



# PATUHA GEOTHERMAL SYSTEM

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# OVERVIEW



The Patuha Geothermal Field is located in West Java province of Indonesia and about 50 kilometers from Bandung city towards Southwest. The Patuha field is situated within a northwest-trending volcanic mountain range, such as Mt. North Patuha, Mt. South Patuha, Mt. Urug, Mt. Puncaklawang, Mt. Pungkur, and other surrounding peaks.

The surface thermal manifestation distributed in Patuha field are fumarole area at Putih Crater, Cibuni Crater and Ciwidey Crater, thermal springs are located on south, west and northwest flank of the volcanic highland (Vicky et al., 2022).

Volcanism in this area probably started in the Upper Pliocene–Lower Pleistocene, whereas Patuha is a center of Upper Pleistocene activity (Soeria-Atmadja et al., 1994; Andan, 1988). There are no records of magmatic or phreatic activity since AD 1600 (Neumann van Padang, 1951), but the hydrothermal surface features indicate the youthful nature of the complex, which has significant potential as a geothermal energy resource (Idrus Alhamid, 1989).







# MANIFESTATION

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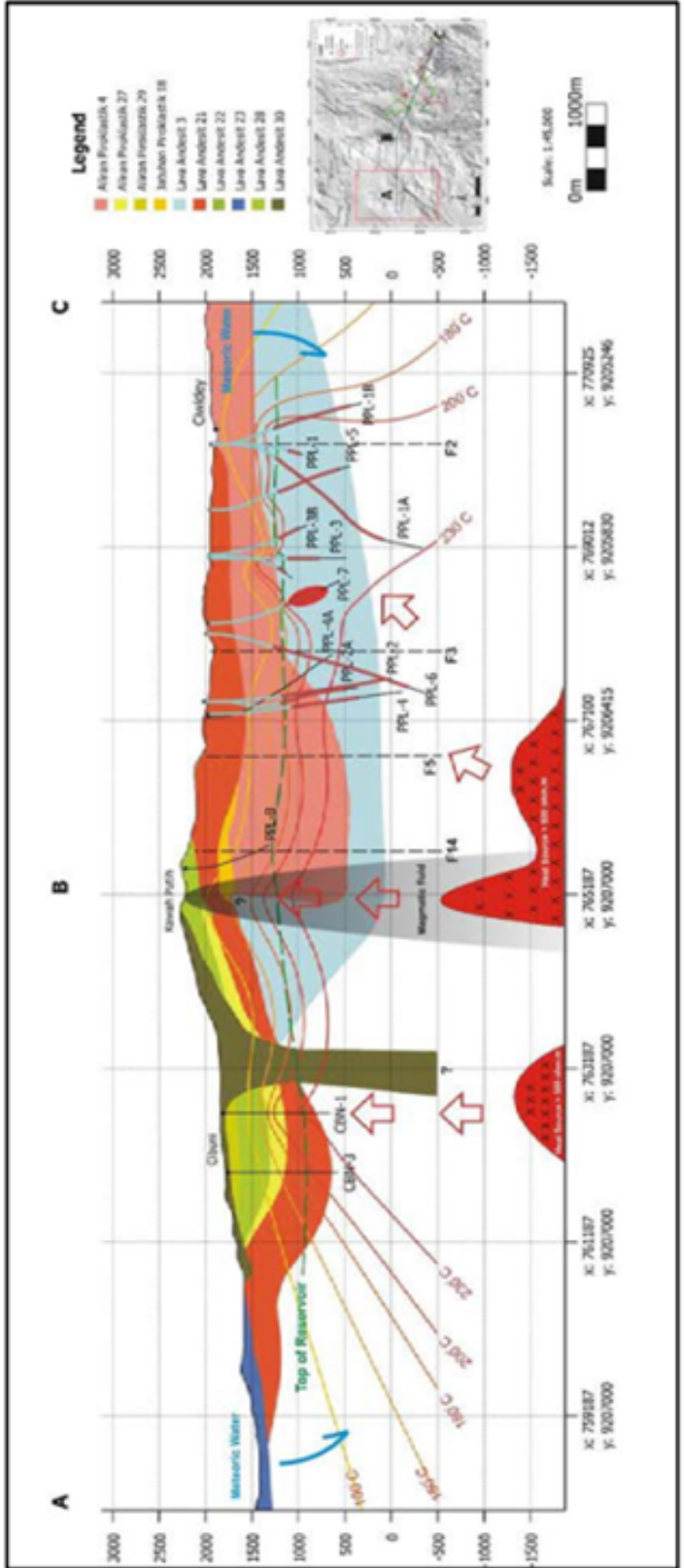
The summit area has two craters about 600 m apart. The Patuha Crater, near the highest point is relatively small and dry. The elevation of its bottom is some 75 m higher than that of Kawah Putih, which has larger dimensions (350 x 290 m<sup>2</sup>) and contains the Putih Crater Lake (PCL).



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Geothermal springs occur on several sides of the complex and produce various water types. The headwaters of Ciwidey River pass Kawah Ciwidey, an old crater with steaming fumaroles, mud pools and hot springs that produce near-neutral bicarbonate water (Akbar, 1989). The acid Alun-alun warm spring occurs at the highest elevation, and the near-neutral Barutunggul warm spring carries sulfate- and chloride-rich water; the Cimanggu and Cibuni hot springs issue neutral chloride–bicarbonate and acid sulfate water, respectively. Except for the latter spring, all of these waters belong to the Ciwidey River watershed (T. Sriwana et al., 2000).

# CONCEPTUAL MODEL



# PATUHA POWER PLANT



The Patuha geothermal field has produced electricity, with an installed capacity of 55 MWe. The Patuha geothermal system is vapor-dominated. The geothermal manifestations are located at approximately 2,100 m ASL. The Patuha geothermal field consists of three main upflow zones: Putih Crater, Cibuni Crater, and Ciwidey Crater (Utama et al., 2021).





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