

Studi persebaran air limbah industri di situ Rawa Kalong Cimanggis Depok dengan metoda resistivity dan ip dengan konfigurasi dipole-dipole = Distribution study of industrial wastewater in situ Rawa Kalong Cimanggis Depok using resistivity and ip method with configuration dipole-dipole

Frisilia Dewi, author

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Abstrak

ABSTRAK

Pencemaran air diduga terjadi di Situ Rawa Kalong, Kelurahan Curug, Cimanggis, Depok. pH dan konduktivitas listrik merupakan salah satu parameter yang menentukan tingkat pencemaran air. Pada daerah penelitian memiliki pH 3.4-7.9 dan konduktivitas listrik 80 μS-1990 μS. Konfigurasi resistivity dan IP yang digunakan adalah konfigurasi Dipole-Dipole karena mampu memetakan perubahan resistivity dan chargeability secara lateral sehingga cocok untuk mendeteksi persebaran air limbah di bawah permukaan. Survei awal adalah membuat peta topografi, peta persebaran pH, peta konduktivitas listrik dan peta water table yang digunakan untuk menentukan lintasan geolistrik dan data pendukung untuk interpretasi. Terdapat tiga lintasan dengan jarak spasi 10 m. Data diolah menggunakan software RES2DInv. Arah aliran air tanah dan pencemaran adalah Baratdaya-Timurlaut dan terakumulasi di daerah cekungan. Berdasarkan irisan pH, konduktivitas listrik, resistivity, dan chargeability, daerah pencemaran pada lintasan 1 terletak di sebelah Barat kedalaman < 70 m dan di tengah lintasan kedalaman 65-80 m yang keduanya memiliki resistivity ≤ 6.38 Ωm dan chargeability sebesar 100-120 msec, lintasan 2 terjadi pencemaran di tengah lintasan kedalaman < 50 m dengan resistivity < 11.6 Ωm dan chargeability > 140 msec, lintasan 3 terjadi pencemaran di tengah lintasan kedalaman 60-75 m yang memiliki resistivity sebesar 6.38 Ωm dan chargeability sebesar 40-80 msec.

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ABSTRACT

Water contamination is suspected in Situ Rawa Kalong, village of Curug, cimanggis. pH and electrical conductivity is one of the parameters that determine the level of water contamination. In the study area has a pH of from 3.4-7.9 and electrical conductivity of from 80 μS -1990 μS. The configuration of the resistivity and Induced Polarization (IP) that is used is the configuration of Dipole-Dipole because it is able map changes of resistivity and chargeability laterally so it is suitable for detecting the spread of wastewater below the surface. Initial survei is to create a topographical map, a map of the distribution of pH, electrical conductivity maps and map water table is used to determine the line of geoelectric and as supporting data for the interpretation. There are three line have a spacing of 10 m. The data is processed using software RES2DINV. Water flow below the ground surface is from the southwest to the northeast and accumulated in the basin. Based slices pH, electrical conductivity, resistivity and chargeability, contamination area line 1 is located to the west of line with depth < 70 m and a depth of 65-80 m at electrode to the center of line with ≤ 6.38 Ωm with resistivity and chargeability 100-120 msec, contamination area line 2 is located to the center of line with depth < 50 m with resistivity < 11.6 Ωm and chargeability > 140 msec, contamination area line 1 is located to the center of line with depth with 6.38 Ωm resistivity and

chargeability 40 -80 msec.