

TREASURY DEPARTMENT
UNITED STATES COAST GUARD

ADDRESS REPLY TO:
COMMANDANT
U.S. COAST GUARD
HEADQUARTERS
WASHINGTON 25, D.C.



MVI-3
(USNS POTOMAC a-5 Bd.)
16 MAY 1963

Commandant's Action

on

Marine Board of Investigation; fire and explosion
on board the USNS POTOMAC, at Morehead City, North
Carolina, on 26 September 1961 with loss of life

1. The record of Marine Board of Investigation convened to investigate subject casualty, together with its findings of fact, conclusions and recommendations has been reviewed.
2. At about 1850 hours on 26 September 1961, while the USNS POTOMAC was discharging cargo at a fuel terminal, Morehead City, North Carolina, a fire was observed on the surface of the water about 600 yards distant from the bow of the vessel. The flames spreading over the water raced toward the vessel and, in a matter of minutes, enveloped the bow section. Efforts to make a hasty departure from the terminal were interrupted by two violent explosions which necessitated rapid abandonment as the fire spread over a major portion of the vessel. As a result of this casualty one crewmember lost his life and another disappeared and is presumed dead. Although the stern section was subsequently salvaged, for all practical purposes the vessel and her cargo were considered a total loss, and the terminal dock facilities suffered extensive fire damage.
3. The USNS POTOMAC, a civilian manned T-5 tanker owned by the United States of America and certified for an ocean route, originally departed Deer Park, Texas and after a brief stop at Savannah, Georgia, arrived at the Morehead City terminal at about 1510 on 26 September 1961 with a cargo of aviation gasoline and JP-5 jet fuel. Upon arrival the vessel was moored starboard side to and inspected by terminal and U. S. Navy representatives. This included an examination of all empty tanks, the gauging of tanks containing cargo and the taking of thievages and temperatures of cargo. The empty tanks

were not gas free. The sea valves in the main pumproom were reportedly examined by the Navy representative and found to be sealed.

4. At about 1720, upon instructions from the Chief Mate, the Pumpman commenced discharging aviation gasoline from tanks No. 5 across and No. 6 wing tanks using No. 3 cargo pump. At this time No. 2 wing tanks, No. 3 across, No. 4 across, No. 5 across and No. 6 across contained full cargoes and all other tanks were empty. Number 2 wing tanks, No. 5 across and No. 6 across contained aviation gasoline. Numbers 3 and 4 across contained JP-5 jet fuel. Discharging operations were under the direct supervision of the Chief Mate and all tank tops remained in an open position, having been opened for examination prior to discharging.

5. The Night Relief Mate boarded the vessel at about 1720 and was informed by the Chief Mate that the discharging of aviation gasoline had just commenced and that shortly, upon receipt of approval from the laboratory, the discharging of JP-5 would start. Upon receiving laboratory approval, discharging of JP-5 from tanks No. 3 across was started utilizing No. 2 cargo pump. Later the Chief Mate instructed the Night Mate to open the valves from No. 2 wing tanks, intending to discharge the aviation gasoline contained in these tanks by gravitation to No. 3 cargo pump which was already handling the aviation gasoline contained in tanks No. 5 across and No. 6 wings.

6. At 1850 a fire was observed in the vicinity of the highway bridge situated approximately 600 yards forward of the vessel. The flames raced rapidly along the water and engulfed the forward section of the vessel in a matter of minutes. Despite valiant efforts on the part of Army, Navy and Coast Guard vessels, the fire continued in the forward and midship sections with varying intensities for about six days, following which the vessel, resting on the bottom and severely buckled and gutted, was considered a total loss.

7. The Board took notice of the commendatory action exhibited by personnel, civilian and military, in effecting the rescue of survivors and the valiant efforts to extinguish the fire.

8. The stern section of the POTOMAC was subsequently salvaged without disturbing the status of the valves contained in the main pumproom. Upon examination in dry dock, it was discovered

that the port sea suction valve was in the "fully opened" position. Seals previously applied to the port and starboard sea suction valves at Deer Park, Texas on 20 September upon completion of deballasting were missing, but there is no record of these valves having been used from that time up until the casualty. Also, as previously mentioned, these seals had been found intact by the U. S. Navy representative upon the vessel's arrival at Morehead City.

REMARKS

1. Concurring with the Board, it is considered that this casualty resulted from the discharge of aviation gasoline through the port sea suction valve. While largely conjecture, and in the absence of evidence to indicate otherwise, it appears likely that this valve was in an open position at the time the seals were applied at Deer Park, Texas on 20 September 1961. Subsequent discharging of cargo at Savannah, Georgia, did not necessitate the use of the thwartship header line leading to this valve.

2. The Chief Mate testified that, upon arrival at Morehead City, he personally supervised discharging preparations and that, at about 1720, the discharge of aviation gasoline from numbers 5 across and 6 wings was started, using No. 3 cargo pump. About this time the Night Mate reported on board and was informed of this operation by the Chief Mate. Both men conversed for an indefinite period, following which, upon receipt of laboratory approval, the discharging of JP-5 from numbers 3 across was started, using No. 2 cargo pump. The Night Mate was then instructed to remove the lashings and open the No. 2 wing tank valves. When later questioned as to what effect this would have, the Chief Mate testified "they would go out with the rest of the av-gas" (page 284, transcript of testimony). Therefore, it is reasonable to assume that he had opened the angle valves and the cross-over valve in the header at some previous time in anticipation of gravitating this cargo through the thwartship header to the No. 3 cargo pump. With the angle valves open, the cargo contained in tanks No. 5 across and 6 wings was free to flow into the thwartship header and then overboard through the open sea suction valve. However, considering the suction capability of No. 3 pump, sea water back pressure caused by the vessel's draft and other factors, it is doubtful that more than minor seepage of cargo through the open sea suction valve would result. In fact, it is equally possible that a slight intake of water occurred. On the other hand, the No. 2 wing tanks contained cargo within one foot of the tank tops and, upon opening the wing tank valves, it is probable that the added suction head and increased volume of cargo exceeded that which the No. 3 pump could accommodate. Thus the excess would be carried off through the open sea suction valve. The Night Mate, in the

belief that the No. 2 wing tanks contained JP-5 testified that he opened these valves at 1840, approximately 15 minutes before the fire. Having had occasion to enter this fact in the vessel's log, his recollection of the time is considered to be the more accurate. The Chief Mate stated that, while the Night Mate was so engaged, he had gone ashore to make a telephone call and, upon returning, examined the log and proceeded to his quarters. Further, that he made a final trip to the main pumproom, applied a wrench to the sea suction valves, returned to his quarters and was making preparations to retire when the fire was first reported. However, this latter portion of his testimony is considered without merit. The fact that the sea suction valve was subsequently found open speaks for itself. Also, he was not observed by the Second Pumpman who was in the pumproom during the interval immediately preceding the fire. Thus, it appears more likely that, upon returning aboard, the Chief Mate proceeded to his quarters and remained there until the fire was first reported.

3. In the absence of any evidence to indicate the No. 1 cargo pump was inoperative, the practice of gravitating cargo from No. 2 wing tanks through the thwartship header to No. 3 pump is, at best, a questionable procedure since the cargo is then separated from the sea and other cargoes by only one intervening valve.

4. The responsibility for insuring that the sea suction valves were properly secured prior to handling cargo rested primarily with the Chief Mate and failure to do so constitutes evidence of negligence. However, the two pumpmen, both of whom testified they had checked the valves prior to discharging, must share in this responsibility.

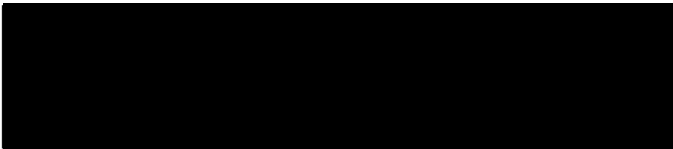
5. The Night Mate's failure to properly acquaint himself with the vessel, the cargo plan and activities in progress upon first boarding, while not contributing directly to the casualty, nonetheless constitutes evidence of inattention to duty amounting to negligence.

6. The failure to secure the tank tops after inspection introduced a hazardous condition and, since the empty tanks were not gas free, contributed to the explosions occurring after the fire enveloped the forward part of the vessel. This failure constitutes evidence of negligence on the part of the Chief Mate and Night Mate and is contrary to the intent of title 46, Code of Federal Regulations, Subpart 35.30-10 which provides that "no cargo tank hatches, ullage holes or Butterworth plates shall be opened or remain open without flame screens, except under the supervision of the senior members of the crew on duty, unless the tank opened is gas free".

7. In light of paragraphs 4, 5 and 6 above, the Commander, Fifth Coast Guard District is directed, by copy hereof, to initiate further investigation under the Suspension and Revocation Proceedings (R.S. 4450, as amended) with regard to the evidence of negligence on the part of the Chief Mate, Night Mate and the two pumpmen.

8. Appropriate recognition is being given to those persons commended by the Board for their rescue and fire-fighting efforts. The names of the vessel's Chief Engineer and Second Assistant Engineer, both of whom manned the engineroom immediately following outbreak of the fire, will be referred to the Maritime Administration for possible consideration by the Merchant Marine Awards Committee.

9. Subject to the foregoing summary and remarks, the findings of fact, conclusions and recommendations of the Board are approved.



D. MCG. MORRISON -
Vice Admiral, U. S. Coast Guard
Acting Commandant

After a full and mature deliberation, the Board finds as follows:

-FINDINGS OF FACT-

1. At or about 1850 hours, EST, 26 September 1961, the USNS POTOMAC while discharging cargo at the Radio Island Aviation Fuel Terminal, Morehead City, North Carolina, caught fire and suffered several explosions. The fire continued burning for about one week. As a result of this casualty, one member of the crew died, one member of the crew is missing and three non-crewmen who were fishing in the area suffered burns. The vessel is considered a constructive total loss.
2. The USNS POTOMAC is a T-5 tanker, undocumented, built at Chester, Pa., in 1957 of 15,626 tons; length, 593 feet; propelled by steam turbine engines of 18,600 HP. The vessel is classified as a naval tank ship in service, civilian manned, certified for oceans on 17 September 1960 in Norfolk, Virginia. The vessel is owned by the United States of America, represented by the Department of the Navy, and was operated by Marine Transport Lines, Inc., 11 Broadway, New York, New York. The Master was [REDACTED] who holds a license as Master of oceans, No. [REDACTED] and USMMD [REDACTED].
3. During the evening of the fire, the body of Clyde B. Leonard, AB, [REDACTED] was found in the water, fully clothed, wearing a life preserver. Although the cause of death was listed on the death certificate as due to asphyxiation resulting from the inhalation of poisonous gases, the physicians who pronounced LEONARD dead, stated that the cause of death could well be in error, and that it could have been as the result of a heart attack or possible drowning. LEONARD was last seen alive shortly after the fire commenced on the USNS POTOMAC, proceeding in the direction of the stern. LEONARD was seen in the water the evening of the fire, but it is unknown whether he was alive or not at that time. LEONARD'S next of kin, his wife, Mrs. [REDACTED]. The Radio Officer, Peter Salopek, License No. [REDACTED], Book No. [REDACTED], was last seen by the Master in the vicinity of the Radio Room or his stateroom at the time of the fire and was not seen by anyone else after that. The midships section in the vicinity in which Mr. Salopek was last seen was so badly damaged that any person who remained in this vicinity would have perished and his remains would have been unidentifiable. Mr. Salopek's next of kin is his mother, Mrs. [REDACTED]. Other than the known death and the missing Radio Officer, listed above, there were no known serious injuries to any other members of the crew as a direct result of this casualty.
4. Mr. [REDACTED] of [REDACTED]; Mr. [REDACTED] of [REDACTED] and Mr. [REDACTED] of [REDACTED] were fishing in the vicinity of the railway bridge, Morehead City, North Carolina at the time of the outbreak of the fire. The fire, which originated in the vicinity of their small boat resulted in the three non-crewmen suffering various first and second degree burns.

5. The weather at 1850 hours (EST), 26 September 1961 was clear with good visibility; winds about five (5) miles per hour, south-southwest; maximum flood current of approximately $2\frac{1}{2}$ to $3\frac{1}{2}$ knots. At the time of the casualty it was not yet completely dark.

6. The vessel moored alongside the Sinclair Refining Company terminal, Houston, Texas, at 1912 (CST), on 17 September 1961, and commenced discharging ballast at that time. At 2300 (CST), that date, the discharging of ballast was secured and at that time the vessel was inspected and declared to be ready for loading. Loading was commenced at 0145 (CST), and finished at 1615 (CST) on 18 September 1961. Tanks 7, 8 and 9 across were loaded with JP-4. The ullages taken upon completion of the loading at Houston indicated that there was ballast remaining in number 1 and 5 across, which was necessary for suitable trim due to the location and amount of JP-4 in the ship.

7. At 2054 (CST), 18 September 1961, the vessel was moored at the Crown Central Petroleum Corporation, Houston, Texas. Loading was commenced at 2315 (CST) on 18 September 1961, and completed at 1300 (CST) on 19 September 1961. Apparently no ballast was discharged at this terminal. While the vessel was moored to the Crown Central Petroleum Corporation terminal, [REDACTED] License No. [REDACTED] and USMMD No. [REDACTED] the Chief Mate, and Chief Pumpman, [REDACTED] USMMD [REDACTED] joined the vessel.

8. The vessel shifted on the afternoon of 19 September to the Shell Oil terminal, Deer Park, Texas, having been moored at 1604 (CST). Discharging of ballast was commenced at 1610 (CST) and completed at 0125 (CST) on 20 September. At 0215 (CST), 20 September 1961, the vessel was inspected and declared ready for loading. The note "Seals PSS-153460, SSS 153459, OBE 153458, See ship's log for balance of seals" was found under Remarks on Form DD-250-1, indicating that it was at the Shell Oil Company terminal for final loading that the sea valves were sealed, which would indicate that the ballast or at least part of it was pumped overboard through the sea suction, which is normal practice. The evidence did not determine who was in charge of the loading at the three loading berths or who pumped out the ballast at the first and final loading berths. Form DD-250-1 was signed by [REDACTED] of the Shell Oil Company; Mr. Maholland the First Officer and Mr. [REDACTED] authorized Government representative. The ullage report was prepared upon completion of loading and was signed by Mr. [REDACTED] of the Shell Oil Company and Mr. [REDACTED] authorized Government representative; one of whom presumably applied the seals.

9. Second Pumpman, [REDACTED] USMMD [REDACTED] joined the vessel on 20 September 1961 and there was no evidence that he had any part in the discharging of ballast or the securing of the pumproom in the loading port.

10. The vessel departed from Deer Park, Texas on the morning of 21 September 1961, with a draft of 32 feet 10 inches forward; 31 feet no inches aft; 31 feet 11 inches mean.

11. The vessel arrived at Savannah, Georgia on 24 September 1961, mooring alongside the Southland Oil Corporation terminal at 1935 (EST). Her arrival draft was 33 feet 4 inches forward; 29 feet 6 inches aft; 31 feet 5 inches mean. The vessel was inspected and declared ready to discharge at 2130 (EST). All seals were intact on arrival. The form DD-250-1 was signed by Mr. [REDACTED] Terminal Superintendent, Mr. Maholland, Chief Mate and Mr. [REDACTED] U. S. Air Force, petroleum quality control representative. The form also indicated that none of the cargo tanks contained ballast after the cargo was discharged. The vessel completed discharging at 1835 (EST) on 25 September 1961 having discharged all the cargo in number 2 deep tank, number 1 across, number 2 center and 7, 8, and 9 across. Thus all the JP-4 and some of the aviation gasoline was discharged, but none of the JP-5.

12. The vessel departed Savannah and arrived at the aviation terminal, Radio Island in Morehead City, North Carolina at approximately 1510 on 26 September 1961. Upon leaving Savannah the tanks, number 2 wing, 3 across, 4 across, 5 across and 6 across were all full and all other tanks were empty. Number 2 wings contained 115/145 aviation gasoline and were full; number 3 and 4 across contained JP-5 and were full; 5 and 6 across contained 115/145 aviation gasoline and were full. The vessel's draft on leaving Savannah was shown on the form DD-250-1 to be 21 feet 2 inches forward, 23 feet 6 inches aft, 22 feet 4 inches mean.

13. Upon arrival at Morehead City the vessel was inspected by representatives of the terminal and Mr. [REDACTED] Navy petroleum quality control representative. The inspection included a check of all empty tanks, the gauging of all tanks containing cargo and the taking of thievages and temperatures of cargo. Mr. [REDACTED] testified that he went into the pumproom to check the sea valves and at that time they were sealed.

14. Immediately after the vessel docked all tank hatches were opened, and remained in an open position contrary to 46 CFR 35.30-10. Empty tanks were examined and tanks containing cargo were gauged by the Second Mate and Mr. [REDACTED], Manager of Aviation Fuel Company. Water thievages and cargo samples were taken. None of the empty tanks were gas free. The ship's crew connected two hoses to the ship's manifolds, number 3-4 and number 5-6 lines. The hose connections were inspected by Mr. [REDACTED]. The Chief Mate, Mr. [REDACTED], supervised preparations for discharging and lined up the pumproom. He inspected the hose connections at the ship's manifolds and filled in the declaration of inspection form. The seaman on watch opened the tank valves and the manifold valves under his direction.

15. At approximately 1720 (EST), Mr. [REDACTED] instructed the Chief Pumpman, [REDACTED] to start number 5-6 cargo pump and to commence discharging 115/145 aviation gasoline from tanks 5 across and 6 wings, number 6 center having been held for priming.

16. Mr. [REDACTED] who holds a license as Second Mate, oceans unlimited, number [REDACTED] and Merchant Mariner's Book [REDACTED] the night relief mate, boarded the vessel at 1720 as the aviation gasoline was being discharged. The Chief Mate met him at the manifold and advised him that he had just started the aviation gasoline and that they would be pumping the JP-5 shortly as soon as they received the approval from the laboratory. The two officers waited together at the manifold until the approval was received from the laboratory, at which time Mr. [REDACTED] had the tanks opened and instructed the Chief Pumpman to start number 3-4 pump and at 1740 (EST) they commenced discharging JP-5 from tanks number 3 across, holding 4 across until later. Mr. [REDACTED] remained at the railing near the manifold for a few minutes. After the JP-5 hose stiffened Mr. [REDACTED] called the dockman to check the bleeder on the JP-5.

17. It was at this time that Mr. [REDACTED] stated that he told the night relief mate, Mr. [REDACTED], to open the number 2 wings which were lashed explaining to Mr. [REDACTED] that they had been lashed in Savannah to prevent their inadvertent discharge at that port. Mr. [REDACTED] stated that Mr. [REDACTED] went forward and assisted by a seaman removed the lashings and opened the valves to number 2 wing tanks. At this time Mr. [REDACTED] went to his room, at about 1800 (EST).

18. At about 1805 (EST), Mr. [REDACTED] went ashore to make a telephone call and returned at approximately 1815 (EST). The Chief Pumpman stated after starting the second pump, he went down to the pumproom and that the sea valves were secured, having been secured and sealed in Houston. At about 1815 or 1820 the Chief Pumpman was relieved by the Second Pumpman, [REDACTED], who was told that number 2 and 3 cargo pumps were running; pumping from 3, 4, 5 and 6 tanks. [REDACTED] stated that after relieving the Chief Pumpman he went down into the pumproom to check the pumps. He stated that pumps number 2 and 3 were running and that both sea suction were closed. He said that he was in the pumproom approximately 10 minutes and when he came out, he arrived at amidships at which time the fire had started up the river.

19. When the Chief Mate had completed making his telephone call he stated he went to the pumproom, looking over the area of the pumps, checked all the valves to see if any glands were leaking, looked in the bilges and put a wrench to the sea suction. He stated he returned to the deck, looked over the side and walked to amidships, wrote a note and put it in the log book. He then went to his room and put on his pajamas, when he received first notification of the fire.

20. The night mate, Mr. [REDACTED], testified that after coming on board at 1700 (EST), he had talked for a while with the Chief Mate at the manifold and had looked into some of the tanks. He stated that he had checked the mooring lines, walked aft and had instructed an AB to put on a pot of coffee in the after messroom, and he had some of the coffee after it was made and was standing on the stern watching the SS PALLIUM when Mr. [REDACTED] approached him to tell him they were ready to start pumping JP-5, at which time he went forward with Mr. [REDACTED]. Mr. [REDACTED] also said that the Chief Mate had

just come out of the pumproom when he told him to open number 2 wings and that he told the Chief Mate that number 2 wings were opened 10 to 15 minutes before the fire, having logged the time at 1840. At approximately 1845, Mr. [REDACTED] stated, he first checked the hose connections and at that time did not detect any unusual odor of gasoline in the vicinity of the hose connections. After opening number 2 wing tanks, Mr. [REDACTED] went to the manifold and asked the dockman to check the JP-5 bleeder, at which time he went to the midships lounge to make his log entry and to obtain another cup of coffee. After returning on deck he saw the fire.

21. At approximately 1845 hours (EST), Mr. [REDACTED] a civilian employee of the State of North Carolina Port Authority, was crossing the bridge from Radio Island to Morehead City, the bridge having been open for a tug coming through. Mr. [REDACTED] was parked on the bridge and he detected a strong odor of some sort of petroleum product. At that time Mr. [REDACTED] car was located halfway between the draw and the Radio Island side of the bridge. At about the same time, the Chief Engineer and Second Assistant Engineer were ashore and while in the vicinity of the first tank on the tank farm they detected an unusually strong odor of gasoline. Shortly thereafter they noticed a small fire under the highway bridge, which appeared as if the bridge were on fire. The fire began spreading rapidly toward the vessel. The Chief Engineer and the Second Assistant Engineer immediately proceeded back to the vessel and went directly to the engine room. The general alarm sounded as they reached the engine room. They, with the watch personnel, immediately began to get the plant ready to get underway. The fire pump was started and ventilation fans secured. The engine was turning 60 rpm astern when a terrific jolt was felt. Shortly afterwards the Master appeared and ordered the ship abandoned. The engine was secured, but the boilers left steaming. Before going on deck the Chief Engineer activated all emergency trips.

22. Shortly before the fire, Mr. [REDACTED] and the two [REDACTED] were seated in their 14 foot wooden boat, tied to the railroad bridge, which is adjacent and to the north side of the highway bridge, between Radio Island and Morehead City. They immediately felt the effect of gasoline fumes which burned their eyes and made breathing difficult. Then they untied the boat and proceeded through the railroad trestle toward the dock at Bunch's pier. Upon approaching the highway bridge, they ran into a wire cable which goes along the length of the bridge, hanging into the water. The boat was stopped at this time. In the bottom of the boat was a lighted Coleman gasoline lantern. Suddenly, there was a flash and they were engulfed in fire. The three persons in the boat immediately jumped out of the boat into the water. The tide carried them back into the railroad trestle where they caught hold of the pilings. Mr. [REDACTED] and Mr. [REDACTED] were able to climb out on top of the railroad tracks. Mr. [REDACTED] remained there. He reached down and held his father, Mr. [REDACTED] to the pilings. Mr. [REDACTED] went for assistance.

23. Blue flames raced on the water from the vicinity of the bridge directly to the vessel in a matter of seconds. The fire started at about 1850 (EST) in the vicinity of the east end of the B & M railroad causeway. When the blue

flames reached the vessel, the bow was suddenly engulfed in flames. Very shortly there was an explosion, intensifying the fire. This explosion was caused by vapors in the forward empty tanks. Subsequently, no more than 10 minutes in time, the orange flames burning on the water traveled from a point approximately 250 feet north of the bridge to the vessel. The fire continued aft on the vessel and about 10 minutes after the first explosion, a second explosion occurred and engulfed the vessel in flames with the exception of the immediate stern. The second explosion was caused by vapors in the after tanks.

24. All witnesses stated that the fire started at the highway bridge approximately midway between the Radio Island side and the draw. Under the prevailing tidal conditions the petroleum product on the water would have taken approximately 10 minutes to spread from the vessel to the point to which the fire extended. Inasmuch as the ship itself may have broken to some extent and the normal velocity of the current, it would indicate that the gasoline began to escape overboard approximately 10 to 15 minutes prior to the fire starting in the vicinity of the causeway, at about 1835 to 1840. All witnesses stated that the fire proceeded directly from the bridge to the USNS POTOMAC.

25. At the onset of the fire, at the highway bridge, the Night Mate stopped all pumping operations and notified the Chief Mate. The Night Mate and the Chief Mate, with the help of the crew members, immediately started uncoupling the hoses. Very shortly the work on this was discontinued and the Night Mate and the Chief Mate made an attempt to let go all lines. The Master proceeded to the bridge and sounded the general alarm. Some of the crew proceeded ashore by the gangway. Other members of the crew proceeded to the stern of the vessel. The Master ordered the engines full astern. Efforts to let go the lines on the stern were successful; however, they were unable to let go the lines forward because of the intense heat. The steam smothering system was never activated. The Night Mate attempted to rig the fire hoses from the stern section and was successful in putting one hose over the port side of the stern, preventing the fire from coming along the water on that side.

26. Most of the crew who were still aboard the vessel, on orders of the Master, left by jumping or climbing over the stern into the water from where they either swam ashore or to pilings. From here they were picked up by the BUNNY TOO, a private fishing vessel or Coast Guard craft from Fort Macon Lifeboat Station. A Coast Guard 30 foot patrol boat from the Lifeboat Station in charge of [REDACTED], BML, immediately proceeded to the scene of the fire and went directly under the stern. He was successful in picking up three people at the time of the height of the fire and two later that evening, one of whom was LEONARD, the deceased seaman. The BUNNY TOO, owned and operated by [REDACTED], came in close to the stern and was successful in picking up several survivors.

27. At approximately 0003, 27 September 1961, the U. S. Coast Guard Cutter CHILULA (WATF-153) in command of Commander George A. PHILBRICK (3298) USCG, arrived on the scene. The POTOMAC was burning intensely forward of midships and there was considerable fire on the stern section. The CHILULA

approached as close as possible with all fire hoses playing over the side to extinguish the fire on the water immediately adjacent to the tanker. The CHILULA was designated "On Scene Commander" and continued its fire fighting efforts throughout the night. The CHILULA made several passes along the POTOMAC, fighting the fire, with only 5 to 8 feet separating the vessels. Between 0400 and 0600, 27 September, small boats from the USS VALLEY FORGE and the USS LINDENWALD and TERREBONNE PARISH assisted the CHILULA. Fire fighting parties from the various vessels boarded the CHILULA. The CHILULA then returned to the tanker and placed a foam blanket on the midship well deck and around the after deck house stern section. These efforts, more successful around the stern, were secured at approximately 0522 as the fire was brought under containment. At 0740, various U. S. Navy units consisting of small boats departed the port terminal to extinguish small fires spread on the water from the bow of the POTOMAC. There were numerous sorties with the small boats to extinguish these fires, and this procedure continued for the next several days. Fire continued in the forward and midship sections, with varying intensity, as the petroleum products burned. Vessels who assisted the CHILULA in her fire fighting efforts were the USS VALLEY FORGE, USS OGLETHORPE, USS LINDENWALD, USS TERREBONNE PARISH and the USS WAHIAKUM COUNTY. Additionally, the U. S. Army Boat SP-2198 and the USS MOSOPELEA and the USS OCCOKEEK later assisted.

28. At approximately 0830 on the 2nd of October, there were no fires remaining on the tanker and the danger of re-flash was considered to have passed. Inspection of the hull, 14 hours after the fire had originally been extinguished showed no hot spots. Seepage of the JP-5 fuel continued and it was considered that harbor pollution on flood tides would continue for some time. At this time the CHILULA closed the case and resumed normal operational status. The fire was considered to have been extinguished at 1635 on the 1st of October 1961. At this time the POTOMAC was completely gutted forward of the stern section. The bridge section was crumbled and collapsed to a considerable extent. The vessel was resting on the bottom from forward of the stern section to the bow and was awash forward and aft of the bridge section at high tide. Considerable damage, as a result of this fire was suffered at the terminal end of the dock where the vessel had been moored.

29. It was noted that deck department personnel had only been on board the USNS POTOMAC for a very short time, with the exception of the Third Mate, who had been aboard for about one year. All other deck personnel had been aboard for periods ranging from six days to two and one-half months. The Chief Mate had been aboard only eight days. Of the deck department personnel only the Master had previous experience on a T-5 tanker. The T-5 tanker pumping arrangements are different from other vessels.

30. On 5 and 8 October 1962 the stern section of the USNS POTOMAC, having been salvaged, was drydocked at Newport News Shipbuilding and Drydock Company and surveyed on orders of the Board by Lieutenant [REDACTED] USCG. Lieutenant ATKINSON found as follows:

a. There was evidence of a severe explosion in the main pumproom, which had resulted in the complete destruction of the forward bulkhead as such above the 6 foot waterline. The lower 6 feet of this bulkhead was reasonably intact. All cargo discharge piping above the lower grating was either badly mangled or missing and the piping still remaining was badly bent, mashed and twisted.

b. The valves were broken open or otherwise damaged. This condition applies to the portions of the discharge crossover lines, which were still on board, the sections of the discharge piping adjacent to the cargo pumps and some of the piping which had connected the discharge lines to the cargo suction lines and to the sea manifold (sea crossover line). Much of this piping was lying adrift, but its original position in the piping system was discernable. The discharge risers to the deck, along with everything in the upper pumproom, were missing. The piping and valves beneath the lower grating were still mostly intact.

c. The cargo discharge valves on all four (4) main cargo pumps were in the fully opened position.

d. The cargo pump suction valves on all four (4) suction lines were in the fully opened position.

e. The bulkhead block valves on the port outboard (7-8-9) and port inboard (5-6) cargo tank suction lines were in the full open position; on the starboard inboard (3-4) and starboard outboard (1-2) cargo tank suction lines, both bulkhead block valves had their stems sheared off flush with the packing glands, but were presumed to both be open.

f. On the suction line crossovers, across the forward end of the pumproom, all valves were closed, with the spectacle flanges in the open position.

g. The port sea suction valve was in the fully opened position. (Photographs 100962-06, 100962-05, 100962-18 and 100962-20, enclosures 4, 5, 6 and 7, respectively).

h. Low in the bilges of the pumproom there is a pipeline connecting the port and starboard sea suctions. This line runs aft a few feet from each sea valve, then in a straight run athwartships. Hereinafter this line will be referred to as the sea manifold. From this sea manifold there are four risers, each connecting the sea manifold with one of the four cargo tank suction lines, each fitted with an angle valve. The starboard outboard (1-2) line and the port outboard (7-8-9) line risers are located on the ninety degree (90°) elbows of the sea manifold line on the starboard and port sides respectively. Further inboard on either side of the pumproom, the 3-4 line and the 5-6 line risers are located. In between these two risers, near the centerline, the sea manifold is fitted with a block valve, which is a gate valve of the fine thread, non-rising stem type. Due to water, oil, and mud this valve was not safely accessible during the first survey. (On the second survey on 9 October 1962, it was found to be open 14½ turns, or just under the halfway open). Also connected to this sea manifold were four (4) discharge lines, one from each cargo pump. These were all broken off.

C-4055

i. The angle valve between the sea manifold and the starboard outboard (1-2) line was in the fully opened position. (Photographs 100962-11, 100962-12, 100962-14 and 100962-17, enclosures 8, 9, 10 and 11 respectively).

j. The angle valve between the sea manifold and the port inboard (5-6) line was jammed in the fully opened position.. (Photographs 100962-07, 100962-08, 100962-19 and 100962-21, enclosures 12, 13, 14 and 15, respectfully).

k. The angle valves between the sea manifold and the 3-4 and the 7-8-9 lines were both in a closed position. (Photographs 100962-04 and 100962-03, enclosures 16 and 17).

l. The starboard sea valve was cracked open about 1/7th of one turn. (Photographs 100962-10, 100962-09, 100962-16 and 100962-15, enclosure 18, 19, 20 and 21).

m. There were no seals, intact or broken, on any of the above valves.

n. The block valve in the sea manifold line was checked and found to be open $14\frac{1}{2}$ turns or just less than half way open.

31. It was determined that the valves had not been disturbed from the time of the casualty in Morehead City until the survey on 5 and 9 October 1962.

-CONCLUSIONS-

1. It is concluded that the proximate cause of this casualty was aviation gasoline gravitating from tanks, number 2 wings, number 5 across, and number 6 wings out through the open angle valves connecting the 1-2 line and the 5-6 line with the sea manifold thence overboard through the open port sea valve.
2. It is concluded that the angle valves connecting the 1-2 and the 5-6 line with the sea manifold were probably opened by Mr. [REDACTED] at the last time he went into the pumproom at approximately 1835, and at that moment the cargo began to run overboard through the port sea valve which was either opened at the same time or had been erroneously left open at some previous time and was assumed to be closed.
3. It is concluded that the motive for opening these cargo tanks into the sea manifold was to make it feasible to discharge number 2 wing tanks with the 5-6 cargo pump. Such a decision indicates very poor judgement, even if all the connecting valves were carefully checked, for it exposes cargo in four different places with only one valve protection from other cargo or from the sea. Good tanker practice would demand at least two closed valves between any two cargoes or between any cargo and the sea, usually with seals or lashed valves.
4. It is concluded that immediately after the Chief Mate's departure from the pumproom the Second Pumpman entered as he made no mention of having seen the Chief Mate there. It is doubtful that the Second Pumpman opened any valves, but his failure to have noticed the open valves or the open port sea valve indicates evidence of either negligence or incompetence inasmuch as his stated reason for going into the pumproom was to check to see if everything was in order and moreso in view of his testimony that he, in fact, checked the sea valves.
5. There was evidence of incompetence and negligence on the part of the Night Mate, Mr. [REDACTED]. Mr. [REDACTED] stated he had been on board the vessel for an hour and a half during which time there was an hour during which JP-5 was being pumped to shore without his knowledge. Mr. [REDACTED] was not certain which cargo was located where aboard the vessel and had not looked at any loading diagrams, ullage reports, piping diagrams, or had taken any action to familiarize himself with the vessel, which was of a type on which he had never served. Mr. [REDACTED] erroneously believed JP-5 was a high test gasoline. Mr. [REDACTED] had ignored the gauging devices on the tanks and had looked into the tank hatches and left all hatches open and unsafe. He had failed to trace out any pipe lines. Having poorly prepared himself, Mr. [REDACTED] had taken charge of the deck with cargo discharging.
6. It is concluded that the port sea valve, which was open at the time of the fire, may not have been closed before being sealed in Houston when the ballast was finished at 0125 (CST) on the 20th. There is also the possibility the sea valve was opened at sea after leaving Savannah for flushing pipe lines, but the engineroom log does not note the use of a cargo pump at that time,

This valve could have been opened when the angle valves were opened to the sea manifold shortly before the fire.

7. There is evidence of negligence on the part of Mr. [REDACTED]. It is noted that Mr. [REDACTED] stated that if the cargo hatches were open he was not aware of it. This is difficult to understand considering the prominence of the hatches on a tanker deck and the long period of time which he was on deck.

8. It is concluded that there is evidence of negligence or incompetence on the part of Chief Pumpman, [REDACTED]. The evidence indicated that [REDACTED] as Chief Pumpman failed to check out the pumproom lineup as a competent pumpman should have done. The fact that the discharge suction lines were left open on two cargo pumps not in use is an indication of sub-standard practice. The Chief Pumpman's statement that the Chief Mate had lined up the pumproom and that he did not go into the pumproom himself to check it out until after starting the two pumps is an indication of imprudent practice. If the port sea valve was already in the open position at the time the vessel started discharging at Morehead City, then there are indications of inattention to duty on the part of the Chief Pumpman, [REDACTED].

9. The Master and Chief Mate's failure to activate the steam smothering system was due to an error in judgement, not amounting to negligence.

10. It is concluded that Clyde B. Leonard and Peter Salopek died as a direct result of this casualty. It is the opinion of the Board that SALOPEK, the Radio Officer, never left the amidships section and perished in the fire.

11. It is further concluded by the Board that LEONARD died while in the water either as a result of suffocation from fire and/or smoke on the surface of the water or due to drowning.

12. It is the opinion of the Board that the actions of [REDACTED] Chief Engineer, and [REDACTED] Second Assistant Engineer, in returning to the vessel after the fire had broken out and keeping the plant in operation until ordered by the Master to abandon the vessel constituted outstanding devotion to duty.

13. It is the opinion of the Board that the Commanding Officer of the U. S. Coast Guard Cutter CHILULA, Commander George A. PHILBRICK and appropriate members of his crew in operating their vessel in an attempt to extinguish and contain the fire aboard the USNS POTOMAC constituted outstanding devotion to duty.

14. It is the opinion of the Board that the actions of [REDACTED] BML, U. S. Coast Guard and his crew in taking the thirty (30) foot patrol boat from the Fort Macon Lifeboat Station and proceeding under the stern of the vessel in order to rescue some survivors of the crew, were responsible for saving the lives of the crew members who were so rescued and constituted outstanding devotion to duty.

15. It is the opinion of the Board that the actions of Mr. [REDACTED] in operating his boat, the BUNNY TOO, was courageous and was responsible for the rescue of several members of the crew and for saving their lives.

-RECOMMENDATIONS-

1. It is recommended that further investigation be conducted under the Suspensions and Revocation Proceedings, R. S. 4450, as amended, looking into possible negligence and/or incompetence on the part of the Chief Officer, [REDACTED] the Night Relief Mate, [REDACTED]; the Chief Pumpman, [REDACTED] and the Second Pumpman, [REDACTED]

2. Other than as stated above it is recommended that no further action be taken and that this case be closed.

[REDACTED]
J. A. BRESNAN
Captain, U. S. Coast Guard, Chairman

[REDACTED]
LLOYD W. GODDU
Lieutenant Commander, U. S. Coast Guard
Member

[REDACTED]
H. J. GARDNER
Lieutenant Commander, U. S. Coast Guard
Member and Recorder