

Abstract

We were investigating two localities of supposed maar volcanoes, Ztracený rybník and Bažina, which can be found at the western margin of the Eger rift on the presumed line of the Tachov fault. The Eger rift was abundant in volcanic activity during Tertiary and still is a seismoactive zone with distinct post-volcanic features. The examined structures are distinct morphological depressions (ca. 30 m deep and several hundreds meters wide) with a circular shape which is characteristic for maar structures. We studied the locality using a complex of geophysical methods: a ground magnetometry, electric resistivity tomography and a time-domain electromagnetic sounding. The results showed a circular rim of high resistivities around the depressions and approximately 100 m of sediments filling the depression. Moreover, we have mapped a negative magnetic anomaly in the lesser of these two structures (Bažina) indicating a basic intrusion that got close to the surface. Moreover, we have observed the intrusion on the resistivity data as well. Therefore, we can suggest that these two structures are diatremes created during the phreatomagmatic eruption. The lesser maar (Bažina) erupted during the reversed geomagnetic field.