Lago Exnias-Viscosa also known as Lago Bullicante, is a small artificial lake, 7,000 m$^2$ large with a maximum depth of 7 m, located within the urban area of the city of Rome. It has an anthropogenic origin due to excavation works that interrupted the underlying aquifer, giving rise to a water body (Fig. 1). Due to the citizen protests, the works were immediately halted and the whole area was expropriated and closed.

The results (Fig. 4) are supporting the community and the local administration in order to make this green site a protected area and revealing an important step in the road map for the recognition as natural heritage to donate to their citizens.

**How did lake form?**

The AHVD is part of the Roman Magmatic Province and developed along the Tyrhenian Sea margin of central Italy. AHVD was interested by intense volcanic activity between 600 and 20 ka and, at present, it is considered a quiescent stage (FUINCIELLO et al., 2003; FRIEDA et al., 2006). The activity of the AHVD has been characterized by three main phases.

The Lake Bullicante is hosted on the deposits of the first phase of the volcanic activity and in proximity of the Acsa Bullicante paleo-ditch (Fig. 2a), probably controlled by a fault in correspondence of which important degassing phenomena were in the past observed (CAMPIONESCHI & NIGLAISCO, 1962).

Temperature (°C). Electrical Conductivity (EC in µS/cm), pH and dissolved O$_2$ (mg/L) were measured in winter 2018 along the lake vertical profile, from the lake surface to the bottom (7 m depth), and at interval of 1 m, by using dedicated electrodes. The measurements, along the entire profile, were also repeated in summer (June 2019) using a multi-parametric probe (Fig. 2b, Fig. 3).

Lake water chemistry also does not show significant variations both for major and trace elements (Fig. 5a-d). An exception is represented by the 87Sr/86Sr values/ranges of Alban Hills volcanic products, for comparison representative of the volcanic aquifer. For comparison, 87Sr/86Sr values of Alban Hills volcanic rocks, Apennine carbonate rocks, seawater (SM) and rainwater, are also shown. Symbols as in Fig. 6.

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