Data set on monitoring of air CO_2 and H_2S concentration and environmental parameters continuously recorded at Tor Caldara (Anzio, Rome) in March-July 2012

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From March to early-July 2012 the air concentration of CO_2 and H_2S, at 20 and 50 cm height, has been continuously measured in 12 sites of Tor Caldara natural reserve (Anzio, Rome) (site location in Fig. 1) characterized by soil gas release of deep origin. Environmental parameters (atmospheric pressure and temperature, wind speed and direction, soil temperature at 10 cm depth) were also recorded at site no. 1 and between sites no. 9 and 10.

Figure 1. Tor Caldara natural reserve with the location of the main gas discharge zones (Miniera Grande, Miniera Piccola, ponds and Caldara-Vignarola ditch). The yellow numbers and red dots indicate the sites where air gas concentration has been continuously monitored in March-July 2012. The two white stars indicate the location of the meteo-station.

For gas monitoring we used West Systems instrumentations equipped with Draeger IR CO_2 detector (0-100 vol.%; accuracy: 3 %) with double beam and temperature compensation, and Draeger H_2S sensor WS-H2S-BE with electrochemical cell (range 0-2,000 ppm; accuracy 5 %). The data acquisition frequency was of 1 minute. A Davis Vantage Pro weather station acquired barometric pressure, soil and air temperature, wind speed and direction, with a frequency of 10 minutes.

The recorded data set (in excel) is reported in the attached Table 1, where each sheet contains the geochemical data recorded at one of the 1 to 12 sites. The last sheet contains data recorded by the weather station. Note that figures are written following the Italian style (i.e. commas correspond to points in U.S. style).