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Integrated geophysical investigations of Main Barton Springs, Austin, Texas, USA

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**Integrated geophysical investigations of Main Barton Springs, Austin, Texas, USA**

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**Abstract**

Barton Springs is a major discharge site for the Barton Springs Segment of the Edwards Aquifer and is located in Zilker Park, Austin, Texas. Barton Springs actually consists of at least four springs. Main Barton Springs discharges into the Barton Springs pool from the Barton Springs fault and several outlets along a fault, from a cave, several fissures, and gravel-filled solution cavities on the floor of the pool west of the fault.

Surface geophysical surveys [resistivity imaging, induced polarization (IP), self-potential (SP), seismic refraction, and ground penetrating radar (GPR)] were performed across the Barton Springs fault and at the vicinity of Main Barton Springs in south Zilker Park. The purpose of the surveys was two-fold: 1) locate the precise location of submerged conduits (caves, voids) carrying flow to Main Barton Springs; and 2) characterize the geophysical signatures of the fault crossing the Barton Springs pool.

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