Let $R$ be a commutative Noetherian ring and $I$ an ideal of $R$. The homology of a Koszul complex associated with $I$ is an invariant of $I$, and if this homology vanishes in positive degree, then $I$ is said to be a complete intersection. If the homology exhibits the structure of an exterior algebra, then $I$ is said to be a quasi-complete intersection. Using Tate’s “adjunction of variables”, we obtain an extension of the Koszul complex; a result of Blanco, Majadas, and Rodicio yields that $I$ is a quasi-complete intersection if and only if the homology of this infinite complex vanishes in positive degree. Our main results characterize quasi-complete intersections as those ideals for which the homology of the associated Tate construction vanishes in a finite band of sufficient size. (Received January 31, 2017)