

TITLE: Geological Survey at Piparo Mud Volcano

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For a number of years, the Department of Physics has been monitoring the activity at the Piparo mud volcano. In doing so, four geophysical survey experiments were performed to obtain this year's input into the on-going monitoring programme.

By use of generated seismic waves and seismic refraction along with a resistivity test, the subterranean layers were investigated. From the seismic refraction, it was found that three distinct subsurface layers were present and the resistivity test confirmed this. In addition to the seismic refraction, the depth and thickness of each layer were also determined. From the resistivity test, other low-lying layers were also observed and analyzed.

Additionally, the mineralogical characteristics of extruded mud samples were examined via X-Ray Diffraction and Thermal Resistivity & Conductivity tests. From the X-Ray Diffraction, the presence of clay was found along with its basic minerals. Lastly, the Thermal Resistivity & Conductivity values obtained gave an indication of how well the mud conducts heat.

The findings from this year's research were also compared with that of last year's and discrepancies found were explained to aid in the overall progression and supervision of the Piparo volcanic activity.