This Sheet Has Been Replaced

SUBSEA WELLHEAD APPARATUS

Abstract

There is disclosed to subsea wellhead apparatus which includes a subsea wellhead housing installed at the ocean floor, a casing hanger connectable to the to the upper end of a casing string and supported in the bore of the housing to suspend the casing string in the well bore, and a tubing hanger connectable to the upper end of a tubing string and also supported within the housing bore above the casing hanger for suspending the tubing string within the casing string. A primary valve and a secondary emergency valve are installed in series for controlling a passageway in the tubing hanger which connects the annulus between the casing and tubing strings with the bore of the housing above the tubing hanger and thus with an additional passageway in a Christmas tree which is installed on the head above the tubing hanger.