The Effects Of Salt Content On Measurement Of Soil Resistivity

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ABSTRACT

The resistivity of soil or ground is one of the important factors to be considered when choosing for a suitable grounding spot or area. Problems may occur if the ground area around a facility is not suitable for grounding hence the need to move the grounding spot to an area far away from the facility that causes increase in the overall cost of installation. It is known that some parties involves in the grounding work uses salt treatment as a solution to this matter. This project aims to investigate whether this act of adding salt to grounding soil is a proper solution to the high resistivity of soil. Experiments were conducted where different concentrations of salt water which is also known as Sodium Chloride (NaCl) were poured onto a number of segments and the effects of NaCl on the soil resistivity were monitored for a period of 360 hours. It was found that NaCl addition successfully decreased the value of soil resistance but the effect is temporary and at the end of the monitoring period the value of resistivity has increased back to almost the original resistivity value.

Keywords — Soil Moisture, Ground Resistance, Salt Water (Nacl), Soil Resistivity, Salt Content, Earth Tester.

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