



**U.S. Department of the Interior
Minerals Management Service
Gulf of Mexico OCS Region**

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OCS Operations Safety Alert

Gas Leak from Subsea BOP Stack While Circulating Out Kick

An operator was forced to evacuate a rig because of a gas leak from a subsea BOP stack while circulating out a gas kick. The marine riser connector would not disengage in order that the semisubmersible rig could be moved off location.

While drilling at a depth of 6,241', the operator took a 40-barrel kick. The kick was being circulated out and when it reached the BOP stack, gas bubbles were noticed on the surface of the water. The gas bubbling began increasing and it was decided to move the rig off location. The blind/shear rams were closed to shear the drill pipe, and an unsuccessful attempt was made to release the marine riser connector. Accumulator pressure depleted and a decision was made to let the rig drift off location. The chain stoppers on the starboard stern side of the rig were released, but the rig would not move. All personnel were then evacuated.

The well bridged over later that day, shutting off the flow. There were no personnel injuries nor major equipment damage. The well had to be plugged and abandoned.

The investigation revealed that the primary cause of the gas leak was the ring gasket located in the flange between the wellhead connector and the BOP. The gasket did not seal because the gasket material was too hard; and additionally, one dimension was out of tolerance. The gasket was not stamped with an API monogram.

The high velocity of the gas and other fluids escaping through this opening had damaged the hydraulic line between the primary and secondary closing lines on the wellhead connector. This prevented operation of the BOP system and release of the riser connection.

To prevent similar occurrence in the future, the operator plans to:

1. Establish a quality control program to insure that the dimensions of all ring gaskets used in the BOP stack conform to API specifications and are stamped with an API monogram.
2. Establish a procedure for ensuring that the standoffs between the flanged surfaces meet with API specifications before and after each surface BOP test. For clamp-type stack connections which cannot be tested in the above manner, the test shall be conducted by the BOP manufacturer's representative.

[signed] D.J. Bourgeois

for D.W. Solanas

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