

SARI

GEOLOGI DAN STUDI KARAKTERISTIK GAS VULKANIK GUNUNG API DAERAH DATARAN TINGGI DIENG DAN SEKITARNYA, KECAMATAN BATUR, KABUPATEN BANJARNEGARA, JAWA TENGAH

Semburan gas beracun menjadi penanda khas Dataran Tinggi Dieng. Meskipun demikian, Dataran Tinggi Dieng tetap menjadi sumber penghidupan bagi petani dan menjadi aset wisata yang ramai dikunjungi orang. Kawah Sikidang dan Sileri termasuk kawasan wisata yang berisiko menyemburkan gas beracun. Daerah penelitian terletak pada Kawasan Dataran Tinggi Dieng terletak pada koordinat $109^{\circ} 07' 2''$ E – $109^{\circ} 10' 3,5''$ E dan $7^{\circ} 11' 45''$ S – $7^{\circ} 14' 48''$ S. Didapatkan hasil bahwa pada daerah penelitian terdapat tiga satuan geomorfologi pada daerah penelitian yaitu Satuan Bukit Vulkanik, Satuan Pegunungan Aliran Lava dan Satuan Kawah Vulkanik. Stratigrafi daerah penelitian dari tua ke muda tersusun dari dua satuan yaitu Satuan Breksi Piroklastik dan Satuan Aliran Lava Andesit. Daerah penelitian dikontrol beberapa struktur geologi gunung api berupa kawah yang menjadi zona lemah yaitu Kawah Sikidang dan Kawah Sileri. Berdasarkan analisis karakteristik gas vulkanik Kawah Sikidang dan Sileri didapatkan bahwa terdapat 3 jenis gas berbahaya yaitu CO_2 , H_2S dan SO_2 . Untuk Kawah Sikidang CO_2 bernilai di atas ambang batas aman pada Bulan Oktober 2017 yaitu 5900 ppm, H_2S bernilai diatas ambang batas aman pada bulan Januari, Februari, April, Mei, Juni, Juli, Agustus, Oktober, November, Desember berkisar 35-100 ppm. SO_2 berada diatas ambang batas aman pada bulan Januari bernilai 100 ppm. Untuk Kawah Sileri gas yang melebihi ambang batas aman adalah SO_2 sebesar 11 ppm.

ABSTRACT

GEOLOGY AND STUDY OF CHARACTERISTIC OF VOLCANIC GAS VOLCANOES IN DIENG PLATEAU AREA AND SURROUNDINGS, BATUR DISTRICT, BANJARNEGARA REGENCY, CENTRAL JAVA

Bursts of poison gas became a typical marker of the Dieng Plateau. Nevertheless, the Dieng Plateau remains a source of livelihood for farmers and a tourist asset that is visited by people. Sikidang Crater and Sileri including tourist areas that are at risk of spraying poisonous gas. The research area is located in the Dieng Plateau Region located at coordinates $109^{\circ} 07' 2'' E - 109^{\circ} 10' 3,5'' E$ and $7^{\circ} 11' 45'' S - 7^{\circ} 14' 48'' S$. the result that in the study area there are three geomorphological units in the study area namely the Volcanic Hill Unit, Lava Flow Mountains Unit and Volcanic Crater Unit. The stratigraphy of the study area from old to young is composed of two units, namely the Pyroclastic Breccia Unit and the Andesite Lava Flow Unit. The research area is controlled by several volcanic geological structures in the form of craters that form weak zones, namely Sikidang Crater and Sileri Crater. Based on the analysis of the characteristics of volcanic gas Sikidang Crater and Sileri it was found that there are 3 types of hazardous gases namely CO_2 , H_2S and SO_2 . For Sikidang Crater, CO_2 is above the safe threshold in October 2017, which is 5900 ppm, H_2S is above the safe threshold in January, February, April, May, June, July, August, October, November, December, around 35-100 ppm. SO_2 is above the safe threshold in January at 100 ppm. For sileri crater gas that exceeds the safe threshold is SO_2 of 11 ppm.

