

Track Path Animation

Collision between Bulk Carrier *Conti Peridot* and Tanker *Carla Maersk*

Houston Ship Channel

Galveston Bay, Texas

March 9, 2015

DCA15MM017

This two-dimensional animation depicts the sequence of events in which the bulk carrier *Conti Peridot* collided with the tanker *Carla Maersk*. The accident occurred at 12:30 Central Daylight Time (CDT) on March 9, 2015 in the Houston Ship Channel, upper Galveston Bay, Texas.

Voyage Data Recorder (VDR) data from the *Conti Peridot* and the *Carla Maersk*, and Automatic Identification System (AIS) data recorded for the *Stolt Span*, *Karoline N*, *Gaia Leader* and the towboat *Lincoln L* were used to determine the positions and headings of the vessels involved.

A sequence of two-dimensional still-image map graphics are used to provide an overview of the circumstances of the accident and vessel positions as the time advanced. First, the position of *Conti Peridot*, *Carla Maersk*, *Stolt Span*, *Karoline N*, *Gaia Leader*, and towboat *Lincoln L* are illustrated beginning at approximately 11:00 CDT in an overall map of the area of the Houston Ship Channel, Galveston Bay, Texas. The ships are shown 5 times actual size for visibility, and highlighted with white squares for the accident ships and white circles for the other ships. Scaled diagrams showing the relative size of the 623-foot-long bulk carrier *Conti Peridot* and the 600-foot-long tanker *Carla Maersk* are shown. The next image shows moving red arrows to indicate the paths of both accident vessels up to the point of collision noted by a red star.

The screen is divided vertically; the left side shows the positions of the vessels during the transit in the area map. The upper right hand side of the screen shows an inset with a closer view of the *Conti Peridot* and a white line indicating the track following the vessel. The track was generated by Global Positioning Satellite (GPS) data recorded on the VDR. Rudder angle, heading and speed from the VDR of the *Conti Peridot* are displayed next to the inset. Selected comments of Bridge Audio of the *Conti Peridot* and Ship-to-Ship VHF Communications from the VDR are displayed on the lower right as text at the time they occurred. The local time is shown at the top of the screen. The still images are followed by a continuous animation of the vessels. The speed of the animation varies and is noted below the local time window.

Beginning at 11:25 CDT, the motion of the vessels involved is shown in a continuous animation playing twenty times faster than actual speed. After passing *Karoline N* at 11:35, and *Stolt Span* at 11:39, *Conti Peridot* continued up the channel past the turn at Bayport onto the final leg of the channel. After passing the *Gaia Leader* at 12:24, the *Conti Peridot* radioed the *Carla Maersk* and agreed to a port to port passing. From this point, the motions of the vessels are played four times faster than actual speed to the time of collision at 12:30. The animation is then followed by a photograph looking forward along the *Carla Maersk* to the location where the port bow of the *Conti Peridot* struck the port side of the *Carla Maersk*.

Weather and visibility conditions at the time of the accident are not shown. This animation contains audio narration.

Voice Over Narration:

1. The display depicts northbound bulk carrier *Conti Peridot* and the outbound tanker *Carla Maersk*, along with the northbound towboat *Lincoln L* pushing 3 barges. Also depicted are the outbound deep draft vessels *Karoline N*, *Stolt Span* and *Gaia Leader*, all with Houston pilots on board.
2. The red arrows indicate the intended paths of both accident vessels up to the point of collision noted by the red star.

3. The upper right hand side of the screen shows an inset with a closer view of the *Conti Peridot* as she meets and passes the outbound vessels. The white line of the track following the *Conti Peridot* is generated by the GPS recorded position.
4. The rudder angle indicator, gyro compass heading and speed from the bridge of the *Conti Peridot* are shown at the upper right. Selected comments of Bridge Audio and ship-to-ship communication from the Voyage Data Recorders appear at the lower right, and the local time is displayed at the top.
5. The speed of the animation will vary and will be noted below the time window.
6. At 11 am visibility was good in the bay and up in the river. By 11:21 the visibility had decreased to 2 miles.
7. As the *Conti Peridot* approached the southbound *Karoline N*, shown in the upper right, the visibility had decreased even further to about 800 feet at 11:33.
8. After passing the *Karoline N*, the *Conti Peridot* moved bank to bank, and then sheered back off the right hand bank approaching the *Stolt Span* with only about 500 feet of visibility.
9. The pilot on the *Conti Peridot* issued several hard rudder commands to port and to starboard to maintain control of the vessel, passing the *Stolt Span* and eventually regaining a steady course in the channel.
10. For about the next 40 minutes the transit was uneventful as the *Conti Peridot* made its way up the channel in 500 feet of visibility including the turn at Bayport onto its final leg of the channel.
11. At 12:16, the pilot on the *Conti Peridot* radioed the pilot on the *Gaia Leader*, which was the first of 3 outbound vessels he was expecting to encounter and both agreed to a port to port passage.
12. About this time the audio from the *Carla Maersk* captures the continued discussion the pilot and master are having regarding the onset of fog and the possible options available to them such as turning into Barbours Cut. This was dismissed due to the berthed vessels and the lack of any nearby tug boat assistance.
13. After passing the *Gaia Leader* and ordering numerous rudder commands to maintain course in the center of the channel, the pilot on the *Conti Peridot* radioed saying 'we'll see you on one' and agreed to a port to port passing arrangement with the pilot on the *Carla Maersk*.
14. For the next 3 minutes there was no communication between the vessels and the pilot on the *Carla Maersk* had no indication that anything was wrong.
15. The pilot on the *Conti Peridot* anticipated the vessel's sheer to port as the vessel approached the right hand bank. He radioed the pilot on the *Carla Maersk*: "heading your direction, be careful now," and ordered hard starboard and full ahead.

16. The pilot on the *Conti Peridot* asked the pilot on the *Carla Maersk* to try and miss him and come “left hard.” Upon seeing the *Conti Peridot*’s proximity and angle of approach, the *Carla Maersk* pilot stated all he could do was go hard right and full ahead in an attempt to run away from the approaching vessel.

17. However, about 12:30, the port bow of the *Conti Peridot* struck the port side of the *Carla Maersk*.

Excerpts from the Bridge Voice Recorder of *Conti Peridot*.

11:28:10 **Pilot** three two seven.
11:33:09 **Pilot** starboard ten.
11:33:36 **Pilot** port ten.
11:34:09 **Pilot** port twenty.
11:34:32 **Pilot** port ten.
11:34:59 **Pilot** hard to starboard.
11:35:44 **Pilot** midship.
11:36:00 **Pilot** starboard twenty.
11:36:14 **Pilot** hard starboard.
11:37:01 **Pilot** hard port.
11:38:02 **Pilot** port twenty.
11:38:37 **Pilot** hard (to) starboard.
11:39:32 **Pilot** hard to starboard.
11:39:36 **Pilot** hard to port.
11:39:58 **Pilot** starboard twenty.
11:40:01 **Pilot** hard to starboard.
11:40:24 **Pilot** starboard twenty.
11:40:41 **Pilot** hard port.
11:41:09 **Pilot** midship.
11:41:51 **Pilot** port twenty.
12:17:21 **Pilot** (excuse me.) half ahead.
12:21:49 **Pilot** starboard ten.
12:24:40 **Pilot** port twenty.
12:24:58 **Pilot** starboard twenty.
12:25:10 **Pilot** midship.
12:26:31 **Pilot** starboard ten.
12:26:59 **Pilot** midship.

12:27:24 **Pilot** port twenty.
12:27:26 **Pilot** hard (a) port.
12:28:01 **Pilot** midship.
12:28:08 **Pilot** port twenty.
12:28:19 **Pilot** hard port.
12:28:25 **Pilot** midship.
12:28:35 **Pilot** port twenty.
12:28:46 **Pilot** midship.
12:29:26 **Pilot** hard to starboard.
12:29:30 **Pilot** full ahead.

Excerpts from the Ship-to-Ship VHF Communication

12:16:07 **CP** hey @ [GL first name]. *** (see) you on one.
12:16:13 **GL** thank you @ [CP first name].
12:17:55 **CP** captain (@ [GL first name])... (we'll) see you on (the) one (whistle).
12:18:01 **CP** be safe.
12:26:21 **CP** @ [CM first name]. we'll see you on one. you be safe now.
12:26:24 **CM** okay @ [CP first name]. one whistle
12:26:25 **CP** roger.
12:29:09 **CP** hey @ [CM first name]. *heading your direction. be careful now.
12:29:33 **CP** @ [CM first name] you see me?
12:29:34 **CM** yeah I see you. but. what am I gonna do?
12:29:36 **CP** don't know. try- try to miss me.
12:29:51 **CP** come to my left. come to your left. come to your left hard.
12:29:54 **CM** I can't.
12:29:55 **CP** come to your left hard.
12:29:57 **CM** I can't @ [CP first name].
12:29:58 **CP** why not?

Note: **CP:** Pilot on *Conti Peridot*
CM: Pilot on *Carla Maersk*
GL: Pilot on *Gaia Leader*

Note: Animation is available upon request to the Office of the Chief Information Officer, Records Management Division (CIO-40)

