Selenium

Function: Differential Pulse Stripping Voltammetry (DPS/a)

Start Potential (mV)	50
End Potential (mV)	-600
Current range	1.024
Scan Speed (mV/s)	20
Deposition time (s)	90
Deposition Pot. (mV)	50
Number of cycles	3
Delay before sweep (s)	5
Purge and stir time (s)	300
Stirring speed (rpm)	300
Drop Size (a.u.)	60

Selenium concentrated standard solution (1 g/l)
Dissolve 0.1 g of pure Se in a minimum volume of 65% HNO_3. Dry avoiding calcination and add 2 ml of distilled water and dry again. Repeat this treatment 2 – 3 times. Dissolve the residue with 10% HCl and bring to volume with distilled water in a 100 ml volumetric flask.

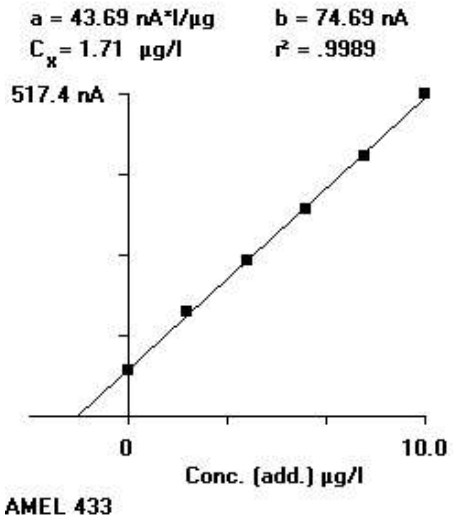
Supporting electrolyte
0.2 **M HCl**
Dilute 1.6 ml of 37% HCl in 100 ml of distilled water.

Procedure
Add 0.16 ml of 37% HCl to 10 ml of neutralised sample.

Working standard solution (0.1 mg/l)
Dilute 1+9999 the concentrated standard solution with 0.2 M HCl distilled water. Prepare the solution at the moment of the analysis.

Warnings
The linearity of methods reaches to 10 – 15 µg/l, so the sum of sample concentration and added concentration has not to overcome those limits.

Analytical Report
Analysis: Tap water
Sample Concentration = 1.71 µg/l
Method: 5 additions



Volumes Table

Solvent Volume	0 (ml)
Supporting Sol.	0.16 (ml)
Sample Volume	10 (ml)
Standard Conc.	1000 (µg/l)

Height Table

#	Peak Pot.	Height
0	-438.1	70.59 nA
1	-438.1	165.2 nA
2	-439	246.3 nA
3	-440.5	325.3 nA
4	-440.5	407.9 nA
5	-442	504.3 nA

Regression Data

#	Add.Conc.	Height x dilution
0	0 µg/l	71.73 nA
1	2.00 "	168.2 nA
2	4.00 "	251.3 nA
3	6.00 "	332.5 nA
4	8.00 "	417.7 nA
5	10.0 "	517.4 nA

$y = ax + b$
$a = 43.69$ nA*l/µg
$b = 74.69$ nA
$r^2 = .9989$