



National Transportation Safety Board

Marine Accident Brief

Fire On Board and Sinking of Liftboat *Mako*

Accident no.	DCA-12-LM-005
Accident type	Fire and sinking
Vessel	Offshore supply vessel (liftboat) <i>Mako</i>
Location	Atlantic Ocean, Gulf of Guinea, 6 miles off the coast of Nigeria 04°21.164' N, 005°47.053' E
Date	January 16, 2012
Time	0503 local time (coordinated universal time –1 hour)
Injuries	None
Property damage	Vessel was a total loss; estimated value of \$8,000,000
Environmental damage	Unknown
Weather	Foggy, winds 1–2 knots north, air temperature 80° F, visibility ¾ mile
Waterway characteristics	The Gulf of Guinea is the northeastern-most part of the tropical Atlantic Ocean. There are a number of active oil fields in this area off the coast of Nigeria.

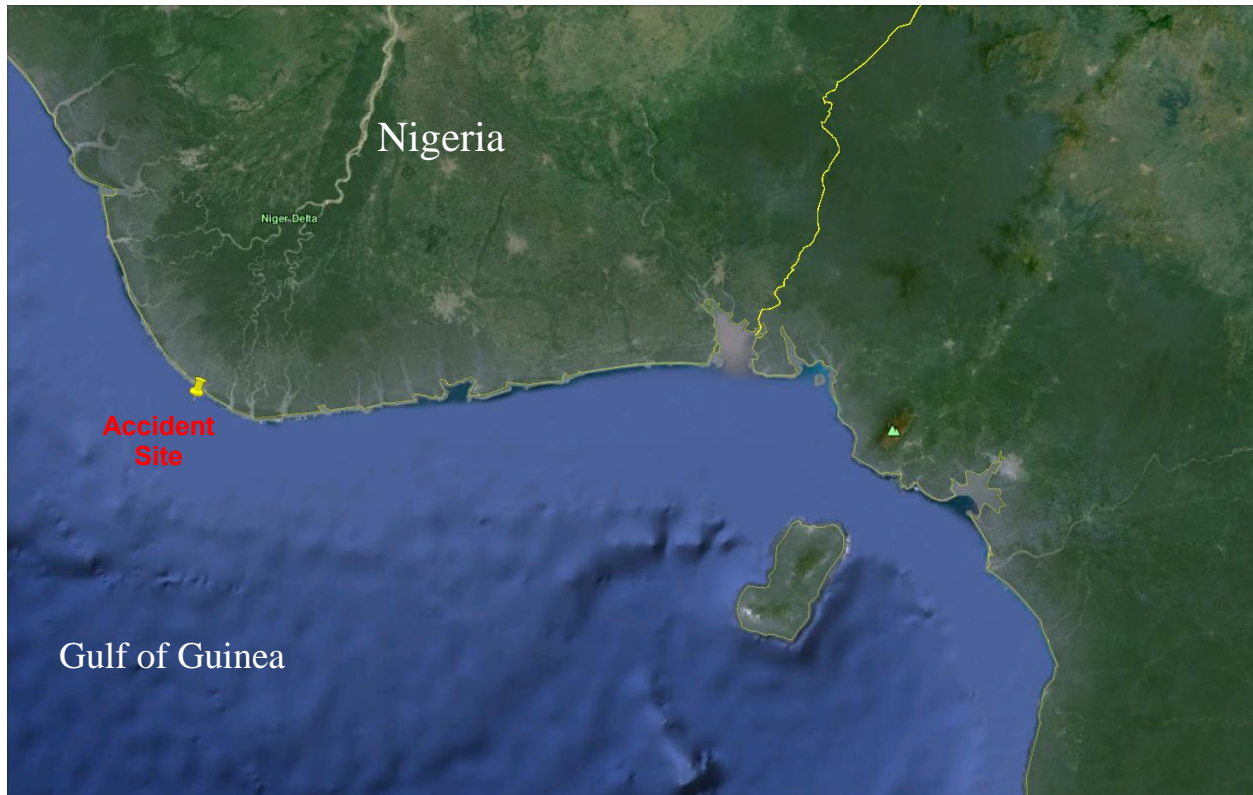
About 0503 on January 16, 2012, the US liftboat *Mako* caught fire while supporting oil drilling operations about 6 miles off the coast of Nigeria, Africa. No one on board was injured, but the *Mako* was a total loss in the accident.



Liftboat *Mako* jacked up during operations. (Photo by Hercules Liftboat Company)

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The *Mako* was operating in the Funiwaw oil field, located off the coast of Bayelsa State, Nigeria. Beginning November 18, 2011, the *Mako* was positioned next to the Panama-flagged jack-up drilling rig *KS Endeavor* (“*Endeavor*”), and had been taking on drill cuttings from the *Endeavor*. Drill cuttings are small pieces of rock created when a well is drilled through rock to reach an oil or gas reservoir. The cuttings were pumped into containers on the liftboat. Once filled, the containers were lowered to offshore supply vessels and taken to shore for disposal.



Location of the accident in the Gulf of Guinea, off the coast of Nigeria. (Background by Google Earth)

The crew on board the *Mako* included a licensed master and a licensed mate, both US citizens. The vessel carried 26 additional personnel including crew and offshore workers, all Nigerian citizens.

Similar to other liftboats, the *Mako* had jacking legs designed to rest on the seafloor and raise the hull above the sea surface to create a stable work platform. The level of elevation above the surface of the water would depend on the sea state and the type of work being done. The *Mako*'s three 175-foot-long legs were arranged in a triangular pattern with two legs positioned at the forward outboard sides of the hull and a single leg positioned at the stern on the centerline of the hull. The length of the legs was fixed; that is, the legs did not have sections that slid or passed within one another to extend or contract the legs.

In the Funiwaw oil field, the *Mako* was jacked up in about 25 feet of water and had a clearance of about 50 feet from the surface of the water. The liftboat was located about 150 feet from the *Endeavor*'s blow-out preventer (BOP, an inline mechanical safety device with a valve

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or series of valves designed to secure the flow of oil and gas in the event of an unintended high-pressure pipeline release from the well being drilled).

About 0500 on January 16, 2012, as the master was getting ready to take over the watch from the mate, he heard a loud noise. He went to the bridge where he observed a spray of mud, oil, and gas coming from the *Endeavor's* BOP. The mixture coated the *Mako's* decks and superstructure. The master sounded the general alarm and ordered the mate to muster the crew and offshore workers at the liferaft muster station on the lower deck. The master said to abandon ship if the rig caught fire. All personnel mustered with their lifejackets.

The master stayed on the bridge and began to jack down the *Mako* toward the surface of the water. The *Mako* was limited in how quickly it could get under way from a jacked-up position. The vessel was capable of jacking down at a maximum speed of 7 feet per minute. Then the legs would have to be raised from the seafloor, requiring additional time. As the *Mako* began to jack down, gas from the *Endeavor's* BOP ignited. When the liftboat was about 10 feet above the water's surface, flames melted a hydraulic hose for one of the forward jacking legs. The system lost hydraulic pressure and as a result the master was unable to lower the vessel further. He then gathered survival equipment, including the global maritime distress and safety system (GMDSS) survival craft radio, search and rescue transponder (SART), and the emergency position indicating radio beacon (EPIRB), and headed toward the muster station.

The mate and crewmembers launched two liferafts on the *Mako's* port side and one on the starboard side. When the fire started on board the *Endeavor* and quickly spread to the *Mako*, the mate gave the order to enter the water and all personnel did so successfully by lowering themselves using the escape rope. They did not attempt to fight the fire. Once in the water, the personnel tried to pull the rafts away from the burning rig and vessel, but were unsuccessful. The liferafts melted from the heat and became unusable. While in the water, the crew used the survival craft radio to call for help. About 0700, the security vessel *Janis I* recovered the master and 27 other personnel from the water (26 from the *Mako* and one from the *Endeavor*). One offshore worker from the *Mako* was recovered by another vessel.

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Photo of the fire, taken on January 17, 2012. The charred remains of the *Mako* are visible in the foreground, to the right of the flames. Photo provided by the US Coast Guard.

The *Mako* was consumed by the fire and eventually sank. The fire at the well continued to burn for about another month and a half, until March 2, 2012, when a portion of the well sealed itself. There were no fatalities or major injuries to personnel from the *Mako*; however, two workers from the *Endeavor* died.

Probable Cause

The National Transportation Safety Board determines that the probable cause of the fire on board and sinking of the liftboat *Mako* was a blow-out of the well-head under the adjacent jack-up drilling rig *KS Endeavor*, which resulted in an uncontrollable gas fire that rapidly spread to the liftboat.

Vessel Particulars

Vessel	<i>Mako</i>
Owner/operator	Hercules Liftboat Company, LLC
Flag state	United States
IMO number	8765723
Type	Offshore supply vessel (liftboat)
Year built	2003
Home port	New Orleans, LA
Construction	Steel
Length overall	34.44 ft. (113 m)
Breadth	21.34 ft. (70 m)
Depth	2.74 ft. (9 m)
Jacking legs	3 (two forward, one aft)
Leg length	175 ft. (53.34 m)
Gross tonnage; ITC	440
Propulsion type	Diesel reduction
Crew complement	28

For more details about this accident, visit <http://www.nts.gov/investigations/dms.html> and search for NTSB accident ID DCA12LM005.

Adopted: July 16, 2013

The NTSB has authority to investigate and establish the probable cause of any major marine casualty or any marine casualty involving both public and nonpublic vessels under 49 *United States Code* 1131. This report is based on factual information provided by the US Coast Guard from its informal investigation of the accident. The NTSB did not conduct its own on-scene investigation.
