



## **Determination of water flow paths with the aid of ERT measurements – A case study at the Rautenweg landfill (Vienna)**

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The knowledge of water contents within landfills is of high interest for waste management, since it has one of the strongest influences on biogas production (Rettenberger, 1992). At landfills where the gas production is decreasing due to a dried-out subsurface, attempts are made to restart or increase the production with a focused irrigation. During this irrigation, the water flow paths can be monitored. This contribution demonstrates the suitability of ERT (Electrical Resistivity Tomography) measurements for the monitoring of these water flow paths within the landfill. The investigated area is located in the northeastern part of Vienna at the Rautenweg landfill. Overall, four 2D ERT profiles, with a length of 170 m, 200 m and 250 m, respectively, were acquired. The time-lapse inversion results indicate, that if the conductivity difference between the subsurface and the introduced water is large enough, the spreading of the water in the subsurface can be traced very well.

### References:

Rettenberger, G., 1992. Der Deponiegashaushalt in Altablagerungen - Leitfaden Deponiegas. Landesanstalt für Umweltschutz Baden-Württemberg, Karlsruhe.