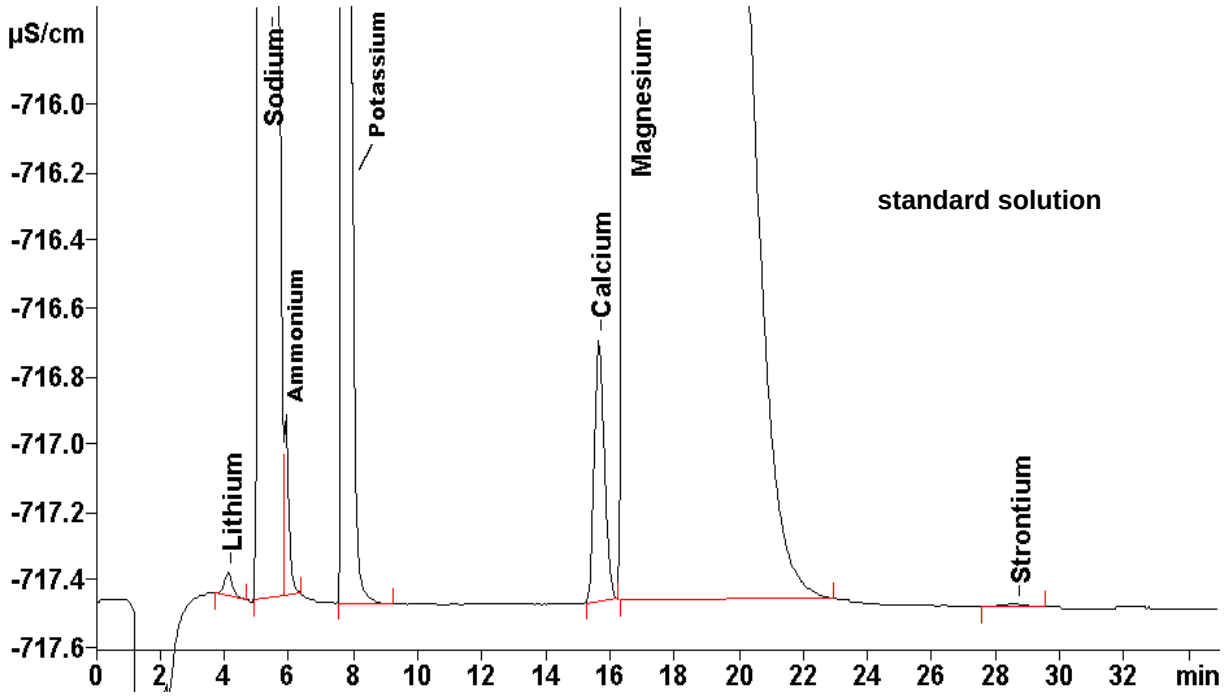
IC Application Note No. C-123

Title:	**Cations including strontium in brine**

***Summary*:**	Determination of lithium, sodium, ammonium, potassium, calcium, magnesium and strontium in brine using cation chromatography with direct conductivity detection.

Sample:	Brine
Sample Preparation:	Dilution 1:500 with 2 mmol/L nitric acid, direct injection after filtration (0.45 µm)

Column:	6.1050.420 Metrosep C 4 – 150
Eluent:	1.7 mmol/L nitric acid 0.7 mmol/L dipicolinic acid
Flow:	0.9 mL/min
Injection Volume:	20 µL



Results:	Li^+ mg/L	Na^+ mg/L	NH_4^+ mg/L	K^+ mg/L	Ca^{2+} mg/L	Mg^{2+} mg/L	Sr^{2+} mg/L
Standard solution	**0.02**	**100**	**0.2***	**20**	**1.0**	**100**	**0.1**
Brine (diluted)	**0.01**	**84.1**	**0.1***	**15.7**	**0.55**	**93.7**	**n.d.**
Brine	**5**	**43300**	**54***	**8090**	**287**	**48200**	**n.d.**

* ammonium concentration is only an approximation as the separation is not sufficient