

Water Quality Report for Irrigation

EFMA Primary Network

Lab results			
Responsible Laboratory: ALS Life Sciences Portugal, S.A.		(Bulletin nº 31219/2024)	Water Quality for Irrigation (annex XVI, DL n.º 236/98)
Parameters	Units	Results	Conformity
Alkalinity	mg/L CaCO3	130	
Ammonium	mg/L NH4	0,152	
Nitrogen Kjeldahl	mg/L N	1,34	
Total Nitrogen	mg/L N	0,77	
Bicarbonates	mg/L CO3H-	159	(a)
Boron	mg/L B	0,025	●
Calcium	mg/L Ca	40	
Chloride	mg/L Cl	60,3	●
Total Hardness	mg/L CaCO3	173	
Total Iron (b)	mg/L Fe	0,212	●
Phosphates	mg/L P2O5	0,068	
Total Phosphorus	mg/L P	0,03	
Magnesium	mg/L Mg	17,6	
Manganese	mg/L Mn	0,0237	●
Nitrates	mg/L NO3	<L.Q.	2
Nitrites	mg/L NO2	0,0199	●
Potassium	mg/L K	6,4	
Ratio of Sodium Absorption (SAR)		1,213	●
Ratio of Sodium Absorption adjusted (SARaj)		1,281	
Sodium	mg/L Na	36,7	
Total Dissolved Solids (TDS)	mg/L	326	●
Total Suspended Solids (TSS)	mg/L	14,7	●
Sulphates	mg/L CO4	45,9	●
Total Coliforms	UFC/100 mL	300	
Fecal Coliforms	UFC/100 mL	240	●

Note: With the exception of the SARaj parameter, test to determine the remaining parameters are included in the range of laboratory accreditation.

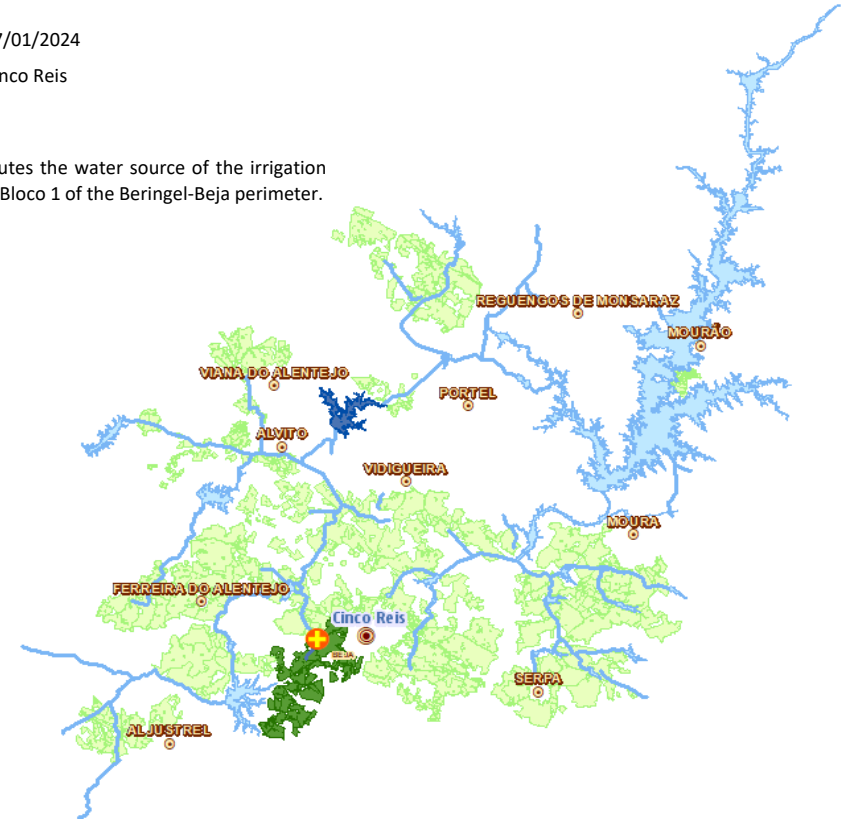
Field Results (Determined with a multiparameter probe)			Water Quality for Irrigation (annex XVI, DL n.º 236/98)
Parameters	Units	Results	Conformity
Temperature	°C	13,0	
pH	Escala Sorensen	8,20	●
Conductivity	µS/cm	555	●

- 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: 17/01/2024
Sampling Place: Cinco Reis

Benefited areas:
 The reservoir of Cinco Reis constitutes the water source of the irrigation perimeter Cinco Reis-Trindade and Bloco 1 of the Beringel-Beja perimeter.



Comments:

The result of fecal coliforms exceeds the Maximum Recommended Value for irrigation water (VMR: 100 NMP/100mL). A maximum allowed value (VMA) is not defined for this parameter. The results of fecal coliforms tend to be below the legal limit for irrigation water, with the result in the November 2023 campaign being 6 UFC/100 mL. The main problem associated with the presence of fecal coliforms in the irrigation water is related to the irrigation of crops for direct consumption. The bicarbonate values exceed the maximum value 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 remaining elements are within the range of expected values for this typology 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.