ABSTRACT. In this paper we study the characterization of the solution to the extremal problem

$$\inf\{||x|| \mid x \in C \cap M\},$$

where x is in a Hilbert space H, C is a convex cone, and M is a translate of a subspace of H determined by interpolation conditions. We introduce a simple geometric property called the "conical hull intersection property" that provides a unifying framework for most of the basic results in the subject of optimal constrained approximation. Our approach naturally lends itself to considering the data cone as opposed to the constraint cone. A nice characterization of the solution occurs, for example, if the data vector associated with M is an interior point of the data cone.