

Title (en)

METHOD FOR THE IN SITU AND CONTINUOUS HIGH-SENSIBILITY MEASURING OF CONCENTRATIONS OF GAS AND VOLATILE PRODUCTS, AND APPARATUS FOR CARRYING IT OUT

Publication

EP 0042789 B1 19850918 (FR)

Application

EP 81400967 A 19810617

Priority

FR 8013776 A 19800620

Abstract (en)

[origin: US4442353A] Continuous monitoring of variations in the concentrations of individual components in gaseous mixtures such as, more particularly, gases released from volcanic vents, is achieved in the field with consistently high precision, namely about 2 ppm, over extended periods of time, while the time lag for detecting a variation is minimized. On-site measurements are made with a portable apparatus, comprising a sampling probe from which the gas is led to an expansion enclosure maintained at a regulated pressure of about 10⁻² to 10⁻¹ millibar. From this enclosure, the gas is metered by means of a piezoelectric valve into the analyzing chamber of a quadrupole mass-spectrometer. Several units operating in the field, directly over the volcanic vents, may be connected to a central data processing station, so as to derive useful correlations for predicting future volcanic activity, for monitoring geothermal sources, and for detecting gas-release anomalies for purposes of geophysical exploration.

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