

## **Wellhead Change Out Remediation Method Used for Near Surface Casing or Wellhead Integrity Issues**

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### **Abstract**

Wellhead change outs were performed on two wells in the same field a year apart from each other. Both leaks were detected during the scheduled mechanical integrity tests after nitrogen was injected into the production casing-hanging string annulus. Cement pads were originally poured around the wellhead and covered the bottom portion of the bradenhead. Bubbles were seen coming up from between the bradenhead and concrete pad after the wellhead was sprayed down with soapy water to check for leaks. Further investigation found that in both cases, poor welding practices and old wellhead seals created a leak path for the nitrogen to travel to surface.

Both wellheads were cut completely off below the leak point and new 13-3/8" (339.73 mm) outer intermediate casing and 10-3/4" (273.05 mm) inner production casing strings were welded onto the existing exposed casings. New bradenheads were installed, the wellheads were pressure tested, and integrity was restored to both wells. The details of this remediation process can be followed in this paper and a high level summary of the procedure can be seen below.

**Key words:** casing, wellhead, bradenhead, butt weld, integrity, bevel, seal