Isle of Man Ship Registry

Casualty Investigation

Report No. CA 138

Fishing vessel

‘Silver Viking’

Head injury to crew member from failed lifting equipment

on the 8th December 2022

Statement of Intent

Extract from

The Isle of Man Merchant Shipping

(Accident Reporting and Investigation)

Regulations 2001 – Regulation 4:

“*The fundamental purpose of investigating a casualty, an accident, or an incident under these Regulations is to determine its circumstances and the causes 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 liability, nor, except so far as is necessary to achieve the fundamental purpose, to apportion blame”

Contents.

Summary

Fig 1 – fishing vessel ‘Silver Viking’

On the 8th December 2022 the Silver Viking which is a 14.6 metre fishing vessel built in 1973 was fishing approximately 7-10nm South East of Douglas for scallops with a crew comprising of a Skipper and a crew member.

The Skipper and crew member were retrieving the scallop dredges which is carried out by using a mechanical winch to pull a rope which goes through a hauling block and the end of the rope is attached to the scallop dredges. The scallop dredges were being lifted on the port side of the vessel and comprised of a bar with several nets attached (this is known as scallop dredges and is used to catch scallops from the sea bed). The Skipper was operating the winch while the crew member was using a hook to pull the individual scallop dredge nets on to the vessel.

During the hauling of the port side dredges that contained the catch, significant weight was on the port side upper hauling block attached to the H frame situated above the

scallop dredges. While under tension the hauling block came apart and the internal cast iron sheaves were ejected from the hauling block.

The crew member was stood on deck below the upper hauling block and was struck on the head by one of the ejected sheaves, knocking him unconscious for approximately one minute. The Skipper immediately secured the full scallop dredges safely, attended to the injured Crew member and called the fishing vessel ‘Ramsey Jak’ (a vessel in the immediate vicinity) and requested they contact the Coast Guard while he gave first aid to the crew member.

The Silver Viking returned to its closest port, Douglas, which took approximately one hour and was joined by a Coast Guard rescue helicopter on the final 15 minutes of its approach. Once the vessel was secured alongside the Edward Pier in Douglas Harbour, paramedics attended to the crew member who was then transferred to Noble’s hospital.

The evidence gathered during the investigation points to a failure in securing the split pins allowing the sheave wheel axle pin to slip from the sheave block housing and both sheaves ejected from the block under tension. One of the sheave wheels struck and seriously injured the crew member.

The investigation has also included;

1. Weighing and examining the fishing gear in question, regarding safe working loads.

2. Examining the lifting gear, regarding damage and cause.

3. Reviewing on-board maintenance, working practices and the use/availability of PPE.

4. Considering the casualty with respect to compliance with the Isle of Man fishing vessel code requirements and associated legislation.

1. Narrative of Events

1.1 - The Silver Viking is a 1973 United Kingdom built wooden hulled fishing vessel and has the following details:

- 14.60m overall length
- 13.60m Registered length
- 5.19m Breadth
- 2.17m Depth
- 24.22 Gross Tonnage
- Main engine - 127kW Volvo SV TMD 102A, single screw.

1.2 – The vessel has been issued with an Isle of Man Small Fishing Vessel Certificate and has lifesaving appliances sufficient for a maximum of 3 persons and is usually crewed with just a Skipper and Crewman.

1.3 – The Silver Viking registered with the Isle of Man Ship Registry on 11/03/1998 registration number M124 and designated fishing vessel letters and numbers of PL19 with Peel as the port of registry.

1.4 – The Silver Viking has been surveyed by the Isle of Man Ship Registry in accordance with the 'The Isle of Man Code of Practice for the Safety of Small Fishing Vessels (less than 15m Length Overall)', under Annex 6 Decked vessels of 12m Registered length and above to less than 15m Overall Length. The vessel underwent a renewal survey on 17/06/2021 and had an out of water inspection in January 2021. During the survey a stability check (roll test) was conducted with the vessel in a condition ready for sea and was rigged for queenie fishing with a net on the stern. This was conducted by a qualified naval architect using up-to-date software and witnessed by the Isle of Man Ship Registry on 16/06/2021. No deficiencies were issued during the renewal survey and the vessel was reported to be in satisfactory condition including a comment in the renewal report that the Owner maintained the vessel well.

2.0 – The Skipper has been working on fishing vessels for 15 years and has been Skipper for 3 to 4 years at the time of the accident. The Skipper's courses, training and qualifications could not be confirmed as the Skipper was unreachable for a follow-up interview.

2.1 –The Skipper advised that the crew member had worked on fishing vessels for 2 years. The crew member's courses, training, qualifications could not be confirmed as the Crew Member was unreachable for an interview after recovery from his injuries.

2.2 – The crew member joined the Silver Viking on 7th December 2022, which was the day before the accident. Both the skipper and crew member worked on the 7th December and finished for the day at approximately 17:30.

2.3 – The 8th December 2022 started with a brief rope adjustment for the mooring ropes to be at the correct tension at 05:00. Both the Skipper and Crew member went back to sleep until 07:30.

2.4 - At approximately 07:30 the Silver Viking was prepared to proceed to sea and departed Douglas shortly afterwards.

2.5 – At approximately 09:00, the Silver Viking was fishing for scallops and was hauling a catch at approximately 7-10nm South East of Douglas. Weather conditions were calm, with winds up to force 4.

3.0 – Everything was normal prior to commencing hauling the port side catch at approximately 09:10. The Skipper and crew member were hauling the port side scallop dredges (which, consists of a dredge bar with 5 dredge nets attached (see Fig 02) on-board.

Fig 02 - dredge bar with 5 dredge nets resting on port side of the vessel.

3.1 - The procedure was carried out with the Skipper operating the winch located astern of the wheelhouse. The system is designed so the winch hauls a rope running to the upper hauling block situated on the H frame (see fig 03) which then runs down to the dredge arm that connects the 5 dredge nets.

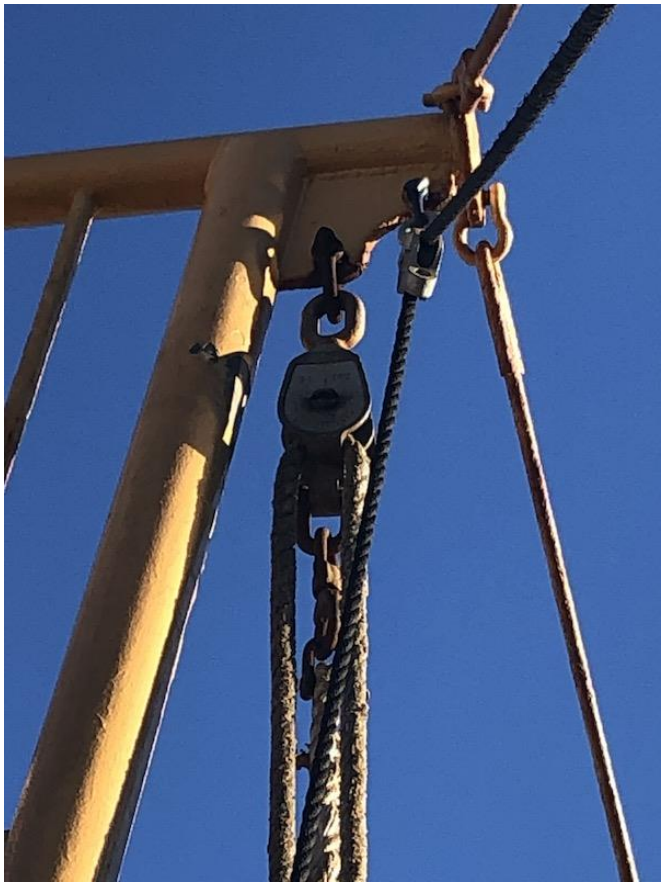

Fig 3 – Upper hauling block attached to port side of H frame

(Sheaves have been ejected)

3.2 - The crew member was standing under the H frame towards the port side of the vessel and was pulling the scallop dredges. The crew member was ready to use a hook to attach to a dredge net.

3.3 - The Skipper heard a noise and saw the crew member had dropped to the deck. The Skipper could see the upper hauling block had failed and the crew member had been hit by something from it.

3.4 – The initial actions of the Skipper were to promptly secure the port side scallop dredges and attend to the crew member. The Skipper recounted during the investigation that the crew member was unconscious for less than 1 minute and he had a nasty head wound. The Skipper proceeded to bandage the crew member’s head using the on-board first aid kit. The Skipper also quickly secured the starboard side dredge gear that was still on the seabed to a buoy on location before proceeding to Douglas.

3.5 Immediately after the accident, the Skipper called the fishing vessel ‘Ramsey Jak’ on VHF (very high frequency) channel 8 and asked the ‘Ramsey Jak’ Skipper to call the Coast Guard while he attended to the Crew member. The ‘Ramsey Jak’s’ Skipper

called the Harbour Divisions Marine Operations Centre at 09:27 and the details were then passed to Belfast Coastguard at 09:37.

3.6 – The casualty response timeline key points demonstrate the next stages in responding to the casualty situation:

(note this section is taken from the log at the Harbour Divisions Marine Operations Centre)

09:49 - Belfast Coast Guard in radio communication with Silver Viking on VHF channel 16.

09:55 - Belfast Coast Guard asked Silver Viking the estimated time to take to get back to Douglas. The Skipper of Silver Viking says 2 hours. (In reality this ended up being closer to 1-hour 15mins).

09:58 - Fishing vessel Sarah Lena confirms to Belfast Coast Guard that the weather on scene is force 4 and the sea state is calm. Sarah Lena was another fishing vessel in the nearby vicinity.

10:06 - Silver Viking skipper reported that crew member was cold but conscious.

10:09 - Belfast Coast Guard confirm Rescue 936* has been tasked but the ETA is unknown ETA skipper of Silver Viking confirms he is heading to Douglas with an ETA of 1 hour. Belfast Coast Guard advise that 936 will still proceed.

**Rescue 936 – the Rescue helicopter dispatched by Belfast Coast Guard.*

10:14 - Rescue 936 - ETA to scene (Silver Viking) 30 minutes.

10:21 - Rescue 936 - ETA 15 minutes, Belfast Coast Guard informed and passes over the vessel details.

10:31 - Contact from ambulance service asking if the casualty was coming to Noble's Hospital or being flown to the United Kingdom.

10:35 - Rescue 936 approaching Silver Viking

10:37 - Details of injury/condition reported as: Consciousness, breathing and responsive. Bleeding from wound in head.

10:54 - Douglas Coast Guard request ambulance to be dispatched as no ambulance on scene at landing site.

10:57 - Rescue 936 undertakes a flyby of Douglas harbour in case the casualty will require lifting off boat.

10:59 - ESJCR (Emergency services joint control room) contacted and advised that a fire service turn table ladder is required and given ETA of 10 minutes for Silver Viking.

11:01 - Duty Coast Guard Sierra on scene Edward Pier.

11:03 - Silver Viking advised (by IOM Harbours) to go to South Edward Pier where emergency services will meet vessel.

11:06 - Duty Coast Guard advises best place for extraction is the 'watch house berth', Silver Viking advised.

11:09 – The Fire service arrives on scene.

11:12 - Duty Coast Guard advises paramedic assessing casualty.

11:15 - Duty Coast Guard relays that the paramedic on scene has advised that Rescue 936 can stand down. Belfast Coast Guard confirm stand down with Rescue 936.

11:23 - Isle of Man Ship Registry advised of situation.

11:25 - Fire service turn table ladder arrives on scene and Duty Coast Guard advises that the Coast Guard will provide a stretcher for extraction and the fire service will provide a winch.

11:29 - Duty Coast Guard advise casualty condition has worsened and has started to vomit. Two paramedics are assisting the casualty, while the fire service are preparing to lift the casualty out of vessel.

11:36 - Duty Coast Guard advise casualty is now on quayside.

11:44 - Silver Viking is advised that Isle of Man Ship Registry is en route and the Skipper is requested to stay with the vessel.

12:16 - Isle of Man Ship Registry Investigation arrives on scene.

4.0 – When the Isle of Man Ship Registry Investigator arrived on scene, the casualty had already been taken to the hospital and the Skipper was interviewed and assisted in the completion of an ARF1**. The Investigator found the port side dredges were secured at the vessel's side with the lifting ropes and block in position (see Fig 03 above). The two sheaves from the upper hauling block were found on deck. One of the sheaves was damaged and the other was intact with blood stains (see Fig 04 below). It was apparent the sheaves had come from the upper hauling block and despite an extensive search, neither the Investigator nor the Skipper were able to locate the sheave wheel pin (which secure the sheave wheels in the block housing) or either of the split pins (which secure the sheave wheel pin in its position inside the block housing). The scene was photographed, it was agreed with the Skipper that the Investigator would return later for collection of the sheave and block once the Skipper had made arrangements for it to be taken down.

***ARF1 – is the Isle of Man Ship Registry's Accident Report form required to be completed in such casualty situations as detailed in MSN003.*

Fig 04 - the two sheaves from the block

2. Comment and Analysis

The comments and analysis consider the following question:

- Was the casualty response adequate?
- Were hours of work or fatigue a factor?
- Was the lifting gear fit for purpose in terms of safe working load?
- Why did the upper hauling block fail?
- Was the Personal Protective Equipment (P.P.E.) adequate?
- Was the Silver Viking in compliance with legislation and best practices?
- Could improvements be made to the Isle of Man Ship Registry's Code of Practice?

Was the casualty response adequate?

The accident on the Silver Viking took place on the morning of December 8th 2022. The Skipper of the Silver Viking had requested that the Skipper of the 'Ramsey Jak' (a fishing vessel known to the Skipper of the Silver Viking and in the immediate area) to call the Coast Guard in order to give him time to attend to the casualty and safely secure the gear so he could proceed to Douglas. It is possible that a small amount of time could have been saved if the starboard dredge gear had been cut to drop to the seabed rather than attaching it to a buoy. The 'Ramsey Jak' contacted the Harbours Division Marine Operations Centre at 09:27 and details were then sent to Belfast Coastguard at 09:37. It was not possible to dispatch a local lifeboat as Douglas lifeboat was unavailable at the time. The Silver Viking was able to proceed straight to Douglas with local weather of a calm sea state and up to force 4 winds, therefore a lifeboat call out would not have significantly reduced the casualty recovery time.

An interview was undertaken with the Douglas Marine Operations Watch Officers who had been on duty during the casualty event. It was explained that at 10:35 the Silver Viking was close to Douglas and was in communication with the Coast Guard helicopter, which was approaching the Silver Viking's position and the crew on the helicopter were assessing the casualty's condition. It was further explained that as the Silver Viking was almost at Douglas there would not have been a significant time saved using air evacuation. Furthermore, it was not practical with the down draft of the helicopter and only the Skipper available on-board to safely support an air evacuation. This was due to there being no additional crew member on-board the Silver Viking to control the highline while the Skipper would steer the Silver Viking to the helicopter's instructions. Therefore, it was not possible to safely get on-board or evacuate the injured crewman.

From the Coast Guard and Emergency Services logs, the injured crewman was being assessed by paramedics alongside in Douglas at 11:12, at 11:29 the casualty's

condition was worsening, he was evacuated to the quayside by 11:36 and subsequently taken to Noble’s Hospital by Ambulance.

In conclusion, the time comparison of an air evacuation with the risks involved would not have reduced the arrival at hospital by a significant amount of time and the casualty response was quickly organised with good coordination from all of the rescue services.

Were hours of work or the possibility of fatigue a factor?

From interview with the Skipper, both the Skipper and crew member had worked for approximately 10 hours in the previous 24 hours. They had finished working at 17:30 the previous day and commenced at 07:30 with a brief interruption to their rest to adjust the mooring lines at 05:00. In addition, it was the crew members second day working on the vessel so there was no concern regarding fatigue.

In conclusion hours worked and fatigue are not considered to be a factor to the casualty.

Was the lifting gear fit for purpose in terms of safe working load?

When the Investigator arrived on the Silver Viking immediately after the accident, the dredges were secured on the port side of the vessel and were found to be full of scallops and loose stones, which had been picked up from the seabed (see Fig 05 below).

Fig 05 - Port side dredges photographed when vessel was alongside Douglas on 08/12/2022.

In order to ascertain if the load was within the block’s safe working load, the fishing gear (including the dredge arm and dredge nets) were weighed.

This took place on 14th November 2023 using the weighbridge in the port of Douglas. It was confirmed that the weighbridge had recently been calibrated.

Fig 06 - Empty Port side scallop dredge gear being removed from the Silver Viking to be weighed.

Below are the weighbridge tickets (*Fig 07)* showing the weight of the port side dredge as follows:

- First weighing (Hiab empty) 11,840kg
- Second weighing (Hiab plus port Dredge gear) 12,540kg
- Therefore, the port side dredging gear (dredge arm with 5 connected dredge nets) weighed exactly 700kg

D.O.T Douglas Harbour
Douglas
Isle of Man

Weighing Type : OUTBOUND
Ticket No.: 258591
Registration.: NMN572X
Trailer No. : 0
Booking No.: 0
Company : UNKNOWN
Account : F
GOVERNMENT ACCOUNT
Driver : 014
JM

Date / Time : 14/ 11/ 2023 09:35
Serial/ Bridge : 29,639 WBIN
Gross Weight : 11,840 kg
Tare Weight : 0 kg
Shipping Weight : **11,840 kg**

An electronic tally record of this Transaction is available for inspection

Site speed limit 5 M.P.H

Thank you for your co-operation

PSO 14

D.O.T Douglas Harbour
Douglas
Isle of Man

Weighing Type : OUTBOUND
Ticket No.: 258596
Registration.: NMN572X
Trailer No. : 0
Booking No.: 0
Company : UNKNOWN
0
Account : F
GOVERNMENT ACCOUNT
Driver : 014
JM

Date / Time : 14/ 11/ 2023 10:08
Serial/ Bridge : 29,644 WBIN
Gross Weight : 12,540 kg
Tare Weight : 0 kg
Shipping Weight : **12,540 kg**

An electronic tally record of this Transaction is available for inspection

Site speed limit 5 M.P.H

Thank you for your co-operation

PSO 14.

Fig 07- Weighbridge tickets provided from the port of Douglas Weighbridge.

It was not possible to get the exact weight of the contents within the dredge nets at the time of the casualty as they had been emptied before weighing. From discussion with experienced fishermen involved with scallop fishing it is estimated each net could contain approximately 30-40kg. With 5 dredge nets that would give a total weight of approximately 150-200kg in addition to the weighed 700kg gear.

Therefore, the total weight would be approximately 850-900kg

The safe working load of the block is 2 tonnes and as the total weight is estimated at 850-900kg, this is found to be well within the safe working load of the block.

Testing of the lifting rope was not carried out as there were not any signs of failure in the rope used for the block. There was no certification available for the rope although it was evident from researching rope of the same type that it would be sufficient for the weights involved.

It can be concluded that the dredge gear and the catch in the dredge nets were well within the safe working load of the lifting block. Overloading was therefore not found to be the cause of the failure of the block.

Why did the upper hauling block fail?

The block is a 6-inch double wheel pulley block with a swivel oval eye. Within the housing are 2 sheave wheels both with an external diameter of 90mm (see Fig 08 & Fig 09). The sheave wheels are located within the block housing on a sheave wheel pin acting as an axle for the 2 sheave wheels. The sheave wheel pin is secured in place by split pins on either side of the block housing (see Fig - 09).

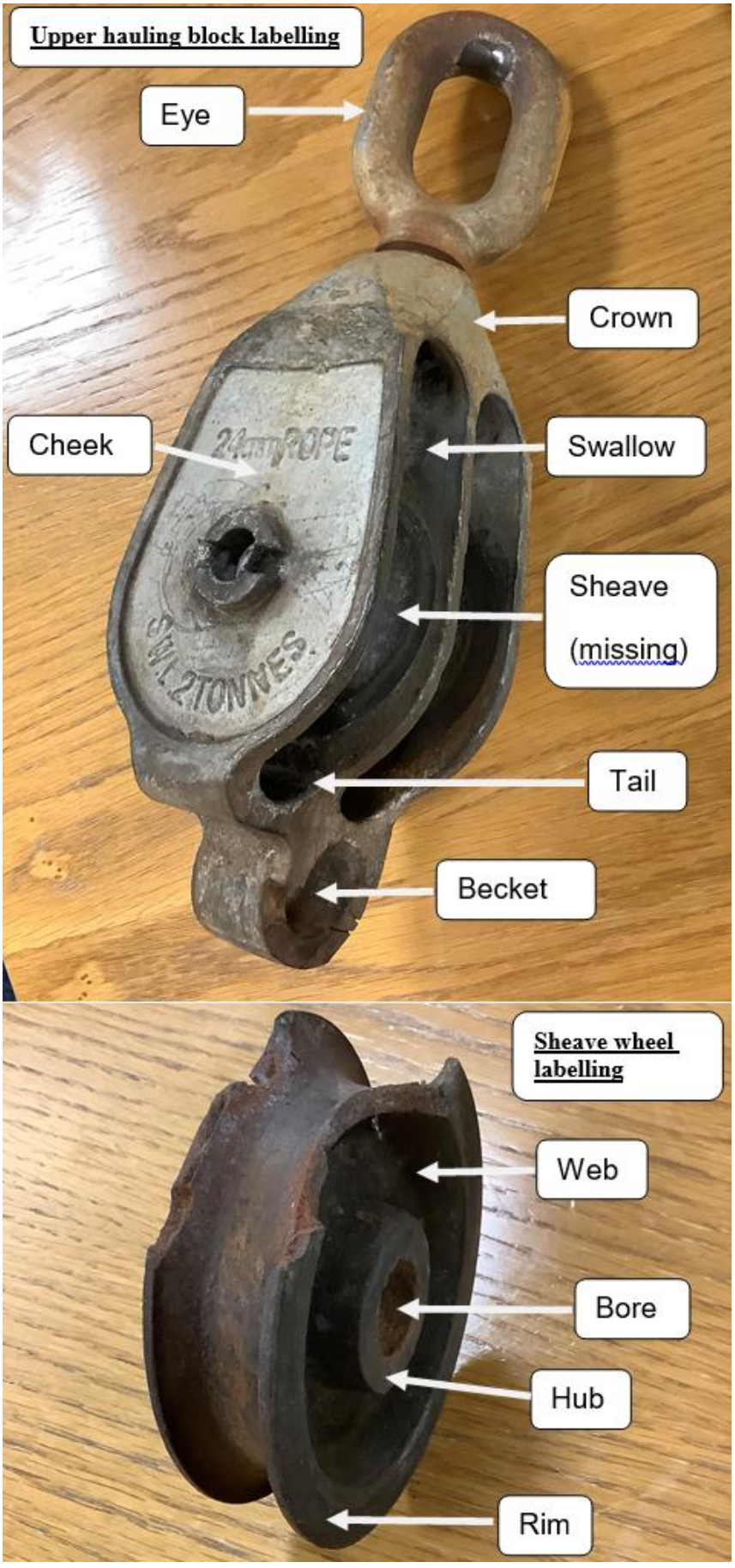

Fig 08 – Upper hauling block and sheave labelling.

The vessel’s Owner produced an invoice for the block dated 19th April 2021. The Owner suggested the block would have been installed on the vessel soon after. There was no test certificate supplied with the block.

On contacting the supplier it was stated that a test certificate could be obtained for a block if requested by a customer within 90 days of purchase. The block was beyond the 90 days. A new block of the same model from the same supplier was locally available (see Fig – 09).

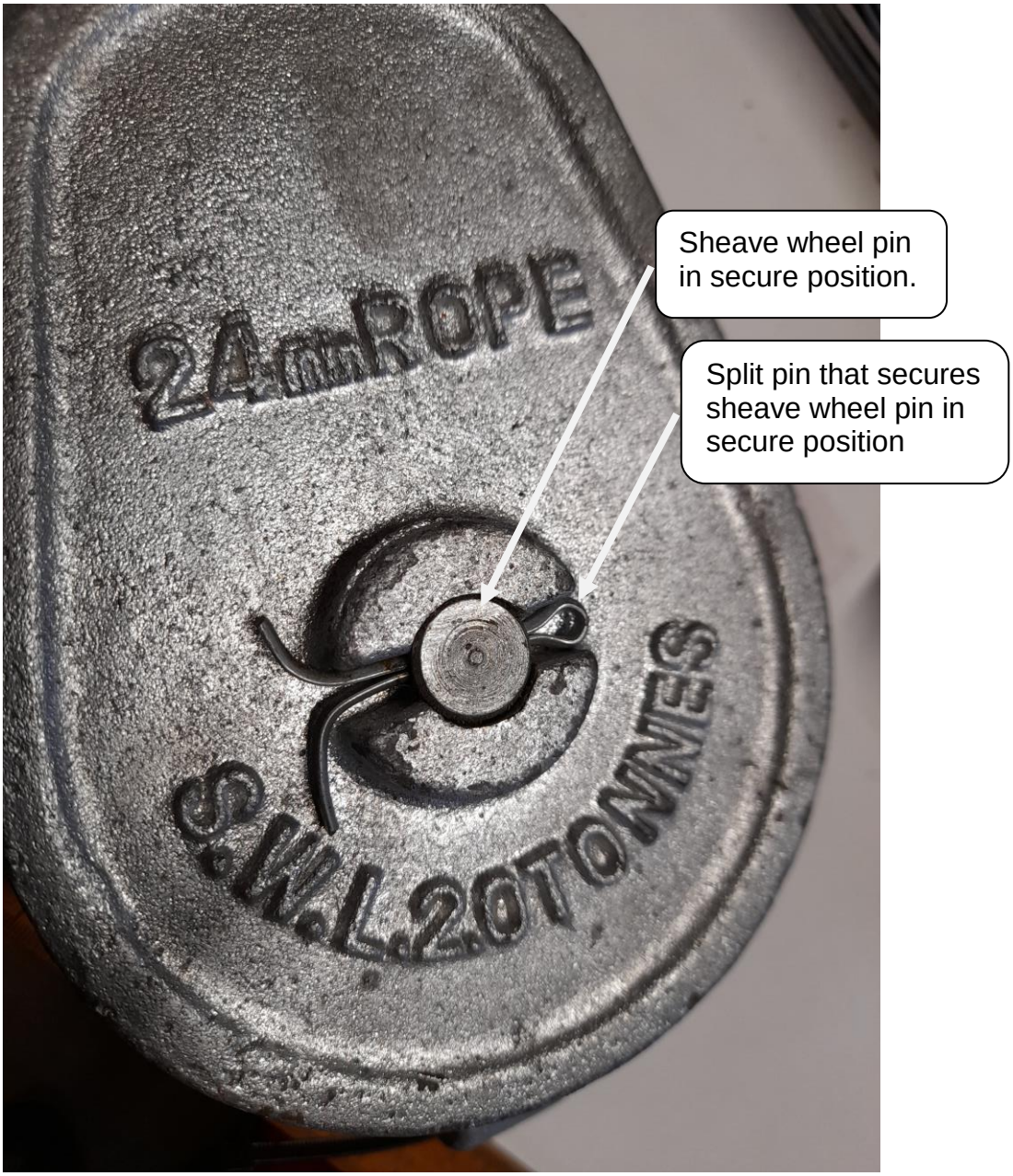

Fig 09 - new version of block available locally from same UK supplier.

From the interview with the Skipper of the Silver Viking and several other members of the Isle of Man fishing community it was stated that the split pins often failed on these blocks over time. The common replacement is a high tensile steel bolt and nut used to replace the sheave pin and split pins (see Fig 10).

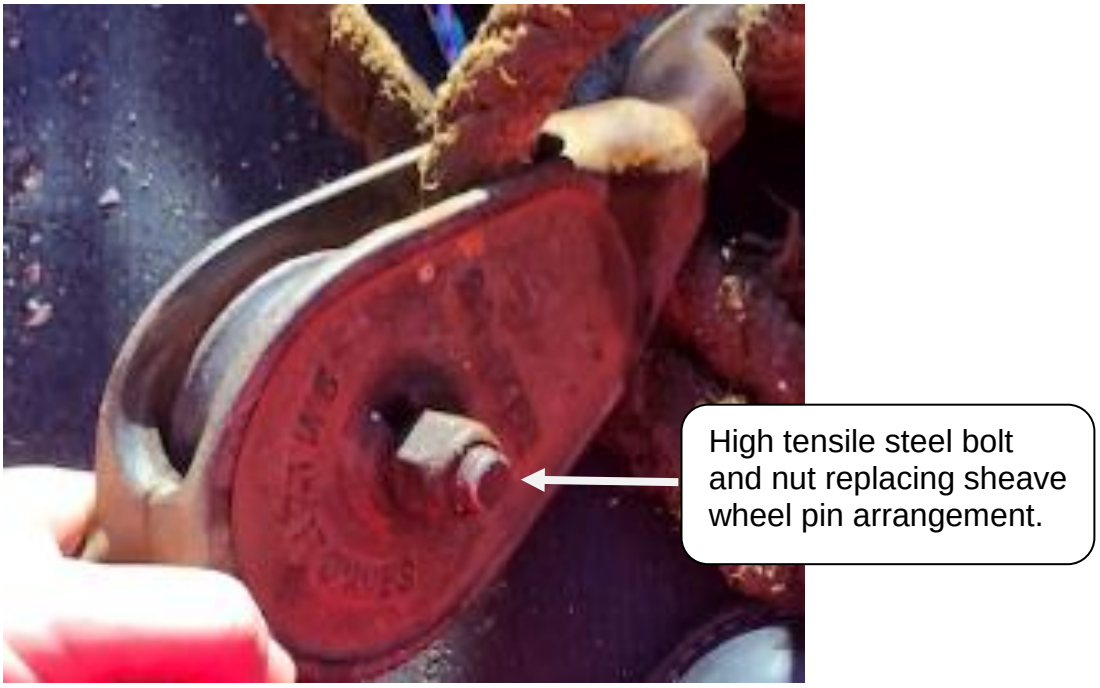

Fig 10 - An example of a block where the Sheave Wheel pin and split pins have been replaced by a nut and bolt.

Examination of the block housing and sheaves

Block housing.

The block housing was intact however there were signs of scoring on one side of the block cheek where the split pin securing the sheave pin would have been. There were no records of the split pins being replaced since the block had been purchased. Therefore, it is likely the split pin had become loose and has scored the side of the block (block cheek) (see Fig 11).

Fig - 11 – Upper hauling block from Silver Viking with block cheek scoring.

Sheaves

One of the sheaves was intact and the other sheave was significantly damaged, both externally on the edge of the sheave wheel rim and by the side of the sheave wheel hole (bore) where the sheave pin passes through the sheave wheel (hub). However, the sheave had not completely failed so this was not found to be the cause of the sheaves becoming detached from the housing (see Fig 04 in narrative section for the two sheave wheels together, Fig 08 for labelling and Fig 12 below for damage to the hub and rim). There is evidence of pin shaped scoring within the sheave bore. This scoring inside the bore and damage to the hub indicate the end of the sheave wheel pin was sliding out through the bore of the sheave wheels. This would also explain how half of the sheave hub was broken away (see Fig 12).

The sheave pin and the sheave split pins were not located at the time of the investigation therefore it cannot be confirmed if these items failed.

If the sheave wheel pin had been in its proper secured position with each end of the sheave wheel pin secured with split pins to the block housing (see Fig 09 above, showing secured split pin) then the estimated weight of approximately 850-900kg would be within the capacity of the single sheave wheel to manage.

Cause of failure

To conclude, from the sheave wheel damage as described above (see Fig 12 below) it is highly likely the sheave wheel pin was out of position due to the failure of at least one of the securing split pins. This would mean the pressure of the load under tension (approximately 850-900kg) was being applied in an unstable manner to the sheave wheel pin and sheave wheel hub.

At the point of failure, the end of the sheave wheel pin is highly likely to have slid part way through the sheave wheel braking off half of the hub due to the focused point of the load pressure within part of the bore of the sheave wheel.

This would suddenly release the sheave wheel with significant force causing the brittle chipping on the sheave wheel rim (see Fig 13 below) from the force of striking the block housing as it ejected out of the block. It cannot be said with certainty which of the two sheaves pictured in Fig 04 in the narrative section of the report struck the casualty.

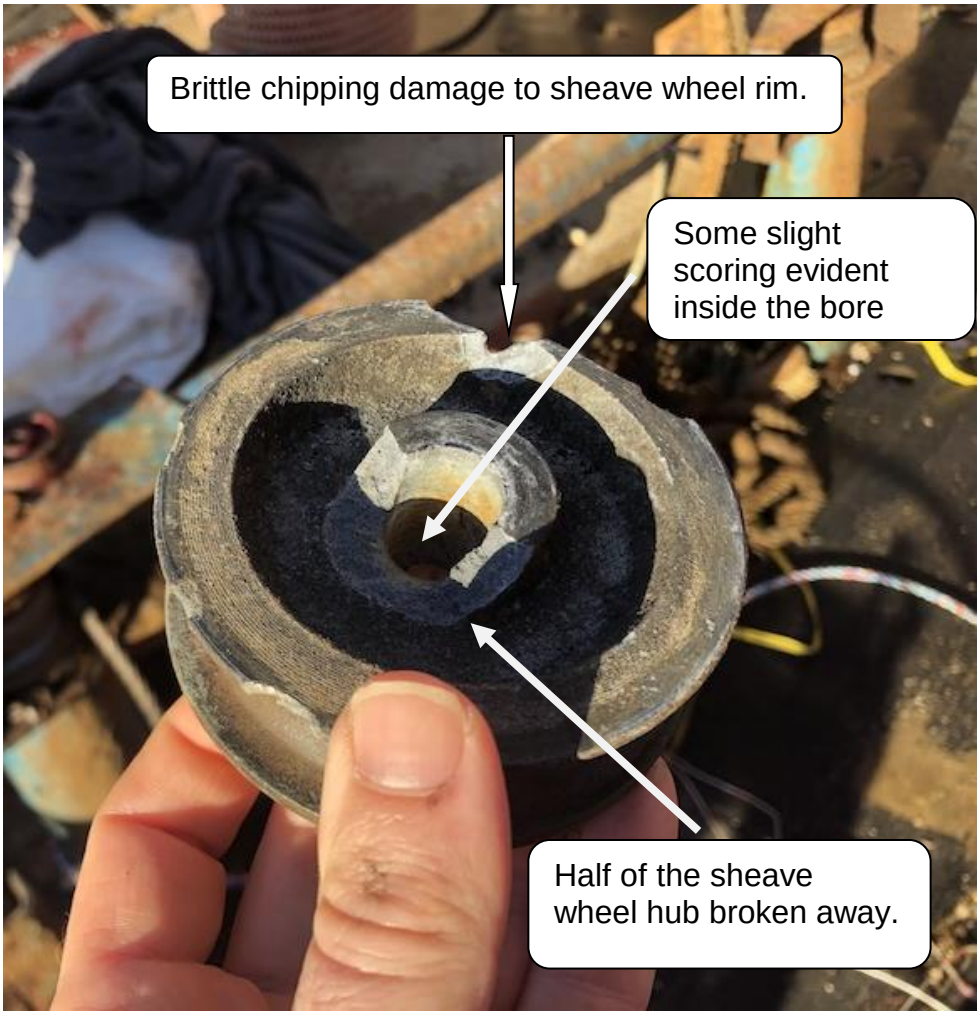

Fig 12 - Damaged sheave ejected from block.

Fig 13- Damage to block housing from ejected sheave wheel

History of the block and maintenance

Without any maintenance records it cannot be stated what, if any maintenance had been carried out. The block was ordered 19th April 2021 as evidenced by the invoice, however the report from the Renewal Survey undertaken by the Isle of Man Ship Registry shows the vessel was rigged for Queenies on 21st June 2021, rather than Scallop gear and did not have the block fitted at this time. There were no reported maintenance instructions from the supplier. The Skipper stated there were no specific maintenance instructions, but they replaced the sheave wheel pins and split pins with a high tensile bolt and nut if the split pins failed. It is possible that the split pin could have already failed unnoticed, allowing movement of the sheave wheel pin or that the failure occurred during the casualty event.

Was the Personal Protective Equipment (PPE) adequate?

For the purpose of the accident, the item of PPE that may have been a factor in reducing the injury sustained is a hardhat. On attending the Silver Viking after the crew member had been taken to hospital, the Skipper was not wearing any PPE and neither the Skipper nor the Crew Member were wearing hard hats at the time of the accident.

It is not a requirement in the IOM Code of Practice for the Safety of Small Fishing Vessels to wear hard hats, however it is reasonable consideration in risk assessments that should be carried out on-board. It cannot be determined if the injuries sustained to the casualty would have been fully prevented by the wearing of a hardhat, but it is reasonable to believe that wearing a hardhat may have reduced the severity of the injuries. The injured Crew Member did not make an arranged interview for this investigation. This may have helped establish whether informal risk assessments were discussed or to detail the nature of his injuries sustained from the casualty event. However, the Skipper did confirm on the day there were no formal written risk assessments conducted on-board and the Crew Member did not have a hardhat on, nor would that be normal practice. It was also said by those that knew the injured Crew Member when trying to reach him for interview that the injuries sustained were of a very serious nature.

To conclude, the relevant item of PPE (hardhat) is not a mandatory requirement on-board, and nor was it available or likely to have been worn or risk assessed to be used at the time of the casualty event. Therefore, it cannot be said that PPE was adequate.

Was the Silver Viking in compliance with legislation and best practices?

A fishing vessel of the Silver Viking's size is required to be in compliance with the 'The Isle of Man Code of Practice for the Safety of Small Fishing Vessels (less than 15m Length Overall)', equipped as per requirements under Annex 6 - 'Decked vessels of 12m Registered length and above to less than 15m Overall Length'.

Fishing vessels are subject to a survey regime carried out by surveyors of the Isle of Man Ship Registry. The surveys follow a format of an initial survey then an intermediate survey (2 – 3 years after the initial) and a renewal survey carried out 5 years after the initial survey. This is demonstrated with a full-term fishing vessel certificate being issued. The vessel was surveyed for a renewal survey on 17/06/2021 and had an out of water inspection in January 2021 and had been issued with a valid Fishing Vessel Certificate. No deficiencies were issued at the renewal survey with a satisfactory pass meaning the vessel met the requirements for Code compliance. The next survey due would be an intermediate survey between 17th June 2023 and 17th June 2024.

As stated in the Code, in addition to the survey requirements for the Silver Viking to be compliant the Owner must:

"Complete or arrange completion of, an assessment of the health and safety risks arising in the normal course of work activities or duties on the vessel"

At the time of the casualty event there was no evidence to suggest an adequate risk assessment had been conducted for the health and safety risks arising in the normal course of work activities or duties on the vessel.

Modifications and Stability

During the renewal survey a required stability check (roll test) was conducted with the vessel in a condition ready for sea and was rigged for queenie fishing with a net on the stern. This was conducted by a qualified naval architect using up-to-date software and witnessed by the Isle of Man Ship Registry on 16/06/2021.

Under the code section 11. Modifications and repairs the code states:

"Modifications or alterations to the vessel's structure and/or the removal or repositioning of any equipment as detailed in the Record of Particulars and Equipments, changes in the vessel's mode of fishing and/or its gear to other than those habitually employed, and the fitting of additional equipment should be investigated prior to making any changes, to ensure that the vessel will continue to comply with the required stability criteria. In addition, such modifications or alterations should only be carried out after the skipper or owner has notified the Marine Administration in writing and obtained their approval."

At the time of the casualty event the vessel was not rigged for queenie fishing with a net on the stern as detailed on the roll test report. The vessel was rigged for Scallop Dredging as described previously in this report.

To conclude, the Silver Viking was found in compliance with legislation and best practices 18 months prior to the casualty event. At the time of the Casualty event the Silver Viking had a lack of evidence of risk assessments, which should be conducted as required by the code. There had also been a change in fishing method and equipment from queenie nets to scallop dredges since the last fishing vessel survey. An Owner/Skipper should indicate all expected fishing modes during a survey, roll test or in the case of a new modification and report the alterations.

Could improvements be made to the Isle of Man Ship Registry's code of practice?

Within the 'The Isle of Man Code of Practice for the Safety of Small Fishing Vessels (less than 15m Length Overall)' all aspects of maintenance and fishing method equipment requirements are encompassed by means of risk assessments. The code states:

*"**9. Risk Assessments***

A vessel owner must complete, or arrange completion of, an assessment of the health and safety risks arising in the normal course of work activities or duties on the vessel. Employers are required to make a suitable and sufficient assessment of the risks to the health and safety of workers arising in the normal course of their activities or duties.

A risk assessment is intended to be a careful examination of what, in the nature of operations could cause harm, so that decisions can be made as to whether enough precautions have been taken or whether more should be done.

The assessment should first identify the hazards that are present and then establish whether a hazard is significant and whether it is already covered by the satisfactory precautions to control the risk, including consideration of the likelihood of the failure of those precautions that are in place.

It is not a requirement that a risk assessment be written, nevertheless the Marine Administration strongly recommends that such assessments be written. An example of a suitable standard of written risk assessment is included in the Fishing Vessel Safety Folder developed by Seafish and available free of charge from the Marine Administration, which also provides pro-forma guidance on fishing vessel risk assessment, both generally and in relation to particular modes of fishing."

When a fishing vessel is surveyed by the Isle of Man Ship Registry, risk assessments are discussed with those in attendance to the survey and explained that it can be in the form of formal risk assessment written down with procedures or an informal risk assessment discussed on-board. Despite strong recommendations for written risk assessments including recording maintenance and drills, it is not a requirement and often the written assessments are not produced.

Community standards and awareness are discussed during fishing industry safety group meetings held twice a year at the Isle of Man Ship Registry in conjunction with RNLI representation, the Manx Fish Producers Organisation, Harbours and DEFA along with input from other parts of the industry on Island. Further development to risk assessing and on-board maintenance is being encouraged in the industry through recent years by means of a safety management system as an upgrade to ‘seafish’ folders.

To conclude, the current ‘Isle of Man Code of Practice for the safety of small fishing vessels (Less than 15 M LOA)’, which was produced based on the UK’s code for small fishing vessels at the time has not been updated since its effective date of 1st April 2006.

The Code does not contain specific requirements in regards to maintenance beyond conducting a risk assessment. The Code also does not make specific references to lifting equipment. The UK has extensively developed their Small Fishing Vessel Code in recent years as well as having adoption of the UK LOLER & PUWER regulations (MGN 331 and 332).

3. Conclusions

1. The Silver Viking underwent a renewal survey 18 months before the casualty and was found to be in a satisfactory condition. During the renewal survey the vessel was rigged for queenie fishing.
   At the time of the casualty the Silver Viking was rigged for scallop fishing with scallop dredges associated lifting equipment. The scallop fishing gear, including the upper hauling block involved in the casualty, constituted a change in the vessel's mode of fishing. The Isle of Man Ship Registry is required to be notified of changes in the vessel's mode of fishing and/or its gear to other than those habitually employed. The Isle of Man Ship Registry had not been notified of this change.

2. The response to the casualty from the Harbour Division's Marine Operations Centre, Belfast & Isle of Man Coast Guard, Fire Service and Ambulance Service was well coordinated and helped to get medical treatment to the crew member in the quickest time possible.

3. The casualty was a result of the sheaves located within the upper hauling block becoming detached while under load. The cause was highly likely to be one of the split pins failing or coming loose allowing the sheave wheel pin to come out of its secure position. As a result, the sheave wheels would have been ejected at force, striking the crew member who was located below the hauling block. Split pin failings have been identified as a failure point by other local fishers.

4. If a planned maintenance system was in place, it could have helped identify a potential failure of the block, however this is not a specific requirement within the current Code of Practice.

5. The Code of Practice states risk assessments should first identify the hazards that are present and then establish whether a hazard is significant and whether it is already covered by the satisfactory precautions to control the risk, including consideration of the likelihood of the failure of those precautions that are in place. It is not a requirement that a risk assessment be written, nevertheless the Isle of Man Ship Registry strongly recommends that such assessments be written.

   At the time of the casualty there was no evidence provided that any risk assessments were being carried out.

4. Recommendations

(For the Silver Viking)

1. For risk assessments to be carried out.

   The Isle of Man's Code of Practice for the safety of small fishing vessels requires:

   The vessel's owner must complete, or arrange completion of, an assessment of the health and safety risks arising in the normal course of work activities or duties on the vessel. Employers are required to make a suitable and sufficient assessment of the risks to the health and safety of workers arising in the normal course of their activities or duties. A risk assessment is intended to be a careful examination of what, in the nature of operations could cause harm, so that decisions can be made as to whether enough precautions have been taken or whether more should be done.

   As a result of conducting risk assessments on the Silver Viking, there may be a need to:

   - Carry out an inspection and maintenance schedule of equipment on the fishing vessel and in particular the lifting equipment; and
   - Provide and ensure hard hats are to be worn during any lifting operations.

(For the Isle of Man Fishing industry – including Isle of Man Ship Registry)

2. The Isle of Man's fishing vessel industry is to be advised of potential safety issues with hauling blocks as described in this casualty report.

3. The Isle of Man's fishing vessel industry is to be reminded of the importance of carrying out risk assessments in general and in particular routine maintenance of lifting equipment. Noting Seafish have an online safety folder and the Manx Fish Producer organisation can assist in use of safety management software.

4. The Isle of Man Ship Registry is to consider adopting legislation to require the safe installation, maintenance and operation of lifting equipment. For example the UK has the following legislation and guidance:
   - UK Small Vessel Fishing Safety Code has requirements for 'winches, tackles and hoisting gear and other work equipment'.
   - The UK's Merchant Shipping Fishing Vessel (Lifting Operations and Lifting Equipment) Regulations 2006 (S.I. 2006/2184) and
   - UK's MGN 332 Amendment 1 Lifting operations and lifting equipment (LOLER) Regulations 2006.