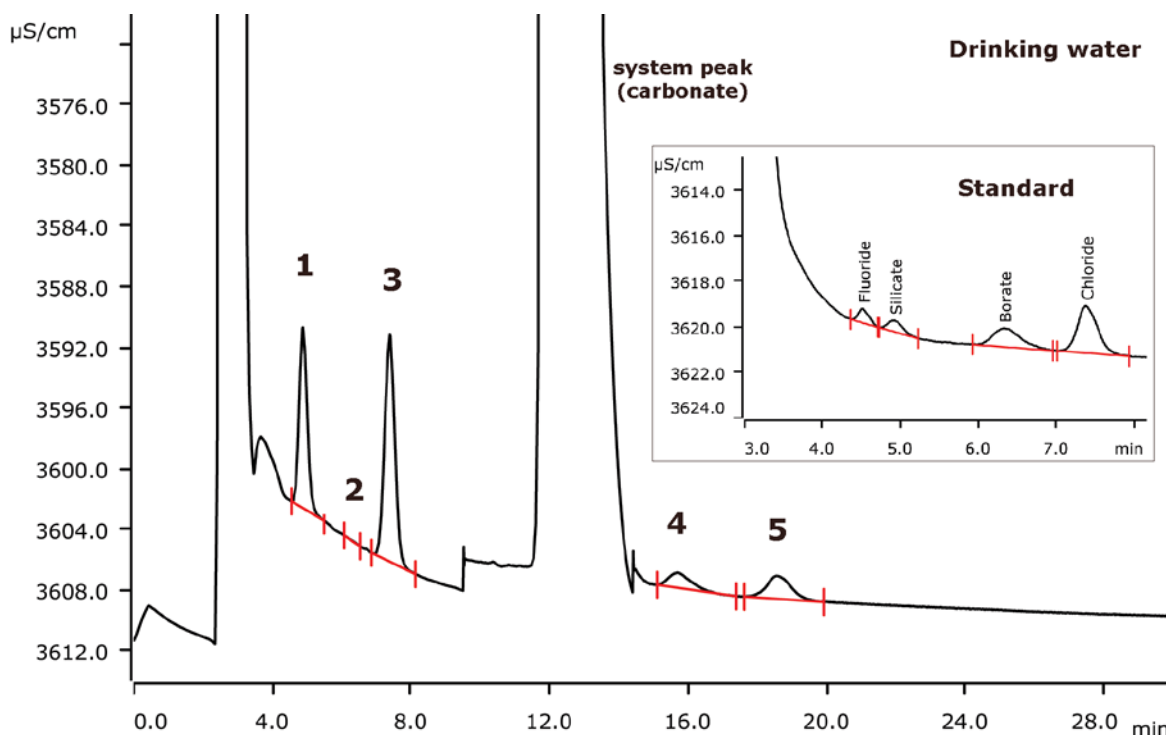


# Silicate and borate in water applying non-suppressed anion chromatography



Silicate and borate contents determine the quality of drinking and irrigation water and have to be regularly analyzed. Especially in fresh water reclaimed from seawater, borate levels need to be controlled. This application shows the determination of silicate and borate besides some standard anions in drinking water using ion chromatography with direct conductivity detection.

## Results

Anion	Conc. [mg/L]	RSD [%]	Anion	Conc. [mg/L]	RSD [%]
1 Silicate	6.02	1.0	4 Nitrate	7.01	2.2
2 Borate	n.d.	-	5 Sulfate	5.12	1.3
3 Chloride	7.89	0.2			

Concentration in the shown standard solution: fluoride 0.1 mg/L, silicate 0.3 mg/L, borate and chloride 1.0 mg/L

### Sample

Drinking water

### Sample preparation

None

### Columns

Metrosep A Supp 16 - 250/4.0	6.1031.430
Metrosep A Supp 16 Guard/4.0	6.1031.500

### Solutions

Eluent	20 mmol/L sodium hydroxide 1.5 mmol/L sodium carbonate
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### Analysis

Direct conductivity detection

### Instrumentation

930 Compact IC Flex/Oven/Deg	2.930.2160
IC Conductivity Detector	2.850.9010
858 Professional Sample Processor	2.858.0020

### Parameters

Flow rate	0.8 mL/min
Injection volume	250 µL
P <sub>max</sub>	20 MPa
Recording time	30 min
Column temperature	45 °C

