

Table 9: Water analysis for RO/NF

Sample Identification:		
Feed Source:		
Conductivity ($\mu\text{S}/\text{cm}$):	pH:	Temperature ($^{\circ}\text{C}$):
Feedwater Analysis:	NH_4	CO_2
Please give units (mg/L as ion or ppm as CaCO_3 or meq/L)	K^+	CO_3^{2-}
	Na^+	HCO_3^-
	Mg^{2+}	NO_3^-
	Ca^{2+}	Cl^-
	Ba^{2+}	F^-
	Sr^{2+}	SO_4^{2-}
	Fe^{2+}	PO_4^{3-}
	Fe (tot)	S^{2-}
	Mn^{2+}	SiO_2 (colloidal)
	Boron	SiO_2 (soluble)
	Al^{3+}	
Other Ions:		
TDS (by method):		
TOC:		
BOD:		
COD:		
AOC:		
BDOC:		
Total Alkalinity (m-value):		
Carbonate Alkalinity (p-value):		
Total Hardness:		
Turbidity (NTU):		
Silt Density Index (SDI):		
Bacteria (count/ml):		
Free Chlorine:		
Remarks:		
(odor, smell, color, biological activity, etc.)		
Analysis By:		
Date:		

Ba^{2+} and Sr^{2+} must be analyzed at the $1\ \mu\text{g}/\text{L}$ (ppb) and $1\ \text{mg}/\text{L}$ (ppm) level of detection, respectively. It is also important that the temperature be given as a range rather than an absolute value. Temperature variation can impact the scaling potential of an RO system, especially when silica and bicarbonate levels in the feedwater are high.

After the membrane system is in service, the feedwater should be analyzed on a regular basis so that the pretreatment and the plant operation can be adjusted accordingly. Many standards are available for water analysis techniques. It is recommended to use the standards of ASTM International (www.astm.org) or the latest edition of "Standard Methods for the Examination of Water and Wastewater"/1/.

A guide for water analysis for reverse osmosis applications is given in ASTM D 4195 /2/; this can be applied to