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Standard Model Higgs boson searches in secondary channels using the full CDF dataset

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Although the sensitivity to a low-mass Standard Model Higgs boson at the Fermilab Tevatron is highest for the primary search channels ($H \rightarrow b\bar{b}$ decay in association with a vector boson and H-WW), other channels contribute significantly to the combined Higgs search sensitivity. We report the results of searches for the Higgs boson produced in association with a top quark pair with the $H \rightarrow b\bar{b}$ decay, and also searches in the inclusive diphoton and ditau final states using up to 10 fb^{-1} of integrated luminosity collected by the CDF detector at $\sqrt{s} = 1.96\text{ TeV}$. Despite their challenges, when combined, these secondary channels contribute appreciably to the low-mass Higgs boson sensitivity at the Tevatron.

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