We obtain Dini conditions with "exponent 2" that guarantee that an asymptotically conformal quasisphere is rectifiable. In particular, we show that for any \( \epsilon > 0 \) integrability of

\[
\left( \sup_{1-t<|x|<1+t} K_f(x) - 1 \right)^{2-\epsilon} dt/t
\]

implies that the image of the unit sphere under a global quasiconformal homeomorphism \( f \) is rectifiable. We also establish estimates for the weak quasisymmetry constant of a global \( K \)-quasiconformal map in neighborhoods with maximal dilatation close to 1. (Received February 04, 2014)