  
12:19:26  
**Pilot-B** yeah.  
12:19:32  
**Pilot-B** starboard ten.  
12:19:33  
**Helm-B** starboard ten.  
12:19:34  
**Capt-B** there's someone behind us?  
12:19:37  
**Pilot-B** yeah.  
12:19:38  
**Capt-B** what is it?

**Conti Peridot Bridge Audio**

**VHF Ship-to-Ship Communication**

**Carla Maersk Bridge Audio**

12:19:39  
**Pilot-B** yeah.

12:19:43  
**Capt-B** are they gonna do the... drop some anchor from the one ahead of us?

12:19:48  
**Pilot-B** (he's goin').

12:19:51  
**Pilot-B** I don't want to. (but) I guess I'll keep goin'.

12:19:53  
**Pilot-B** starboard fifteen.

12:19:54  
**Helm-B** starboard fifteen.

12:19:56  
**Capt-B** I mean as it is now it's still eh—

12:19:58  
**Pilot-B** it's. sh—. I'm telling you that (in) the next couple of minutes you're not going to be able to see a # thing.

12:20:08  
**Pilot-B** midship.

12:20:09  
**Helm-B** midship.

12:20:24  
**Pilot-B** port ten.

12:20:25  
**Helm-B** port ten.

12:20:27  
**Bridge-?** [sound similar to clearing of throat]

12:20:30  
**Pilot-B** midship.

12:20:31  
**Helm-B** midship.

**Conti Peridot Bridge Audio**

**VHF Ship-to-Ship Communication**

**Carla Maersk Bridge Audio**

12:21:04  
**Bridge** [sound similar to alarm]

12:20:31  
**Pilot-B** steady.  
12:20:32  
**Helm-B** steady.  
12:20:41  
**Pilot-B** just have to see how it goes I guess.  
port ten.  
12:20:43  
**Capt-B** but in eh—  
12:20:43  
**Helm-B** port ten.  
12:20:44  
**Capt-B** even if we go to Barbour's Cut I don't  
feel that... we should have some tug  
assistance to go in there... (are we)  
stop here.  
12:20:56  
**Pilot-B** well you... you can turn (in) here  
probably. (it's) too late now.  
12:21:03  
**Pilot-B** midship.  
12:21:04  
**Helm-B** midship.  
12:21:13  
**Pilot-B** starboard ten.  
12:21:14  
**Helm-B** starboard ten.  
12:21:32  
**Pilot-B** midship.  
12:21:33  
**Helm-B** midship.  
12:21:34  
**Pilot-B** steady.

### Conti Peridot Bridge Audio

12:21:45  
[sound similar to door closing]  
12:21:49  
**Pilot-A** starboard ten.  
12:21:50  
**Bridge-?** starboard ten.  
12:21:50  
**Helm-A** starboard ten.  
  
12:21:53  
**Helm-A** rudder starboard ten now sir.  
  
12:22:10  
**Bridge** [sound similar to door closing]  
12:22:12  
**Pilot-A** midship.  
12:22:13  
**Helm-A** midship.  
12:22:13  
**Bridge-?** midship.

### VHF Ship-to-Ship Communication

### Carla Maersk Bridge Audio

12:21:35  
**Helm-B** steady.  
12:21:37  
**Pilot-B** it's too late now. we gotta go.  
12:21:40  
**Pilot-B** starboard ten.  
12:21:41  
**Helm-B** starboard ten.  
12:21:42  
**Pilot-B** starboard twenty.  
12:21:43  
**Helm-B** starboard twenty.  
  
12:21:52  
**Pilot-B** put this radar on (a) mile and a half.  
  
12:21:54  
**Mate-B** mile and a half.

**Conti Peridot Bridge Audio**

12:22:15  
**Pilot-A** port twenty.  
12:22:16  
**Helm-A** port twenty.  
12:22:21  
**Helm-A** rudder port twenty now sir.  
12:22:33  
**Pilot-A** midship.  
12:22:34  
**Helm-A** midship.  
12:22:37  
**Helm-A** rudder midship now sir.  
12:22:40  
**Pilot-A** starboard ten.  
12:22:41  
**Bridge Wing** [sound similar to fog signal]  
12:22:42  
**Helm-A** starboard ten.  
12:22:46  
**Helm-A** rudder starboard ten now sir.  
  
12:22:54  
**Pilot-A** midship.  
12:22:55  
**Helm-A** midship.  
12:22:55  
**Bridge-?** midship.  
12:22:58  
**Helm-A** rudder midship now sir.

**VHF Ship-to-Ship Communication**

**Carla Maersk Bridge Audio**

12:22:48  
**Pilot-B** midship.  
12:22:49  
**Helm-B** midship.

### Conti Peridot Bridge Audio

12:23:03  
**Pilot-A** port twenty.  
12:23:04  
**Helm-A** port twenty.  
12:23:04  
**Bridge-?** port twenty.  
  
12:23:09  
**Helm-A** rudder port twenty \* sir.  
12:23:18  
**Bridge** [sound similar to alarm]  
12:23:20  
**Pilot-A** midship.  
12:23:20  
**Helm-A** midship.  
12:23:23  
**Pilot-A** starboard twenty.  
12:23:25  
**Helm-A** starboard twenty.  
12:23:28  
**Helm-A** rudder starboard twenty now sir.  
  
12:23:35  
**Pilot-A** midship.  
12:23:35  
**Helm-A** midship.

### VHF Ship-to-Ship Communication

### Carla Maersk Bridge Audio

12:22:59  
**Pilot-B** port ten.  
12:23:00  
**Helm-B** port ten.  
  
12:23:04  
**Pilot-B** port twenty.  
12:23:04  
**Helm-B** port twenty.  
  
  
  
12:23:33  
**Pilot-B** midship.  
12:23:34  
**Helm-B** midship.  
12:23:35  
**Pilot-B** steady.  
12:23:35  
**Helm-B** steady.

### Conti Peridot Bridge Audio

12:23:39  
**Bridge Wing** [sound similar to fog signal]  
12:23:41  
**Helm-A** rudder's midship now sir.  
12:23:46  
**Bridge** [sound similar to alarm]  
12:23:49  
**Pilot-A** port ten.  
12:23:50  
**Helm-A** port ten.  
12:23:51  
**Pilot-A** port twenty.  
12:23:52  
**Helm-A** port twenty.  
12:23:55  
**Helm-A** rudder port twenty now sir.  
12:24:07  
**Pilot-A** midship.  
12:24:08  
**Helm-A** midship.  
12:24:11  
**Pilot-A** hard (to) starboard.  
12:24:12  
**Helm-A** hard starboard.  
12:24:12  
**Bridge-?** hard starboard.  
12:24:18  
**Helm-A** rudder hard starboard now sir.  
12:24:34  
**Pilot-A** midship.  
12:24:34  
**Helm-A** midship.

### VHF Ship-to-Ship Communication

### Carla Maersk Bridge Audio



### Conti Peridot Bridge Audio

12:24:38  
**Bridge Wing** [sound similar to fog signal]  
12:24:40  
**Pilot-A** port twenty.  
12:24:41  
**Helm-A** port twenty.  
12:24:44  
**Pilot-A** \* port ten.  
12:24:44  
**Bridge** [sound similar to alarm]  
12:24:46  
**Helm-A** port ten.  
12:24:46  
**Bridge-?** port ten.  
12:24:49  
**Helm-A** rudder port ten now sir.  
12:24:50  
**Bridge** [sound similar to two alarm chirps]  
  
12:24:55  
**Pilot-A** midship.  
12:24:56  
**Helm-A** midship.  
  
12:24:58  
**Pilot-A** starboard twenty.  
12:24:59  
**Helm-A** starboard twenty.

### VHF Ship-to-Ship Communication

### Carla Maersk Bridge Audio

12:24:53  
**Capt-B** we can post another lookout forward  
eh @ [first name].  
  
12:24:56  
**Bridge-?** \*.  
12:24:57  
**Bridge** [sounds similar to printer for about 30  
seconds]

### Conti Peridot Bridge Audio

12:24:59  
**Bridge-?** starboard twenty.

12:25:03  
**Helm-A** rudder starboard twenty now sir.

12:25:10  
**Pilot-A** midship.

12:25:11  
**Helm-A** midship.

12:25:23  
**Pilot-A** starboard twenty.

12:25:24  
**Helm-A** starboard. twenty.

12:25:29  
**Helm-A** rudder starboard twenty now sir.

12:25:37  
**Pilot-A** hard starboard.

12:25:38  
**Helm-A** hard starboard.

### VHF Ship-to-Ship Communication

### Carla Maersk Bridge Audio

12:24:59  
**Bridge-?** ummmm. (@ [first name]) \*\*\*.

12:25:02  
**Capt-B** \*.

12:25:07  
**Bridge-?** \*\*.

12:25:09  
**Crew-?** \* go ahead. [radio transmission]

12:25:10  
**Mate-B** send one more ah lookout forward.

12:25:14  
**Crew-?** \*\*. [unintelligible radio transmission]

12:25:20  
**Crew-?** \*. [unintelligible radio transmission]

12:25:22  
**Pilot-B** starboard ten.

12:25:23  
**Helm-B** starboard ten.

12:25:36  
**Crew-?** small boat. starboard side. [radio transmission]

### Conti Peridot Bridge Audio

12:25:38  
[sound similar to fog signal; faint]

12:25:42  
**Helm-A** rudder hard starboard now sir.

12:25:45  
**Bridge** [sound similar to alarm]

12:25:53  
**Pilot-A** midship.

12:25:53  
**Helm-A** midship.

12:25:53  
**Bridge-?** midship.

12:26:00  
**Helm-A** rudder midship now sir.

### VHF Ship-to-Ship Communication

### Carla Maersk Bridge Audio

12:25:39  
**Mate-B** small boat. starboard side.

12:25:50  
**Pilot-B** midship.

12:25:50  
**Helm-B** midship.

12:26:06  
**Pilot-B** starboard ten.

12:26:06  
**Helm-B** starboard ten.

12:26:12  
**Pilot-B** midship.

12:26:13  
**Helm-B** midship.

12:26:14  
**Pilot-B** port ten.

12:26:15  
**Helm-B** port ten.

12:26:19  
**Pilot-B** midship.

### Conti Peridot Bridge Audio

### VHF Ship-to-Ship Communication

### Carla Maersk Bridge Audio

12:26:20  
**Helm-B** midship.

12:26:21  
**Pilot-A** @ [Pilot-B first name]. we'll see you  
on one. you be safe now. <sup>12</sup>

12:26:24  
**Pilot-B** okay @ [Pilot-A first name]. one  
whistle. <sup>13</sup>

12:26:25  
**Pilot-A** roger. <sup>14</sup>

12:26:27  
**Pilot-B** port ten.  
12:26:28  
**Helm-B** port ten.  
12:26:29  
**Bridge** [unidentified noise]  
12:26:30  
**Pilot-B** midship.  
12:26:31  
**Helm-B** midship.

12:26:32  
**Bridge-?** \* start the fog signal?

12:26:31  
**Pilot-A** starboard ten.  
12:26:32  
**Helm-A** starboard ten.  
12:26:32  
**Bridge-?** starboard ten.  
12:26:35  
**Helm-A** rudder starboard ten now sir.

---

<sup>12</sup> Conti Peridot Group Transcription: captain @ [Pilot-B first name]. (see ya) on one. you (\*) be safe now.  
Carla Maersk Group Transcription: @ [Pilot-B first name]. we'll see you on one. you be safe now.

<sup>13</sup> Conti Peridot Group Transcription: okay @ [Pilot-A first name].  
Carla Maersk Group Transcription: okay @ [Pilot-A first name]. one whistle.

<sup>14</sup> Conti Peridot Group Transcription: (roger).  
Carla Maersk Group Transcription: roger.

### Conti Peridot Bridge Audio

12:26:45  
**Bridge** [sound similar to alarm]

12:26:59  
**Pilot-A** midship.  
12:27:00  
**Helm-A** midship.

### VHF Ship-to-Ship Communication

### Carla Maersk Bridge Audio

12:26:36  
**Pilot-B** yeah.  
12:26:36  
**Capt-B** we can start the fog signal?  
12:26:38  
**Pilot-B** huh? port ten.  
12:26:40  
**Helm-B** port ten.  
12:26:40  
**Pilot-B** (say) what?  
12:26:41  
**Capt-B** the signal. \*\*.  
12:26:44  
**Pilot-B** midship.  
12:26:45  
**Helm-B** midship.  
12:26:47  
**Mate-B** \*\*. I will start the fog signal?  
[presumably radio transmission,  
warning bow lookout]  
12:26:49  
**Pilot-B** one six one.  
12:26:51  
**Helm-B** one six one.  
12:26:52  
**Crew-?** okay sec. [radio transmission]  
12:26:56  
**Pilot-B** one six zero.  
12:26:57  
**Helm-B** one six zero.

### Conti Peridot Bridge Audio

12:27:00  
**Bridge-?** midship.

12:27:03  
**Helm-A** rudder midship now sir.

12:27:15  
**Bridge** [sound similar to two alarm chirps]

12:27:24  
**Pilot-A** port twenty.

12:27:25  
**Helm-A** port twenty.

12:27:26  
**Pilot-A** hard (a) port.

12:27:27  
**Helm-A** hard port.

12:27:31  
**Helm-A** rudder hard port now sir.

12:28:01  
**Pilot-A** midship.

12:28:01  
**Bridge-?** midship.

12:28:01  
**Helm-A** midship.

### VHF Ship-to-Ship Communication

### Carla Maersk Bridge Audio

12:27:02  
**Bridge Wing** [sound similar to fog signal]

12:27:13  
**Pilot-B** one six.. one six one.

12:27:16  
**Helm-B** one six one.

12:28:01  
**Bridge Wing** [sound similar to fog signal]

12:28:06  
**Capt-B** tell him (to) tell us when he see next vessel.

### Conti Peridot Bridge Audio

12:28:08  
**Pilot-A** port twenty.  
12:28:08  
**Helm-A** port twenty.

12:28:14  
**Helm-A** rudder port twenty now sir.

12:28:19  
**Pilot-A** hard port.  
12:28:20  
**Bridge-?** hard port.  
12:28:20  
**Helm-A** hard port.

12:28:23  
**Helm-A** rudder hard port now sir.  
12:28:25  
**Pilot-A** midship.  
12:28:26  
**Helm-A** midship.  
12:28:26  
**Bridge** [sound similar to alarm]

### VHF Ship-to-Ship Communication

### Carla Maersk Bridge Audio

12:28:09  
**Crew-?** (I have a) ship. port side. [radio transmission]  
12:28:11  
**Mate-B** one more ship. port side.  
12:28:13  
**Mate-B** (thanks).  
12:28:14  
**Capt-B** what?  
12:28:15  
**Mate-B** one more ship. port side.  
12:28:18  
**Bridge-?** [sound similar to clearing of throat]

12:28:20  
**Capt-B** \* can see the vessel already?

12:28:21  
**Mate-B** (you) can see the vessel (here now).  
it's ah barge.

### Conti Peridot Bridge Audio

12:28:33  
**Helm-A** rudder midship now sir.  
12:28:35  
**Pilot-A** port twenty.  
  
12:28:36  
**Helm-A** port twenty.  
12:28:41  
**Helm-A** rudder port twenty now sir.  
12:28:43  
**Bridge-?** #.  
12:28:46  
**Pilot-A** midship.  
12:28:47  
**Helm-A** midship.  
12:28:47  
**Bridge-?** midship.  
12:28:51  
**Helm-A** rudder midship (now) sir.

### VHF Ship-to-Ship Communication

### Carla Maersk Bridge Audio

12:28:28  
**Capt-B** ahead of us?  
12:28:30  
**Mate-B** okay. so it's a ship. yeah. (that is right)  
... he can see it.  
12:28:33  
**Capt-B** he can see the ship ahead of us?  
12:28:35  
**Mate-B** yes sir.  
12:28:35  
**Capt-B** okay.  
  
12:28:46  
**Pilot-B** starboard ten.  
12:28:47  
**Helm-B** starboard ten.  
  
12:29:00  
**Pilot-B** midship.  
12:29:00  
**Helm-B** midship.  
12:29:02  
**Bridge Wing** [sound similar to fog signal]



### Conti Peridot Bridge Audio

12:29:04  
**Bridge Wing** [Sound similar to fog signal]

12:29:19  
**Bridge** [unintelligible radio transmission]

12:29:19  
**Pilot-A** hard (to) starboard.

12:29:21  
**Bridge** hard starboard. [multiple voices]

### VHF Ship-to-Ship Communication

12:29:09  
**Pilot-A** hey @ [Pilot-B first name]. \* heading your direction. be careful now. <sup>15</sup>

12:29:12  
**Pilot-B** what's that? <sup>16</sup>

12:29:13  
**Pilot-A** ('said we'd be) heading your way. be careful. <sup>17</sup>

12:29:17  
**Pilot-A** do you see me. I'm being headed your way. <sup>18</sup>

### Carla Maersk Bridge Audio

12:29:04  
**Pilot-B** starboard ten.

12:29:05  
**Helm-B** starboard ten.

12:29:17  
**Pilot-B** midship.

12:29:17  
**Helm-B** midship.

12:29:19  
**Pilot-B** who is it?

- 
- <sup>15</sup> Conti Peridot Group Transcription: *hey @ [Pilot-B first name]. \* heading your direction. be careful now.*  
Carla Maersk Group Transcription: *@ [Pilot-B first name]. \* headin' your direction. be careful now.*
- <sup>16</sup> Conti Peridot Group Transcription: *[unintelligible on VHF].*  
Carla Maersk Group Transcription: *what's that?*
- <sup>17</sup> Conti Peridot Group Transcription: *('said we'd be) heading your way. be careful.*  
Carla Maersk Group Transcription: *heading your way. be careful.*
- <sup>18</sup> Conti Peridot Group Transcription: *do you see me. i'm being headed your way.*  
Carla Maersk Group Transcription: *\*\* heading your way.*

### Conti Peridot Bridge Audio

12:29:26  
**Pilot-A** hard to starboard.  
12:29:28  
**Bridge-?** hard starboard.  
12:29:28  
**Helm-A** rudder hard starboard now sir.  
12:29:30  
**Pilot-A** full ahead.  
12:29:30  
**Bridge-?** full ahead.  
12:29:30  
**Helm-A** full ahead.  
12:29:30  
**Bridge** [sound similar to chirp]

### VHF Ship-to-Ship Communication

12:29:23  
**Pilot-B** is that you?  
12:29:24  
**Pilot-A** that's me. <sup>19</sup>  
  
12:29:33  
**Pilot-A** @ [Pilot-B first name] you see me? <sup>20</sup>  
12:29:34  
**Pilot-B** yeah I see you. but. what am I gonna do. <sup>21</sup>

### Carla Maersk Bridge Audio

12:29:26  
**Capt-B** why he's turning like this?  
  
12:29:28  
**Pilot-B** he's. he- come off the bank.  
  
12:29:30  
**Pilot-B** hard starboard.  
12:29:31  
**Helm-B** hard starboard.

---

<sup>19</sup> Conti Peridot Group Transcription: *that's me.*  
Carla Maersk Group Transcription: *it's me.*

<sup>20</sup> Conti Peridot Group Transcription: *@ [Pilot-B first name] you see me?*  
Carla Maersk Group Transcription: *(you) see me?*

<sup>21</sup> Conti Peridot Group Transcription: *[unintelligible]*  
Carla Maersk Group Transcription: *yeah i see you. but. what am i gonna do.*

### Conti Peridot Bridge Audio

### VHF Ship-to-Ship Communication

### Carla Maersk Bridge Audio

12:29:36  
**Pilot-A** don't know. try- try to miss me. <sup>22</sup>

12:29:40  
**Pilot-A** (coming across the) channel. <sup>23</sup>

12:29:51  
**Pilot-A** come to my left. come to your left.  
come to your left hard. <sup>24</sup>

12:29:54  
**Pilot-B** I can't.

12:29:39  
**Pilot-B** full ahead.

12:29:40  
**Mate-B** full ahead.

12:29:42  
**Pilot-B** midship.

12:29:43  
**Bridge** [sound similar to Engine Order  
Telegraph (EOT) bell]

12:29:43  
**Helm-B** midship.

12:29:47  
**Capt-B** why's he going like this?

12:29:48  
**Pilot-B** 'cause he come off the bank over  
there.

12:29:55  
**Capt-B** we are midship.

---

<sup>22</sup> Conti Peridot Group Transcription:  
Carla Maersk Group Transcription:

*i don't know. eh- try (to) miss me.*  
*don't know. try- try to miss me.*

<sup>23</sup> Conti Peridot Group Transcription:  
Carla Maersk Group Transcription:

*i'm comin' back across the channel.*  
*(coming across the) channel.*

<sup>24</sup> Conti Peridot Group Transcription:  
Carla Maersk Group Transcription:

*come to my left. come to your left. come to your left hard.*  
*come to my left. your left. (i'm drivin' on it).*

### Conti Peridot Bridge Audio

### VHF Ship-to-Ship Communication

### Carla Maersk Bridge Audio

12:30:03  
**Bridge Wing** [sound similar to fog signal]

12:30:15  
**Bridge** [sound similar to alarm]

12:29:55  
**Pilot-A** come to your left hard. <sup>25</sup>  
12:29:57  
**Pilot-B** I can't @ [Pilot-A first name].  
  
12:29:58  
**Pilot** why not? <sup>26</sup>

12:29:57  
**Pilot-B** hard starboard.  
  
12:29:58  
**Capt-B** hard starboard.  
12:29:58  
**Helm-B** hard starboard.  
12:30:02  
**Bridge Wing** [sound similar to fog signal]

12:30:05  
**Capt-B** \* going to this green (one).  
12:30:12  
**Pilot-B** midship.  
12:30:13  
**Bridge-?** midship.  
12:30:13  
**Helm-B** midship.  
12:30:15  
**Pilot-B** (hard).

---

<sup>25</sup> Conti Peridot Group Transcription: *come to your left hard.*  
Carla Maersk Group Transcription: *(come) left hard.*

<sup>26</sup> Conti Peridot Group Transcription: *why not?*  
Carla Maersk Group Transcription: *(why not?)*

### Conti Peridot Bridge Audio

12:30:17

**Pilot-A** #.

12:30:20

**Pilot-A** \*\*.

12:30:26

**Bridge-?** \*\*.

12:30:26

**Bridge** [unidentified sound]

12:30:27

**Bridge-?** hard starboard sir.

12:30:28

**Pilot-A** \*\* hard starboard.

12:30:29

**Bridge** [unidentified sounds]

12:30:31

**Pilot-A** # me.

12:30:32

**Bridge-?** \*.

12:30:32

**(Capt-A or Mate-A)** (I'm stopping it) [voice is not the Pilot]

12:30:33

**Bridge-?** (stop).

### VHF Ship-to-Ship Communication

### Carla Maersk Bridge Audio

12:30:16

**Bridge-?** \*.

12:30:20

**Pilot-B** hard starboard.

12:30:21

**Helm-B** hard starboard.

12:30:22

**Pilot-B** yeah.

12:30:23

**Capt-B** on the \*... (on) the green one.

12:30:26

**Bridge-?** \*\*.

12:30:27

**Pilot-B** \* (I don't care). he's gonna hit us.

12:30:29

**Capt-B** hard to starboard.

12:30:29

**Bridge-?** yeah. hard to starboard.

12:30:32

**Pilot-B** he's gonna hit us.

12:30:33

**Bridge-?** \*.

### Conti Peridot Bridge Audio

12:30:35  
**Pilot-A** watch out (on) bow.  
12:30:36  
**Bridge** [unidentified sound]  
12:30:37  
**Bridge** [sound similar to snap]  
  
12:30:38  
**Pilot-A** # me.  
12:30:38  
\*\*\*.  
  
12:30:42  
\*\*.  
12:30:43  
**Pilot-A** gonna hit 'em.  
  
12:30:44  
**Bridge-?** #.  
12:30:44  
[sounds consistent with that of a collision]  
12:30:44  
**Pilot-A** hang on.

### VHF Ship-to-Ship Communication

### Carla Maersk Bridge Audio

12:30:36  
**Pilot-B** #.  
12:30:37  
**Mate-B** @ [forward lookout first name].  
standby. @ [forward lookout first name].  
  
12:30:39  
**Crew-?** \*\* (it's) very close to us. [radio transmission]  
12:30:39  
**Capt-B** hard to port.  
12:30:41  
**Pilot-B** too late.  
12:30:42  
**Bridge** [sound similar to four alarm beeps]  
  
12:30:43  
[sounds consistent with that of a collision]

### Conti Peridot Bridge Audio

12:30:46  
**Pilot-A** hang on.

12:30:49  
**Pilot-A** stop the engine.

12:30:50  
**(Mate-A)** stop engine.

12:30:51  
**(Capt-A)** already did.

12:30:51  
**Pilot-A** full astern.

12:30:52  
**Bridge** full astern. [multiple voices]

12:30:54  
**Bridge** [unidentified sound]

12:30:55  
**Bridge** [sustained high pitch tone/alarm]

12:30:55  
**Bridge-?** (#).

### VHF Ship-to-Ship Communication

### Carla Maersk Bridge Audio

12:30:48  
**Bridge** [sustained high pitch tone/alarm]

12:30:49  
**Pilot-B** stop the engine.

12:30:50  
**Capt-B** stop engine.

12:30:50  
**Bridge-?** stop engine.

12:30:51  
**Bridge** [sound similar to Engine Order Telegraph (EOT) bell]

12:30:52  
**Bridge-?** [sound similar to clearing of throat]

12:30:56  
**Pilot-B** that cargo?

12:30:58  
**Pilot-B** (or is that) ballast?

12:31:01  
**Capt-B** ballast tank.

12:31:01  
**Bridge Wing** [sound similar to fog signal]

### Conti Peridot Bridge Audio

12:31:02  
**Bridge Wing** [sound similar to fog signal]

12:31:16  
**Pilot-A** stop the engine.

12:31:17  
**Bridge-?** stop engine.

12:31:20  
**Bridge** [unidentified sounds]

### VHF Ship-to-Ship Communication

12:31:21  
**Pilot-A** two two eight. one thirty three. \* we had a... collision here. right at. ahh. eighty nine and ninety. tug boat company needs to send tugs (that) way.<sup>27</sup>

### Carla Maersk Bridge Audio

12:31:03  
**Capt-B** sound the signal... P A.

12:31:06  
**Bridge** [sound of pulsing siren for approximately six minutes]

12:31:08  
**Bridge** [PA chime, 3 tone alert]

12:31:08  
**Mate-B** attention... attention all crew. attention all crew. we had a collision. (have) a collision. [over PA]

12:31:15  
**Mate-B** go to the muster station. go to the muster station. [over PA]

---

<sup>27</sup> Conti Peridot Group Transcription:

Carla Maersk Group Transcription:

*two two eight one thirty three ah. \*\* we've had a collision here. right at. ahhh. eighty nine (and) ninety. w- tug boat companies we need \* send some tugs down please.*

*two two eight. one thirty three. \* we had a... collision here. right at. ahh. eighty nine and ninety. tug boat company needs to send tugs (that) way.*



### Conti Peridot Bridge Audio

12:31:35  
**Bridge-?** [conversation not in English]

### VHF Ship-to-Ship Communication

12:31:34  
**VHF-228** roger that captain. asap. <sup>28</sup>

12:31:35  
**Pilot-A** roger.

12:32:00  
**Pilot-B** I'm gonna need some tugs too there.  
\*\*.

March 9, 2015 12:31:36  
----- END OF TRANSCRIPT -----

March 9, 2015 12:57:00  
----- END OF RECORDING -----

### Carla Maersk Bridge Audio

12:31:44  
**Capt-B** where are we now. take the position.  
12:31:47  
**Pilot-B** #.  
12:31:51  
**Pilot-B** slow astern.  
12:31:52  
**Bridge-?** slow astern.  
12:31:53  
**Mate-B** slow astern.  
12:31:54  
**Pilot-B** yeah. let's get off this bank.  
12:31:57  
**Bridge** [sound similar to Engine Order Telegraph (EOT) bell]

March 9, 2015 12:32:01  
----- END OF TRANSCRIPT -----  
March 9, 2015 12:55:00  
----- END OF RECORDING -----

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<sup>28</sup> Conti Peridot Group Transcription: *roger that captain. asap.*  
Carla Maersk Group Transcription: *roger that (cap) asap.*