



Bundesstelle für Seeunfalluntersuchung
Federal Bureau of Maritime Casualty Investigation

Interim Investigation Report

Serious Marine Casualty 37/22

Grounding of MUMBAI MAERSK while entering the Weser fairway on 2 February 2022

1 February 2023

Pursuant to the second sentence of Article 28(1) of the Law to improve safety of shipping by investigating marine casualties and other incidents (Maritime Safety Investigation Law – SUG) in conjunction with the second sentence of Article 14(2) of Directive 2009/18/EC of the European Parliament and of the Council of 23 April 2009 establishing the fundamental principles governing the investigation of accidents in the maritime transport sector, the Federal Bureau of Maritime Casualty Investigation publishes an interim investigation report within a period of 12 months of a very serious or serious marine casualty if it is not possible to complete the corresponding investigation report within that period.

This interim investigation report should not be used in court proceedings or proceedings of the Maritime Board. Reference is made to Article 34(4) SUG.

The German text shall prevail in the interpretation of this interim investigation report.

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1 FACTUAL INFORMATION

1.1 Photograph of the ship



Figure 1: Photo of the MUMBAI MAERSK¹

1.2 Ship's particulars

Name of ship:	MUMBAI MAERSK
Type of ship:	Full container ship
Flag:	Denmark
Port of registry:	Copenhagen / Denmark
IMO-number:	9780471
Call sign:	OWNQ2
Owner:	Mærsk Line A/S
Shipping company:	Mærsk Line A/S
Year built:	2018
Shipyard:	Daewoo Shipbuilding & Marine Engineering (DSME)
Classification society:	American Bureau of Shipping (ABS)
Length overall:	399.0 m
Breadth overall:	58.6 m
Draught (max):	17.0 m
Gross tonnage:	214,286 BRT
Deadweight:	123,406 tdw / 19,630 TEU
Engine rating:	2 x 31,000 kW
Main engine:	2 x Doosan / MAN 7G80ME-C95T2
Speed:	23 knots (max), 16 knots (cruising)
Hull material:	Steel
Hull construction:	conventional (closed hatches, cell guides, double bottom etc.)
Minimum safe manning:	12

¹ Source: Hasenpusch Photo-Productions.

1.3 Voyage particulars

Port of departure:	Rotterdam (NL)
Port of call:	Bremerhaven (DE)
Type of voyage:	Merchant shipping/international
Cargo information:	Containers
Manning:	29
Draught at the time of accident:	$d_f = 12,80 \text{ m}$, $d_a = 12,80 \text{ m}$
Pilot on board	Yes

1.4 Marine casualty information

Type of marine casualty:	Serious marine casualty / grounding
Dae/time	02/02/2022, 2306 hrs (Local time = UTC + 1 hr)
Location:	A dumping ground for dredging silt in the North Sea (adjacent to the Weser fairway entry, approx. 3.5 nm north of the island of Wangerooge, south of the Weser buoys 3a and 3a-O)
Latitude/Longitude:	$\phi = 53^\circ 51,1' \text{ N}$, $\lambda = 007^\circ 53,6' \text{ E}$
Voyage segment:	Pilotage waters
Consequences:	<ul style="list-style-type: none"> - Ship remained at the scene of the accident for 26 hours - Large-scale salvage operations, coordinated by the German Central Command for Maritime Emergencies (CCME) - No damage to the ship apart from paint abrasion from the underwater hull - No personal injuries - No environmental damage - No obstruction of passing traffic

Section of Navigational Chart DE 2, BSH (INT 1456)

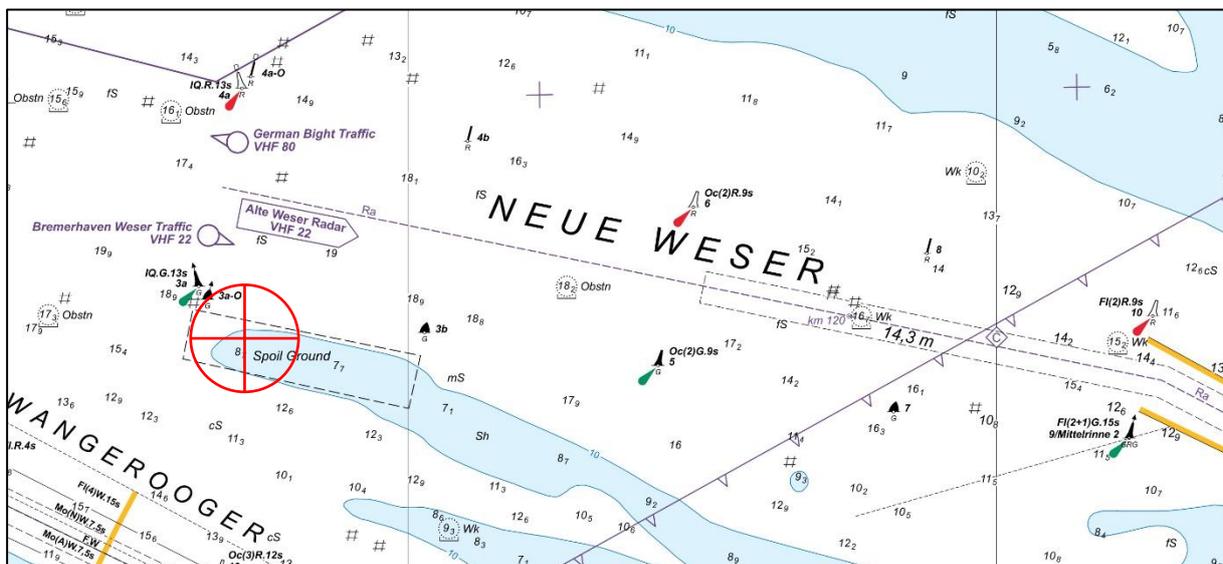


Figure 2: Scene of the accident, “Neue Weser” fairway entry.

1.5 Shore authority involvement and emergency response

- Agencies involved:
- Vessel Traffic Services Bremerhaven
 - Operating company Mærsk Line
 - Salvage company SMIT Salvage, commissioned by Maersk
 - German Central Command for Maritime Emergencies (CCME)
 - German Ship Safety Division
 - Waterways Police Bremerhaven
- Action taken:
- Regular soundings of all double bottom spaces such as tanks, cofferdams etc. by the crew.
 - CCME assumed overall command of the operations (3/2/2022 0130 hrs).
 - First unsuccessful attempt at towing the ship free at the next high tide (3/2/2022 0158 hrs, aborted at 0328 hrs).
 - Preparation of a salvage plan by SMIT Salvage in coordination with the CCME.
 - Next and successful salvage attempt two high tides later, on 4/2/2022 from 0052 hrs onwards; ship reported to be afloat at 0114 hrs.
 - Main engine trial in the German Bight.
 - Survey of all double bottom tanks by the classification society, Ship Safety Division and insurance company.
 - Diving inspection in Arhus (DK): no damages to stern, propellers, sea chests, rudders, thrusters etc. apart from paint abrasion from the underwater hull.
- Resources used:
- Towing vessels involved:
 - First salvage attempt: BUGSIER 9, BUGSIER 30, multipurpose and water protection vessel MELLUM, multipurpose vessel NEUWERK, RT EMOTION, RT EVOLUTION, RT PIONEER, VB EMOE. (At the end of the salvage attempt, all units were connected.)
 - Second salvage attempt: BUGSIER 3, BUGSIER 7, BUGSIER 30, FAIRPLAY 25, salvage tug MANTA, NEUWERK, RT EVOLUTION, RT PIONEER, salvage tug SOVEREIGN, VB EMOE. (All units connected apart from BUGSIER 3, BUGSIER 7 und RT PIONEER, which pushed as instructed, and MANTA and VG EMOE, which remained on stand-by and acted at assistance tugs later on.)
 - Sounding vessel ZENIT for determination of the exact water depths.

2 SUMMARY

On 2 February 2022, the MUMBAI MAERSK, a so called „Ultra-Large Container Ship“ (ULCS²), was en route from Rotterdam (Netherlands) to Bremerhaven. The ship had chosen the deep-water route as opposed to the coastal route for its approach. In the course of a turning manoeuvre just before entry into the narrow “Neue Weser” fairway, the ship ran aground on a dumping ground for dredging silt adjacent to the fairway.

During her approach of the narrow fairway section, the MUMBAI MAERSK received the information via UHF that her berth was still occupied, despite existing schedules, but would become free very soon. With a draft of 12.80 m, the ship was tide-dependent. At first, Vessel Traffic Services granted permission for the ship, which was approaching at a speed of 6 – 7 knots, to cross into the next VTS district. Shortly afterwards, however, it was denied entry into the narrow section of the fairway in which neither turning nor encounters between large ships would be possible without problems. The vessel therefore performed a turn before that point (approx. level with buoys 3b and 4b) and proceeded to sail in the opposite direction.

Less than half an hour later, the MUMBAI MAERSK was informed that she could now enter Bremerhaven after all. With the tide window threatening to close, the ship immediately turned back to her original course. The planned manoeuvre failed, however, and the MUMBAI MAERSK ran aground on a dumping ground for dredging silt just south of the fairway.

Due to the sudden "deceleration" of the foreship, which had run aground first, at a speed of almost 10 knots and during a port turn, the stern of the ship entered into a yawing motion. The ship continued to pivot around a longitudinal axis on the grounded foreship. When the MUMBAI MAERSK finally stopped moving after about 20 minutes, it had rotated by more than 180° from the direction in which it had run onto the dumping ground. When the grounding first happened at 23:06 hrs, it was immediately reported to Vessel Traffic Control.

The informed CCME assumed overall command of the salvage operations an hour later. A first attempt at towing the ship free at the next high tide failed and had to be aborted.

The Dutch salvage company SMIT Salvage, commissioned by the shipping company, prepared a salvage plan that was coordinated with the CCME. At the next high tide (in the night between 3 and 4 February) the next attempt was made at towing the vessel free. Prior to this, the exact water depths around the MUMBAI MAERSK had been sounded and the ship lightened by 7.000 tons of ballast water. At 0114 hrs on 4 February 2022, the ship was reported to be afloat.

Before the MUMBAI MAERSK entered Bremerhaven under her own steam, she was towed into the German Bight to test her two main engines.

² ULCS (also ULCV, Ultra-Large Container Vessel): very large container ships with a deadweight tonnage of more than 12,000 TEU (Twenty-Foot Equivalent Units).).

The diving inspection required for maintenance of class, including all class surveys, was conducted in the next scheduled port of call, Aarhus (Denmark), due to insufficient water depth in Bremerhaven and poor visibility conditions under water. For this purpose, a provisional voyage permission was granted in Bremerhaven after a survey of all tanks by the classification society, Germany's Ship Safety Division, and the vessel's insurance company. The diving inspection revealed that the accident had only resulted in paint abrasion, and that the ship had not sustained any further damage. Class was therefore reissued.

The investigations by the BSU, dealing with Weser approach coordination, the management of dredging silt and dredging operations in general, as well as an extensive analysis of the navigational manoeuvres before the accident, have been concluded. The BSU is currently in the process of preparing the investigation report.

Because the one-year deadline for publication, set by the European Union and adopted as national law by the Federal Republic of Germany, cannot be met, the public is informed about the status of the investigations into this very serious maritime accident by means of the publication of an interim investigation report.