

Geology and petrology of the Corona and Cerros de Saltar domes near the Lascar volcano system, Northern Chile

César L. Donoso, Felipe A. Aguilera, & Eduardo Medina T.

Departamento de Ciencias Geológicas, Universidad Católica del Norte, Avenida Angamos 0610, Antofagasta, Chile

INTRODUCTION

Lascar Volcano in the Central Andes, Northern Chile ($23^{\circ}22' S/67^{\circ}44' W$; 5593 m) is currently the most active volcano of the Central Volcanic Zone of the Andes (Fig. 1). Right next to this volcanic system are Cerros de Saltar Dome (5192 m) to the north, and Corona Dome (5293 m) to the south, respectively. Lascar Volcano is a composite calc-alkaline stratovolcano; its eruption products are medium to high-K andesitic to dacitic rocks in the form of lavas and pyroclastic flows (Matthews *et al.*, 1994a). The magmas are the product of combined mixing, fractional crystallization and assimilation of country rocks. The dominant magmas are 2-pyroxene andesites although 2-pyroxene dacites and hornblende and biotite rich dacites are also important. Both dome complexes are formed in pre-Lascar time and have preliminary similarities about composition: major dacite and dacitic tuff (Ignimbrite), minor pyroxene andesite and acid pumice. These dome complexes are aligned in NNE – SSW trend, along with other intrusive bodies up north (Cerros de Atana; 5493 m). The age for both domes is between the Miocene – Pliocene periods.

This present work is about the geology and petrology of Cerros de Saltar and Corona dome complexes, in attempt to establish the relationship between them and prior to the formation of Lascar Volcano, and focuses on the magma composition and properties to study their evolution. Chemical analyses have been performed on nearly 16 samples from both domes during stage I of this work, and more analyses will be done in order to increase the database, until all sectors are covered.

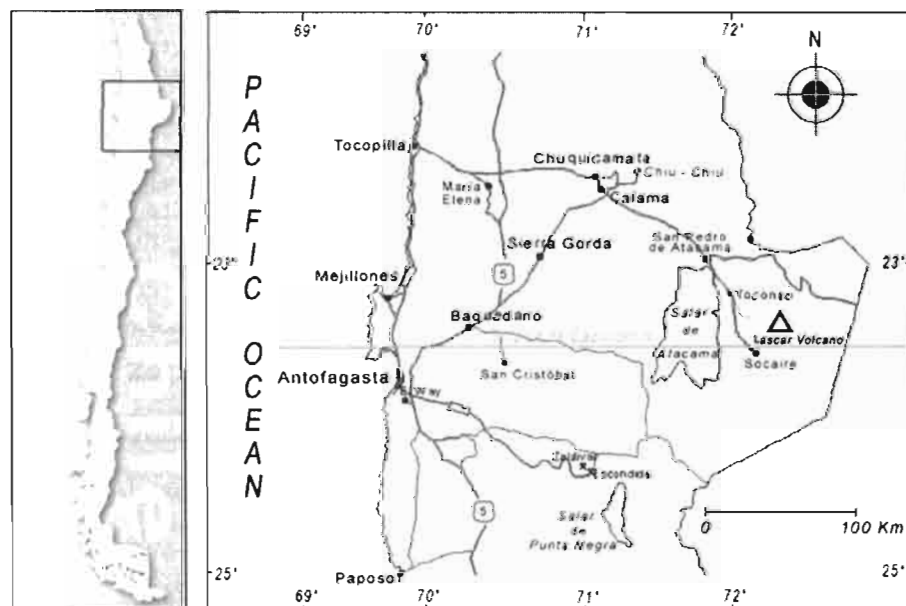


Fig. 1 Location map of Lascar Volcano.

