



GENZL

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3075 p 1 of 2

Geothermal Energy
New Zealand Limited

Dear Leo

REFERENCE For MT Survey - Tufino-Chiles Geothermal Field, Ecuador-Colombia

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Location: Tufino-Chiles, on the border between Ecuador and Colombia

Date: September - October 1994.

Client: Techniseguros / Planer CIA

Objective: Exploration of the Tufino-Chiles geothermal prospect to guide exploration well siting.

Survey Type: MT + TEM measurements using remote reference. 37 MT soundings and 14 TEM soundings were collected using the Phoenix MT system.

Terrain: The prospect lies beneath Volcan Chilcs which is an andesitic volcano rising from about 3000masl to 4500masl. Vegetation cover was mostly alpine grasses and swamp, but with some subtropical rainforest. More than half the survey was accessed on foot or by horseback.

Climate: Conditions were cold, wet and windy through most of the survey. Several thunderstorms occurred during the survey.

In this survey, GENZL used Phoenix as a sub-contractor to undertake field data collection and basic data processing. GENZL acted as overall supervisor for the survey, liaising with the client and performed data analysis and interpretation.

- 2 -

Throughout all aspects of this survey, Phoenix proved to be a very professional company. The field team had excellent support from their head office, and the personnel were well trained and very able to perform the necessary work. The team were easy to work with and very flexible in adapting the survey to meet changing conditions. Several extra MT sites than required in the contract were measured within the original budget.

The survey team carried a good range of spare parts and extra equipment to minimise any downtime due to equipment problems. The data collected was of a high standard, and the team made every effort in the measurement setup process at each site to ensure the best possible data was collected. The team worked well in some very difficult conditions. Data was processed by the Phoenix crew each day and made available to us for analysis and planning the on-going survey.

The survey was successful and resulted in the definition of resistivity patterns which have been interpreted in terms of geothermal hydrology. Previous MT surveys of the area had been made at very widely spaced points. This survey defined a probable upflow zone of a size suitable for development. The resource has not yet been tested by exploration drilling, however.



Greg Ussher
Science Manager

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3075 p 2 of 2