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Geohazard Monitoring in the Baringo Silali Geothermal Prospect in Northern Kenya

Plans to develop geothermal resources in the Baringo-Silali Block in the northern segment of the Kenya Rift by Geothermal Development Company (GDC), is at an advanced stage. The company has installed ten seismic stations around Paka and Korosi volcanoes, within the Kenyan rift system, to monitor seismicity for sustainable development of the resource and as part of geohazard monitoring prior to, and following the exploitation of the geothermal resources hosted in the prospects. The geohazard monitoring work entails obtaining and analyzing seismicity data, and determination of how pulses of activity are distributed over time. Monitoring of seismic events is also being done in order to obtain insights on the intensity, size, type, and distribution of micro-earthquakes (MEQs), which will aid in subsequently determining associated hazards. Double difference relocations were used to obtain high earthquake locations and identify major swarms located in both crater summits. The swarms showed a pipe-like pattern of seismicity on the southwestern part of Paka crater summit, while Korosi, displayed minor seismicity around the volcanic center. This paper, therefore, presents the seismic monitoring report for data obtained from August 2012 up to July 2018 in Paka and Korosi prospects that lie in Baringo-Silali geothermal block.

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