Zinc - traces (conc. < 1 mg/l)

Function: Differential Pulse Stripping Voltammetry (DPS/a)

Start Potential (mV)	-1200
End Potential (mV)	-800
Current range	102,4
Scan Speed (mV/s)	20
Deposition time (s)	30
Deposition Pot. (mV)	-1200
Number of cycles	3
Delay before sweep (s)	5
Purge and stir time (s)	100
Stirring speed (rpm)	300
Drop Size (a.u.)	30

Zinc concentrated standard solution (1 g/l)
Dissolve 1 g of Zink in a minimum volume of 6 M HCl. Bring to volume in a 1 l volumetric flask with 1% HCl.

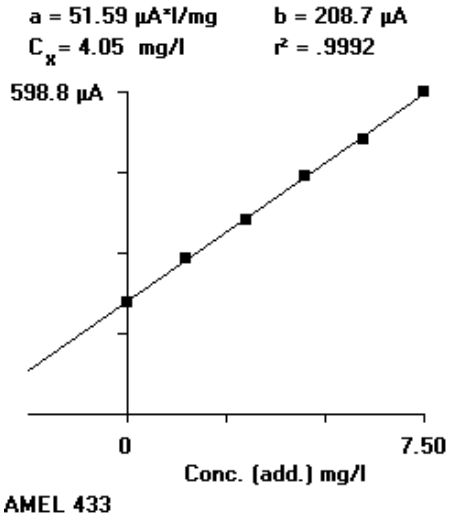
Supporting Electrolyte
0.1 M Acetate buffer, pH 4.5
Dissolve 8.2 g of anhidrous CH_3COONa (or 13.6 g of $CH_3COONa \cdot 3H_2O$) in 800 ml of distilled water. Add 5.75 ml of glacial CH_3COOH. Check and adjust the pH. Bring to volume with distilled water, in a 1 l volumetric flask

Procedure
Add 1 – 2 ml of sample to 10 ml of Supporting Electrolyte.
Alternatively, add 26% NH_3 to the sample until pH from 3 to 7.
Analyse sea water, high salt content sample and acidic solution (at pH between 1 and 3) avoiding the addition of the supporting electrolyte.
Samples at pH above 7 are to be neutralised before the addition of the supporting electrolyte.

Working standard solution (10 mg/l)
Dilute 1+99 the concentrated standard solution with distilled water, in a volumetric flask.

Warnings
If the pH of the sample is 3 – 7, avoid the addition of supporting electrolyte; but if the content of salts of the sample is low, the addition of supporting electrolyte is mandatory.
Final solution (supporting electrolyte + sample + solvent) has to have a concentration of zinc below 1 mg/l.

Analytical report
Analysis: tap water
Sample Concentration = 3.79 mg/l
Method: 5 additions
Blank: Direct subtraction (conc.: 0.052 mg/l)



Volumes Table

Solvent Volume	0 (ml)
Supporting Sol.	10 (ml)
Sample Volume	2 (ml)
Standard Conc.	10 (mg/l)

Height Table

#	Peak Pot.	Height
0	-996.8	34.69 µA
1	-991.4	47.05 µA
2	-999.8	57.05 µA
3	-992.9	68.85 µA
4	-998.3	77.71 µA
5	-999.8	88.70 µA

Regression Data

#	Add.Conc.	Height x dilution
0	0 mg/l	208.2 µA
1	1.50 "	289.4 µA
2	3.00 "	359.5 µA
3	4.50 "	444.1 µA
4	6.00 "	512.9 µA
5	7.50 "	598.8 µA

$y = ax + b$
$a = 51.59$ µA*l/mg
$b = 208.7$ µA
$r^2 = .9992$