

The Independent Fact Group

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Subject: MV Estonia shipwreck scenario

Type: Report

By: The Independent Fact Group
www.factgroup.uk

Status: Proved

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Version: Report-English

Methodology:

In the course of this task, we have assumed that the solution of a problem is never better than the validity of the basic assumptions. As a result, we have stipulated some methodological principles, of which the following are the most fundamental:

1. All scenarios must be considered to be true until the contrary is proved.
2. All observations, assumptions or statements on which a scenario is based must be considered false until the contrary is proved.

We have defined a number of criteria for concluding that an observation, assumption or statement may be considered to be true or false, and processes and routines for the route to be taken in clarifying an observation, assumption or statement. These criteria involve technical, empirical, statistical and/or semantic requirements which, if they are relevant, must all be met if the observation, assumption or statement is to be classified as an objective fact.

The materials we have worked with are primarily the documents, audio recordings and films in the Swedish Accident Investigation Commission's Estonia archive, together with supplementary information from other public sources and, in addition documentation from the Meyer shipyard and its independent commission.

Summary

In this report, the Independent Fact Group reveals the known facts regarding the final route that led to the shipwreck. The report is a detailed study of the last 60 minutes of this fateful night and is a follow-up to the previous report, "MV Estonia - The last voyage," presented as an interim report on 2001.02.11.

Our original interim report, which does not go into detail regarding the last 60 minutes, is consistent with what we have now been able to state.

You will find the interim report under the following link:

<http://privat.bahnhof.se/wb576311/factgroup/est/route.html>

The purpose of this report IS NOT to explain the cause of the sinking but to demonstrate the only possible route the vessel followed in the last 60 minutes.

The report also shows, once again, that despite the known facts, JAIC failed to draw even reasonable conclusions but chose a more manageable path through guesswork and assumptions, agreements, and detached assumptions.

Known facts against the predetermined cause of the accident were left out of assessments and conclusions, implying a conscious plan to spread unfounded and incorrect information.

Wreck site

Unfortunately, since the sinking, especially in its immediate aftermath, several different accounts of where the MV Estonia sank was made public. The information has been official and documented in various ways.

The Finnish accident investigation authority issued an utterly false position at Latitude 59°23' and Longitude 21°42' through its chairman Kari Lehtola 1994.09.30. The intent was, according to Lehtola, an "isolation of the wreck" to prevent other countries governments and agencies and others from conducting dives on the wreck.

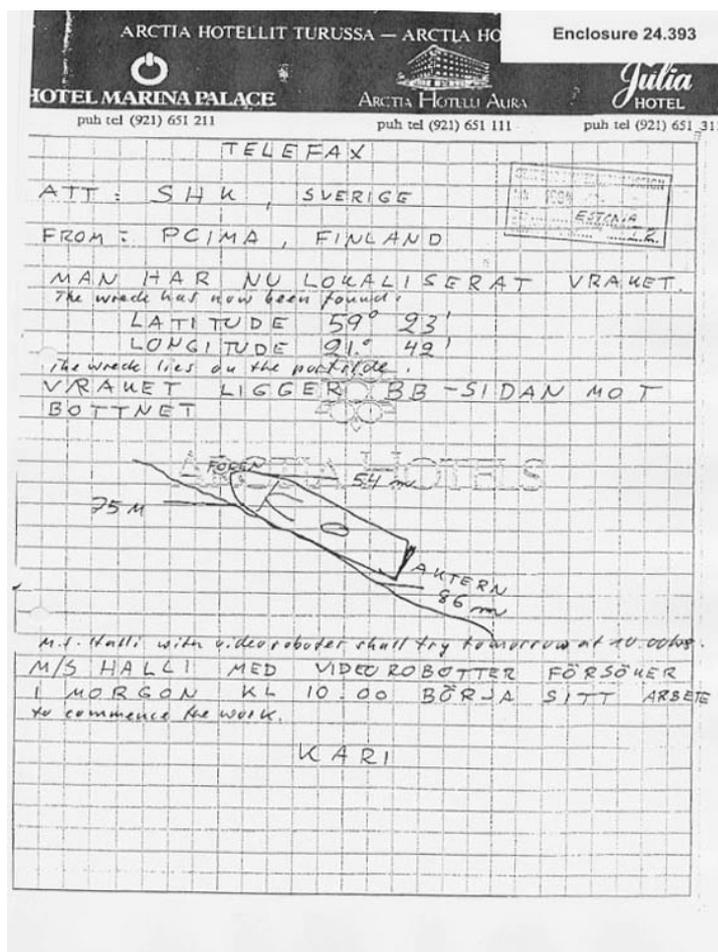


Figure 1. The false position was communicated via fax to SHK in Sweden. (German Group of Experts enclosure).

The matter was not improved by the fact that in December 1994, the same authority again provided wrong information to Rockwater when their diving and investigation of the wreck was to begin.

Investigation

This report is based on relevant and confirmed facts found in the investigations. It concerns the position of the wreck, known information about where MV Estonia was at different times, where distress calls were made, in which positions the ship left wreckage goods and how the ship, given all this information, was able to drift during the sinking.

By compiling known official facts included in JAIS's documentation from work, we have plotted these on a map of the accident site. The basis for the report is facts from the bottom survey immediately after the sinking, as well as times for specific events during the sinking. It is woven into its context where course, speed, wind, waves, current, etc., find their place in the scenario.

On October 7, 1994, Dr. Jouko Nuorteva sent a summary of bottom surveys that had been carried out. In an attached map showing the ship and bottom curves in the area, the wreckage and specifically interesting places were marked with numbers 1 - 4. It is evident by the findings that MV Estonia must have passed points 4 and 3 in that order and, at the very final of the shipwreck, passed over area 2 from west to east.

The first bottom survey performed by the Finnish vessel Tursa

Below is a translation from Finnish of the announcement on 7 October 1994.

Accident Commission

Chancellor of Justice

Att: Kari Lehtola

VL T.....

From: Jouko Nuorteva

Attached sketch drawing at this point of the event. The surveyed area is in its entirety approx. 3 square kilometers, scale 1:10,000.

Explanation: Depth curve from a part of the area at 10 meter intervals 1=Wreck, 2=Falling area (shipwreck area) special material (things) a lot from here to the wreck, some in mud. The material(s) are reduced towards the wreck, some of the things are at the front of the bow. At the southern part of the wreck, the mud (mud collection) has been disturbed because things are also there. 3= Separate areas at the mud bottom, have been interpreted as having fallen from the ferry. 4= Examine the area in case of soft clay. If it is the visor, then the ship's direction of travel has been approx. 250 degrees (or 240 degrees) From the location it is approx. 700m to the wreck and to the fall area (shipwreck area) approx. 950m. The intention is that the site should be investigated first, when weather conditions permit. After this, the area is expanded if necessary.

Attached: Map

: Sonogram of the wreck

07/10/94 14:12 949112158 SMMV A. TURSAS PAGE 01

7.10.94
14.05
1+2 sivua

Suuronnettomuusalueen suunnittelukunta
Oikeusministeriö
att Kari Lehtola

VL Tursas
from Jouko Nuorteva

Oheessa sketsipiirros tämän hetkisestä tilanteesta.
Tutkittu alue on kokonaisuuksessaan n. 3 km².
Mittakaava 1:10 000
Selitys: Syyryskäyrät osalta alueesta 10m välein,
1 = hylky, 2 = kaatumispaiikka, erikokoista tavaraa runsaasti
tästä hylkyyn asti, osittain saavan uoponeina. Tavaroiden
määrä vähenee hylkyä kohti, osa tavaroista on keularen
etäpuolella. Hyllyn etäpuolella on savikerosotumat "häärätyt",
tavaroita on myös siellä. 3 = Erillisiä kohteita saavi-
pohjalla, tulkitte aluksesta pudonneiksi. 4 = Tarkistettava
kohde pehmeällä savikolla. Miltäli se on visiiri, niin
alukseen kulkusuunta on ollut ~250° (tai 240°).
Kohde/ta matkaa hylkyyn n. 700m ja kaatumispaiikkaan
n. 950m

Kohde on tulkitus tarkistaa ensimmäisenä, lam säät saan
sallivat. Tämän jälkeen aluetta laajennetaan tarvittava

Litteet : kartta
: Sonogrammi hylkystä

Jouko Nuorteva

Figure 2. Dr. Jouko Nuorteva, summary of bottom surveys.

The following image has been added to our overview in Figure 4, showing areas where wreckage goods were found.

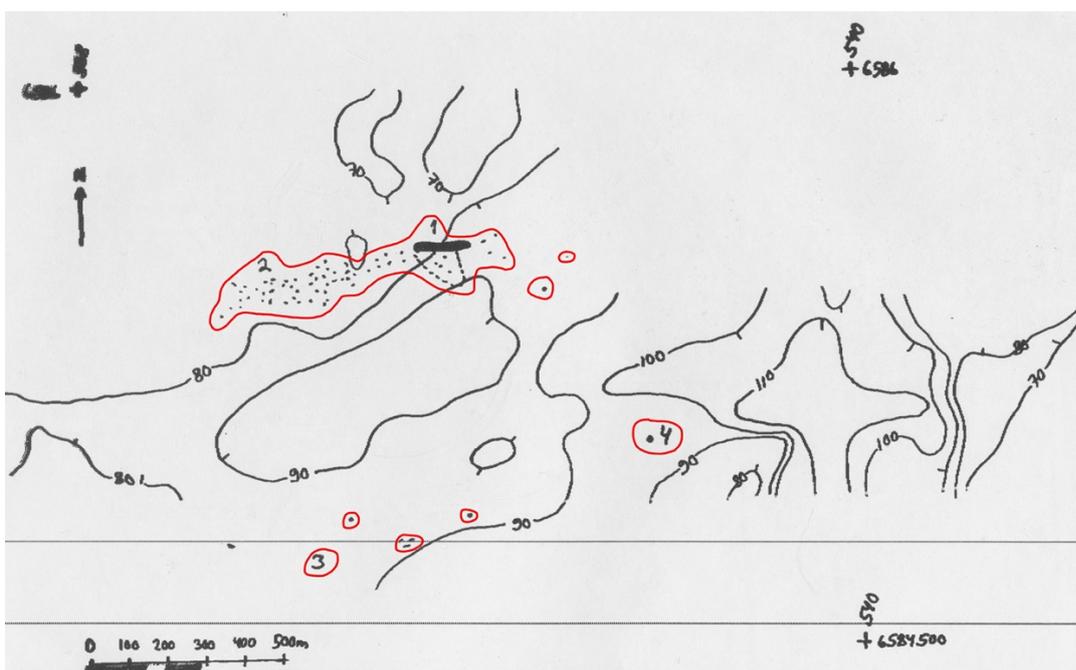


Figure 3. Dr. Jouko Nuorteva, map and findings from the bottom surveys (red markings, the Independent Factgroup).

On the map (Figure 3) that Dr. Nuorteva attached after the first bottom surveys, we marked the bottom findings with red to make them more transparent. Nuorteva described the various findings regarding 1, 2, 3 and 4 in his letter.

Nuorteva concluded that MV Estonia must have passed place 4 and place 3 at her entry into the shipwreck area.

The information in Nuorteva's letter was confirmed and described in more detail by Kari Lehtola on 9 October. He wrote: "*Good morning! Due to bad weather the search for the visor was discontinued during the whole day, but now Nuorteva has further analysed the pictures. At the location on the sea bottom, where Estonia on the basis of the object did capsize, there is a 10 m long and 5-7 m broad object on the bottom. It is probably of metal. The form fits well with the visor. Depth is 70 m, the bottom is hard.*

Karppinen, Aarnio and the ROV 1 team go onboard of Tursas at Nagu 11.00 (Finnish time) and the work starts at ca. 13.00 hrs. They shall video film at first the large object."

(11)

ESTONIA
I 13

TELEFAX

PLANERINGSKOMMISSIONEN FÖR UNDERSÖKNING AV STOROLYCKOR
Justitieministeriet
PB 62
00811 HELSINGFORS

☎ 90 - 75 90 82 62 (ordförande Kari Lehtola)
90 - 75 90 82 63 (generalsekreterare Pirjo Valkama-Joutsen)
TELEFAX 90 - 75 90 82 65 (* - 358 - 0 - 75 90 82 65)

Datum: ..9./10...1994

Antal sidor: 1 + ..2..

TILL: Olof Forsberg
BAI/S

FRÅN: Kari Lehtola
PCIMA/FIN

MEDDELANDE: God morgon! På grund av vädret har sökandet efter visiret varit inställt under hela dagen, men nu har Nuorteva analyserat bilderna ytterligare. På det ställe på havsbotten, där ESTONIA på basis av föremålen har kantrat, finns det ett 10 meter långt och 5 - 7 meter brett objekt på botten. Det är sannolikt av metall. Formen stämmer bra med visiret. Djupet är 70 meter. Botten är hård.

Karppinen, Aarnio och ROVI-gruppen stiger ombord till TURSAS i Nagu kl. 11.00 (finsk tid) och arbetet börjar c. 13.00. De videofilmar först "stora objektet".

Bifogar en SONAR-bild inklusive en förstoring av den.

Hälsningar
Kari

Figure 4. From Kari Lehtola via fax to Olof Forsberg, SHK in Sweden, describing a 10 x 5-7 m object.

Mv estonia

The next day, October 10, Kari Lehtola briefly announced that the large object turned out to be a sheet of steel. Unfortunately, no additional information, images, or video footage complements this brief description. However, it has never been denied that the object came from MV Estonia.

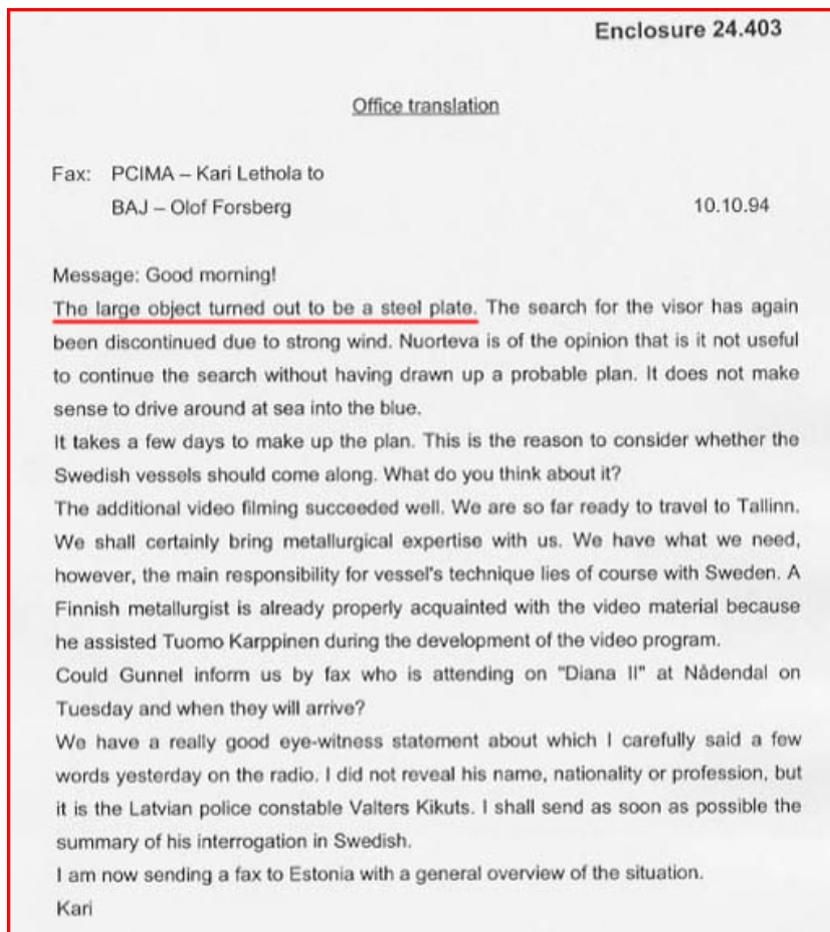


Figure 5. From Kari Lehtola via fax to SHK in Sweden. "The large object was a steel plate" (German Group of Experts enclosure).

The shipwreck site and the events between 00.50 and 01.50 – 1994-09-28

The following picture shows an overview of the shipwreck site and the water in its vicinity.

MV Estonia entered the area on course 261 degrees, and she maintained a speed of approx. 17 knots until 00.50. Earlier in the evening, when Estonia was on its way toward Sweden close to Mariella and Silja Europa, she held a slightly higher speed. It was possible because the wind was weaker and the waves lower.

The wind increased slightly towards midnight, and the average height of the waves also increased. Finally, Estonia slowed down after midnight and approached the shipwreck area at about 14 knots. We have calculated the effect of waves and current to approx. 0,5 m/s.

www.marinefinland.fi/en-US/Nature_and_how_it_changes/The_unique_Baltic_Sea/Hydrology

According to our investigations compiled from facts, Estonia's route was up to the sinking south of the boundary line.

The shipwreck area had a southwesterly mean wind of around 15 m/sec. Waves and current resulted in a direction that, during the last hour, met Estonia almost straight in front.

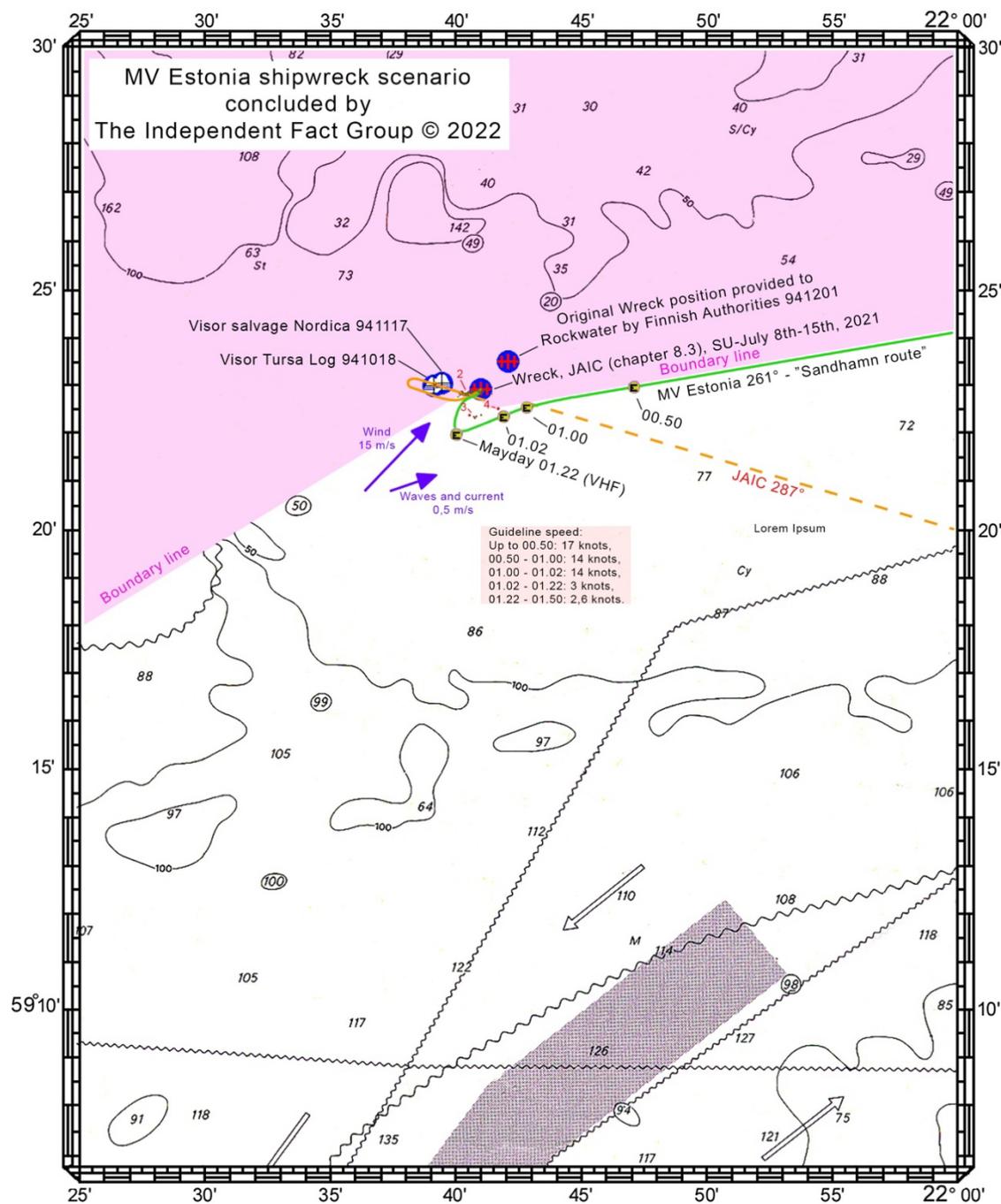


Figure 4. An overview of the shipwreck site.

Shipwreck scenario

With a speed of around 14 knots, several intense "bangs" occurred around 01.00. Some survivors have heard two bangs, and some have heard three. However, the vast majority put the bangs in a context of a sudden stop and an immediate incipient starboard list that temporarily recovered.

The first list was so strong that furnishings in bars and hallways came loose and fell onto the starboard side. After the initial recovery, crew members stated that they were ordered down the ship to investigate what happened. However, it was prevented by passengers who fled the lower decks, saying that there was water in corridors and cabins on Deck 1.

Later, survivors staying on Deck 1 stated that the bangs were so powerful that they fell out of their beds and immediately encountered water in the ship.

We can state that at the location of the bangs, Nuorteva found a large metal object (location 4). Unfortunately, the video recordings of this object have never been made public.

After the bangs and the sudden stop, the ship continued at a speed of only a few knots while passengers and crew fled upwards in the ship. Survivors have said it all happened so fast that only a few managed to get across the hallways and stairs.

Around 15 minutes after the bangs, it was no longer possible to get out of the ship, and the list was then at least 30 degrees.

At around 01.20, with a list of approximately 40°, the main engines stopped due to automatic shutdown, and the backup generator started shortly afterward. It provided the power supply to a limited number of consumers, including the illuminated alleyways and decks.

Unfortunately, the ship lacked propulsion and had lost its ability to steer, and therefore it must have drifted with the wind, waves, and current along a course of 15 degrees to the north. At 01.22, the first distress call was received, and the bridge crew announced that they had a blackout and could not indicate the ship's position. A few minutes later, they tell the position and say it looks bad, really bad. The last contact was at 01.29.

We can state that close to the location of the distress calls, Nuorteva found a number of objects on the bottom (location 3).

As the ship drifted northward, it sunk more and more into seawater, whereby the influence of the wind decreased, and the vessel then drifted more and more westward. The final course before the sinking at about 00.50 was around 60 degrees.

We can state that close to the location of the shipwreck, Nuorteva found a large number of objects on the bottom (location 2). Nuorteva call this area “the fall aera” and it can be explained due to the fact that MV Estonia "turned turtle".

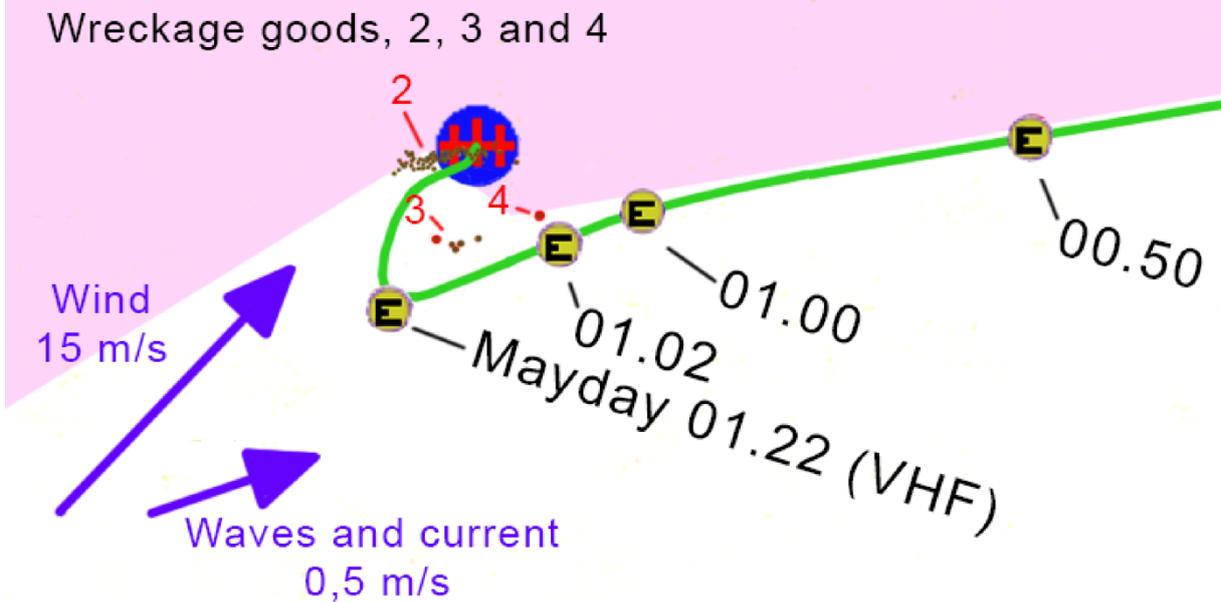


Figure 5. A close up of the final course and drifting at the shipwreck site.

The second is what The Independent Fact Group now presents based on the following facts:

1. MV Estonia cannot have traveled around the wreck site back and forth, both 1000 meters south of the wreck site and just as far west of it.
2. Drifting mainly against the wind, waves, and current is impossible without propulsion.
3. There is a boundary line where the wreck goods are missing to the northwest of this line.
4. Position indications for the wreck and the location of the visor have been demonstrably incorrect.
5. The information about the wreck site and bottom findings that JAIC first provided must be considered the most credible, as the investigation at that time had not been subject to false leads, incorrect interpretations, or cover-ups.
6. Findings of the visor's location cannot be the basis for a credible description of how the ship moved in the last hour.
7. The wreck site is known and verified.

The JAIC scenario, the sinking

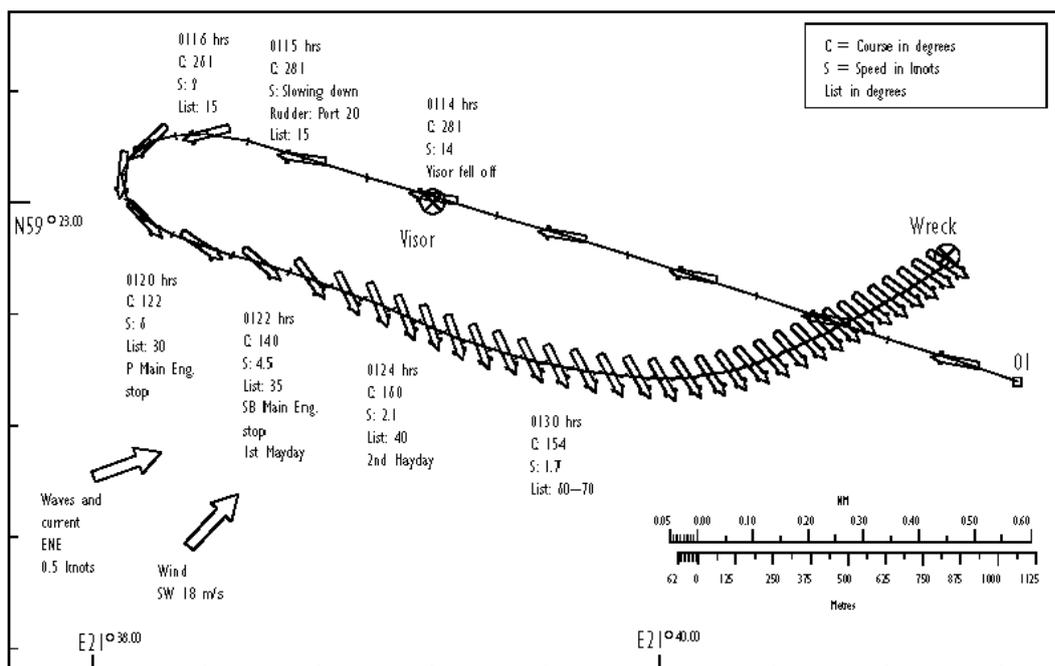
What is wrong with JAIC's report regarding the ship's course and movements in connection with the sinking?

JAIC presents four different scenarios, and none match the facts regarding the sinking.

- Version 1: JAIC final report: CHAPTER 1 THE ACCIDENT,
 - Version 2: JAIC final report: 5.5 Speed,
 - Version 3: JAIC final report: 13.2.4 The voyage up to the accident,
 - Version 4: JAIC final report: Supplement 403.
- (See the previous report, "MV Estonia - The last voyage.")

JAIC presents three drifting scenarios based on computer analyses, and none correspond to the facts or actual conditions of the wind, waves, and currents.

- JAIC Final report 13.12, navigation simulator at the Maritime Academy in Kalmar,



• JAIC Supplement Example 1.

The ship heading before the visor was lost was assumed to be 290° and the wave direction was assumed to be 245° which equals an initial relative heading to the waves of 135°.

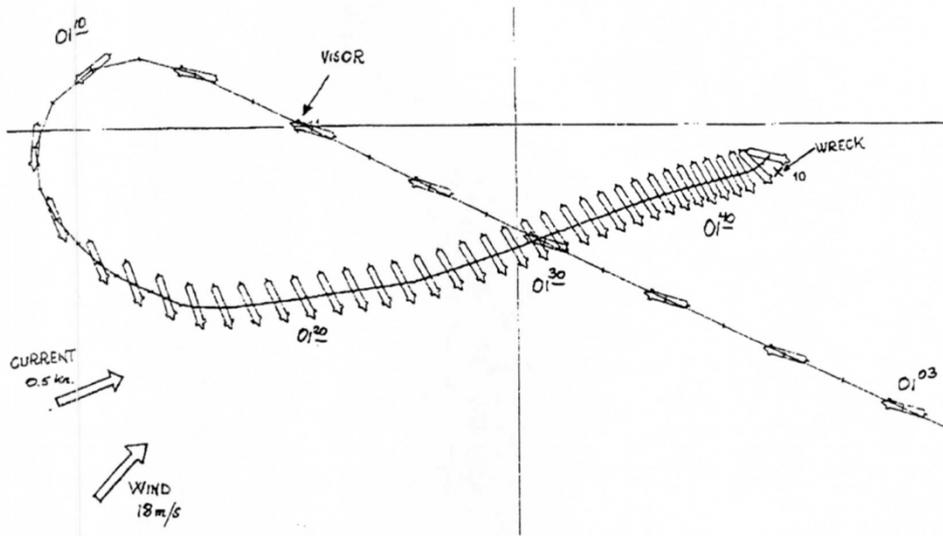


Figure 4.9 Plot of simulated track of the ESTONIA, Example 1.

• JAIC Supplement Example 2.

Example 2 A time sequence according to track simulations at Kalmar 1996

This example is related to a later manoeuvring simulations of the track of ESTONIA. In this simulation the ship is assumed to have continued its course for about a minute after the ramp was opened. The speed was then reduced and a hard port turn was initiated. To fit the positions of the wreck and the visor on the seabed, the ship must have been running at low speed a few minutes on contra-course before the engines tripped and the ship started to drift with the sea on starboard beam. The simulated track is shown in Figure 4.12 and the assumed conditions in Table 4.3. The rate of inflow, and the accumulated water on deck is shown in Figures 4.13-4.14.

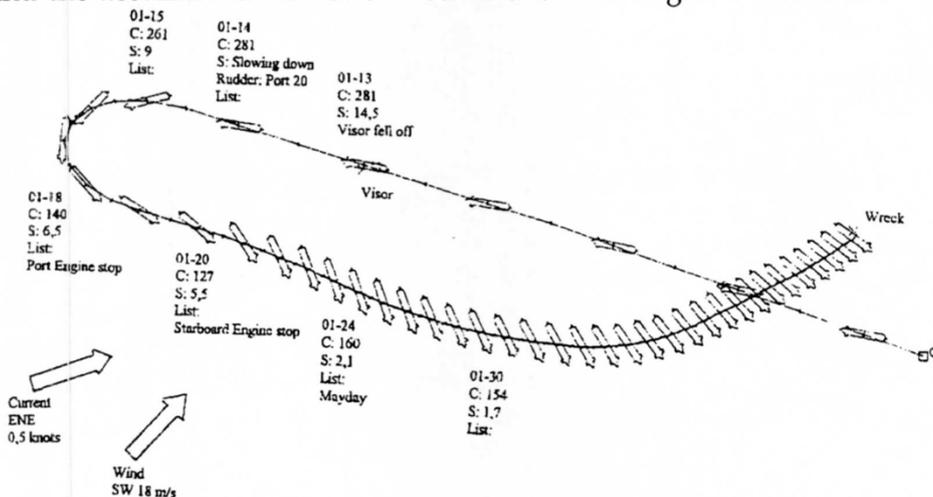


Figure 4.12 Plot of simulated track of the ESTONIA, Example 2.

Note that the image in Example 2 differs from the version published in the final report 13.12. In the final report, JAIC claims that the maritime Academy made the plot in Kalmar. But we can see that the simulation was clearly deviating.

The Independent Fact Group commentary and report conclusion:

We came to the following conclusions:

In the background material, we found credible and consistent with actual events. We find nothing to support JAIC's account of how the ship moved during the last hour before it sank.

We conclude that MV Estonia entered the sinking area about 1000 meters southwest of the wreck site, then made a starboard turn and drifted northeast. At first, she drifted mainly with the wind. Later, she drifted with waves and currents to the east when she was deep in seawater.

We can state that all wreck goods were found south of the boundary line we have marked on the map. However, there is an exception, and that is the alleged find and salvage location for the visor. However, we can question this place with good reason, and the place has been announced with incorrect positions in several rounds. It means that the ship never was at the place where the visor should have been recovered.

Our report again proves that the JAIC final report is a piece of disinformation.

DEDICATION

We dedicate this report to all those who still 28 years after the tragedy struggle to find the truth.

If MV Estonia had been seaworthy many of the more than 850 persons who lost their lives would have had a chance to survive no matter what caused the sinking.

The Independent Fact Group
Troon, Scotland 10th of November 2022