

# 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 199/21)		
Parameters	Units	Results	Conformity
Alkalinity	mg/L CaCO <sub>3</sub>	112	
Ammonium	mg/L NH <sub>4</sub>	>LD;<LQ	0,04
Nitrogen Kjeldahl	mg/L N	0,53	
Total Nitrogen	mg/L N	1,1	
Bicarbonates	mg/L CO <sub>3</sub> H-	136	(a)
Boron	mg/L B	0,0271	●
Calcium	mg/L Ca	35,8	
Chloride	mg/L Cl	53,5	●
Total Hardness	mg/L CaCO <sub>3</sub>	168	
Dissolved Iron	mg/L Fe	<LQ	●
Phosphates	mg/L P <sub>2</sub> O <sub>5</sub>	0,055	
Total Phosphorus	mg/L P	0,042	
Magnesium	mg/L Mg	19,3	
Manganese	mg/L Mn	0,0275	●
Nitrates	mg/L NO <sub>3</sub>	2,5	●
Nitrites	mg/L NO <sub>2</sub>	0,021	
Potassium	mg/L K	6,59	
Ratio of Sodium Absorption (SAR)		1,15	●
Ratio of Sodium Absorption adjusted (SARaj)		1,16	
Sodium	mg/L Na	34,2	
Total Dissolved Solids (TDS)	mg/L	268	●
Total Suspended Solids (TSS)	mg/L	<LQ	●
Sulphates	mg/L CO <sub>4</sub>	40,4	●
Total Coliforms	NMP/100 mL	41	
Fecal Coliforms	NMP/100 mL	3	●

**Note:** With the exception of the SARaj parameter, test to determine the remaining 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	11,3	
pH	Escala Sorensen	8,41	●
Conductivity	µS/cm	487	●

- 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

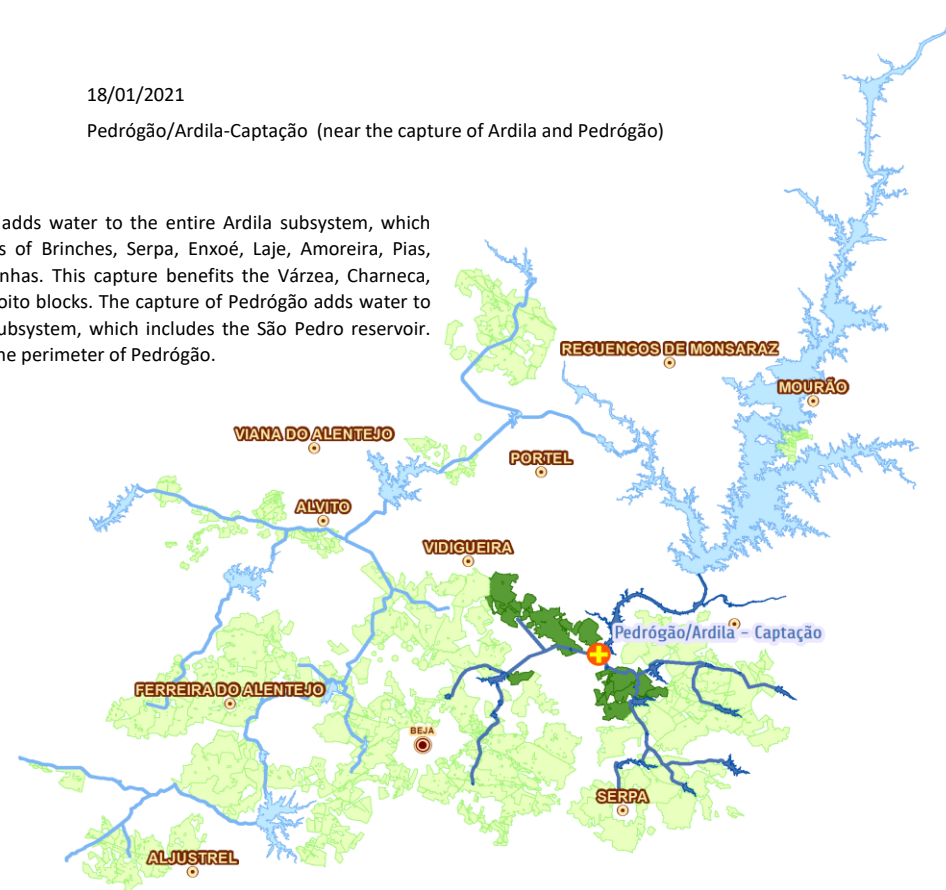
(a) The maximum value recommended in the Integrated Production Standards, for most crops, is 90 mg / L.

**Sampling Data:** 18/01/2021

**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 pH result exceeds the Recommended Maximum Value range for water quality for irrigation (VMR: [6.5-8.4]). This may be due to an increase in the biological activity of algae. High pH values can affect the plant's ability to absorb nutrients and promote the precipitation of iron, calcium, magnesium and phosphate ions, which may promote the clogging of drip irrigation systems. Chlorides exceed the VMR for irrigation (70 mg / L) and may originate from natural land drainage or agricultural runoff. At high concentrations they may be toxic to plants and cause deflocculation of soil clays, degrading their structure. 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.