

## INTISARI

### **PEMETAAN SUNGAI BAWAH TANAH DI DESA JEPITU KECAMATAN GIRISUBO KABUPATEN GUNUNGKIDUL MENGGUNAKAN METODE *VERY LOW FREQUENCY (VLF)***

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Desa Jepitu merupakan Desa yang berada di Kecamatan Girisubo, Kabupaten Gunungkidul, Daerah Istimewa Yogyakarta. Desa ini berada pada kawasan Karst Gunung Sewu bagian selatan. Di desa ini banyak terdapat gua yang sebagian terdapat aliran air bawah tanah. Kebiasaan masyarakat memelihara ternak di atas aliran air dan menggunakan aliran air di Gua Puring untuk kegiatan MCK berpotensi mencemari air bawah tanah.

Metode *Very Low Frequency (VLF)* merupakan salah satu metode geofisika untuk memetakan zona konduktif di bawah tanah. Survei VLF di desa Jepitu telah dilakukan untuk mengetahui aliran air bawah tanah dan zona tangkapan air di wilayah Desa Jepitu. Survei dilakukan dengan luas area 1 km<sup>2</sup> yang terletak di antara lokasi Gua Puring dan Gua Pulejajar. Terdapat 6 lintasan survei dengan total panjang lintasan 4.130 m

Data VLF menunjukkan pola aliran air yang menyambung dari Gua Puring dan Gua Pulejajar. Air tersebut mengalir dari Gua Puring menuju Gua Pulejajar sisi bagian barat. Aliran air Gua Pulejajar sisi timur mengalir dari arah utara, namun belum diketahui lokasi *inlet*. Berdasarkan data aliran air tersebut diperoleh, terdapat dua zona tangkapan air. Zona tangkapan air pertama memiliki luas 245.888m<sup>2</sup> dan zona tangkapan air kedua memiliki luas 278.203m<sup>2</sup>.

Kata Kunci: *Very Low Frequency*, VLF, Sungai Bawah Tanah, Pemetaan Gua, Pulejajar, Puring, Gunungkidul

## **ABSTRACT**

### **MAPPING THE UNDERGROUND RIVER IN VILLAGE OF JEPITU, GIRISUBO SUB DISTRICT, GUNUNGKIDUL REGENCY USING VERY LOW FREQUENCY (VLF) METHOD**

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Jepitu is a village located in Girisubo sub district, Gunungkidul Regency, Special Region of Yogyakarta. This village is located around karst area at southern side of Gunung Sewu. There are many caves in Jepitu village where some have underground water streams in them. Local people's habits of raising livestock around the water streams and using the water flow from the cave for public bathing, washing, and toilet facilities potentially pollute the underground water.

Very Low Frequency-method (VLF) is a geophysical method to map the underground conductive zones. A VLF survey has been done in Jepitu village in order to find out the flow of underground water and the water catchment zone in Jepitu village. The survey was conducted in a 1 km<sup>2</sup> area between Puring cave and Pulejajar Cave. There were 6 survey tracks with a total length of track around 4,130 m.

The obtained VLF data result show a flowing water pattern that connects cave puring and cave Pule Jajar. The water streams start from Puring cave all the way to the west side of Pulejajar cave. The water flow of the east side of Pulejajar Cave flowing from the north, but the inlet remains unknown. According to the water flow data, there are two catchment zones. The first catchment zone has area of 245,888 m<sup>2</sup> and second catchment zone has area of 278,203 m<sup>2</sup>

**Keyword:** Very Low Frequency, VLF, Underground River, Cave Exploration, Pulejajar, Puring, Gunungkidul