Volcanism in the Jemez volcanic field of north-central New Mexico culminated with two famous caldera forming episodes: the nested Tolteco (1.5 Ma) and Valles (0.6-0.3 Ma) calderas. Quite apart from the earlier, smaller caldera formed in the same area at probably about 1.78 Ma, these two calderas undoubtedly controlled gross caldera complex collapse structure. Stratigraphic sections within the Valles caldera, experienced structural doming during the cooling period of the Eldjúrta ash-flow tuff (to 2.5 Ma), suggest their presence even to 1000 m. In 1974, the Eldjúrta ash-flow tuff (to 2.5 Ma) was discovered and dated by geologists working in the eastern part of the caldera, but it was not until 1980 that the ash-flow tuff was discovered by geologists working in the western part of the caldera (Macdonald et al., 1980). These two calderas are interpreted as parts of a contemporaneous with the Eldjúrta ash-flow tuff (to 2.5 Ma). The Eldjúrta ash-flow tuff is thought to have been formed in a single episode, at approximately 2.5 Ma, and to have cooled within a few thousand years to form a thick and extensive ash-flow sheet. This ash-flow sheet was preserved as a result of the structural doming that occurred during the cooling period. The Eldjúrta ash-flow tuff is thought to have been formed in a single episode, at approximately 2.5 Ma, and to have cooled within a few thousand years to form a thick and extensive ash-flow sheet. This ash-flow sheet was preserved as a result of the structural doming that occurred during the cooling period.