Let $K$ be a field of degree $4$ over the rational numbers which has a Galois group isomorphic to the Klein-4 group. Prime factorizations of the conductor and discriminant of $K$ are determined explicitly when $K$ is given in the form $K = \mathbb{Q}(\theta)$, where $\theta^4 + A\theta^2 + B\theta + C = 0$ for $A, B, C \in \mathbb{Z}$. The complete results will be presented exclusively in terms of the primes dividing $A, B, C$ and $A^2 - 4C$. This is joint work with Saban Alaca, Blair K. Spearman and Kenneth S. Williams.