

HOW TO CAP A BLOWN-OUT WELL-HEAD IN DEEP WATER

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To my dear wife, Velma, with all my love, gratitude, and devotion



A blown-out petroleum well-head in deep ocean waters is an international incident of sizeable proportions with effects far reaching needing immediate attention to cap and contain it.

As I see it, the best cap is one which both prevents further well-head blow-out and provides the means to tap output of the well for useful production.

A deep ocean well-head blow-out presents a very different scenario for capping then does one on land. Land capping is well-known, not so in deep ocean water.

The best capping approach to a deep ocean well-head blow-out consists of two capping parts bolted together onsite; a very thick round ring and a very thick round plate on top. Surround the blown-out well-head and site within the center of the ring which ring is made of thick welded steel and concrete having an inner diameter sufficient to contain all of the site and whose outer diameter and thickness are sufficient to counter-balance the strongest pressure generated from the blow-out. Then the very thick welded steel and concrete plate, with its many valves in the open position, is placed on top of the ring. The assembly parts must be thick and heavy enough to withstand well-head peak pressure and to prevent by-pass under the ring and between the plate and ring.

All of the valves are, at first, open for a setting of the plate on the ring allowing free movement of the plate into the proper placement. The blow-out continues then thru the open valves. After proper plate placement, the valves are all shut-off and the assembly tested via built-in sensors and camera inspected for integrity over a time period. Each valve can feed a connection flexible pipe to the surface and opened for production.

NOTE: While the above describes a deep ocean capping of a blown-out well-head, each of all deep ocean well-heads ought to be so surmounted with such an assembly so as to avoid earthquake related well-head damage from causing a blow-out at the well-head.