



**INSTITUTO GEOFISICO  
ESCUELA POLITECNICA NACIONAL**

*To Whom May Concern*

15 August, 2015

I write this letter with respect to the location of the Hacienda El Porvenir, operated by Tierra del Volcán and located on the N flank of Ruminahui volcano (extinct) and approximately 12 km east of the center of Machachi city, in Mejia county- Ecuador. Cotopaxi volcano, a majestic active stratocone, recently showing unrest and mild eruptive activity, is located 25 km SE of El Porvenir.

In spite of the nearness of the volcano and the mentioned hacienda, there is no geologic evidence that the property or its buildings are in a position to be affected by volcanic mudflows or hot pyroclastic flows originating during Cotopaxi's major eruptions, should they occur. If these flows were to occur, they would be constrained in channels that are well away from the hacienda—off to the east by several kilometers in the Rio Salto drainage, which drains to the north. Access to the hacienda is principally from the W--there is a main cobblestone road ascending from Machachi which provides the main access.

As a practicing volcanologist I have worked extensively in the area for more than 25 years and give my word that the main volcanic product that may affect the hacienda, should the volcano erupt in a major way, are ash and pumice falls, which generally don't exceed 5-10 cm thickness in this area. We generally consider ashfall as a manageable hazard that can be dealt with by using precautions of protection from ingesting dust and also keeping indoors. Generally ashfalls come on gradually and can be observed in the atmosphere before they arrive to a locale.

I hope that my letter helps to clarify the relative safety of this beautiful hacienda on the N flank of Ruminahui volcano.

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