**Report of the Inspector's Investigation into**

**the death of one person on the fishing vessel**

# *GEESKE* BM140

**while fishing off Beachy Head**

**on 9 December 1998**

**Extract from**

**The Merchant Shipping**

**(Accident Reporting and Investigation)**

**Regulations 1994**

The fundamental purpose of investigating an accident 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.

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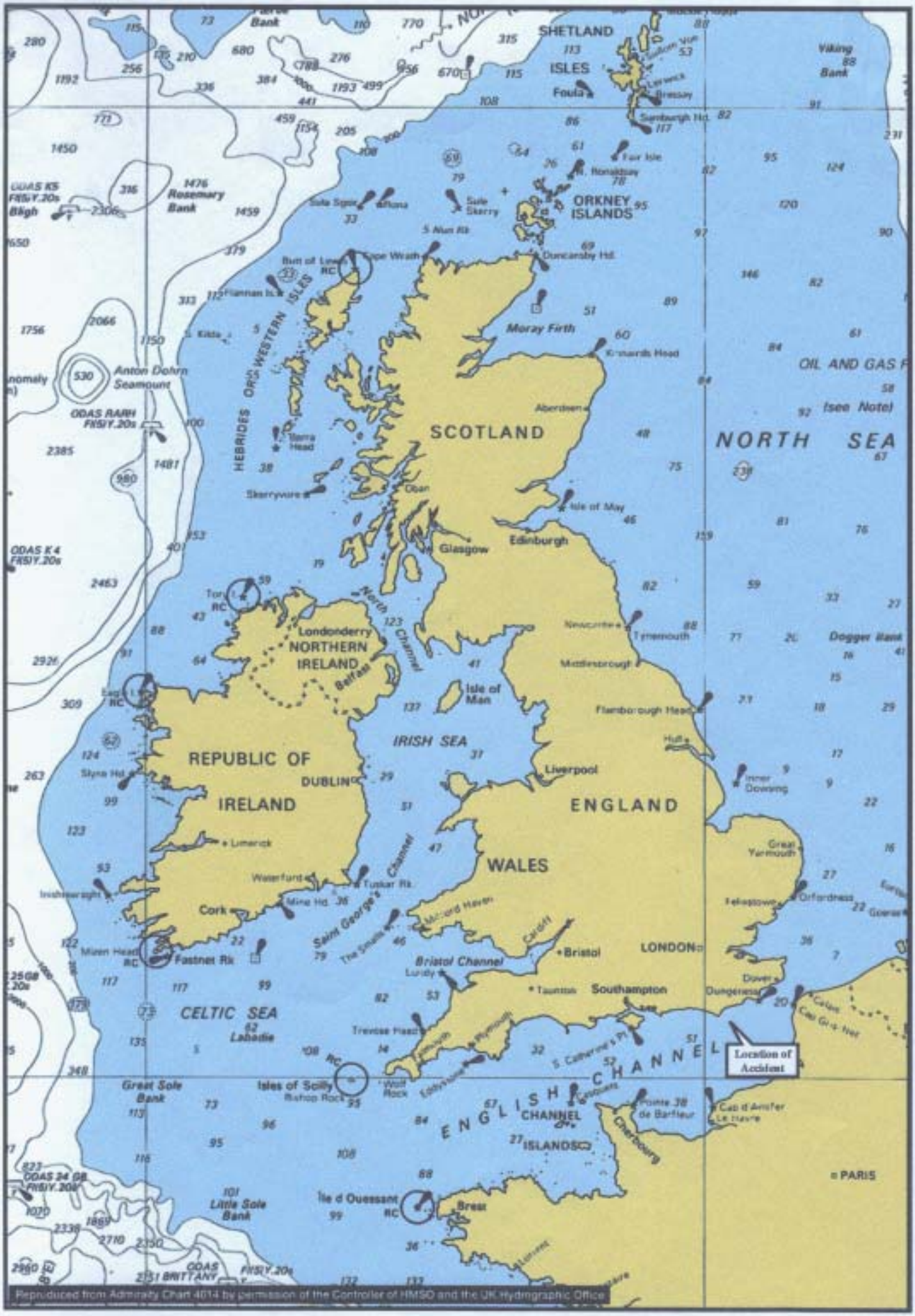


## SYNOPSIS

The accident occurred just before 0800 on 9 December 1998, it was notified to the Marine Accident Investigation Branch (MAIB) at 1028 on that day.

*Geeske* was a scallop dredger fishing in the English Channel in moderate weather conditions. During the final hauling operation of the second watch a deckhand was struck by the port fishing gear as it was dropped on to the deck. He was badly injured, and despite valiant efforts by the crew to try to save him, he subsequently died.

The poor view from the wheelhouse is considered to have been the main cause of the accident, but a contributory factor was that the skipper's verbal instructions for the hauling operation were not followed. If they had been, the deckhand should have been in a safe position under the whaleback.

Recommendations have been made to the owner on the visibility from the wheelhouse, the procedure for the hauling operation, and to the MCA on risk assessment for scallop dredgers.

Photographs courtesy of McLeod Trawlers


Geeske at Sea

# SECTION 1

## FACTUAL INFORMATION

### 1.1 PARTICULARS OF VESSEL AND INCIDENT

| | | |
|---|---|---|
| Name | : | *Geeske* |
| Type | : | Twin beam scallop dredger |
| Port and number | : | Brixham, BM 140 |
| Registry number | : | B 11368 (UK Registered) |
| Owners | : | McLeod Trawlers<br>24 Windmill Road, Brixham, Devon,<br>TQ5 9SJ |
| Built | : | 1971, in the Netherlands |
| Material of construction | : | Steel |
| Length overall | : | 30.4m |
| Registered length | : | 27.36m |
| Breadth | : | 6.9m |
| Depth | : | 3.7m |
| Gross tonnage | : | 171 |
| Trawl winch | : | Pneumatically operated, manufactured by Luyts |
| Fishing vessel certificate | : | Issued by the Maritime and Coastguard Agency (MCA) on 16 March 1998 (Expiry date 4 February 2002) |
| First aid kit | : | Stored in the wheelhouse, checked by the MCA in March |
| Position of accident | : | $50^0$ 34.2` N, $00^0$ 40.3` E , 18.7 miles SE of Beachy Head (Beachy Head is next to Eastbourne on the south coast) |
| Time and date | : | Just before 0800 on 9 December 1998 |
| Injuries | : | One fatality |

## 1.2 HISTORY OF THE VESSEL

*Geeske* was equipped to operate as a scallop dredger although she was originally designed and built as a beam trawler; the conversion to scallop dredging took place about eight years ago. The vessel was built in the Netherlands in 1971; she joined the UK flag in 1990. Since 1990 the vessel had been surveyed by the UK administration on a number of occasions, and at the time of the accident was in possession of a current United Kingdom Fishing Vessel Certificate. The main engine and winch system were fitted when the vessel was built, but were overhauled approximately three years ago by the manufacturers during a six week refit in the Netherlands.

## 1.3 THE CREW AND THE WATCH SYSTEM

*Geeske* had a crew of six; they were divided into two watches operating six hours on and six hours off. The first watch comprised the following crew:

Christopher Lovell-Healy, aged 34, the skipper, an experienced fisherman with a Certificate of Competency and a Radio Operator's Licence. He was trained in fire fighting, survival at sea and first aid. He had served as skipper since the beginning of November 1998, but had previously worked on the vessel for about four years as mate/relief skipper (between February 1993 and August 1997).

Christopher Anderson and James Grant were the deckhands.

The second watch comprised the following crew:

Frederick Tooley, aged 36, the mate, an experienced fisherman who had been in the industry since he left school aged 16. He held a Watchkeeping Certificate and joined *Geeske* at the beginning of November 1998 as mate. He had worked on other vessels involved in scallop dredging. For the last seven years he had worked as a deckhand/relief mate on the fishing vessel *Christina*, which was a beam trawler about 90ft (27.4m) long.

Mark Dean, aged 21, deckhand (the casualty). He had about ten months experience as a fisherman, and was trained in fire fighting, survival at sea and first aid. He had worked on *Geeske* for about ten months.

Jason Stride, aged 24, deckhand (referred to in this report as deckhand A). He had about two years experience as a fisherman and was trained in fire fighting, survival at sea and first aid. He had worked on *Geeske* for about 12 months.

Fred Tooley and Chris Anderson were engaged by the skipper shortly after he took command. Jason Stride, James Grant and Mark Dean were all serving on *Geeske* at the time the skipper joined the vessel.

The accident happened while the second watch was on duty. During the hauling and shooting operations the mate directed operations from the wheelhouse, while

Mark Dean handled the starboard fishing gear, and deckhand A handled the port gear.

Normally the fishing gear was shot and hauled three times during each six hour watch. After shooting, the gear was towed for approximately 1 - 1½ hours at 3 to 4 knots. The skipper or mate (depending who was on duty) would remain in the wheelhouse throughout the watch. The two deckhands sat in the galley during the tow, and came on deck during the shooting and hauling operations, and to process the catch.

## 1.4 WEATHER CONDITIONS

Wind SW force 6, visibility 5-6 miles, overcast, cloud base 1000ft (305m), light rain, temperature 9 $^{0}$C; sunrise was at 0747 on 9 December 1998.

## 1.5 NARRATIVE

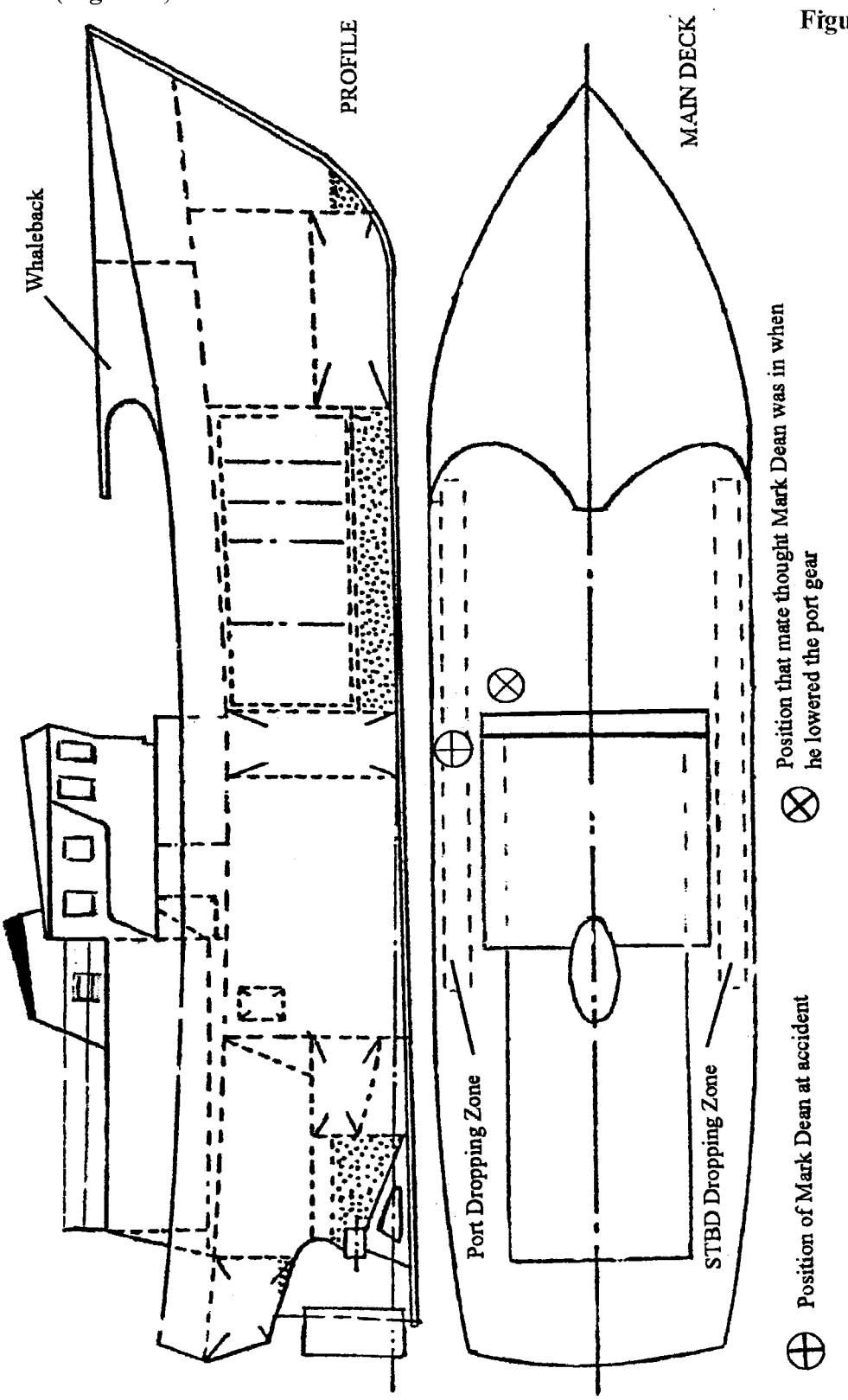
*Geeske* left Portsmouth on 7 December 1998 to fish on the eastern side of the English Channel. On the day before the accident (8 December 1998) the second watch finished at 2000. Prior to 2000 Mark Dean went into the galley to prepare the evening meal, while the other two members completed the duties of the watch. Just after 2000 the second watch sat down in the galley to eat; when the meal was finished they all took part in the washing up. Following the meal, there was a short recreation period and at about 2100 they went to their bunks to sleep. They were woken at about 0130 (on 9 December 1998) in preparation for their six hours of duty which began at 0200.

The gear was shot at 0230, and hauled at 0355, producing a catch of six bags of scallops. It was shot again at 0425, and hauled at 0550 (eight bags). At 0610 it was shot for the third time; hauling began at 0735, and by about 0745 the deckhands had secured the gear alongside. Both deckhands then returned to the whaleback shouting "All clear"; the mate pulled the gear tight, starboard first then port. The forward facing centre window of the wheelhouse was open so that the mate could communicate with the deck crew. The deckhands checked the gear. Mark Dean then moved over to the port whipping drum with the starboard gear pulling-in rope which he wound on the whipping drum three times. Mark Dean shouted "Aye aye Fred" at which time he started pulling in the starboard gear. When the gear was inboard the mate dropped the starboard gear on to the deck. Mark Dean then started to remove the pulling-in rope from the port whipping drum.

What happened next is unclear, because the accounts of the two witnesses differ. The mate believes that Mark Dean had completed the task of removing the pulling-in rope from the whipping drum, and had moved forward to take the rope out of the deck block prior to coiling it on a cleat on the forward side of the winch casing, which was close to the dropping zone of the port gear (**Figure 2**). The mate also shouted out of the open wheelhouse window to deckhand A "Are you

ready"? or "All clear?" and deckhand A replied "All clear". Just after making this observation and hearing the call he moved back slightly and operated the winch controls to drop the port gear. It is evident that Mark Dean was under the gear at the time (**Figure 2**).

**Figure 2**




Profile and plan of fv *Geeske* BM140 (not to scale)

Deckhand A has made no mention of giving the "All clear"; also his recollection is that the gear dropped on Mark Dean as he was taking the last turn off the whipping drum. In this position he would have been on the port side of the deckhouse in the dropping zone of the port gear (**Figure 2**).

The accident was immediately apparent to deckhand A and he shouted to the mate to raise the port gear. Mark Dean lay badly injured on the deck next to the port whipping drum. Deckhand A raised the alarm to the first watch who were in the galley waiting to start work at 0800. The skipper went to the scene and told the other crew to get some blankets and make Mark Dean as comfortable as possible. The skipper then went to the wheelhouse to call the coastguard on the radio. Deckhand A took the lead in providing first aid, with the rest of the crew assisting. A resuscitator mouthpiece was fetched from the wheelhouse and was used to assist Mark Dean's breathing. The coastguard then put the skipper through to a doctor. Mark Dean's injuries were described, and it was stated that he found it very hard to breathe. The doctor then talked through the instructions for a tracheotomy on the radio. The skipper relayed this information to deckhand A who performed the operation.

The crew did their best for Mark Dean until the coastguard helicopter arrived at about 0850. A winchman and a paramedic descended from the helicopter and Mark Dean was placed on a stretcher prior to being hoisted. The helicopter departed at about 0900. Mark Dean was airlifted to Eastbourne hospital where he was pronounced dead on arrival. The post-mortem report established the cause of death as a severe injury (a blunt wound) to the lower left side of the head (the downward force was applied by the falling poles of the port side fishing gear).

*Geeske* returned to Portsmouth the same day (9 December 1998), and returned to her home port of Brixham on 14 December 1998.

## 1.6 WINCH CONTROLS

There were four main controls in the wheelhouse for hauling and shooting the fishing gear (**Figure 3**). The outboard levers controlled the warps which lifted and lowered the derricks, and the inboard levers controlled the warps which were directly attached to the fishing gear. These winch controls were installed in the spring of 1997.

There were three positions for each lever; aft, centre and forward. In the centre position the brake was on and the clutch was out; the drum was not moving and the warp was held in position (not being paid out or hauled in). In the aft position, the clutch was engaged and the brake was off such that the warp was hauled in. When the levers were moved forward the clutch remained disengaged and the brake was progressively released until, at the most forward position, the warp ran free.

The fishing gear could be paid out under power by reversing the winch, but this was only used when the gear was being shot (deployed to the seabed).

Each of the controls had a safety catch on the end of the lever which had to be activated when moving to the forward position; it was not activated when going to the aft position.

**Figure 3**


View of the winch control position in the wheelhouse

1. Starboard winch control levers
2. Port winch control levers
3. Open window
4. Fish box used as a standing platform

## 1.7 VIEW FROM THE WHEELHOUSE

The skipper of *Geeske* was 1.83m (6'0"), and the mate was 1.55m (5'1") tall. The person at the winch control in (**Figure 3**) is 1.7m (5'2") tall and can see some of the working deck by leaning out of the window. An MAIB inspector 1.72m (5'8") tall, also looked out from this position and found his view of the deck restricted. This was with the vessel alongside in calm water. A typical view from the open window of the dropping zone is shown in (**Figure 4**). It was difficult to view the working deck from the wheelhouse, especially for a short person. The fish box was being used as a standing platform at the time of the accident.

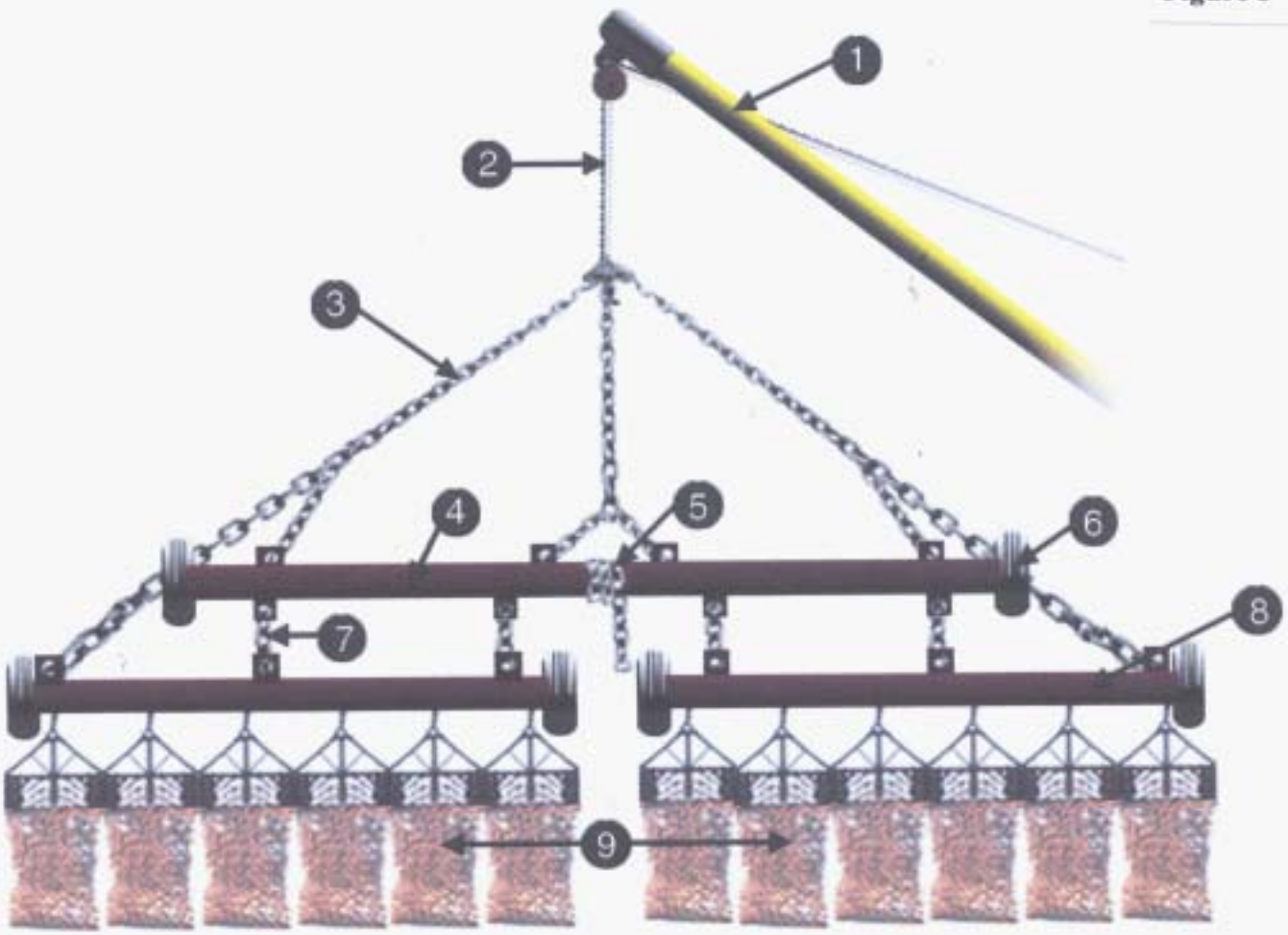
**Figure 4**

General view of the port dropping zone from the open window in the wheelhouse

## 1.8 THE FISHING GEAR AND THE HAULING OPERATION

The fishing gear was dragged along the seabed to pick up scallops, which are shellfish. A sketch of one set of fishing gear is shown (**Figure 5**); the gear was the same each side. During the tow the derricks were horizontal.

**Figure 5**




Typical scallop dredge arrangement

**Key**

| | |
|---|---|
| 1 | Derrick |
| 2 | Warp |
| 3 | Bridles |
| 4 | Top pole |
| 5 | Pulling-in chain |
| 6 | Rubber wheels |
| 7 | Chain hook goes in here |
| 8 | Bottom poles |
| 9 | Dredges |

At the end of a tow the fishing gear was raised by hauling on the warps. As the gear reached the surface the derricks were raised; this caused the gear to twist so that it became parallel with the side of the vessel and with the poles level to the gunwale (**Figure 6**). Lines forward and aft were then attached, and the gear was pulled up tight against these to steady it (**Figure 7**). One end of the pulling-in chain was then attached to the centre of the gear, while the other end was attached to the pulling-in rope, which ran through a block on the deck and then aft to the starboard whipping drum; the whipping drum was used to pull the gear inboard, and at the same time, the warp was released so that the gear dropped down on the deck (**Figure 8**). At this stage the chain-mail bags (the dredges) were hanging over the gunwale.

The final part of the operation was to lift the bottoms of the dredges so that the catch fell on to the deck. As well as shellfish, the catch included rocks and other debris. The crew put the scallops into containers and then lowered them through the fish hatch into the fish hold. The deck clearing operation involved opening the scuppers and sweeping all the rocks and other debris over the side.

The port whipping drum and the cleat used for stowing a pulling-in rope is shown (**Figure 8**).

Fishing gear alongside

**Figure 7**


Fishing gear hauled tight

**Figure 8**


Whipping drum and cleat

The starboard gear was hauled inboard first, followed by the port gear. The operation for both sets of gear was similar.

The skipper had served on *Geeske* for about four years, hence he was familiar with scallop dredging. When the mate joined the vessel, about a month before the accident, the skipper instructed him on hauling the fishing gear; he also watched the mate perform the operation a few times to ensure that it was done correctly.

Normally the deck scuppers were secured closed with pins before the catch was released on to the deck to prevent scallops falling overboard, but sometimes a scupper is overlooked. An ex-deckhand visited *Geeske* on 13 December 1998 and noticed that all the scuppers were secured except one which was on the port side close to where Mark Dean was fatally injured; the pin was not engaged in this scupper.

On 10 December 1998 the MAIB observed a demonstration of the hauling operation, and was satisfied about the condition of the fishing gear and the winch control system.

The skipper's instructions for the hauling operation are contained in **Annex 1**.

# SECTION 2

## ANALYSIS

### 2.1 VIEW FROM THE WHEELHOUSE

**2.1.1** The whole of the dropping zone for the fishing gear could not be seen from the winch control position in the wheelhouse. The area at the side of the deckhouse could not be viewed at all, and the area just forward of this could only be viewed with difficulty. The upturned fish box used as a standing platform is not acceptable on a permanent basis.

**2.1.2** The view could be improved by having a winch control position at each bridge wing or by covering each dropping zone with closed circuit television. A raised floor could be installed rather than a temporary standing platform.

### 2.2 INSTRUCTIONS FOR THE HAULING OPERATION

**2.2.1** The precise circumstances of the accident are not known, because the accounts of the two surviving members of the second watch are different. What is clear from the two witnesses is that the skipper's verbal instructions for hauling the gear were not followed. Had the instructions been adhered to, the port gear would not have been dropped on the deck until Mark Dean was in a safe position under the whaleback. What should have happened is that the hauling inboard of the starboard gear should have been fully completed before the similar operation on the port gear was started; that is, the stowing of the starboard pulling-in rope should have been finalised and Mark Dean should have moved to a protected position under the whaleback before the port gear was brought inboard. This was the skipper's method for the hauling operation (**Annex 1**).

**2.2.2** Fishing can be repetitive, and as fishermen become well practised there is a tendency to try to speed up an operation. Hauling in the port gear while the starboard gear pulling-in rope was being stowed probably saved a minute or two, and for a practised crew it may not have been seen as particularly dangerous, but this accident has shown that it was.

**2.2.3** The skipper's verbal instructions were important because the winch operator could not see the full extent of the deck where the fishing gear was dropped. The deckhands' safety depended on adherence to the skipper's method. The accident has shown that the crew will not always follow the safest procedure. However, their safety could be greatly improved if the winch operator was given a clear view of the whole of the dropping zone. It is reasonable to assume that had the mate been able to see Mark Dean from the winch control position, the port side fishing gear would not have been released when it was, and the accident would not have happened.

**2.2.4** The skipper's verbal instructions would have carried more weight if they had been developed from a risk assessment. The MCA will be requiring fishing vessel owners to undertake risk assessments for dangerous operations. A risk assessment of the hauling operation on *Geeske* should be conducted to produce a written procedure for the crew.

## 2.3 POSSIBLE REASONS FOR MARK DEAN BEING UNDER THE GEAR

**2.3.1** The light rain would have made the deck wet and possibly slippery. The motion has been described as uncomfortable because the vessel was rolling and pitching in a swell, but *Geeske* normally fished in such conditions. Mark Dean might have slipped, or noticed one of the scuppers was not locked and attempted to secure it before the gear dropped. In this regard it is worth mentioning the comments of a deckhand who used to work on *Geeske*; this deckhand has admitted that occasionally he had missed out a scupper, and has implied that if this was the case here, Mark Dean may have been tempted to secure a scupper at the time of the accident.

**2.3.2** The blunt wound which Mark Dean received to the lower left side of his head, was probably caused by the lip of the whipping drum. If the wound was caused in this way, Mark Dean was standing, and facing aft, when the poles of the port side fishing gear were dropped on him. Another possibility was that Mark Dean finished stowing the pulling-in rope and then attempted to get to the galley before the port side gear was dropped. He normally left the open deck early in order to prepare food for the watch. If this was the case he would have been walking by the whipping drum.

**2.3.3** It is possible that Mark Dean was taking the last turn off the whipping drum.

## 2.4 TIREDNESS

**2.4.1** The accident happened at the end of the shift which spanned the early hours of the morning. The crew were usually tired at the end of a duty period; more so at the end of a night watch. At about 0800, after six hours of duty, the second watch would probably have been at their lowest ebb in the 24 hour cycle. They were probably anxious to get to the galley for their breakfast. In this condition they would be more prone to accidents, as compared to other times of the day when they would have been more alert.

## 2.5 LIGHT ON THE OPEN DECK

**2.5.1** The accident occurred just after sunrise so there would have been daylight, but it would have been quite dark bearing in mind that it was overcast and drizzling. However, the deck lights should have provided adequate visibility in the working area.

## 2.6 FIRST AID

**2.6.1** The crew are commended for their efforts in trying to save Mark Dean; in particular Jason Stride who performed the operation under very difficult circumstances and with very limited surgical knowledge.

# SECTION 3

## CONCLUSIONS

### 3.1 FINDINGS

1. When the accident happened, *Geeske* was fishing in position $50^0$ 34.2` N, $00^0$ 40.3` E, 18.7 miles SE of Beachy Head and the time was just before 0800 on 9 December 1998. [1.1]

2. Mark Dean, a deckhand, lost his life when the port side fishing gear was dropped on him, while he was standing next to, or walking by, the port side whipping drum. [1.5]

3. The winch operator, from his position in the wheelhouse, could not see the whole of the deck on to which the fishing gear was to be dropped. The area at the side of the deckhouse could not be viewed at all; the area just forward of this could only be viewed with difficulty. [2.1]

4. The skipper's instructions for dropping the gear on deck were not followed. Before this operation started, Mark Dean should have been standing in a safe position under the whaleback. [2.2]

5. The second watch, to which Mark Dean belonged, was at the end of its shift. They were probably tired and anxious to complete their work as soon as possible. [2.4]

6. The winch controls were under two years old [1.6]; the system operated satisfactorily. [1.8]

### 3.2 CAUSES

The main cause of the accident was that the winch operator could not see the full extent of the dropping zone when he released the port fishing gear.

A contributory factor was that the skipper's verbal instructions for the hauling operation were not followed by the second watch. (Mark Dean should have been in a protected position under the whaleback when the port fishing gear was dropped on to the deck - **Annex 1**).

# SECTION 4

## RECOMMENDATIONS

**McLeod Trawlers** are recommended to:

1. Change the wheelhouse arrangement/equipment so that the winch operator has a clear view of the whole of the dropping zone for each set of fishing gear. [2.1, 3.1.3]

2. Undertake a risk assessment of the hauling operation on *Geeske*; a written procedure should be developed from this exercise. The owner should ensure that the procedure is followed by the crew. [2.2, 3.1.4]

**The Maritime and Coastguard Agency** is recommended to:

1. Recognise the hazard involved in hauling on scallop dredgers that this accident has highlighted. When the MCA examines risk assessments for such vessels the lessons learnt from this case should be considered. [2.2, 3.1.4]

## The hauling operation

The following description is based on the skipper's verbal instructions for the hauling operation:

The hauling operation takes place at the end of a tow; at this time the engine revolutions are reduced to tickover (200 rpm approximately). When the vessel has slowed, the hauling operation is started by moving both port and starboard control levers to the aft position.

After the control levers are put in the aft position, the engine revolutions are increased to 500 rpm. At the same time the port and starboard topping lift controls are moved to the aft position in order to raise the derricks from the horizontal to approximately 45°.

The operation takes 5-10 minutes to the point when the gear breaks the surface. There are safety marks on the main warps and hauling ceases when these are in line with the fish room hatch.

When the deckhands come out on to the open deck, their first task is to go along the bulwarks and close all the scuppers that were left open from the previous deck cleaning operation. This involves securing them with steel pins. They do this as they walk forward to a position beneath the whaleback.

The derricks are topped (moved to the vertical position). When the derricks are about 20° off the vertical, the propeller is disengaged. At the start of this operation the after end of the fishing gear is in contact with the side of *Geeske* and as the derricks are topped the forward end of the gear comes inboard so that both sets of gear end up parallel to the vessel's rail. At this stage the top pole on each set of gear is level with the upper edge of the vessel's side.

At this point the starboard main warp control lever is operated to raise the starboard gear so that the two bottom poles are in line with the top of the starboard rail. Next, the port main warp control lever is operated to raise the port gear to a similar position.

The deckhands then walk aft (from under the whaleback) and put the aft hook in the chain link between the centre of the aftermost bottom pole and the top pole on both port and starboard sets of gear. They move forward to the centre of the gear and pick up the hook attached to the pulling-in rope and place it in the pulling-in chain on the gear by putting the hook around the chain. The deck crew then move forward and insert the forward hooks into the foremost poles. The centre rope is used to pull the gear inboard; it is run through a block attached to the deck, and then to one of the whipping drums at the forward end of the deckhouse. The port whipping drum is used to haul the starboard gear, and vice versa.

The skipper or mate looks out of the centreline wheelhouse window to ensure that both deckhands have completed their work and have gone forward under the whaleback. The deck crew shout "Aye aye" or a similar phrase to indicate to the skipper or mate that they

have completed this task. The starboard main warp lever is then operated to raise the starboard gear until it is tight on the forward and after hooks; this ensures that there is tension in the gear to prevent unnecessary and unwelcome movement. In this position the dredges remain outboard of the vessel's rail. The same operation is then conducted on the port gear.

Afterwards the deckhands walk to the aft ends of the gear. Then they both walk forward along the deck adjacent to the gear, checking the gear and removing any debris eg bits of netting etc. Sometimes both work on one set of gear if a major repair or realignment is required.

The crew then prepare to haul the starboard gear inboard. The starboard gear is always hauled inboard first, because *Geeske* has a slight list. The skipper or mate watches the crewman responsible for the port gear as he goes forward under the whaleback to make sure that he is out of the way. The crewman responsible for the starboard gear then crosses over to the port side and takes up position by the port whipping drum; putting the pulling-in rope around the drum. This deckhand then moves four to five feet forward and faces aft, while holding on to the end of the pulling-in rope. With the deckhand in this position, the skipper/mate in the wheelhouse should be able to see him.

The deckhand pulls on the rope which moves the starboard gear inboard; at this stage, the deckhand shouts to the other deckhand "Clear?". The deckhand under the whaleback looks along the starboard deck to check for anyone coming out of the accommodation, if he sees no one he shouts back "Clear". After this check, the starboard gear is pulled in harder, the skipper or mate simultaneously operating the starboard main drum control lever by releasing the safety catch before gradually easing the lever to the forward position. This causes the brake to be released and the poles and bridle chains on the starboard gear drop on to the starboard deck, leaving the starboard dredges (and their contents) hanging over the gunwale.

If the catch is small it is possible to lower the gear slowly to the deck. However, if the catch is large, even if the control lever is eased forward, the gear is likely to fall towards the deck with considerable force.

The deckhand responsible for the starboard gear then removes the pulling-in rope from the port side whipping drum and coils it around the cleat at the front of the winch casing. To complete the hauling operation for the starboard side, the bridle chains are lifted so that the deck is less cluttered.

The port gear is hauled inboard in a similar way. The deckhand responsible for the starboard gear should be in a protected position under the whaleback during this operation.

Finally the crew empty the dredges using the tipping rope.