Chlorine is thought to play a major role in the mobilization and concentration of base metals in the formation of ore deposits. The regional distribution of chlorine in the Idaho Batholith was studied to see if this could be related to mineralization or metallic provinces.

One hundred forty-eight whole-rock samples, mineral separates, and standards were analyzed for chlorine by x-ray fluorescence. The mean value for whole rock samples was 380 ppm. Counting error for one standard deviation averaged 8%. The standard deviation, including sampling error, was under 16%. Only three whole rock samples had chlorine significantly above the mean.
The expected concentration of chlorine in the biotite fraction was not found. The chlorine was not significantly water leachable from the whole rock samples following normal grinding. The Idaho Batholith as a source for mineralizing chlorine was not established.

The chlorine distribution supports, but does not prove, a metamorphic origin for the Idaho Batholith. Cretaceous and possibly tertiary thermal events may have homogenized the chlorine in the batholith. Since chlorine seems to be so widely available in source rocks, a better way to correlate its presence to mineralization would be to study the residual chlorine from the ore deposition process.