

# Water Quality Report for Irrigation

## EFMA Primary Network

Lab results			
Responsible Laboratory: ALS Life Sciences Portugal, S.A.		(Bulletin nº 254024/2023)	Water Quality for Irrigation (annex XVI, DL n.º 236/98)
Parameters	Units	Results	Conformity
Alkalinity	mg/L CaCO3	121	
Ammonium	mg/L NH4	0,044	
Nitrogen Kjeldahl	mg/L N	1,25	
Total Nitrogen	mg/L N	0,66	
Bicarbonates	mg/L CO3H-	140	(a)
Boron	mg/L B	0,0291	●
Calcium	mg/L Ca	38,7	
Chloride	mg/L Cl	55,6	●
Total Hardness	mg/L CaCO3	177	
Total Iron (b)	mg/L Fe	0,0086	●
Phosphates	mg/L P2O5	0,083	
Total Phosphorus	mg/L P	0,036	
Magnesium	mg/L Mg	19,4	
Manganese	mg/L Mn	0,0072	●
Nitrates	mg/L NO3	<LQ	2
Nitrites	mg/L NO2	0,0354	
Potassium	mg/L K	6,91	
Ratio of Sodium Absorption (SAR)		1,076	●
Ratio of Sodium Absorption adjusted (SARaj)		1,103	
Sodium	mg/L Na	32,9	
Total Dissolved Solids (TDS)	mg/L	288	●
Total Suspended Solids (TSS)	mg/L	3,6	●
Sulphates	mg/L CO4	43,2	●
Total Coliforms	NMP/100 mL	4	
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.

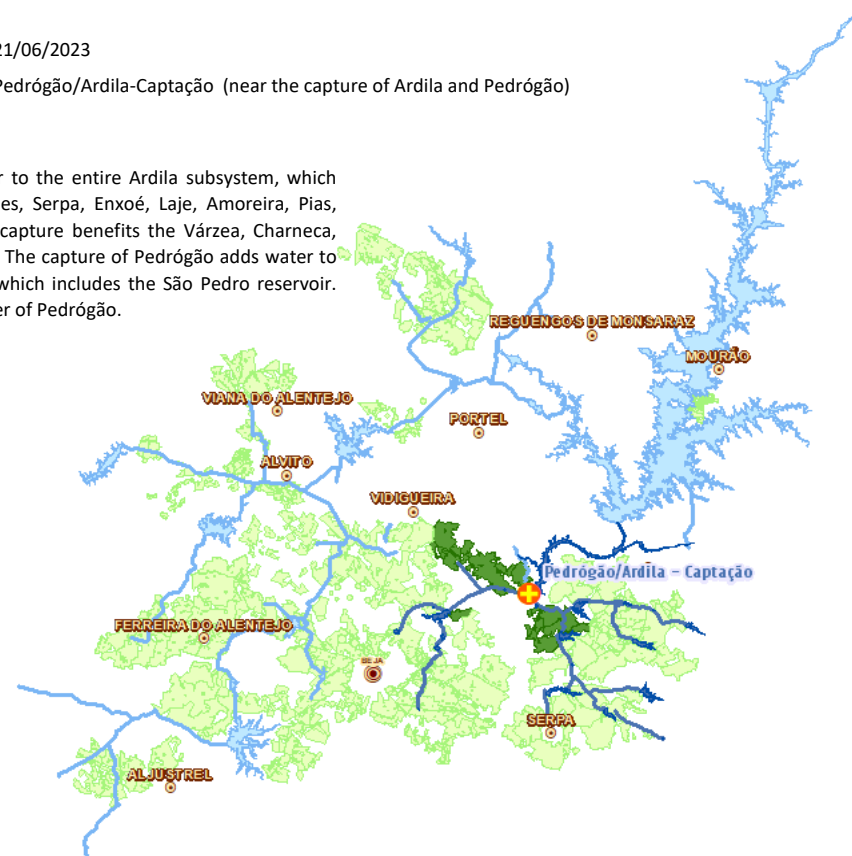
Field Results (Determined with a multiparameter probe)			Water Quality for Irrigation (annex XVI, DL n.º 236/98)
Parameters	Units	Results	Conformity
Temperature	°C	23,6	
pH	Escala Sorensen	8,90	●
Conductivity	µS/cm	492	●

- 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 in Annex XVI of the Decree-Law nº 236/98 refers to the dissolved iron (5 mg/L Fe).

**Sampling Data:** 21/06/2023  
**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, Calços 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. 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.