TREASURY DEPARTMENT
UNITED STATES COAST GUARD

Address reply to:
COMMANDANT (MVI-3)
U.S. COAST GUARD
WASHINGTON, D.C. 20226

5943/C. P. BAKER
A-8 Bd.
23 APR 1965

Commandant's Action

on

Marine Board of Investigation; explosion, fire, and sinking of the Drilling Barge C. P. BAKER in the Gulf of Mexico, 30 June 1964

1. The record of the Marine Board of Investigation convened to investigate subject casualty, together with the Findings of Fact, Conclusions and Recommendations has been reviewed.

2. At about 0300 CST, 30 June 1964, while drilling in Block 273, Eugene Island area, Gulf of Mexico, a "blowout" occurred which erupted gas and water over and around the C. P. BAKER. The gas exploded, continued to burn, and the vessel sank. Of the forty-three persons on board the C. P. BAKER, eight are dead; thirteen are missing and presumed to be dead; and twenty-two were injured. In addition, one person died, and another was injured on board the M/V DELTA SERVICE which was moored alongside the C. P. BAKER.

3. The C. P. BAKER was a catamaran type vessel, 260 feet long, 126 feet wide and was composed of two Navy YF type hulls which had been joined together with a steel framework. The horizontal distance between the inboard side of each hull was approximately 30 feet, and this opening was referred to as the keyway. Aft, the drilling platform was centered over this keyway and straddled the two hulls. There was a helicopter landing platform forward over the keyway, and a rack was constructed for stowing pipe in the midship portion of the vessel. A crane was mounted at the outboard edge of each hull for handling drilling materials and other supplies. Each of the hulls had seven watertight bulkheads. Along the main deck, both inboard and outboard of each hull, were watertight doors which led to the interior of the vessel and into the holds. Eight anchors, two at each end of each hull, were used to maintain the vessel's position when drilling. The anchor windlasses could be controlled from a central station.

4. The weather at the time of the casualty was clear with good visibility, calm to light winds out of the South, and 2-1/2 to 3 feet swells from the Southwest.

5. On 28 June 1964, the C. P. BAKER anchored on a southeasterly heading in 186 feet of water in approximate position 28°25'26"N, 91°34'49"W. During the afternoon of 29 June, drilling commenced on the proposed 10,000 feet deep well. The drilling plan called for a 30-inch guide pipe to be sunk from the mud line to solid bottom. With this in place, a 26-inch diameter hole would be drilled to a depth of approximately 750 feet below the surface of the water. A 20-inch conductor pipe would then be sunk into the 26-inch hole and the annular space surrounding it filled with cement. With the 20-inch conductor pipe thus firmly in place, a riser and blowout preventer would be installed. This is essentially the same procedure used by C. P. BAKER in drilling other wells. The U.S. Department of Interior, Geological Survey, Outer Continental Shelf, Gulf Region Order Number 2, requires that a blowout preventer be installed before drilling more than 3000 feet (true vertical depth).

6. At about 0300 on 30 June 1964, the 30-inch guide pipe was in place, and the 26-inch diameter hole was drilled to a depth of approximately 684 feet. Drilling was progressing at approximately 30 feet per hour. A drilling crew consisting of 13 men was making preparations to sink and cement the 20-inch conductor pipe. The remaining personnel on board the C. P. BAKER were in the quarters forward in the port hull. The M/V DELTA SERVICE was moored alongside the C. P. BAKER with the M/V MR. JAKE moored outboard of the DELTA SERVICE.

7. The first indication of anything amiss was a "bubbling," "boiling," or "geysering" action of the water between the two hulls of the catamaran, together with a "trembling" of the vessel. The geysering effect increased until water was striking the bottom of the drill platform with great force and cascading back onto the hulls of the vessel. Water entered the hulls through the open doors on the main deck. Electric power was soon lost, and crewmembers, realizing that a blowout was occurring, attempted to rouse the crewmembers of the two boats moored alongside and others sleeping in the forward portion of the C. P. BAKER. Shortly thereafter, a massive explosion followed by fire encompassed the C. P. BAKER and the two service vessels alongside. Crewmembers of the C. P. BAKER abandoned the vessel by jumping overboard. Most of the survivors left the vessel by the port bow. Personnel of the MR. JAKE got the vessel underway and departed the area of the fire almost immediately. The operator of the DELTA SERVICE, after using the vessel's propeller wash to assist survivors in escaping the flames, got his vessel underway and remained in the area to rescue 26 survivors. The C. P. BAKER sank before the last survivors had been rescued. The survivors were subsequently transferred to the M/V MR. JAKE and taken to a nearby drilling barge where they were evacuated by helicopter.

8. Gas continued to erupt and burn for approximately 13 hours after the C. P. BAKER sank. On 1 July 1964, divers found the C. P. BAKER in a

capsized position. Examination revealed that the hull was apparently intact. Three craters were found on the ocean floor in an approximate straight line. There were two small ones approximately 7 to 8 feet in diameter and 5 to 6 feet deep and a large one approximately 15 to 20 feet across and about 10 feet deep.

REMARKS

1. Concurring with the Board, it is considered that this casualty was caused by the drill penetrating a high pressure gas pocket before any protection against blowout had been provided. Although the exact source of ignition cannot be determined, it appears that the most probable source was sparking from the exhaust of the diesel engine.

2. The Board's conclusion that the drilling plan was in accordance with accepted practices and existing Federal Regulations is concurred in.

3. Further concurring with the Board, the rapidity with which the situation developed made fire-fighting impossible and precluded any preventive action such as closing the watertight doors through which water entered the hulls, or moving the vessel with its anchor windlasses.

4. In the Conclusions and Recommendations, the Board commented on the organization of the C. P. BAKER with regard to procedures to be followed in emergencies of this type. It further recommended that deck doors in the vicinity of the keyway should be quick acting watertight doors and kept closed continually during drilling operations. Similarly, that doors in transverse watertight bulkheads should be required to be of the quick acting watertight type and kept closed during drilling operations. The Board's comments and recommendations are concurred in and will be referred to the Offshore Oil Panel of the Merchant Marine Council. The recommendation that a panel be established consisting of representatives of the Offshore Oil Industry and the Coast Guard to make further recommendations for the best safety measures that can possibly be adopted is concurred in. Accordingly, the Board's report will be referred to the Offshore Oil Panel for consideration of the below listed items:

a. A station bill that would encompass the worst possible condition that might be encountered, such as a blowout and resulting fire.

b. Drills, instructions, and indoctrination of personnel working as a team to meet such conditions.

c. The establishment of a suitable control center manned at all times and capable of controlling and designating the emergency procedures to be followed. Such center to be provided with necessary communication facilities.

d. The possibility of moving a drilling rig under emergent conditions.

e. The proper designation of the line of command of personnel assigned to a drilling rig.

f. The need for emergency power or lighting and the appropriate type to be employed as well as the best procedures to be utilized during emergency conditions regarding the control of the various sources of power and ventilating systems.

g. The safest method of debarkation of personnel under such emergent conditions.

h. The indoctrination of standby tenders in emergency procedures.

i. The control of all possible sources of ignition of gas in the event of a blowout.

5. Pursuant to the Board's recommendation, a copy of its report will be forwarded to the Geological Survey, Department of the Interior, for information and study with regard to those items coming within its jurisdiction.

6. The Board's conclusion that Mr. [redacted] operator of the M/V DELTA SERVICE, displayed commendable qualities of presence of mind and courage in a situation of grave stress and personal danger, and that acting on his own initiative he was responsible for rescuing many of the survivors, is concurred in. The Board's report and the Record of Investigation have been referred to the Coast Guard Board of Awards for consideration.

7. Subject to the foregoing remarks, the Record of the Marine Board of Investigation is approved.

[redacted]

R. J. [illegible]
[illegible] U. S. Coast Guard
Commandant

TREASURY DEPARTMENT
UNITED STATES COAST GUARD

ADDRESS REPLY TO:
Commander
8th Coast Guard District
New Orleans, La. 70130

14 September 1964

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

Subj: Seagoing Drilling Barge C. P. BAKER, Official No. 289043; explosion, fire, and sinking in the Gulf of Mexico, 30 June 1964, with loss of life

FINDINGS OF FACT:

1. At approximately 0300 CST, 30 June 1964, while engaged in drilling an oil well in Block 273, Eugene Island Area, Gulf of Mexico, the seagoing drilling barge C. P. BAKER was involved in a "blowout" which erupted gas and water over and around the vessel. The gas exploded, a fire ensued, and the vessel sank. Of the 43 persons on board, 7 were dead and their bodies recovered; one was critically injured and died subsequently; 13 were missing and presumed dead; and 22 were rescued and hospitalized with varying degrees of burns or injuries. On a supply vessel, the M/V DELTA SERVICE, tied alongside, one crew member was injured and hospitalized and another was critically burned and died later.

2. Vessels involved:

(a) The seagoing drilling barge C. P. BAKER, Official No. 289043, was a steel, catamaran type vessel of 3891 gross and net tons, 260.4 feet registered length, 126.1 feet in width and 14.2 feet in depth. The hulls from which the catamaran was constructed in 1962 were originally Navy YF type vessels constructed in 1945. The port hull was the ex-Magnolia Drilling Barge No. 2, Official No. 256198, and the starboard hull was the ex-Magnolia Drilling Barge No. 4, Official No. 251202. The two hulls were tied together with a steel framework, with a drilling derrick straddling the hulls aft and a helicopter platform straddling the hulls forward. Access between the vessels' separate hulls was by means of catwalks on the joining framework and by the pipe racks which extended the entire breadth one level above the main deck. The C. P. BAKER was owned and operated by Reading and Bates Offshore Drilling Co., New Orleans, La., and at the time of the casualty was under contract to Pan American Petroleum Corporation for offshore oil exploration. Each hull of the C. P. BAKER had two complete decks, one at the hold level and the other at the main deck level.

Surmounting the main deck, which is completely enclosed, was the pipe racks for stowage and handling of pipe, casing, and various drilling materials. Above the pipe rack level was the derrick tower aft, and the helicopter platform forward. At the outboard edge of each hull was a crane at the pipe rack level for handling materials on and off the supply vessels. Each hull had watertight bulkheads below the main deck level at frames 7, 11, 14, 17, 20, 23, and 27. The space below the main deck between bulkheads at frames 14 and 17 was occupied completely by drilling water. The C. P. BAKER was certificated at the completion of conversion in August 1962 by the Marine Inspection Office at Port Arthur, Texas. She was given a mid-period re-inspection on location in August 1963 by the Marine Inspection Office, New Orleans, La. At this time she was found to be seaworthy and was granted an extension of the date on which dry dock examination would be required.

(b) The M/V DELTA SERVICE, Official No. 293491, 165 feet long, 298 gross tons, built in Port Arthur, Texas, in 1963, uninspected, is owned by Carribean Service, Inc., New Orleans, La., and operated by Marine Services, Inc.

3. Deceased are:

NAME	POSITION	NEAREST RELATIVE
Don DeMars	Mud Engineer	Wife: [redacted]
Charlie H. Deshazo	Crane Operator	Wife:
Ernest J. Shadler	Roustabout	Wife:
Eddie Ray Michael	Electrician	Wife:
Arnold Lee Milam	Motor Man	Wife:
Burgess J. Perry	Motor Man	Wife:

Deceased (Cont'd)

Roland B. Smith	Roughneck	Wife: [redacted]
Lynn W. Bussel	Steward	Mother:
Robert McKnight	Mate (DELTA SERVICE)	Wife:

4. Missing and presumed dead are:

Lawrence Babineaux	Able Seaman	Wife:
Shell Eugene Dillon, Jr.	Roughneck	Inlaws:
Claude Esthay	Driller	Wife:
Fred O. Gay	Roughneck	Wife:
Raymond Edward Hutchinson	Roughneck	Father:
William Lane	Motor Man	Wife:
John I. Leger	Derrickman	Wife:
Billy Edward Smelly	Roustabout	Unk:
Dorese C. Vance	Toolpusher	Wife:

Missing and Presumed Dead (Cont'd)

[redacted]	Roustabout	Wife: [redacted]
[redacted]	Motor Man	Unk:
[redacted]	Second Cook	Wife:
[redacted]	Utility Man	Father:

5. Injured are:

NAME	POSITION	ADDRESS
[redacted]	Crew Pusher	[redacted]
	Summer Roustabout	
	Drilling Supervisor	
	Able Seaman	
	Welder	
	Able Seaman	
	Driller	
	Roustabout	
	Diesel Operator	
	Motor Man	
	Roughneck	
	Diesel Operator	
	Mechanic	
	Summer Roustabout	

Injured (Cont'd)

[redacted]*	Roughneck	[redacted]
[redacted]	Derrickman	
[redacted]*	Roughneck	
[redacted]*	Roustabout	
[redacted]*	Utility	
[redacted]*	Utility	
[redacted]*	Welder	
[redacted]*	Welder	
[redacted]*	Deckhand (DELTA SERVICE)	

*Incapacitated more than 72 hours.

6. The weather at the time of the casualty was clear, good visibility, calm to light winds out of the south, and two-and-a-half to three-foot swells from the southwest.

7. On Sunday, 28 June 1964, the C. P. BAKER was anchored in a depth of approximately 186 feet in Block 273, Eugene Island Area, Gulf of Mexico, latitude 28°25'26"N and longitude 91°34'49"W, in preparation for drilling an oil well. This was to be the twenty-second well drilled by the C. P. BAKER since its construction and the fourth well in Block 273, Eugene Island Area.

8. The C. P. BAKER was moored on a southeast heading by a mooring system consisting of eight anchors, two at each end of each hull. Two of the anchors extended forward and two extended aft, parallel to the axis of the hulls. The other four extended outboard, port and starboard at right angles to that axis. The anchors were each made up with one shot of chain and two to two-and-a-half-inch wire rope to anchor buoys and thence to the winch drums. The anchor system provided a strain gage in each line to record the tension on that line. This permitted a continuous assessment of the anchor loading and allowed adjustments to be made to prevent overloading of any one or more lines. In addition to direct reading dials at the winches, the anchor line tensions were recorded on a strip recorder at a remote anchor winch control station which was located under the helicopter platform and from which all anchor lines could be controlled at one time. As well as adjusting tension from this point, by drastically slacking some lines and taking up on others, the vessel could actually be moved as far as 300 to 400 feet if necessary.

9. Drilling commenced sometime after noon on the 29th of June and at approximately 0300 on 30 June drilling had progressed to the point where 30-inch O.D. guide casing was sunk to a level of 121 feet below the mud line and a 26-inch diameter hole, which would eventually accommodate the 20-inch conductor pipe, had been drilled to a level of 461 feet below the mud line. The depth of water was 186 feet and the height above water to the rotary drive bushing was 37 feet. The reference point normally used for depths of wells is the rotary table at the well platform level; therefore, from this point the well depth at the time in question was 684 feet.

10. Federal Regulations, Title 30, Chapter II, Geological Survey, Section 250.91, requires that prior to drilling a well a notice of intention to drill be filed with the Supervisor, Geological Survey, on the proper forms. This form outlines the details of the proposed well, such as location, depth, casing program, etc. In this case the application for permit had been submitted and had been returned with an approved endorsement. The proposed casing program called for a 20-inch pipe to a depth of 750 feet, at which point the casing would be cemented and the 20-inch riser assembly installed. The riser assembly is that portion of the string of pipe from the mud line to the rotary table and it would contain the various control devices, including the 2000 psi Hydril annular type blowout preventer, which is designed to seal off the well in the event of a blowout. The proposed casing program was essentially the same as that employed in the previous wells with the C. P. BAKER. In conjunction with the permit to drill, the Department of the Interior, Geological Survey, has issued six Notices to Lessees and Operators of Federal Leases in the Outer Continental Shelf, Gulf Coast Region. These Notices are in the form of Orders. Geological Survey OCS Order No. 2 requires that a blowout preventer be installed at a minimum depth of 3000 feet.

11. At 0300 on 30 June 1964 two vessels were tied alongside the C. P. BAKER abreast of one another. Inboard was the M/V DELTA SERVICE, Official No. 293491, with [redacted] a Coast Guard-licensed operator, in charge. Outboard was the M/V MR. JAKE, Official No. 276466, 87 feet long, owned by Jake, Incorporated, Morgan City, La., with [redacted] a Coast Guard-licensed operator, in charge. These were supply vessels providing standby service, supplies, crew transportation, etc. Except for an assistant engineer who was on watch, the crew of the M/V DELTA SERVICE was asleep. Some personnel from the C. P. BAKER were on board engaged in transferring some 20-inch casing to the pipe rack deck of the BAKER. The crane at the outboard edge of the port hull was being used for this purpose.

12. At 0300 on 30 June 1964 a drilling watch force of thirteen men were up and about on the C. P. BAKER making preparations to sink and cement the 20-inch casing, since the 26-inch hole was nearing that depth. The remainder

of the personnel aboard were asleep in the quarters forward in the port hull. Two of the thirteen men were on the derrick floor, one was in the port crane, and the others were at various places, on the pipe rack deck, in the pump room, in the cement room, on the DELTA SERVICE, etc.

13. The living quarters forward in the port hull were air-conditioned; therefore, all doors giving access to this area from other sections of the vessel were kept closed. All the main deck exterior doors on the outboard side of the port hull aft of the living quarters (five) were open. On the inboard side of the port hull, main deck, the two doors to the pump room were open. Access to the hold level was via open stairwells from the main deck level. Testimony indicates that the watertight doors in the transverse bulkheads at the hold level were normally open for convenience. There was no definite indication of the freeboards existing at this time.

14. The first indication that anything was amiss was a "bubbling," "boiling," or "geysering" action of the water between the two hulls of the catamaran, together with a "trembling" of the vessel. This boiling effect extended some distance around the hulls. The action between the hulls was described by witnesses as a mushroom of water that rose high enough to strike the bottom of the derrick platform with great force, and which fell back onto the two hulls. Electrical power and lighting were lost soon after the geysering was noticed. Realizing that a blowout was occurring, several people ran to the quarters to rouse the sleepers. Before personnel could be organized and any direct action instituted, there was a massive explosion or instantaneous series of explosions followed by fire. The explosion and fire was described as encompassing the whole vessel rather than being localized in any particular section. The fire continued burning, both on the vessel and in the surrounding water, with varying degrees of intensity and height, covering an area approximately 75 to 100 feet all around the vessel. Those who were able made their way to the side of the vessel and jumped overboard. Most of the survivors appear to have left the vessel via the port bow.

15. Personnel aboard the MR. JAKE were awakened by the explosion and its concussion effect on their vessel. As soon as they realized the situation they made ready to get underway. A deck hand from the DELTA SERVICE had already untied their lines so they were able to move away without delay. The flames on the water extended out around the MR. JAKE at the time she pulled away from the DELTA SERVICE.

16. Personnel aboard the DELTA SERVICE were awakened by the shouting and commotion attendant to the alerting procedures precipitated by the blowout. This vessel made ready to get underway, but the explosion and fire occurred before she was able to do so. The mate, Mr. McKnight, was on deck attempting to cast off the last line and was engulfed by the flames from a side

door of the C. P. BAKER. He was critically burned and died later in the hospital. The cable of the C. P. BAKER's port crane was still attached to a section of 20-inch casing on board the DELTA SERVICE. The captain of the DELTA SERVICE, with his vessel still tied alongside, used his propeller wash, with his engines in reverse, to assist the people in the water at the bow of the BAKER to move away from the burning area. He then moved away from the C. P. BAKER by breaking his last line with the engines full ahead and by letting the 20-inch casing drag across the stern and overboard as he pulled away. He moved out and around the mooring buoy and then maneuvered back toward the BAKER to pick up survivors. He threw overboard liferings, buoyant apparatus and lifejackets for use of the people in the water. Some difficulty was encountered in getting survivors aboard because of lack of a Jacob's ladder. The survivors were transferred to the MR. JAKE for transport to the nearby Drilling Barge J. W. NICKLE, from whence they were taken to hospital facilities by helicopter. Twenty-five survivors and the recovered bodies of Messrs. Demars and Shadler were brought ashore. Of the survivors, McKnight and Deshazo died in hospitals later.

17. While survivors were still being picked up from the water, the C. P. BAKER was observed to sink by the stern and disappear beneath the water. Most witnesses indicated that she maintained an even keel while sinking; however, the captain of the DELTA SERVICE, who had a superior vantage point, testified that the vessel heeled to port while sinking by the stern.

18. The time interval between knowledge of the blowout and the explosion, and between the explosion and the sinking of the vessel, cannot be fixed except through varying estimates of witnesses. The consensus of the former interval is approximately five minutes. There were wider discrepancies in the estimates of the latter interval, ranging from 15 minutes to 45 minutes.

19. After the sinking of the C. P. BAKER, the gas continued erupting with some severity and the fire continued to burn for approximately 13 hours. Some bubbles continued to rise after the fire stopped for a period of approximately 24 hours.

20. Divers were employed to locate and explore the C. P. BAKER to the extent possible after the casualty. Diving was commenced on 1 July 1964 after the bubbling had decreased considerably. The vessel was found to be upside down on the bottom with the bows facing northwest, the reverse of her heading when afloat. The helicopter platform was supporting the bows, which were 10 to 20 feet higher than the sterns. The divers' primary objective was to locate bodies, so they did not conduct a detailed physical survey of the vessel. They did note the condition of the areas they observed, however. In transversing the bottom of the port hull from bow to stern on several occasions, the bottom of the starboard hull was visible except for a portion at the stern where a milky cloudiness in the water restricted visibility. The derrick was never sighted nor was the drive pipe ever located.

The only hull damage observed was the bow sheave for number 7 anchor cable (port bow), which was partially torn from the deck, and one of the derrick support beams was torn away from the port hull aft. The divers were successful in recovering only five bodies from the submerged vessel. It was not possible to enter all compartments because of the danger of entrapment by shifting debris and the physical problem of the vessel being upside down.

21. The divers found three craters, approximately in a straight line, two small ones about seven to eight feet across and five to six feet deep, and a large one, about ten feet deep and roughly oblong in shape, fifteen to twenty feet across. Even on the last dives small gas bubbles were seen to emanate from the larger crater.

22. Expert geological witnesses testified that there is no means by which the presence of a gas pocket at such a shallow depth as was encountered could have been detected prior to the drilling. In fact, their testimony indicated that very little geological data of any sort could be obtained at shallow depths. The theory that this pocket may have been formed by migration from one of the previous wells was rejected because of the too great distances involved.

23. A fire and abandon station bill was posted on the mess deck of the C. P. BAKER.

24. The emergency generator required manual starting and was not started when the main power failed; therefore, there were no lights available.

CONCLUSIONS:

After due deliberation of the foregoing facts the Board concludes that:

1. As a result of explosion, fire, and sinking of the drilling barge C. P. BAKER in the Gulf of Mexico on 30 June 1964, nine persons lost their lives, thirteen are missing and presumed dead, and seventeen were injured and incapacitated beyond 72 hours.

2. The proximate cause of the casualty was the penetration of a high pressure gas pocket by the drill at a shallow depth before any protection against blowout had been provided.

3. A blowout preventer was not required by the applicalbe Federal Regulations at the depth involved.

4. The casing program and the drilling procedures being employed were in accord with accepted practices and existing Federal Regulations.

5. The explosive gasses were initially drawn into the living areas through the air-conditioning system.

6. Because of the widespread area covered by the gas and the many possible sources of ignition, the actual source cannot be pinpointed. However, considering the introduction of the gaseous atmosphere into the intake of the Superior diesel engine together with the testimony regarding the flames from the exhaust, this engine must be high on the suspect list.

7. The reason for the early loss of electric power cannot be accurately determined; however, the most probable reasons are considered to be that flooding water shorted out circuits, or some shock force caused a trip to function.

8. The water erupting from the blowout between the hulls and flooding into doorways entered the vessel in sufficient quantities to trim the vessel severely aft. Further, consideration must be given to the incalculable loss of freeboard aft caused by the aerating effect of the gas in the water and its diminition of the normal buoyant effect of the water. Additional flooding through structural damage cannot be ruled out, because of lack of detailed evidence. Some combination of the above factors reduced the freeboard aft sufficiently to submerge the main deck door coamings, following which progressive flooding took place rapidly.

9. The effect of the catamaran hull was to confine the eruption of water in the vicinity of the keyway aft and thereby concentrate its activity in this area.

10. The rapidity with which the situation developed precluded any preventive action such as closing the watertight doors or moving the barge. The explosion and the intensity and widespread nature of the fire made firefighting measures impossible, and the normal emergency procedures could not be organized.

11. The possibility of the vessel remaining afloat would have been improved had the watertight doors on the main deck and in the transverse bulkheads below decks have been kept in a closed condition.

12. There was no evidence of failure of inspected material, nor was there any evidence of incompetence or negligence on the part of any Coast Guard-licensed or documented personnel.

13. There was no evidence of any violation of laws or regulations relating to the vessel's equipment or the precautions observed.

14. Mr. [redacted], in charge of the M/V DELTA SERVICE, displayed commendable qualities of presence of mind and courage in a situation of stress and personal danger, and acting on his own initiative was responsible for the rescuing of many of the survivors.

15. In the oil industry the tool pusher is generally considered the person in overall charge of drilling activities regardless of the type of vessel. In the absence of the tool pusher, the driller is considered in charge. However, this was not so indicated on the C. P. BAKER's station bill and there was no official designation of the chain of command in the event of absence or injury to those in charge.

16. The emergency watch quarter and station bill did not encompass external emergencies of such nature as the blowout which caused this casualty; therefore, policies and instruction did not go beyond the routine shipboard emergencies. However, the normal concept of emergency drills is to attempt to meet the worst possible situations that could be encountered and since one of the worst possible situations could be a "blowout" of some sort, it is considered that such eventuality should have been given consideration in routine drills.

17. If the C. P. BAKER could have been moved, the casualty might have been diminished.

18. The testimony indicated that the General Alarm was sounded, but no one was able to distinguish the specific signal, whether it was abandon ship or fire.

19. There was no designated overall central control station that cold function to handle all types of emergencies.

RECOMMENDATIONS:

Based on the foregoing it is recommended that:

1. Although it appears that all regulations were complied with and that the procedures followed were in accord with accepted practices, a copy of this report be forwarded to the Geological Survey, Department of the Interior, for information and study.

2. Although expert testimony indicated that geological data obtained by use of present exploratory procedures is not informative at shallow depths, the Geological Survey should examine this further in their study.

3. It would appear from the testimony presented before this Board that since the drilling procedures met all existing requirements and since geological data at shallow depths is not sufficiently informative, the major area of improvement in safety would appear to rest primarily in what improvements might be made on the vessel with particular reference to the indoctrination of personnel and the rudiments of safety organization. However, in this report it must be kept in mind that this Board was investigating a vessel of catamaran type hull where, as noted, the eruption of water from a blowout was concentrated in the keyway area. Thus, it is recommended that in catamaran type hulls all the deck doors in the vicinity of the keyway should be required to be of the quick acting watertight type, kept closed continuously during drilling operations. This same principle should be followed in other type floating rigs where applicable.

4. Similarly, doors in transverse watertight bulkheads should be required to be of the quick acting watertight type, and kept closed during drilling operations.

5. A panel be established consisting of representatives of the offshore oil industry, possibly a subcommittee of the Offshore Oil Panel, and Coast Guard representatives; this panel should consider the below listed areas with a view toward making further recommendations for the best safety measures that could possibly be adopted. This study might be similar in nature to those made by advisory panels which considered recommendations for proposals for the original tank vessel regulations.

   a) A station bill that would encompass the worst possible condition that might be encountered, such as a blowout and resulting fire.

   b) Drills, instructions, and indoctrination of personnel working as a team to meet such worst conditions.

   c) The establishment of a suitable control center manned at all times, capable of controlling and designating the type emergency procedures to be followed. Such center to be provided with necessary communications facilities.

d) The possibility of moving a drilling rig under emergent conditions.

e) The proper designation of the line of command of personnel assigned to a drilling rig.

f) The need for emergency power or lighting and the appropriate type to be employed as well as the best procedures during emergency conditions regarding the control of the various sources of power and ventillating systems.

g) The safest debarkation of personnel under such emergent conditions.

h) The indoctrination of standby tenders in emergency procedures.

i) The control of all possible sources of ignition of gasses in the event of a blowout, and/or the extent of assignment of hazardous areas.

6. The commendable actions of [redacted] of the M/V DELTA SERVICE be recognized by a letter or other appropriate means.

[redacted]

JAMES D. CRAIK
Rear Admiral, U. S. Coast Guard
Chairman

[redacted]

CHARLES P. McFAULL
Captain, U. S. Coast Guard
Member

[redacted]

J. E. GOULD
Commander, U. S. Coast Guard
Member and Recorder