

MARINE CASUALTY REPORT

**M/V TRIPLE CROWN
SINKING WITH LOSS OF LIFE
SANTA BARBARA CHANNEL, 25 NOVEMBER 1968**

**U.S. COAST GUARD
MARINE BOARD of INVESTIGATION REPORT
and COMMANDANT'S ACTION**

**ACTION BY
NATIONAL TRANSPORTATION SAFETY BOARD**

**DEPARTMENT OF TRANSPORTATION
WASHINGTON D.C. 20591**

RELEASED 11 SEPT. 1969



DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

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5943/C-7066
28 April 1969

From: Marine Board of Investigation
To : Commandant (MVI)

Subj: M/V TRIPLE CROWN, O/N 516 480; sinking on 25 November 1968 with loss of life

FINDINGS OF FACT

1. The M/V TRIPLE CROWN, Official Number 516 480, sank at or about 0345, PST, 25 November 1968, in a position approximately eight miles southeast of Santa Barbara, California (34-17.4 North, 119-36.7 West). Sixteen of the twenty-five persons on board the vessel were rescued. Seven bodies have been recovered from the sunken vessel. Two persons are missing and presumed dead. One person suffered a broken ankle. The TRIPLE CROWN was engaged in picking up anchors and chain for the offshore drilling rig BLUEWATER II when the vessel listed to starboard and sank stern first.

2. Vessel data is as follows:

Name	:	TRIPLE CROWN
Official Number	:	516 480
Service	:	Drilling rig supply (anchor handling and supply vessel)
Length	:	159.5
Breadth	:	40.1
Depth	:	13.4
Propulsion	:	Twin Oil Screw
Horsepower	:	2,000
Homeport	:	Wilmington, Delaware
Master	:	George R. Gaskill
License Number	:	[REDACTED] endorsed as Master, steam and motor passenger, 300 gross tons, any oceans, and radar observer
Inspection Documentation	:	Uninspected Issued temporary certificate No. 13 on 10 September 1968



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Load Line Certificate : Issued International Load Line Certificate (1966) No. GI-20-624 on 14 November 1968

Owner : Caspary-Wendell, Incorporated
101 Basin Drive
P. O. Box 938
Rockport, Texas

3. The M/V TRIPLE CROWN, owned by Caspary-Wendell, Inc., was chartered to Humble Oil and Refinery Company, 1800 Avenue of the Stars, Los Angeles, California, and operated by Deepwater Operators, Incorporated, Box 922, Morgan City, Louisiana. Santa Fe International Corporation, One Wilshire Building, Suite 2222, Los Angeles, California, has a controlling stock interest in both Caspary-Wendell, Incorporated, and Deepwater Operators, Incorporated.

4. When building of the M/V TRIPLE CROWN was completed at Port Arthur, Texas, the M/V TRIPLE CROWN was admeasured on 30 August 1968 and found to be 288.19 gross tons and 195 net tons. Subsequent to being admeasured, she proceeded to Port Hueneme, California, where four of the exempted water ballast tanks were converted for the stowage of anchor chain and two ballast tanks were converted to fuel oil tanks. In addition, the wing tanks, port and starboard, were converted to domestic water. These changes added 207.66 tons to the gross tonnage.

5. Record of deaths and injuries:

<u>NAME AND ADDRESS</u>	<u>COAST GUARD LICENSE/DOCUMENT NUMBER</u>	<u>POSITION</u>
<u>a. Deaths:</u>		
VON MILLS, Mark [REDACTED]	Merchant Mariner's Document [REDACTED] No license	Mate
THOMASSON, William [REDACTED]	None	Deckhand
VOIGHT, Lloyd E., Jr. [REDACTED]	None	Deckhand

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McDANIEL, Jackie W. [REDACTED]	Merchant Mariner's Document [REDACTED] No License	Chief Engineer
CALLOWAY, Frank [REDACTED]	None	Assistant Engineer
TAYLOR, Richard [REDACTED]	None	On board as surveyor from Lewis & Lewis Co., Ventura, Calif., to locate anchors at new location.
TAYLOR, Alvin Dean [REDACTED]	None	Serving as part of anchor-handling crew from Offshore Transport Con- tractors, Inc.

b. Missing and presumed to be lost:

[REDACTED]	None	Serving as part of anchor-handling crew from Offshore Transport Con- tractors, Inc.
[REDACTED]	None	Serving as part of anchor-handling crew from Offshore Transport Con- tractors, Inc.

c. Injured:

[REDACTED]	None	Serving as part of anchor-handling crew from Offshore Transport Con- tractors, Inc.
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6. The weather at the time of this casualty was as follows:

Clear with good visibility, wind out of the north at 30 knots and gusting. The sea was moderate with a three- to five-foot surface wave running from the north across ten-foot swells from the west. The air temperature was 60°F, water temperature 57°F.

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7. At 1345, 23 November 1968, the M/V TRIPLE CROWN departed from Port Hueneme, California, enroute to a position approximately thirty-two miles southwest of Santa Barbara, California. Upon arrival at the location, the TRIPLE CROWN set two anchors with chains and buoys in preparation for the arrival of a large offshore drilling rig, the BLUEWATER II. After the anchors were set, TRIPLE CROWN proceeded to the site of the anchored BLUEWATER II, approximately eight miles southeast of Santa Barbara.

8. Upon arrival at the BLUEWATER II between 2300 and 2400 on 23 November 1968, the TRIPLE CROWN commenced the operation of picking up anchors and chain to allow movement of the BLUEWATER II to the new location. The BLUEWATER II was anchored with two anchor lines running from each corner of its rectangular hull. Each anchor line was perpendicular to one of the rig's sides and the angle between the two lines at each corner of the hull was approximately ninety degrees.

9. The TRIPLE CROWN's procedure to pick up anchors for a drilling rig move was:

The vessel first retrieved the marker buoy. The pendant wire between the buoy and anchor was winched aboard, which hauled the anchor close up at the stern. The anchor was brought aboard through use of the gantry crane, which moved fore and aft on rails, and stowed on deck. The anchor chain, after being disconnected from the anchor, was brought aboard using a winch called the "draw-works". Each chain was approximately 3,200 feet in length, and weighed forty to forty-five pounds per foot. This chain was led from the draw-works to a portable wildcat which fed it into the tanks converted to chain lockers located aft of the draw-works. Men from the anchor-handling crew stationed in the chain lockers faked the chain athwartship, with an aid called an "air tugger" to do the lifting and pulling. When the end of the chain came aboard, a cable (rig wire) from the drilling rig was disconnected from the chain and the rig wire was passed to a tug, where it was held while the drilling rig reeled it in (unless it is one of the rig wires to be used for towing the rig).

10. After arrival at the BLUEWATER II, the TRIPLE CROWN proceeded to pick up the two after anchors in the above manner and the cable from BLUEWATER II was passed to two tugs, the PACIFIC RANGER and the PACIFIC MARINER, for the purpose of holding the BLUEWATER II in position while the remainder of the anchors were being picked up. The cable tugs then took a position approximately 2,200 feet to the windward of the BLUEWATER II,

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which was to be towed astern. To make room on the deck of the TRIPLE CROWN before bringing up any of the additional anchors, the two 10-ton anchors aboard were transferred to the BLUEWATER II. This was accomplished by going alongside the drilling rig, where the drilling rig removed the anchors from the TRIPLE CROWN with its crane. The TRIPLE CROWN then continued to retrieve the remaining eight anchors through 24 November. (There were three anchors on one of the remaining six cables piggy-backed to provide greater holding capability.)

11. After being relieved by the Mate, [REDACTED] Captain Gaskill made a tour of the vessel before he retired at about 0145 on 25 November. The vessel appeared normal but had a slight starboard list. Five of the 10-ton anchors were on deck and one of the anchors was stowed slightly aft of the open starboard stackhouse door.

12. The M/V TRIPLE CROWN continued to retrieve chain and anchors. Just prior to the casualty she had eight anchors and approximately 26,000 feet of chain on board. Three hundred to five hundred feet of chain remained to be brought aboard. While the M/V TRIPLE CROWN was hauling on the last anchor chain from BLUEWATER II, one of the anchor-handling crew, [REDACTED], who was working on the starboard side of the vessel forward of the stackhouse, noted that more water was washing on deck than had been earlier. At about 0300, in an attempt to keep dry, he got inside an empty 55-gallon barrel. He continued to operate the air tugger from this position. His position soon became untenable as the barrel floated due to the amount of water on deck.

13. At about 0340, Captain Gaskill awoke with an intuitive feeling that something was amiss aboard the vessel. He proceeded to the bridge area, meeting [REDACTED] foreman of the anchor-handling crew, enroute. While on deck Mr. [REDACTED] had observed that the vessel had an abnormal amount of water on the starboard side and stern. Mr. [REDACTED] was proceeding to the bridge to discuss this condition with the Master. A brief discussion ensued and Mr. [REDACTED] returned to the deck and Captain Gaskill continued to the bridge. Captain Gaskill told [REDACTED] to go down below to the engine room, get some help and secure the watertight doors in the stackhouse, and wake up the people that were sleeping.

14. Captain Gaskill sent the Mate below to wake up sleeping personnel and have them come topside to the boat deck. As Mr.

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██████████ departed on this assignment, the vessel listed further to starboard. The starboard list then increased at an accelerated rate. Captain Gaskill told Mr. ██████████, who was aboard as an observer from BLUEWATER II, to call the rig and have them stop the tugs that were holding BLUEWATER II. The vessel continued to list further to starboard and Captain Gaskill directed Mr. ██████████ to tell the BLUEWATER II to send the PACIFIC SATURN over to assist because the TRIPLE CROWN was sinking. Captain Gaskill then ran out of the wheelhouse to the next deck below, opened the life preserver box, and passed out some life preservers to crew members in the area. He then returned topside to try to release an inflatable life raft, but the vessel seemed to lurch and Captain Gaskill's next recollection was that he was in the water, where he watched as the TRIPLE CROWN sank stern first. The period of time from the first indication that something was wrong until the vessel sank was three to five minutes.

15. Before the vessel capsized, Mr. ██████████ another survivor, had proceeded through the below-deck passageway to the watertight door into the engine room where he found Mr. ██████████ from the anchor-handling crew. They saw that water was pouring in a continuous stream through the starboard stackhouse door. Realizing that they could not close the door, which was obstructed by an anchor, Mr. ██████████ told ██████████ to come with him because the ship was sinking. ██████████ then proceeded to run through the quarters below the wheelhouse shouting and hitting doors to awaken anyone. Mr. ██████████ saw several persons open their doors and look out, but they appeared to go right back into their rooms. As Mr. ██████████ returned to the bridge, the water was rising behind him and the vessel completely rolled over on her starboard side. Mr. Van Auken escaped through a broken window. He was pulled down by the suction of the sinking vessel but managed to swim free.

16. ██████████, the air tugger operator, was on deck just before the vessel rolled over. He ran into the galley to warn anyone inside that the vessel was sinking, but saw no one. When he returned on deck, the vessel had listed considerably to starboard. He was attempting to pull himself toward the port side when his leg was struck by shifting acetylene bottles. He described the deck scene as one in which most of the weight appeared to shift to starboard and floating articles came forward as the vessel's stern went under. Mr. ██████████ managed to swim free after being submerged and, when picked up, was found to have suffered a broken ankle.

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17. Sixteen of the twenty-five persons on board were rescued from the water by the tug PACIFIC SATURN within thirty to forty-five minutes. Some of those rescued wore life preservers. Some managed to cling to buoys which washed off the TRIPLE CROWN's deck, and one of them managed to reach the inflated life raft which had floated free from the TRIPLE CROWN. When [REDACTED] was noted to be in trouble in the water, [REDACTED], the Assistant Engineer on board the PACIFIC SATURN, dove into the water and brought him back to the tug where he successfully administered artificial resuscitation.

18. Within twenty-five minutes of the distress call, the USCGC POINT JUDITH was at the scene assisting in the search. Helicopters from Coast Guard Air Station, Los Angeles, also took part in the unsuccessful search for the remainder of the crew. The search covered a total area of 737 square miles, seventeen sorties were flown, and ten vessels participated in the thirty-three hour search and rescue operation.

19. On 26 November, divers from California Divers, Inc., Santa Barbara, located the TRIPLE CROWN in 300 feet of water. Seven of the nine missing persons were found inside the vessel. Two persons, Mr. [REDACTED] and Mr. [REDACTED], have not been located and are presumed drowned. The vessel was located on a soft mud bottom about eight miles southeast of Santa Barbara Harbor, lying in a relatively level attitude with the bow toward the northwest. The hull appeared to have suffered pressure depressions in many areas along the sides. The stern of the vessel was caved in above both rudders in small areas. Both rudders were bent forward toward the propellers. The after deck was buckled and rippled and had several areas of large depressions. The gantry and the tracks appeared to be relatively undamaged. The deck machinery appeared to be intact. At least one anchor chain and one 2-inch wire were found leading off the stern of the vessel. Various overhead beams in the engine room were bent.

20. Before flooding of the engine room occurred M/V TRIPLE CROWN's metacentric height was 11.4 feet. The owners of the M/V TRIPLE CROWN have submitted reports of a structural strength and stability study, along with towing basin tests of a model of the TRIPLE CROWN, for the Board's consideration. The structural reports were based on the condition of the vessel subsequent to her conversion for anchor work at Port Hueneme. The most significant changes effected by the conver-

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sion of the M/V TRIPLE CROWN were:

a. The water ballast tanks located between Frames 28 to 34, port and starboard, were provided with openings and hawse-type fittings on deck to accommodate anchor chain. These openings were one to each of eight separate compartments made up of four ballast tanks as separated by a swash bulkhead. The openings were approximately 5' x 1½' without a coaming. A fitted cover provided for the hawse openings was not watertight. The tanks remained equipped with ballast piping and were ballasted as necessary. These changes added 175.52 tons to the gross tonnage.

b. The water ballast tanks aft of the fuel oil tanks located port and starboard amidships between Frames 45 and 52 were converted for fuel oil. Wing ballast tanks between Frames 39 and 56 were converted for domestic water. These changes added 32.14 tons to the gross tonnage.

c. The water ballast tanks located between Frames 26 and 28 were cemented to carry potable fresh water to supply offshore oil rigs. Piping arrangements were modified in the engine room accordingly.

d. A gantry-type crane, with appropriate tracks, was installed along the bulwarks extending from Frame 27 to the stern. This topside weight change amounted to approximately 30 long tons.

e. The draw-works, weighing approximately 40 long tons, was installed on the main deck amidship between Frames 26 and 28.

21. To date the owners of the TRIPLE CROWN have not made a decision as to whether or not the vessel will be salvaged.

22. No member of the operating crew of M/V TRIPLE CROWN held a U. S. Merchant Mariner's Document endorsed as Able Seaman.

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CONCLUSIONS

1. That the cause of the casualty, to the extent determinable, was the flooding of the engine room through the open starboard stackhouse door as the vessel rolled. The flooding became progressively worse as the list to starboard increased. Contributing causes of the casualty were the seas breaking on the after deck due to the low freeboard at the stern during the prevailing weather conditions and the inability to close the starboard stackhouse door because it was obstructed by an anchor. Other factors contributing to the casualty were restricted maneuverability of the M/V TRIPLE CROWN during the anchor retrieval operation, and the anchor chain over the stern which interfered with the vessel's seakeeping qualities.

2. That there is no evidence that any material failure of the TRIPLE CROWN caused or contributed to the casualty. The structural damage found by the divers was apparently caused by hydrostatic pressure and shifting cargo and weights when the vessel heeled and sank.

3. That there is evidence of misconduct and negligence on the part of the Master of the M/V TRIPLE CROWN, which has been referred to the appropriate Officer in Charge, Marine Inspection, for action under RS 4450.

4. That there is evidence that the following laws have been violated:

a. 46 USC 643 in that all seamen employed on the TRIPLE CROWN did not hold and exhibit specially validated Merchant Mariner's Documents.

b. 46 USC 672(a) in that sixty-five per centum of the deck crew, exclusive of licensed officers and apprentices, were not of the rating of Able Seaman.

c. 46 USC 404 and 46 USC 367 for operating the TRIPLE CROWN without a valid Certificate of Inspection.

d. 46 USC 224a(4) for engaging persons to perform the duties of Mate and Chief Engineer aboard the TRIPLE CROWN who were not licensed by the Coast Guard.

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e. 46 USC 60 for fraudulent use of the enrollment and license of the M/V TRIPLE CROWN after her tonnage had been increased by the use of exempted water ballast tanks for carriage of anchor chain and domestic fresh water and fuel oil.

f. 46 USC 39 for failure to document the M/V TRIPLE CROWN anew when altered in burden. (In conjunction with 46 USC 252 making requirements for registered vessels applicable to enrolled and licensed vessels.)

g. 19 CFR 2.43(g)(3) and 3.26 for failure to report change in use of water ballast spaces.

5. That the casualty might have been prevented or its effects minimized by the following:

a. Closing and securing the engine room stackhouse doors while the TRIPLE CROWN was at sea.

b. Loading the vessel in a manner to maintain sufficient freeboard at the stern to eliminate excessive seawater on the after deck in adverse weather during the anchor retrieval operation. The loading condition of the TRIPLE CROWN could have been prevented if the water ballast tanks which contained anchor chain, fuel, and potable water had remained available for reserve buoyancy. Improper loading may have been averted if the vessel had held a Certificate of Inspection and the Coast Guard had been notified of the proposed alteration, as required by applicable regulations for inspected vessels. Following the conversion and alteration of the M/V TRIPLE CROWN she was in excess of 300 gross tons, and was subject to inspection by the U. S. Coast Guard when operating on the high seas. Since the owner and the operator of the vessel were under control of the same corporation, the M/V TRIPLE CROWN, not carrying owners' cargo, was therefore also subject to inspection as a vessel in excess of 15 tons carrying freight for hire. A clear and definite statute or regulation applicable to enrolled and licensed vessels, similar to 46 USC 39 requiring registered vessels to be registered anew when altered in form or burden, might have facilitated detection of the alterations to the M/V TRIPLE CROWN.

6. That the two persons on board the TRIPLE CROWN at the time of the casualty, whose bodies have not yet been found, are presumed drowned.

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7. That there is no evidence that any personnel of the Coast Guard or any other Government agency, contributed to the casualty. The rescue efforts of the Coast Guard and other participating units, especially the tug PACIFIC SATURN, were timely and comprehensive. The prompt, courageous action of Harold Young, Assistant Engineer aboard the tug PACIFIC SATURN, possibly saved the life of James Van Auken, deckhand aboard the TRIPLE CROWN. His heroic action is the subject of a separate report.

RECOMMENDATIONS

1. That further investigation under the Suspension and Revocation Proceedings be initiated in the case of George R. Gaskill, Master of the M/V TRIPLE CROWN, License number [REDACTED] concerning his part in the casualty.

2. That further investigation under the Administrative Penalty Procedures be initiated regarding the evidence concerning violations of laws relating to vessels on the part of the owner, operators, and charterers of the M/V TRIPLE CROWN.


3. That additional investigations to detect or remedy tonnage violations be instituted in areas where vessels of a type similar to the M/V TRIPLE CROWN are operating. Publicizing the conditions that existed aboard the TRIPLE CROWN by dissemination of the report in the standard manner and by publication in the Merchant Marine Council Proceedings should also serve to alert the operators of other such vessels of possible violations of law and the dangers inherent in such operations.

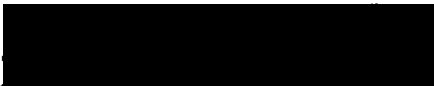
4. That consideration be given to amending 46 USC 39 (requiring a registered vessel to be registered anew when changed in form or burden) to make the statute applicable to enrolled and licensed vessels without reference to 46 USC 252 (making requirements for a registered vessel applicable to an enrolled and licensed vessel). Such an amendment would result in a more explicit statute that might have a beneficial remedial effect.

MARINE BOARD OF INVESTIGATION, M/V TRIPLE CROWN


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Chairman


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Commander, U. S. Coast Guard
Member


HERBERT L. JOHNSON
Commander, U. S. Coast Guard
Member


FLOYD A. RICE
Lieutenant Commander
U. S. Coast Guard
Member and Recorder



DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

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20591

5943/TRIPLE CROWN
A-11 Bd
1 JUL 1969

Commandant's Action

on

The Marine Board of Investigation convened to inquire into the circumstances surrounding the sinking of the M/V TRIPLE CROWN in Santa Barbara Channel on 25 November 1968 with loss of life

1. The record of the Marine Board of Investigation convened to investigate subject casualty has been reviewed and the record, including the Findings of Fact, Conclusions and Recommendations is approved subject to the following comments and the final determination of the cause of the casualty by the National Transportation Safety Board.

Synopsis of Investigative Report Findings of Fact

1. The M/V TRIPLE CROWN, while retrieving anchor and chain of the large offshore drilling rig the BLUE WATER II, to allow its movement to a new location, listed to starboard and sank stern first at or about 0345, PST, 25 November 1968. Seven persons lost their lives. Two others are missing and presumed dead.

2. At the time of the casualty, the TRIPLE CROWN had on board eight anchors and approximately 26,000 feet of chain. Two anchors had been previously transferred to the BLUE WATER II. Three hundred to five hundred feet of chain remained to be brought aboard to complete the retrieval operation. One anchor was stowed in a position preventing the closure of the starboard stackhouse door. The sea was moderate with three to five foot waves. Wind was out of the north at 30 knots. Seas were washing on deck because of the low freeboard at the stern.

3. Three to five minutes before the TRIPLE CROWN sank an abnormal starboard list was noticed. Soon thereafter water was seen entering the engine room through the starboard stackhouse door on the main deck. The list continued to develop rapidly until the vessel started to settle and sink by the stern.

Remarks

1. Concurring with the Marine Board of Investigation, it is considered that the cause of this casualty was the flooding of the engine room through the open stackhouse door by seas washing over the after deck due to the low freeboard at the stern. Under the circumstances, a moderate roll could have caused down-flooding through the open stackhouse door and the three to five foot seas prevailing could easily have broken over the stackhouse doorsill. This condition could have been prevented by keeping the stackhouse door leading to the engine room closed and unobstructed or by maintaining freeboard and reserve buoyancy of the vessel by transferring anchors and other weight to the drilling rig at intervals during the anchor retrieval operation.
2. This Action is not concerned with the investigation under the Suspension and Revocation Proceedings and Administrative Penalty Procedures recommended by the Marine Board of Investigation. These are separate procedures originated by Coast Guard facilities in the field with distinct and separate provisions for appellate review.
3. The Coast Guard districts in which similar anchor retrieval vessels are operating have been advised to examine these vessels to insure that water ballast spaces are not being used for unauthorized purposes.
4. A study to determine the feasibility of changes in statutes, regulations, and procedures concerning the documentation of vessels as recommended by the Marine Board of Investigation is in progress at this time.



W. J. GIBBY
Admiral, U. S. Coast Guard
Commandant



DEPARTMENT OF TRANSPORTATION
NATIONAL TRANSPORTATION SAFETY BOARD

WASHINGTON, D.C. 20591

MV TRIPLE CROWN
FOUNDERING IN SANTA BARBARA CHANNEL
NOVEMBER 25, 1968

ACTION BY NATIONAL TRANSPORTATION SAFETY BOARD

This casualty was investigated by a U.S. Coast Guard Marine Board of Investigation convened at Terminal Island, California, on December 3, 1968. A Member of the National Transportation Safety Board attended the proceedings. The National Transportation Safety Board has considered only those facts in the investigative record which are pertinent to the Board's statutory responsibility to make a determination of cause.

ANALYSIS

The MV TRIPLE CROWN was a supply and anchor-handling vessel for offshore drilling rigs. The vessel was new and had been engaged in only one previous anchor handling operation. At that time, the load of anchor gear handled was only about half as much as that involved in this casualty.

The Master of the TRIPLE CROWN and those supervising the various phases in the movement of the rig were well experienced in this type of operation and with similar vessels.

The TRIPLE CROWN was 159.5 feet in length, 40.1 feet in breadth, and 13.4 feet in depth. The bridge and quarters were located at the bow. The vessel was fitted with a gantry crane, which moved fore and aft on tracks along the bulwarks, and a winch, located forward, which were used to bring the anchors and chain aboard over the stern. Anchors and marker buoys were stowed on deck. The chain was stowed in ballast tanks which had been converted to chain lockers and openings had been cut in the deck with hawse-type fittings. Covers were provided for these openings but gaskets were not used during anchor-gear-handling operations. The conversion of these tanks was accomplished after the vessel had been admeasured and documented.

At the time of the casualty, the TRIPLE CROWN was engaged in retrieving the anchoring gear of a large offshore drilling rig which was to be towed to a new location. TRIPLE CROWN had arrived at the rig, located approximately 8 miles south of Santa Barbara, near midnight on November 23, 1968, and commenced anchor recovery operations shortly thereafter.

Sometime during November 24, 1968, one of the 10-ton anchors brought aboard was so placed on deck that the starboard stackhouse door to the engineroom could not be closed. There are two stackhouses, one on each side of the deck-edge and about one-third of the vessel's length from the stern. The stackhouses accommodate the

engine exhausts and are fitted with watertight doors on the aft side with a sill, 24 inches high. The doors are 24 inches wide by 50 inches high and provide access into the forward part of the engine room. The blocking of this door was brought to the attention of the Master and the anchor-handling personnel but no corrective action was taken.

After being relieved by the Mate, the Master made a tour of the vessel before retiring to his room at about 1:45 a.m. on November 25, 1968. Operations had commenced to bring the last of the anchors and chain (approximately 3,000 feet) on board. At that time, the vessel had an approximate 2° list to starboard. However, the Master was not concerned since the remaining weight coming aboard was to be placed on the portside and would compensate. During his tour, the Master went aft through a passageway to the engine room and then up to the starboard stackhouse to observe conditions on the after deck. He noted that the door was still blocked open. He also noted seas breaking over the stern and washing forward to about as far as the stackhouse. He estimated the freeboard at the stern on the starboard side as about 12 inches. Sea conditions were moderate with 3- to 5-foot waves.

Operations continued on deck while the Master slept. The crew was engaged forward of the stackhouses while the chain was being brought

aboard and stowed in the port forward chain locker. During this period it was noted that more water was coming on deck than previously. Water was particularly noted on the starboard side where it was coming through the freeing ports.

The Master awoke at approximately 3:45 a.m. and noted that the vessel still had a starboard list. He proceeded to the bridge with a feeling that something was wrong. The Mate advised that the vessel had continued to carry a starboard list and he did not know why. At this time, all of the anchors were aboard and all of the chain except for about four or five hundred feet. Sea conditions had remained the same.

After arriving at the wheelhouse, the Master's first thought was that the vessel was sinking by the stern. He sent a deckhand to get some help and close the stackhouse doors, and sent the Mate below to awaken sleeping personnel and have them come topside. The deckhand went below and through the centerline passageway aft to the engine room. He found a solid stream of water of great volume coming through the starboard stackhouse door and noted approximately 1 foot of water above the floorplates in the forward starboard side of the engine room. While he was returning to the wheelhouse to report to the Master, he noted that the list increased at a rapidly accelerating rate.

The vessel was settling by the stern, anchors and buoys started sliding across the deck, the vessel lurched sharply to starboard, and

the bow rose as she sank quickly by the stern. From 3 to 5 minutes elapsed between the time it first became apparent to personnel that something was wrong until the vessel sank.

In analyzing the events, it appears that offsetting weight was entering the vessel during the latter part of the loading operation, since the list and trim were not changing as would be expected with the addition of weight to the forward portside. This additional weight could have been entering the vessel in the following manner:

- a. By way of the non-watertight chain locker covers.
- b. Into the engineroom by means of a latent defect or as the result of some plate damage incurred in bringing anchors aboard.
- c. Through the open stackhouse door.

The low freeboard and starboard list permitted seas to break over the stern and roll forward, also causing deck-edge immersion and flooding as the vessel rolled. The amount of water on deck increased as the draft increased with the loading of the vessel. The open stackhouse door would permit the ingress of water to the engineroom in increasing amounts as the loading progressed. This would not only offset the addition of weight on the forward portside but would cause an increasing trim by the stern.

When the situation had developed to the point that water was coming over the sill continuously, large volume flooding would develop at a greatly increased rate, resulting in the motions of the sinking vessel as described in the record.

The Board also noted that apparently a continuous watch was not maintained in the engineroom and that this was probably related to the fact that the vessel's propulsion machinery could be controlled remotely from the wheelhouse. It appears that if a watch had been maintained, or if the engineroom had been equipped with a high bilge water alarm, the flooding would have been detected at an early stage.

PROBABLE CAUSE

The National Transportation Safety Board finds that the probable cause of the sinking was the flooding of the engineroom through the starboard stackhouse door. The obstruction of the open door by an anchor, and the failure to have the anchor removed and the door closed when the situation was first noted, led to the foundering of the vessel.

The rapid deterioration of seaworthiness in the final minutes was a major factor in the loss of life, as the recovery of bodies indicates that at least seven of the nine dead or missing persons went down with the vessel.

RECOMMENDATIONS

The Safety Board concurs with the Commandant relative to the recommendations of the Marine Board.

BY THE NATIONAL TRANSPORTATION SAFETY BOARD:

Adopted this 21st day of August, 1969:

[Redacted Signature]

Chairman

[Redacted Signature]

Member

[Redacted Signature]

Member

[Redacted Signature]

, Member