We consider a piecewise expanding linear map with a Milnor attractor whose basin is riddled with the basin of a second attractor. To characterize the local geometry of this riddled basin, we calculate a stability index for points within the attractor as well as introducing a global stability index for the attractor as a set. Our results show that for Lebesgue almost all points in attractor, the index is positive and we characterize a parameter region, where some points have negative index. We show there exists a dense set of points for which the index is not converge. Comparing to recent results of Keller, we show that the stability index for points in the attractor can be expressed in terms of a global stability index for the attractor and Lyapunov exponents for this point.