UNITED STATES COAST GUARD



MVI 25 March 1957 (SEDCO NO. 6 - RIG 22 a-8 Bd)

Commandant's Action

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Marine Board of Investigation; capsizing, SEDCO NO. 8 - RIG 22, Avendale, Louisiana, 10 August 1956, with loss of life

- 1. Pursuant to the provisions of Title 46 C.F.R. Part 136, the record of the Marine Board of Investigation convened to investigate subject casualty, together with its Findings of Fact, Conclusions, and Recommendations, has been reviewed.
- 2. On 10 August 1956 the SEDCC NO. 8 RIC 22, under construction for use as a mobile platform in oil drilling operations on the Continental Shelf in the Gulf of Maxico, was afloat and nearing completion. Instructions had been issued to keep the draft of the floating section at a minimum and not to exceed 6' 6" to assure proper stability and avoid any upsetting moments. Following inclining and submergence tests, added ballast was not completely removed; approximately 80 tons of materials were placed on board and approximately 100 tons of ballast were added to sink the bow wedge, so it is estimated that the draft of the floating section reached 8' 6". At this draft with slack water in the ballast tanks, a progressive list to starboard developed and the rig capsized at about 1530 on 10 August 1956 at dockside, Avondale, Louisiana. Of the approximately 45 workmen on board, 4 drowned and 6 were injured. The estimated damage to the rig, although subsequently salvaged, was \$1,300,000.
- 3. The Findings of Fact and Conclusions of the Marine Board of Investigation convened to investigate subject casualty are approved. The Recommendation of the Board that the regulations promulgated pursuant to Section h(c)(1) of the Cuter Continental Shelf Lands Act be smended to require plans approval and inspection during construction of all mobile platforms, as defined in h6 C.F.R. 1h0.10-30, will be referred to the Merchant Marine Council for further consideration.

A. C. RICHMOND
Vice Admiral, U. S. Coast Guard
Commandant

MARINE BOARD OF INVESTIGATION

convened at the

Morine Inspection Office, United States Coast Guard Eighth Coast Guard District

313 Gustom House, New Orleans, La.

on

J6 August 1956

by order of

Commandant, U. S. Coast Guard, Washington, D. C.

To Investigate the Capsiging of the Mobile Drilling Rig, SEDCO

NO. 8 - Rig 22, in The Mississippi River at Avondale, Louisiana,
on 10 August 1956 With Loss of Life.

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From: Chairman, Marine Board of Investigation Commandant (MVI)

Subj: Marine Board of Investigation; capstaing, mobile drilling rig, SEDCO NO. 8 - Rig 22, Avondale, Louisians, 10 August 1956, with loss of life

PINDINOS OF PACT.

 At approximately 1530 on 10 August 1956, the drilling barge (mobile platform) SEDCO NO. 8 - Rig 22, capsised in the Mississippi River at Avondale, idnistant' with the joss of tone lives and thinks to sex becades...

Vessel involveds

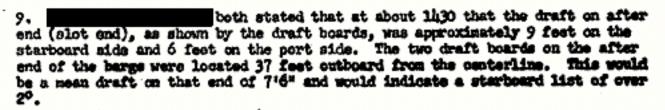
the action to the lett 25, is an electric to the contract the letter of the contract the contrac

platform; engine ream, and easing and drill stem storage, rack warp located on the superstructure desk to feat above the patton of the bull. The grave quarters were on the disk above the engine ream such heliabeter landing deck stop of the drilling destick was 150 feet high and located on the drilling platform. The burge was divided into compartments as shown on treating 8156-Pl (Exhibit 33) and was designed with an apron on the bettom of the sides and after end (slot end), and a metable bow wedge to give the maximum amount of bottom suction when submerged to the seabed on drilling locations. The tumble home or sloping sides and ends were designed to reduce to a minimum the socuring action of the sea and current while the record is attached to the seebed. Looses to the purp room in the barge, thill asbubried, des by heans of a diroular trunk from the upper dock to the barge. Two ladders, one on port and one on starboard sade, provided scores from stopratruoture to dack of barge when affect. This berge would be classed as a soble platfers to Section the 10-20 of the adjulation splitting to distance to the continuated Shell at the latter to the continuated Shell at the latter to the

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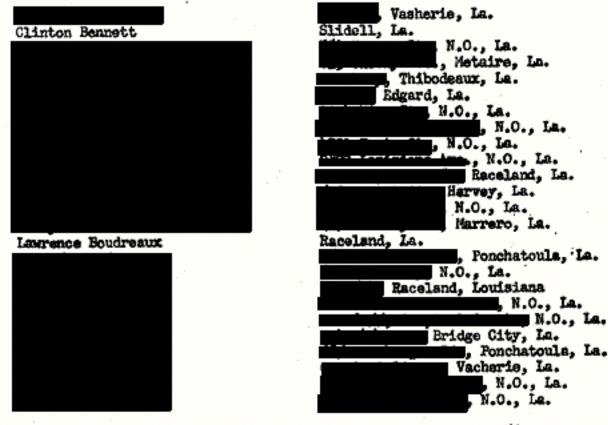
per to the first of the second of the first of the first of the first of the second of

- 3. Although the barge had not been assigned a crew and construction had not been completed, life preservers had been placed in the crews quarters and four 15 person life floats had been placed on the superstructure deck, two on the helicopter deck and two near the after and. Eight ring buoys equipped with waterlights and lines were distributed about the superstructure deck.
- 4. The dosign agents had informed the builders of this hull and previous hulls they had constructed of this type that the draft of the barge should be kept to a minimum and should not exceed 6 feet 6 inches during construction. Prior to inclining and subserging experiment, these instructions were carried out.
- 5. When the barge was nearing completion, on 2 August 1956, an inclining and submerging experiment was made. The design agents instructed Avondale Marine Ways, Inc. to ballast the barge to 8' draft for the experiment, with narticular instructions as to the condition of the ballast, drilling vater and portable water tanks. Assults of the inclining experiment with computations are given in Exhibit 16. After the inclining experiment a submerging test was made. After these tests were completed the barge was moored to the lower end of the upper wet dock of Avondale Marine Ways, Inc. river plant. Four mooring wires of approximately 1" diameter were used to moor the barge. The ballast was not numbed out, as instructed by the design agents and the draft remained at approximately 8 feet as work was continued to complete the barge. No written record was kept of the draft of the barge after the inclining experiment or the amount of ballast or other weight changes. The supervisor of the workmen on the vessel stated that ballast was either taken on or pumped out to keep the vessel from listing.
- 6. On the 10th of August, approximately 80 tons of drill stem and casing were loaded on the pipe rack deck, h? tons on each side. The loading of the drill stem and casing was completed about 1400 on 10 August, 1956. The movable bow wedge was also lowered and secured in the down position some time prior to 1345 to install additional brackets to hold the wedge in a position for tewing.
- 7. In order to sink the bow wedge, approximately 160 tons of weight would be required. The wedge weighed 60 tons and therefore approximately 100 additional tons of ballast water in the wedge tanks would be necessary to lower the wedge to the down position.
- 8. Testimony of Adams indicated that when he inserted the locking pins to hold the wedge in the down position, the surface of the water was about 12 inches above the pins. This would make the draft at the bow end about 9.6°. After the pins were secured in place to secure the wedge in the down position the pumps were run for approximately 15 minutes to pump the water out of the wedge; however, soundings were not taken to determine the amount of water actually left in the wedge tanks after the pumps were stopped. According to Adams the pumps were stopped about 1345. There was also testimony that at about this time that agitation in the water near the starboard suction indicated that water was being pumped into the barge.

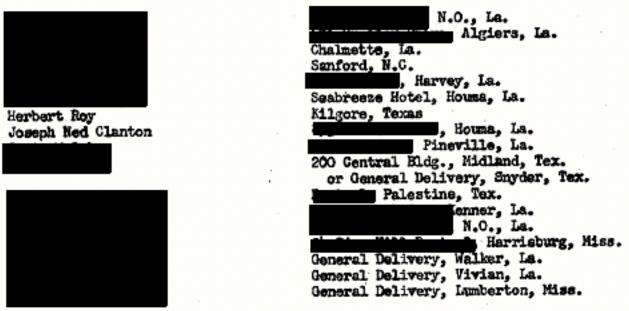


- 10. At this time (shortly before capcining) the stated that ballast tanks 2-3, 2-h, 6-3, 6-h, 10-3 and 10-h were dry; ballast tanks 1h-3 and 1h-h were full; ballast tanks 1h-1 and 1h-2 had approximately 5 feet of water in them; ballast tanks 18-1 and 18-2 had approximately h feet of water; drilling water tanks, port and starboard side, had approximately 8 feet; fresh water tanks, port and starboard, had approximately 7 feet; and the void space, port and starboard, had about 5 inches of water. There was no sounding taken during the day to check these figures and no record kept of prior sounding.
- 11. The structure of this barge was such that when the draft increased the area of the waterplane decreased rapidly; also, when the movable bow wedge was lowered to the down position the area of the waterplane was decreased, both factors tending to lower the metacenter and the range of stability. According to testinony of Mr. According to testinony of Mr. According a representative of the design agents, with the conditions existing on the barge at the time of capatising, when the draft exceeded 8 feet and continued to increase, the righting moment would rapidly disappear.
- 12. The draft at about 1430 was approximately ?'-6" on the after end, according to testimony of second and about 9'-6" on the forward end, according to testimony of the This would give a mean draft of 8'-6".
- 13. At about 1530, worker in the quarters were changing clothing, preparing to knock off work for the day, when they felt a jar, and seconds later felt the barge begin to list to starboard. When the list increased rapidly and it became apparent that the barge was going to capsize, they rushed out of the quarters and attempted to get ashore. However, before they could get ashore the barge capsized and they jumped into the water, and with the exception of four, were picked up by vessels in the vicinity. While in the water most of them succeeded in reaching oil drums or the life floats that had floated free after the barge capsised. When the men on the barge deck saw that the barge was capsizing they rushed to the ganguay and most of them succeeded in getting ashore before the barge capsised.
- 1k. The following worksen were assigned to the barge on 10 August 1956 by Avondale Marine Ways, Inc.:

Raceland,	ie.
Westwago, La.	
Raceland, La.	



15. The following workmen were assigned to the barge on 10 Aug 1956 by Southeastern Drilling Co.



16. The following men were lost by drowning:

Clinton Bennett - next of kin - Slidell, La.

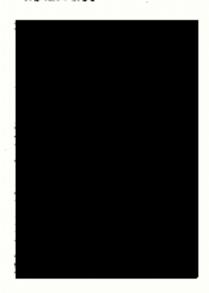
Retrance J. Senderan - Newt of Man - Le.

Herbert Rey - Newt of Man - Manual Ma

A. The following men neve injured:

- broken left log (fibula)
- contunion of right knee
| locaration on formund
- contunion of right knee
- contunion of right lower arm, X-Ray negative
- contunions of mask and hord

MINESCE ..



Kennor, In.

Karahan, La.

, Metalric, La.

, M.O., La.

Sanford, Morth Carolina

N.O., La.

, M.O., La.

Racelerd, La.

Chalmette, La.

, M.O., La.

, M.O., La.

, Motaire, La.

, Metalre, La.

, Motaire, La.

, Majiere, La.

Seabreeze Hetel, Newe, La.

CONCLUSIONS

- 18. That the builders, the Avondale Harine Ways, Inc., did not carry out the instructions of the design agents in not pumping out all ballast after the inclining and submerging test on 2 August 1956.
- 19. That the builders did not take the necessary precautions to preserve the safety of the vessel in that the draft was allowed to increase beyond the margin of safety.
- 20. That about 1h00 on 10 August 1956 the mean draft of the vessel had increased to approximately 8'-6" through the loading of about 80 tons of drill stem and casing on the pipe rack deck and the ballasting of the bow wedge to lower and secure it in a down position.
- 21. That at the time of capsising, ballast tanks 18-1, 18-2, 14-1, 14-2, drilling water tanks port and starboard, and fresh water tanks, port and starboard, were slack.
- 22. That about 1430 the vessel had developed a starboard list of over 20.
- 23. That with the free surface in the tanks of the vessel, the sterboard list, and in all probability the increase of draft resulting from additional water ballast having been pumped into the bow wedge, the righting moment disappeared and the harze capsized at about 1530, 10 August 1956.
- 24. That the jer felt by the worker in the crows quarters seconds before the capsizing began was probably caused by the carrying away of the mooring lines.
- 25. That Clinton Bennett, Lawrence J. Boudreau, Herbert Ray, and Joseph Ned Clenton lost their lives by drowning as a result of the casualty.

26. That suffered a broken fibule of the left leg and received

contusions and bruises.

HECOMMENDATIONS

27. That the regulations aroundgated pursuant to Section h(c)(1) of the Outer Continental Shelf Lands Act be amended to require plans approval and inspection during construction of all mobile platforms, as defined in Section 140.10-30.

JAMES B. RUCKER, Gaptain, USCO

C. H. BROACH, Captain, USCO Heaber

JOHN F. KETTLER, Commander, USCG Member and Recorder