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JWARP > Vol.2 No.3, March 2010

OPEN ACCESS

Measuring Salinity within Shallow Piezometers: Comparison of Two Field Methods

PDF (Size: 908KB) PP. 251-258 DOI : 10.4236/jwarp.2010.23029

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ABSTRACT

The objective of this study is to understand the validity of salinity vertical profiles collected from shallow piezometers that are not previously flushed. This study shows that salinity data collected from boreholes are only an average value along the entire screened section of the piezometer. In order to collect data that is representative for the salinity of the adjacent aquifer, a new monitoring strategy has been developed. This strategy includes measurement of the salinity at the top of the watertable in an auger hole which is a shallow boreholes made with a handheld drill. This should be combined with measurements in piezometers that are first flushed to take out stagnant water. From the piezometers one can measure the average salinity of the screened part and the salinity at the bottom of the aquifer. By using this monitoring strategy it is also possible to define where the piezometers screens are located if this is not known beforehand.

KEYWORDS

Coastal Aquifer, Salt-Water Intrusion, Piezometers, Monitoring

Cite this paper

E. Balugani and M. Antonellini, "Measuring Salinity within Shallow Piezometers: Comparison of Two Field Methods," *Journal of Water Resource and Protection*, Vol. 2 No. 3, 2010, pp. 251-258. doi: 10.4236/jwarp.2010.23029.

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