Geophysical Research Abstracts,
Vol. 10, EGU2008-A-00328, 2008
SRef-ID: 1607-7962/gra/EGU2008-A-00328
EGU General Assembly 2008
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Montaña Escachada tuff ring hydromagmatic deposits characterization: stratigraphy and geological evolution

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We present for first time a detailed facies analysis and deposits interpretation of a Tenerife's hydrovolcanic edifice and its geological evolution from the beginning of the eruption until today.

Montaña Escachada is a Tuff Ring located on the SE of Tenerife and it is composed of two edifices with distinct internal deposits distribution. Facies characteristics and component analysis suggest that firstly the volcano emerged through the water probably being a Surtseyan-like type eruption, and then the subsequent subaerial conditions allowed the formation of base surges producing mainly the hydrovolcanic deposits recognized today. Water/magma ratio changes controlled the eruptive evolution and characteristic facies were deposited. Wet pyroclastic surges were formed in the initial stages and became to dryer surges at the same time or just before of the second edifice started to grow.

After the hydrovolcanic event and when the edifice was completely built, some pyroclastic flows from the Las Cañadas Caldera collapse covered the edifice depositing The Abrigo ignimbrite inside the volcano crater. These ignimbrites are affected by seismites-like structures that probably are related to the same high magnitude seismic event recognized in some similar structures in the surrounding areas and dated in a few thousand years.