New approach using integral pumping tests to characterize a contaminated area and to investigate about the source of pollution: a case study in Province of Treviso, Northeast Italy

Provincia di Treviso

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A new technique developed by Sinergo srl, the "Integral Pumping Test", is described here. This approach was applied in a field campaign in the Province of Treviso, in Italy, and the results are presented and discussed in this paper.

Figure 1. General maps of the study area

Figure 2. Geological site model

Figure 3. Conglomerate sample

Figure 4. Hydrological map

Figure 5. Comparison between two maps

Figure 6. Detectors in ARI

Figure 7. Chemical analysis (Perchloroethylene)

Figure 8. Correlation graphs

Figure 9. Schedule of measurements (Monitoring system)

Figure 10. Hydraulic calibration (Monitoring system)

Table 1: Measurements of contaminants in groundwater

<table>
<thead>
<tr>
<th>Well</th>
<th>Date</th>
<th>CSC [µg/l]</th>
<th>AR3</th>
<th>AR5</th>
<th>AR17</th>
<th>MW1</th>
<th>MW2</th>
<th>MW3</th>
<th>MW4</th>
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<tr>
<td>AR3</td>
<td>22/09/09</td>
<td></td>
<td>28.2</td>
<td>28.5</td>
<td>29.0</td>
<td>29.5</td>
<td>30.0</td>
<td>30.5</td>
<td>31.0</td>
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<tr>
<td>AR5</td>
<td>22/10/09</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
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<tr>
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<td>21/11/09</td>
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<td>0.9</td>
<td>0.6</td>
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<td></td>
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<tr>
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<td>6.7</td>
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<td>0.4</td>
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<td>0.1</td>
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</table>

CSC D.Lgs.152/06 = 1.1 [µg/l] [C.S.C. = Threshold concentrations of contamination]

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References:

CSC D.Lgs.152/06 = 1.1 [µg/l] [C.S.C. = Threshold concentrations of contamination]