REPUBLIC OF CYPRUS
MARINE ACCIDENT AND INCIDENT INVESTIGATION COMMITTEE

Investigation Report No: 56E/2016

Very Serious Marine Casualty

Death of a crew member of the M/V "VASTERBOTTEN" on 14/04/2016 while plying the Baltic Sea

MAIC
Marine Accident and Incident Investigation Committee
Cyprus

Foreword

The sole objective of the safety investigation under the Marine Accidents and Incidents Investigation Law N. 94 (I)/2012, in investigating an accident, is to determine its causes and circumstances, with the aim of improving the safety of life at sea and the avoidance of accidents in the future.

It is not the purpose to apportion blame or liability.

Under Section 17-(2) of the Law N. 94 (I)/2012 a person is required to provide witness to investigators truthfully. If the contents of this statement were subsequently submitted as evidence in court proceedings, then this would contradict the principle that a person cannot be required to give evidence against themselves.

Therefore, the Marine Accidents and Incidents Investigation Committee, makes this report available to interested parties, on the strict understanding that, it will not be used in any court proceedings anywhere in the world.

This investigation was carried out as a joint investigation with Sweden (Swedish Accident Investigation Authority) and Latvia (Transport Accident and Incident Investigation Bureau).

Contents

List of Figures

List of Annexes

List of Acronyms and Abbreviations

AB	Able Seaman
BAC	Blood Alcohol Content
C/E	Chief Engineer
C/O	Chief Officer
CoC	Certificate of Competency
GA	General Alarm
CPR	Cardio-Pulmonary-Resuscitation
DPA	Designated Person Ashore
ISM Code	International Management Code for the Safe Operation of Ships
Knots	Speed in nautical miles per hour
Lat.	Latitude
Long.	Longitude
LT	Local Time
m	Meter
MC	Management Company
MRCC	Marine Rescue Coordination Centre
MT	Metric Ton
NM	Nautical Mile
OS	Ordinary Seaman
PSN	Position
RPM	Revolutions per Minute
SAR	Search And Rescue
2/O	Second Officer
SMC	ISM Safety Management Certificate
SMM	Safety Management Manual
SMS	Safety Management System
SOLAS	Safety of Life At Sea Convention
STCW95	International Convention on Standards of Training, Certification and Watch keeping for Seafarers 1978, as amended
S-VDR	Simplified -Voyage Data Recorder
VTS	Vessel Traffic Services
UTC	Universal Time Coordinated
VHF	Very High Frequency Radio
ZT	Zone Time

1. Summary

In conducting its investigation, the Marine Accident Investigation Committee (MAIC), reviewed events surrounding the accident, S-VDR recordings, documents, a forensic autopsy report and performed analyses to determine the causal factors that contributed to the accident, including any management system deficiencies.

Accident Description

On the night of the 14th April 2016, the Cyprus flag vessel "Vasterbotten", was plying the Baltic Sea, en route from Hallstavic-Sweden to Mersrags-Latvia. At approximately 23:45 hours LT (UTC+1), the vessel's Chief Engineer, was found by an Ordinary Seaman, unconscious. He was lying on the floor of the accommodation's main deck alleyway, below a ladder and close to the Engine Room's internal door.

The General Alarm was raised and the Master was informed. Medical assistance was requested from the Marine Rescue Coordination Centre-Sweden. Medical advice was given on the telephone. Crew members provided Cardio Pulmonary Resuscitation. The Chief Engineer was transferred by Helicopter to Stockholm-Sweden, at Karolinska University Hospital, where he was pronounced dead.

There were no witnesses of the falling down. It is assumed that, as a result of a fall he suffered a traumatic head injury.

The vessel was registered in Cyprus, the Chief Engineer was Russian and the accident occurred in international waters but within the Swedish search and rescue area.

Conclusions

Direct Cause:

Fall of the seafarer onto the back of the head which caused extensive cranial injuries.

Contributing Cause(s):

Acute alcohol intoxication may have contributed to the accident.

No implementation of the Management Company's Procedure on Drug and Alcohol Abuse in the day of the accident, may have contributed to the accident.

Recommendations

1. The Management Company to take measures to ensure the proper implementation of the Drug and Alcohol Abuse policy and procedure. The measures may include: Random Alcohol Checks - (documented results of which to be sent to the Management Company's Headquarters).

Alcotest Log-Book placed on the fleet vessels - (which to be sent monthly to the Management Company's Headquarters).

Additional items in the ISM Audit Checklist for internal audits, regarding awareness of the Master and crew on the Management Company's Drug and Alcohol policy and procedure and on its implementation.

2. The MC to take measures to ensure that the Deck Log-Book is completed in accordance with the "Matters to be Recorded" and "Instructions for Recording Information in the Official Log-Book", printed in the first pages of the Official Log-Book of the Republic of Cyprus. Particularly, to stress the requirement that entries must be made by the end of each watch as provided by item 17 of the above-mentioned instructions.

2. Factual Information

2.1. Vasterbotten

Figure 1: The "Vasterbotten"

2.1.1. Ship Particulars

Name of ship: Vasterbotten
IMO number: 9436226
Call sign: 5BHU2
MMSI number: 212 838000
Flag State: Cyprus
Type of ship: General cargo with container capacity
Gross tonnage: 5335
Length overall: 119.26m
Breadth overall: 16,5m
Classification society: DNV-GL
Registered shipowner: ms Vasterbotten GmbH & Company KG
Ship's company: Schiffahrtskontor Tom Worden GmbH & Company KG
Year of build: 2008
Deadweight: 6805
Hull material: Steel
Hull construction: Single Hull
Propulsion type: Diesel
Type of bunkers: Marine Diesel
Number of crew on ship's certificate: 7

2.1.2. Voyage Particulars

Port of departure: Hallstavic-Sweden
Port of call: Maersrags-Latvia
Type of voyage: International
Cargo information: N/A - in Ballast condition
Manning: 11
Number of passengers: 0

2.1.3 Marine Casualty or Incident Information

Type of marine casualty/incident:	Very Serious Marine Casualty
Date/Time:	14/04/2016 @ 23:45 Hours LT
Location:	Coastal
Position (Latitude/Longitude):	φ =59° 29'N / λ = 20°06'E
External and Internal Environment:	Sea State Slight NE/3, Wind Light breeze / 2, Night, Clear, Visibility good
Ship operation and Voyage segment:	Normal service – In passage –Ballast
Human Factors:	Yes / Fall of person
Consequences:	Death: 1

2.1.4. Shore authority involvement and emergency response

M/V "Vasterbotten" informed the Marine Rescue Coordination Centre (MRCC) - Sweden and medical assistance was requested.

Medical advice was provided by phone.

Ship's crew provided First Aid until MRCC Sweden Search and Rescue (SAR) Helicopter arrived.

The Chief Engineer (C/E) was evacuated by MRCC Sweden SAR Helicopter to a Hospital in Stockholm.

3. Narrative

3.1. Sequence of Events

1. The "Vasterbotten" on 14/04/2016, at 15:30 hrs LT (UTC+1) completed discharging, at Hallstavik -Sweden

2. At 16:00 pilot on board.

3. At 16:35 cast off- all mooring ropes on board.

4. At 16:40 sailed in ballast condition from Hallstavik -Sweden.
   Destination Mersrags-Latvia. ETA 15/04/16 at 16.40 hrs.

5. At 18:40 hrs, Master's last contact with the C/E by phone immediately after disembarking of the Pilot at Svartklubben Pilot Station.

6. At about 19:00 the Master had a fast snack in the dining room and returned to the Navigation Bridge. He did not see the C/E in the dining room. No any other crew member stated that saw him during dinner.

7. The Motorman stated that the last time he saw the C/E was around 22:00 – 22:20 hrs, in the Mess-Room, where the C/E was drinking beer, with one crew member who had received information about the birth of a son and two other crew (newcomers).

8. At approximately 23:45 hrs the C/E was found by the Ordinary Seaman (OS), unconscious. He was lying on the floor of the accommodation's main deck alleyway, below a ladder and close to the Engine Room's (ER) internal door.

   The OS stated:
   "I was going downstairs at evening time, somewhat about half past eleven, about that time…

   I was planning to put laundry in washing machine, and stepping down on staircase,

   I have found the body of Chief Engineer, laying on the floor…I got closer to him, because I did not understand what happened……his face was located turned on right side ….

   I turned the head and saw his one eye to be bloated, like result of a stroke…stroke caused by staircase's railing or maybe other parts of surroundings…the face was covered by some kind of violet spots…no visible signs of life was seen …when I have seen all these…

   I have run on my deck up and encountered Cadet, Kaspar….and I said him that it looked totally, as Chief Engineer is dead, because the face was of blue colour… then both of us went downstairs again and I tried to feel his pulse, I did not feel it, so I have started to perform medical emergency activities, such as breast compression ….

   Cadet has squeezed the button of fire alarm…. then all have been informed and reacted…panic…. dismay …."

Figure 2: The accommodation's main deck internal alleyway where the C/E was lying -The position of the head is noted

Figure 3: The accommodation's internal ladder from where it is assumed that the C/E fell

9. The Cadet raised the General Alarm (GA). The Master heard the Alarm and went to the Navigation Bridge to find out what happened (he did not know what happened and suspected that fire broke out).

10. The OS rushed to the Navigation Bridge and informed the Master and the C/O, screaming "Chief Engineer fell down! over there downstairs!". The Master proceeded to the accident's scene. According to the Master's statement: "so, we understood that something different from fire has happened and all together we have been running to Chief Engineer…. myself and OS, we have turned the body, tried to feel pulse and …. there was some stuff from mouth…all his meal went out like a belch…so I have cleaned out his mouth also…. we have started to do the breast compression. When doing the cleansing of his mouth by my finger, I have heard the sound of "snort" …. some kind of sound could be heard (demonstrates sound) …. I did not feel the pulse, but guys felt it…. Yeeha…. I understood, that help must be requested from ashore……. I can't say about the timing of events, because everything has been mixed in my head…. may be fifteen minutes passed…but I clearly understood the urgent necessity of outer help to be called …I got on bridge then…"

11. The Second Officer (2/O) also arrived at the scene. The Motorman heard the alarm and went to the scene, asked what happened and took the pulse of the C/E.

12. Short time later the Master went on the Navigation Bridge and sent the Chief Officer (C/O) (the C/O was at the time the Officer of the Watch - OOW) to continue first aid.

13. At 00:10 hrs, of 15/04/2016 the Master transmitted on VHF Ch.16 urgency message "PAN / PAN - PAN / PAN - PAN / PAN" and requested medical assistance.

14. At 00:12 hrs, MRCC-Sweden answered and stated that the SAR Helicopter procedure, started. (It was understood that it was a serious medical case. Therefore, MRCC arranged to assign Paramedics on board the SAR Helicopter before take-off. This caused some delay because the Ambulance Helicopter (another Helicopter) which had medical crew on board, was engaged in another medical emergency case).

15. Medical assistance was requested by the Master from the MRCC-Sweden.

16. At 00:34 hrs, the MRCC-Sweden advised the Master to obtain Radio Medical Assistance from a Doctor via telephone.

17. The Master agreed. Telephone contact with a Doctor was established. The Master was passing the advice given by the Doctor, via the vessel's internal broadcasting system, to the crew down in the accommodation's main deck internal alleyway where the C/E was lying. The Master informed the Doctor about the situation of the C/E and the Doctor advised to continue all medical activities and to conduct cardiopulmonary resuscitation (CPR) - [two compressions for air intake, one for air outflow]. After a few minutes the Doctor asked the Master if adrenaline 10 mg/litre was availed on board. The Master answered that it was availed. Then the Doctor asked the Master several times, what kind of adrenalin was availed on board, if it was prefilled bottles or not. The Doctor said "If you have prefilled bottles, you may give an intramuscular injection" The Master was not able to check what kind of adrenaline existed on board, because he was alone on the bridge and the crew was conducting CPR, down in the accommodation's main deck internal alleyway, where the C/E was lying. Nevertheless, the C/O had brought a syringe and adrenaline needles. The Doctor advised to make a direct adrenaline injection into chest, however, it was not attempted, due to the needle's length being just 40 millimetres.

18. At 00:50 hrs, the Master reported to the Doctor that the C/E had no pulse and that his skin was becoming dark. The Doctor told the Master, to continue CPR.

19. At 00:51 hrs, the SAR Helicopter took-off with two paramedics on board from Norrtalje-Sweden. ETA to the vessel 20 minutes.

20. At 00:54 hrs, Radio Medical Assistance via telephone ceased. Crew members continued CPR until the arrival of the SAR Helicopter.

21. The Master went at the scene and the C/O returned on the Navigation Bridge.

22. At 01:10 hrs, the SAR Helicopter arrived over the vessel. The C/O communicated and made arrangements for the landing of the SAR Helicopter.

23. At 01:15 hrs the SAR Helicopter put on the "Vasterbotten" two paramedics and then landed on the deck.

24. Paramedics examined the C/E made emergency manipulations and then put him on stretcher.

25. At 02.05 the SAR Helicopter took-off from the "Vasterbotten" with the two paramedics and the C/E on board.

26. ETA to Karolinska Hospital in Stockholm-Sweden 26 minutes. CPR was continued during the flight.

27. The C/E was transferred by the SAR Helicopter to Solna/Stockholm-Sweden, at Karolinska University Hospital.

28. The C/E was pronounced dead by Karolinska University Hospital.

Figure 4: M/V "Vasterbotten" in the port of Mersrags-Latvia, the day after the incident - Alcohol tests to all crew members indicated BAC 0.00 except one who had BAC 0.90

Figure 5: Drug and Alcohol warning notice posted

4. Analysis

(The purpose of the analysis is to determine the contributory causes and circumstances of the accident as a basis for making recommendations to prevent similar accidents occurring in the future).

The following analysis is based on S-VDR recordings, crew statements and documents provided by the Latvian Transport Accident and Incident Investigation Bureau (Investigator of which, boarded the vessel and took statements, documents, photographs and VDR recordings), documents provided by the ship's Management Company, and the forensic autopsy report of the Swedish Department of Forensic Medicine, provided by the Swedish Accident Investigation Authority.

4.1. The Crew

Chief Engineer:

Certification

The C/E was licensed and qualified in accordance with the requirements of the International Convention on Standards of raining Certification and Watch keeping (STCW-95) Convention as amended. (Certificate of Competency No.101 5501 302 /Endorsement No. R860173316 - CHIEF ENGINEER No:1015501302 III/2 - RUS ST PETERSBURG 03.11.2015 – 07/10/2020)

A lack of certification was not a contributory factor to the accident.

Fatigue

On the previous day of the accident according to the Hours of Work/Rest form, the C/E worked from 00:00 - 00.200 and from 08.00 - 12.00 and from 13.00 -17.00. On the day of the accident, he worked from 08:00 to 12:00, he had a lunch break from 12:00 to 13:00 and continued his normal duty from 13:00 to 19:00.
Fatigue was not considered a contributory factor, due to being rested the last 24 hours prior to the accident more than 10 hours.

Fatigue was not considered as a factor to the accident.

Working and Living Conditions

The period of his seafarer's employment agreement (SEA), was 4 months.
He signed on board the vessel on the 2nd of April 2016.
Unfortunately, he passed away 12 days after his embarkation, on the 14th of April 2016.

There was no evidence to suggest, that, the working and living conditions was a contributory factor to the accident.

Physiological, Psychological, Psychosocial Condition

The C/E was born in USSR on 10/11/1952. He was 64 years old.
His height was 1.85m and his body weight was105 Kg. His body composition was normal, well-built and mildly overweight. His hair color was blond and his eyes color blue.
He was holder of medical certificate for service at sea. He was certificated as fit for watchkeeping duties in the engine room, worldwide for two years and for meeting the standards of STCW Code

Section A-I/9 for hearing, visual acuity and colour vision. His medical certificate was issued on 20/11/2015 with expiration date 19/11/2017 by a medical practitioner at St. Petersburg-Russia, recognized by the Dutch Government.

In his cabin were found packs BISOPROLOL medicines. 13pcs of pills were missing, so he probably took BISOPROLOL medicine since he joined the vessel on 01/04/16.
Bisoprolol is a beta-blocker that affects the heart and circulation (blood flow through arteries and veins). Bisoprolol is used to treat hypertension (high blood pressure). Bisoprolol, may have reduced his resistance to the effects of alcohol.

According to the Master the OS and the Cadet, the C/E: "never had any conflicts or quarrels with any other on board, was absolutely normal, adequate and life loving individual…none any frictions among crew at all".

There was no evidence to suggest that the C/E physical, physiological, psychological, or psychosocial condition was such that could have contributed to the accident. He was physically and mentally fit to perform his job.

Post Mortem Examination

The Swedish Department of Forensic Medicine in Stockholm, conducted forensic autopsy on the C/E on 19/04/2016 (post mortem period about 5 days).

According to the report issued, a neuropathological investigation demonstrated that he sustained local traumatic brain injuries and to have occurred not more than 1-2 hours prior to death.

A forensic chemistry investigation demonstrated 2.27% ethanol (alcohol) in femoral blood and 2.04% ethanol in urine.

According to the forensic chemistry investigation:

Quote

"The demonstrated concentrations of ethanol equate to high levels that normally lead to an impact on motor function, alertness and judgement. The appearance of the overall pattern of injuries strongly points to the injuries having occurred as a result of powerful blunt trauma to the head and may be consistent with a fall down a flight of stairs involving a head impact. The injuries demonstrated have an appearance that strongly points to them being fresh and having occurred in close connection to death".

With respect to the cause of death, the examination findings strongly point to having died as a result of extensive cranial injuries.

With respect to the manner of death, the overall picture of the injuries primarily indicates that the cause of death was caused by an accident (fall onto the back of the head) to which his acute alcohol intoxication may have contributed".

Unquote

Acute alcohol intoxication may have contributed to the accident.

4.2 The Ship

Class: DNV-GL ((Ice Classed), P&I Club: Assuranceforeningen Gard
Dry cargo multi-purpose ship, gearless, with two holds, with container capacity (TEU) Capacity=331- Reefer Plugs=20, DWT=6805, GT=5335, NT=2566, Extreme breadth=16.5m, Depth=8.3m, Draft=6.28m, Freeboard=2020mm, Length Overall=119.26m. With Bulbous Bow
Construction: Built by Sainty Shipbuilding Corporation Limited, Launched on 24 Jan. 2008
Engines: (1), Type: Diesel, Power=3000KW, Fuel Type: Marine Diesel, Speed 13.5 Knots Boilers (1) Oil fired, Generators (4) AC 1x270KV, 1x500KV, 2x251KV.
Designed by: MAN (Augsburg), Built by: STX Heavy Industries at Changwon (South Korea)

VDR
VDR maker: Net Wave Systems B.V.
Type: VDR-100 G2S S-VDR (Simplified Voyage Data Recorder)-Serial no: 20107121737. After the fatal accident, the decoded data from the S-VDR was requested. Records have been saved, but decoding was not possible on board. A specialist went on board, and downloaded on CD-ROM the last 48 hours.

Figure 6: VDR cabinet

Figure 7: VDR Declaration of shore based maintenance

The "Vasterbotten" at the time of the accident, had valid certificates including an ISM certificate. The maintenance records indicated that she was maintained in accordance with existing regulations and approved procedures.

There was no evidence of any defect or malfunction that could have contributed to the accident.

4.3 The Environment

External environment:

The weather conditions at the time of the accident were: Sea State Slight NE/3, Wind Light breeze / 2, Night, Clear sky, Visibility good. There is no evidence that physical environmental factors, such as weather, climate, etc., affected the actions of the C/E.

Internal Environment:

There were no any sudden movements of the vessel which could had caused the C/E slipping and falling from the accommodation's internal stairs. The condition of the stairs and the alleyway below, was not wet nor slippery. They were dry.

There was no evidence that the environmental conditions were a factor in the accident.

4.4 Safety Management

Drug and Alcohol policy and procedure

The Management Company (MC) has a Policy on alcohol use, (SD-007: Declaration of Company Policy on Drug and Alcohol Abuse-released on 01/04/2013), and a Documented Procedure (VA-004: Drug and Alcohol Abuse released on 12/12/2002). In addition, the MC issued a Deck Circular addressed to all Masters (No.152: Alcotester on board + Watchkeeping Alarm + TV – on Bridge- dated 10 /10/2005).

According to the "Declaration of Company Policy on Drug and Alcohol Abuse":

Quote
No seafarers shall have a blood alcohol level greater than 0,5% or 0,25 mg/l alcohol in breath, or a quantity of alcohol leading to such an alcohol concentration while performing designated safety, security and marine environmental duties.
……
Compliance with the above is ensured by following the attached company circular.
Unquote

According to the Company Procedure on Drug and Alcohol Abuse (Dated 12/12/2002):

Quote
Description of Routines
Preventive and explanatory Measures
A copy of the document SD-007, the "Declaration of Company Policy on Drug and Alcohol Abuse" will be permanently displayed on land and on board ships for the information of all personnel. New personnel are to receive a copy before they begin employment.

The articles of agreement used for individual employment agreements are to contain the following paragraph:

In order to ensure ship safety on board, no consuming of alcohol or drugs is permitted while on duty. The same applies to the possession, distribution or sale of drugs and alcohol on own account. Violations of these rules can lead to instant dismissal from the employment of the Schiffahrtskontor tom Wörden GmbH & Co. KG. In addition, each member of staff undertakes to come on duty free of the influence of drugs and alcohol. Any use of medication - including that of permitted drugs - which influences the ability to perform duty is also not allowed.
Unquote

According to the IMO / STCW Convention-Part B (non-mandatory) Guidance on prevention of drug and alcohol abuse:
Quote
Drug and alcohol abuse directly affect the fitness and ability of a seafarer to perform watchkeeping duties. Seafarers found to be under the influence of drugs or alcohol should not be permitted to perform watchkeeping duties until they are no longer impaired in their ability to perform those duties. Administrations should consider developing national legislation:
1.prescribing a maximum of 0.08% blood alcohol level (BAC) during watchkeeping duty as a minimum safety standard on their ships; and
2.prohibiting the consumption of alcohol within 4 hours prior to serving as a member of a watch.
Unquote

The MC advised seafarers of the maximum permissible blood alcohol content (BAC) permitted whilst on board: "0,5% or 0,25 mg/l in breadth……. while performing designated safety, security and marine environmental duties". According to the MC's Procedure, "each member of staff undertakes to come on duty free of the influence of drugs and alcohol. In the seafarers' employment agreement is stated that "no consuming of alcohol or drugs is permitted while on duty" and "each member of staff undertakes to come on duty free of the influence of drugs and alcohol".

The MC's Policy and Procedure on alcohol use is in line with the IMO / STCW guidance on alcohol abuse. The MC's requirement to go on duty free of the influence of drugs and alcohol is similar to the IMO/STCW requirement of no consumption of alcohol 4 hours prior of a watch.

Furthermore, the MC issued the Circular No.152-dated 10/10/2005, which provides for regular alcohol tests of Watchkeeping Officers, Master and Chief Engineer. The Circular No.152 should have been issued for a reason.

According to the Deck Circular No.152: "Alcotester on board + Watchkeeping Alarm + TV – on Bridge":
Quote
Following regular and frequent alcohol-testing procedure herewith declared by company as permanent affective:

1. Beginning of each watch>> BOTH<< the reliever and the to be relieved officer/master must undertake at test with said equipment in front of each other

2. The master must undertake always a test in front of duty officer prior he is overtaking command starting with
   a) end of sea voyage
   b) Prior every departure

3. The Ch.Eng. to be tested in front of master/officer
   a) Prior every departure
   b) Prior every end of sea voyage

c) On every request by master between

4. Other crewmembers undergoing sea watch on request of master if he decide to be necessary.
Unquote

In his e-mail on 09.03.2017, the Master stated that:
Quote
"Please be informed that the alcotest of watchkeepers i.e. myself and AB Mr. Seminenko was done before beginning of watch at 20.00 , but omitted to be inserted in time in logbook and was done late in order to comply with Circular.
There were no chance to make alcotest on 14.04.16 prior departure at 16.00 owing short notice by the agent. VSL was expected to depart at 18.00 lt"
Unquote

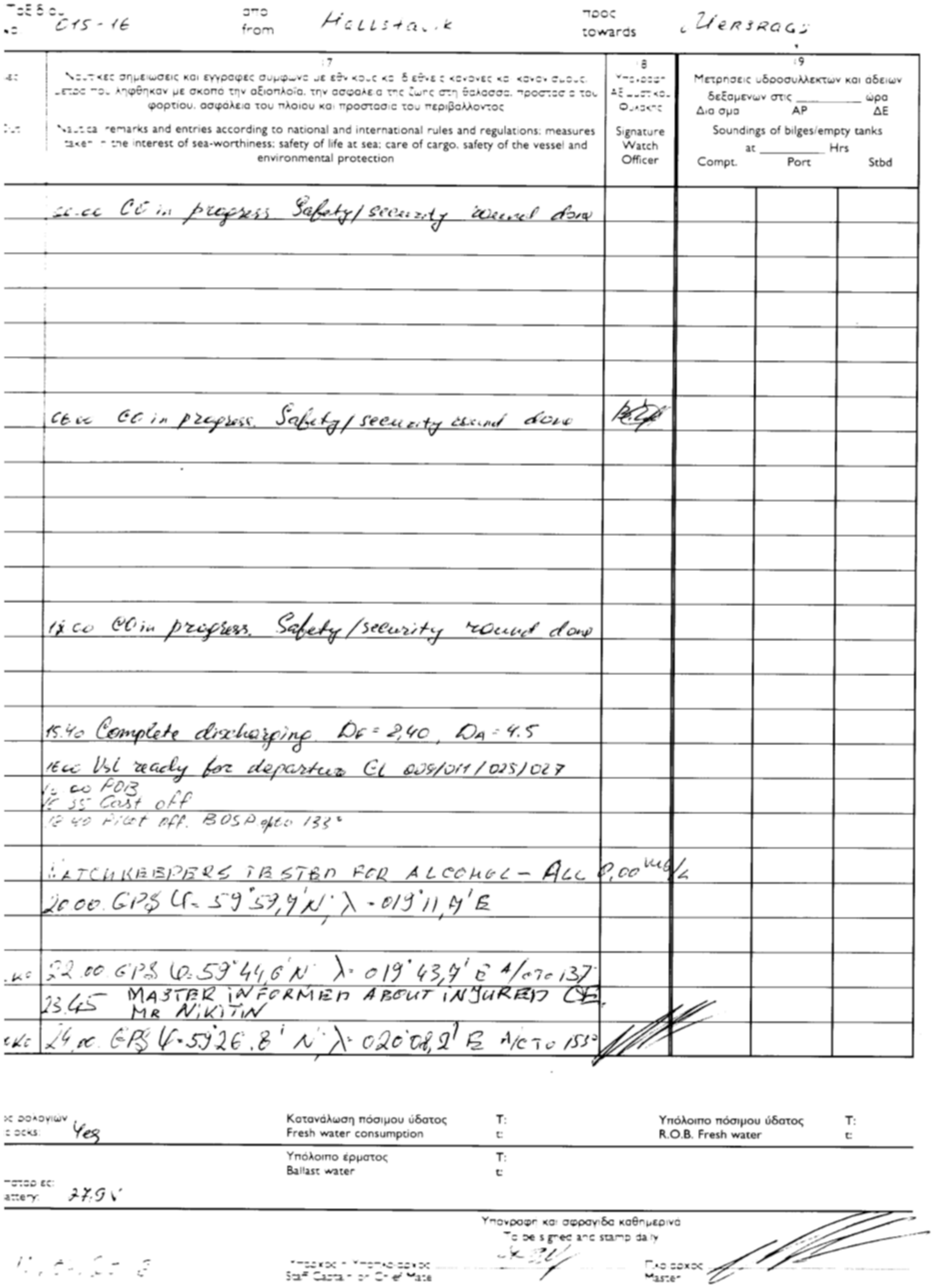
In the Photo of the Deck Log-Book (see below Figure 9) for the day of the incident (14/04/2016) there is no record for the alcotest. The Photo is dated 15/04/2016. The Master explained in his e-mail that the record in the Log-Book had been done afterwards i.e. after the Photo of the Deck Log-Book was taken by the Investigator on 15/04/2016 when the ship was in port Mersrags.

As can be seen in Figure 9: Photo Deck Log-Book extract 14/04/2016, and Figure 8: Deck Log-Book extract on 14/04/2016, in the day of the incident, the C/E was not tested prior to departure.

The Master with his e-mail explained that, "There were no chance to make alcotest on 14.04.16 prior departure at 16.00 owing short notice by the agent. VSL was expected to depart at 18.00 lt". Even though, the fact is that the C/E was not tested. The Master could have checked the C/E after sailing, i.e. at 20:00 hrs during normal watch change on the Bridge.

As the Master stated in his e-mail, (it is also recorded in the Deck Log-Book) "Please be informed that the alcotest of watchkeepers i.e. myself and AB Mr….. was done before beginning of watch at 20.00" Nevertheless, as he stated in his interview he had a fast snack at 19:00 hrs and returned to the Bridge and released the C/O. He remained on the |Bridge and no watch change happened at 20:00 hrs when his watch (8-12) normally started. A change of watch between the Master and the C/O must have been done some time later, because at 23:45 hrs when the Master was informed about the incident, (he) was in his cabin. Therefore, the record in the Deck Log-Book (Figure 8) that an Alcotest was done at 20:00 hrs is erroneous.

Also, according to the Circular No.152, beginning of each watch, BOTH the reliever and the to be relieved must be alcotested. The statement of the Master "alcotest of watchkeepers i.e. myself and AB", concerns only the "relievers" and does not include the "to be relieved" as required by the Circular no.152.



Νο: 015-16 από / from: Hellstack (?) προς / towards: Uersbaggs (?)

Ώρα / Time	Ναυτικές σημειώσεις και εγγραφές σύμφωνα με εθνικούς και διεθνείς κανόνες και κανονισμούς, μέτρα που λήφθηκαν με σκοπό την αξιοπλοΐα, την ασφάλεια της ζωής στη θάλασσα, προστασία του φορτίου, ασφάλεια του πλοίου και προστασία του περιβάλλοντος / Nautical remarks and entries according to national and international rules and regulations: measures taken in the interest of sea-worthiness: safety of life at sea: care of cargo, safety of the vessel and environmental protection	Υπογραφή Αξιωματικού Φυλακής / Signature Watch Officer	Μετρήσεις υδροσυλλεκτών και αδειών δεξαμενών / Soundings of bilges/empty tanks — Compt.	Port	Stbd
	08.00 CO in progress Safety/security round done				
	08.00 CO in progress. Safety/security round done	[signature]			
	12.00 CO in progress. Safety/security round done				
	15.40 Complete discharging. Df = 2,40, Da = 4.5				
	16.00 Vsl ready for departure CL 009/011/025/027				
	16.00 POB				
	16.55 Cast off				
	18.40 Pilot off. BOSP abt 133°				
	WATCHKEEPERS TESTED FOR ALCOHOL – ALL 0,00 mg/L				
	20.00 GPS φ 59°57,9'N; λ 019°11,4'E				
	22.00 GPS φ 59°44,6'N λ 019°43,9'E A/c to 137°				
	23.45 MASTER INFORMED ABOUT INJURED CE MR NIKITIN				
	24.00 GPS φ 59°26.8'N λ 020°08,2'E A/c to 155°	[signature]			

Έλεγχος φανών / Lights checked: Yes

Κατανάλωση πόσιμου ύδατος / Fresh water consumption — T: t:

Υπόλοιπο πόσιμου ύδατος / R.O.B. Fresh water — T: t:

Υπόλοιπο έρματος / Ballast water — T: t:

Battery: 27.9 V

Υπογραφή και σφραγίδα καθημερινά / To be signed and stamp daily

Υποπλοίαρχος ή Υποπλοίαρχος / Staff Captain or Chief Mate [signature]

Πλοίαρχος / Master [signature]

Figure 8: Deck Log-Book extract on 14/04/2016: containing a record for alcotest which was made after a Photo of the same page was taken by the Investigator on the 15/04/2016.

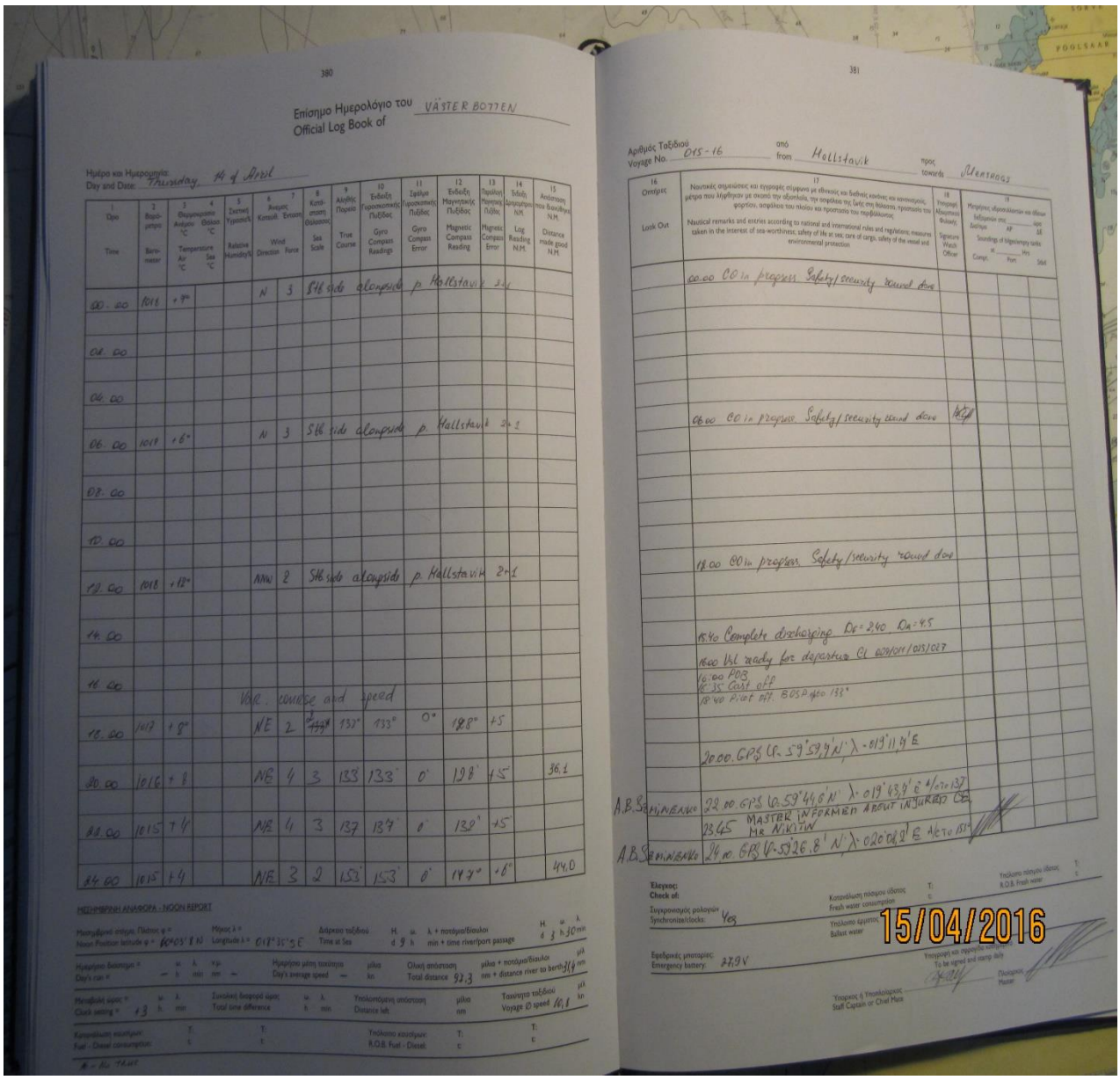


Figure 9: Photo Deck Log-Book extract 14/04/2016 taken by the Investigator the next day 15/04/2016, when the ship berthed in Messregs. (There is no alcotest record).

Therefore, it is concluded that the MC's Procedure on Drug and Alcohol Abuse was not implemented in the day of the accident.

The C/E was drinking before midnight. He would go for work the next day after about 8 hours rest including night sleep. He would not go for work within 4 hours. The duration of alcohol effects, depend upon several factors, including speed of consumption, taking food, body size, genetic factors, drinking habits etc. It cannot be stated whether the next day would still be under the influence of alcohol.

5. Conclusions

The vessel was registered in Cyprus, the Chief Engineer was a Russian citizen and the accident was on international waters but within the Swedish SAR area.

The MRCC-Sweden, assigned Paramedics on board the SAR Helicopter before take-off. This took some time because the Ambulance Helicopter which had medical crew on board, was engaged in another case.

There were no eye-witnesses of the incident. There was a social event at about 22:00 hrs in the Mess-Room where the C/E was seen drinking beers.

The coroner, who performed the autopsy considered necessary a forensic examination of the brain, in order to determine the cause of death. The forensic examination indicated high concentration of alcohol in blood (2.27%) and urine (2.04%), that normally lead to an impact on motor function, alertness and judgement. Medication may have reduced the victim's resistance to the effects of alcohol.

It is assumed that the victim slept or lost his footing while stepping down the accommodation's internal ladder.

Injuries to the head may have been caused, by a fall down from the internal accommodation ladder, involving a head impact.

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The MC has procedure in place for the seafarers to be subject to testing and screening for drugs and alcohol abuse by means of a routine testing. The MC's procedure was not implemented in the day of the accident.

Conclusively

Direct Cause:
(The immediate events or conditions that caused the accident)

Fall of the seafarer onto the back of the head which caused extensive cranial injuries.

Contributing Cause(s):
(An event or condition that collectively with other causes increases the likelihood of an accident but that individually did not cause the accident)

Acute alcohol intoxication may have contributed to the accident.

No implementation of the MC's Procedure on Drug and Alcohol Abuse in the day of the accident, may have contributed to the accident.

6. Recommendations

1. The MC to take measures to ensure the proper implementation of the Drug and Alcohol Abuse policy and procedure. The measures may include:

Random Alcohol Checks - (documented results of which to be sent to the MC's Headquarters)

Alcotest Log-Book placed on the fleet vessels - (which to be sent monthly to the MC's Headquarters)

Additional items in the MC's ISM Audit Checklist for internal audits, regarding awareness of the Master and crew on the MC's Drug and Alcohol policy and procedure and on its implementation.

2.The MC to take measures to ensure that the Deck Log-Book is completed in accordance with the "Matters to be Recorded" and "Instructions for Recording Information in the Official Log-Book", printed in the first pages of the Official Log-Book of the Republic of Cyprus. Particularly, to stress the requirement that entries must be made by the end of each watch as provided by item 17 of the above-mentioned instructions.