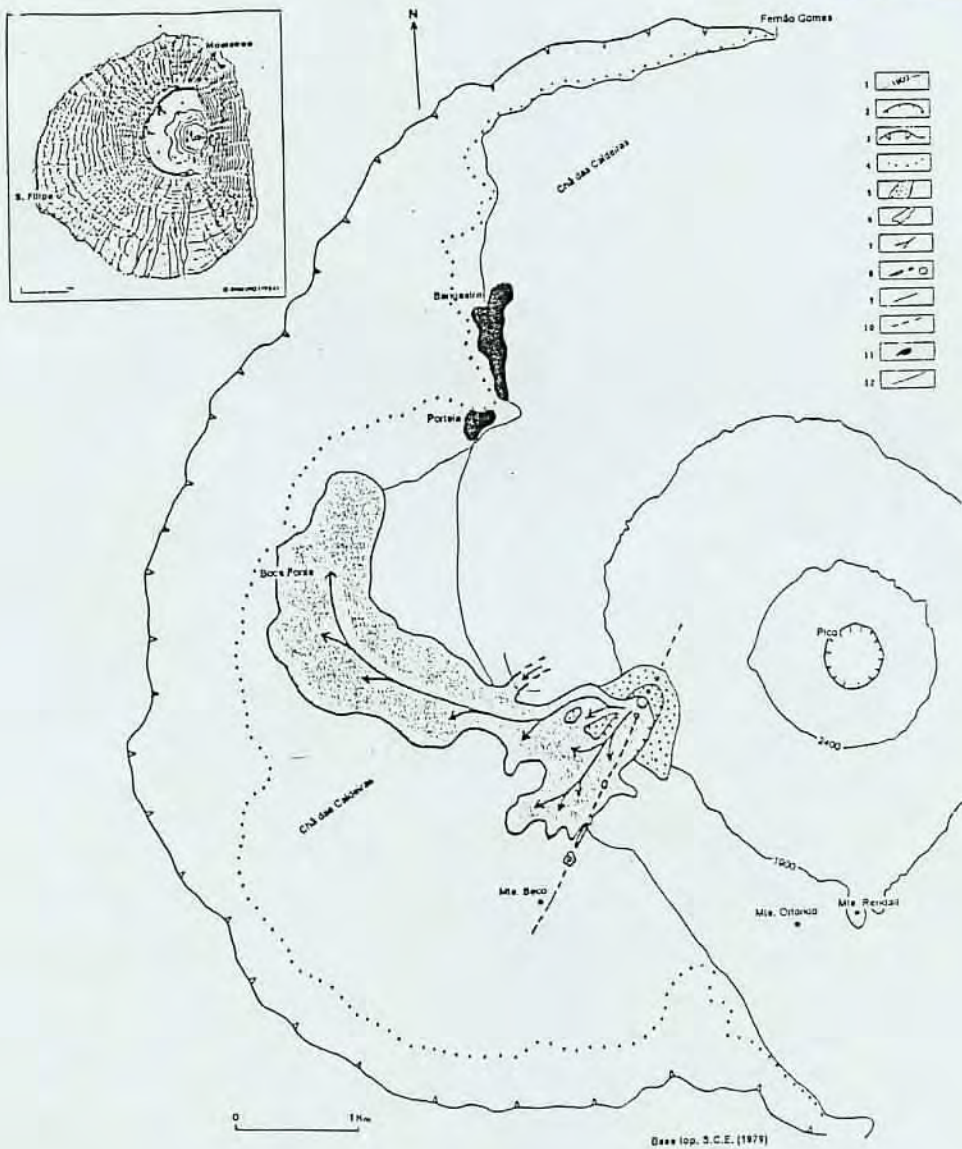


# Report on the volcanic activity at Fogo island, Cabo Verde: development of the situation from the 2nd until the 11th of April 1995

J. Gaspar <sup>(1)</sup>, N. Wallenstein <sup>(1)</sup>, A. Mota Gomes <sup>(2)</sup>, F. Costa <sup>(3)</sup> e E. Correia <sup>(3)</sup>

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## Report on the volcanic activity at Fogo island, Cabo Verde: development of the situation from the 2nd until the 11th of April 1995

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Four days before the beginning of the eruption people living inside the big Fogo caldera began to feel some weak earthquakes. In the 2nd of April the frequency of earthquakes increased. At 7 a.m. and 3 p.m. earthquakes were felt in several places of the island and a stronger one occurred at 8.15 p.m. According to the inhabitants of S. Filipe, a town placed approximately 15 Km W from the vent, around 11 p.m. a reddish light was observed in the sky above the caldera. This was probably the beginning of the eruption.

During all the night several of the 500 (1300?) persons that lived inside the caldera left the zone and went to the north coast. People from the villages placed in the eastern part of the island (Corvo, Achada Grande, Relva, Tinteira, Cova Matinho, Cova Figueira and Estância Roque), some of which already damaged during the 1951 eruption, also runaway to Mosteiros and S. Filipe once the ashes start falling. Its not clear how many persons were evacuated immediately after the beginning of the eruption but the authorities admitted that more than 3000 persons were moved to other places in the island. Nobody was killed and just 20 persons needed medical assistance including some children with respiratory problems.

Under the supervision of the National Defense Minister a Crisis Cabinet was created. About 60 soldiers from the Cabo Verde Army were sent to the island and an emergency communications system installed. Food, medicaments and campaign material were also provided. The improved reception centers - including schools, private institutions and camping tents - had the capacity for 5600 persons and official reports showed that almost 1000 are sheltered in the army camps of S. Filipe, Patim, Achada Furna and Mosteiros.

In the 3rd of April the island was covered by a thick cloud of dark ashes and vapour reaching 2500 to 5000 meters high. The cloud was seen from Santiago island, about 60 Km to the east. Early in the morning three small vents were observed inside the caldera along the southeastern part of a N30°E fissure that crossed the main road of Chã das Caldeiras. Fine dark ash and small pahoehoe lavas were produced and large plastic bombs, with 1 to 4 meters in diameter, were projected 500 meters far. In the afternoon the fissure reached approximately 2 Km long and four new vents started in its northwestern section.

In the night of the 4th of April the explosive activity was centered in the northwestern vents but a strong fumarolic activity remained along all the main fracture. Lava fountains reached approximately 400 meters high and a cloud of fine dark ash and gases attained 2000 meters. A scoria cone with a crater opened to southwest was formed

and aa lava flows produced. Thicknesses between 3 and 10 meters were measured in different lava fronts.

In the following days the lava flow reached Boca Fonte near the caldera wall and about 10 houses (April 8th) as well as the water reservoir (April 9th) were destroyed. Several square kilometers of pasture land and fertile soils - where coffee, wine, fruits, maize, tapioca, beans and horse-beans use to be produced - were covered by ashes and lava flows.

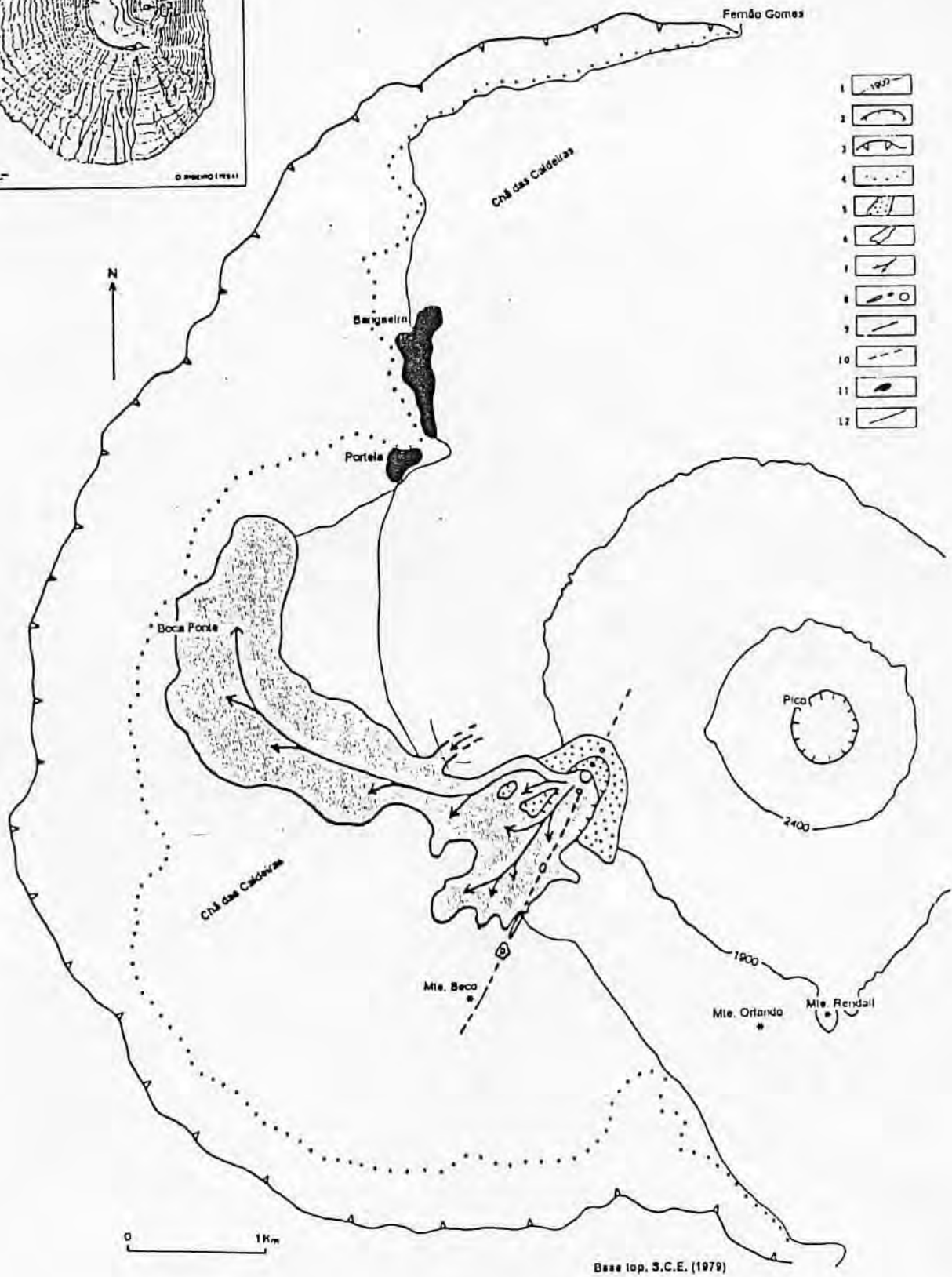
Since the beginning of the eruption that a feeble and continuous volcanic tremor could be felt in the caldera floor. In April 10th the seismic activity increased and earthquakes with an intensity of III-IV Mercalli occurred probably due to the obstruction of the main vent where lava fountains momentarily stopped.

In the 11th of April the eruption continued with its normal characteristics. At that time two main lava rivers were identified with velocities of 5-6 m/s near the crater. One progresses towards west and feeds the lava front that can reach Portela and Bangaeira villages. The other is directed to southwest and can provide the filling of Cova Tina depression.

# VOLCANIC ERUPTION ON FOGO ISLAND, CABO VERDE

## Lava flows development until the 11th of April

J. Gaspar, N. Wallenstein, F. Costa, E. Correia e A. Mota Gomes



- 1 - Contour line
- 2 - Crater
- 3 - Caldera scarp
- 4 - Base of caldera scarp
- 5 - Scoria cone
- 6 - Lava flow
- 7 - Flow direction
- 8 - Eruptive center
- 9 - Fault
- 10 - Covered fault
- 11 - Villages
- 12 - Road

1 - Contour line; 2 - Crater; 3 - Caldera scarp; 4 - Base of caldera scarp; 5 - Scoria cone; 6 - Lava flow; 7 - Flow direction; 8 - Eruptive center; 9 - Fault; 10 - Covered fault; 11 - Villages; 12 - Road