

Water Quality Report for Irrigation

EFMA Primary Network

| Lab results | | | Water Quality for Irrigation (annex XVI, DL n.º 236/98) |
|---|------------------------------------|---------|--|
| Responsible Laboratory: Labelec | (Bulletin n.º 44/20) | | |
| Parameters | Units | Results | Conformity |
| Alkalinity | mg/L CaCO ₃ | 122 | |
| Ammonium | mg/L NH ₄ | >LD;<LQ | 0,03 |
| Nitrogen Kjeldahl | mg/L N | 0,4 | |
| Total Nitrogen | mg/L N | 0,9 | |
| Bicarbonates | mg/L CO ₃ H- | 149 | (a) |
| Boron | mg/L B | 0,0272 | ● |
| Calcium | mg/L Ca | 38 | |
| Chloride | mg/L Cl | 56 | ● |
| Total Hardness | mg/L CaCO ₃ | 169 | |
| Total Iron | mg/L Fe | 0,22 | ● |
| Phosphates | mg/L P ₂ O ₅ | 0,07 | |
| Total Phosphorus | mg/L P | 0,08 | |
| Magnesium | mg/L Mg | 18 | |
| Manganese | mg/L Mn | 0,053 | ● |
| Nitrates | mg/L NO ₃ | 2 | ● |
| Nitrites | mg/L NO ₂ | 0,011 | |
| Potassium | mg/L K | 6,12 | |
| Ratio of Sodium Absorption (SAR) | | 1,2 | ● |
| Ratio of Sodium Absorption adjusted (SARaj) | | 1,2 | |
| Sodium | mg/L Na | 36 | |
| Total Dissolved Solids (TDS) | mg/L | 288 | ● |
| Total Suspended Solids (TSS) | mg/L | 4 | ● |
| Sulphates | mg/L CO ₄ | 47 | ● |
| Total Coliforms | NMP/100 mL | 109 | |
| Fecal Coliforms | NMP/100 mL | 34 | ● |

Note: The tests to determine the parameters are included in the range of laboratory accreditation.

| Field Results (Determined with a multiparameter probe) | | | Water Quality for Irrigation (annex XVI, DL n.º 236/98) |
|---|-----------------|---------|--|
| Parameters | Units | Results | |
| Temperature | °C | 14,1 | |
| pH | Escala Sorensen | 8,0 | ● |
| Conductivity | µS/cm | 570 | ● |

- Lower than the VMR (Maximum Value Recommended)
- Higher than VMR and below the VMA (Maximum Permitted Value)
- Higher than VMR. For this parameter is not defined one VMA.
- Higher than the VMA

(a) The maximum value recommended in the Integrated Production Standards, for most crops, is 90 mg / L.

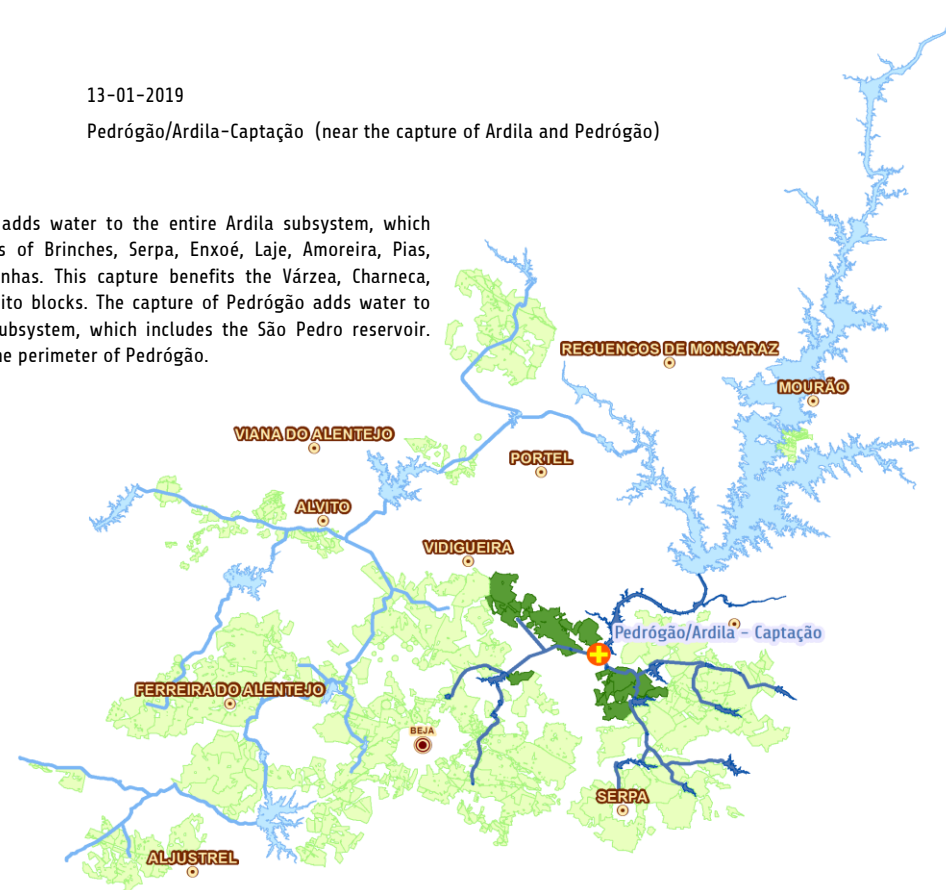
(b) The VMA defined in Annex XVI of the Decree-Law No. 236/98 refers to the dissolved iron (5 mg / L Fe).

Sampling Data: 13-01-2019

Sampling Place: Pedrógão/Ardila-Captação (near the capture of Ardila and Pedrógão)

Benefited area:

The capture of Ardila adds water to the entire Ardila subsystem, which includes the reservoirs of Brinches, Serpa, Enxoé, Laje, Amoreira, Pias, Caliços and Furta Galinhas. This capture benefits the Várzea, Charneca, Contendinha and Magoito blocks. The capture of Pedrógão adds water to the entire Pedrógão subsystem, which includes the São Pedro reservoir. This capture benefits the perimeter of Pedrógão.



Comments:

The bicarbonates results exceed the maximum recommended in the Integrated Production Standards. High concentrations of bicarbonates can affect crop yields, making it difficult to absorb some mineral nutrients.

The results of the other parameters are within the ranges of normal values for this type of water bodies.

In the document "Water Quality – Complementary Information", EDIA recommends some general measures to reduce the concentration of salts in the water bodies.