

BSEE

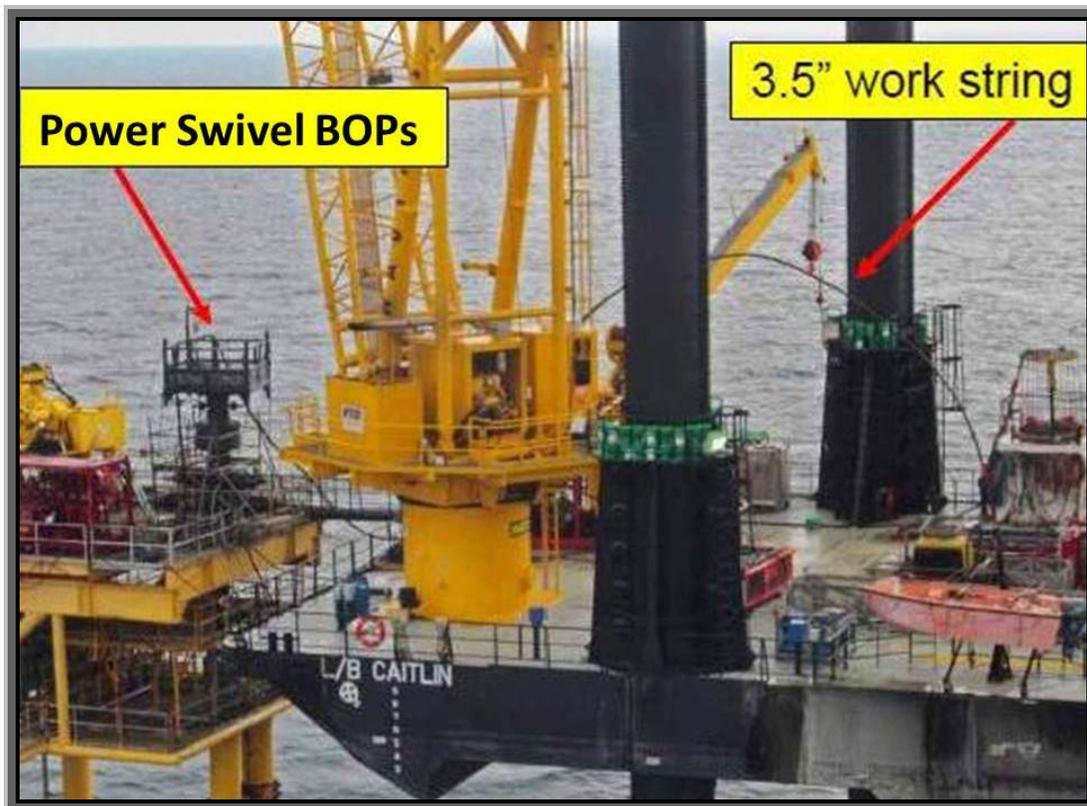
U.S. Department of the Interior
Bureau of Safety and
Environmental Enforcement
Gulf of Mexico OCS Region

**Safety
Alert**

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Pressure beneath a Surface Bridge Plug Blows Work String out of Well



Recently, a loss of well control occurred as an OCS Operator was drilling out a combination surface cement/bridge plug during Plug and Abandonment (P&A) operations. The P&A operation was being conducted on the main deck of the platform, from a lift boat, using a power swivel, BOPs and crane.

Prior to the reentry to begin P&A operations, the well had been in the temporarily abandoned (TA) status since 2010, and all existing plugs, including the surface plug, were successfully tested. Once the operator identified 100 psi of sustained casing pressure on the 11-7/8" by 16" annuli during reentry, they submitted a revised permit to reenter the TA'd well, drill out the

surface cement plug in the 7-5/8" casing, clean out deeper, cut 3-1/2" tubing deeper, cut 7-5/8" and 11-7/8" casings, set cast iron bridge plug /retainer as needed with cement on top to repair the 100 psi SCP, and then finalize the abandonment.

During the P&A operations, pressure encountered below the bridge plug ejected 385-feet of work string and the bottom-hole assembly out of the wellbore before the blind shear rams of the BOP sealed the well. A portion of the ejected bottom-hole assembly struck a diesel tank and released approximately 5-gallons of diesel into the Gulf. In conjunction with sealing off the well with the BOP, the crew activated the emergency shut-down device for the platform which functioned properly.

An investigation by BSEE personnel concluded the following factors contributed to the incident:

- Upon re-entering the well on May 15, 2012, the Operator found 100 psi sustained pressure on the 11 7/8-inch by 16-inch annulus;
- The Operator did not take additional precautions, such as, conducting a hazard analysis for potential pressure below the plug;
- There was no indication of a pressure build up below the bridge plug until the 200-feet of cement was drilled out and the bridge plug penetrated.

BSEE recommends Operators review their procedures for re-entering wells with sustained casing pressure. In such cases, Operators should modify operational plans to take into account the likelihood of well-bore pressure beneath plugs. Based on a case-by-case basis, consider using coiled tubing, snubbing unit and/or a workover rig.

A full report of the incident can be reviewed on the BSEE site located at the following link:

<http://bsee.gov/Inspection-and-Enforcement/Accidents-and-Incidents/District-Investigation-Reports.aspx>

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www.bsee.gov/Regulations-and-Guidance/Safety-Alerts.aspx

A **Safety Alert** is a tool used by BSEE to inform the offshore oil and gas industry of the circumstances surrounding an accident or a near miss. It also contains recommendations that should help prevent the recurrence of such an incident on the Outer Continental Shelf.