Lead

Function: Differential Pulse Stripping Voltammetry (DPS/a)

Start Potential (mV)	-800
End Potential (mV)	-200
Current range	1,024 µA
Scan Speed (mV/s)	30
Deposition time (s)	120
Deposition Pot. (mV)	-800
Number of cycles	3
Delay before sweep (s)	5
Purge and stir time (s)	20
Stirring speed (rpm)	300
Drop Size (a.u.)	60

Lead concentrated standard solution (1 g/l)
Dissolve1.5986 g of $Pb(NO_3)_2$ (pure and dried), in 1 l of 1 % HCl, in a volumetric flask. ($MM_{Pb(NO_3)_2}$ = 331.21; MM_{Pb} = 207.2).

Supporting Electrolyte
A- **37% HCl**
B- **1 M $H_2C_2O_4$ and 2 M HCl solution**
Dissolve 90 g of $H_2C_2O_4$ (or 126 g of $H_2C_2O_4 \cdot H_2O$) and 167 ml of 37% HCl in 1 l of distilled water. Store in a polythene bottle.

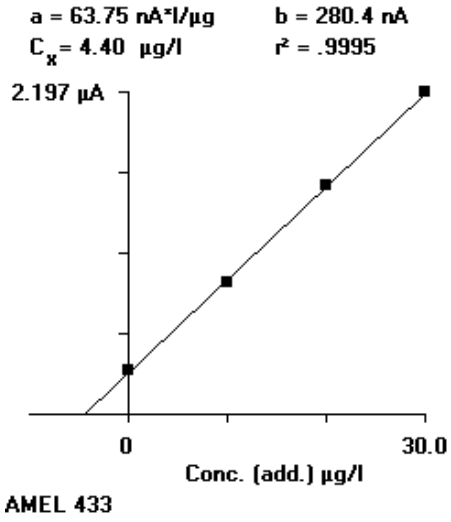
Procedure
Add 20 µl of 37 % HCl to 10 ml of neutralised sample.
Alternatively: add 1 ml of B solution (especially if copper has to be analysed in the same solution).
Analyse sea water, high salt content sample and acidic solution (at pH between 1 and 3) avoiding the addition of the supporting electrolyte.
Samples at pH above 7 are to be neutralised before the addition of the supporting electrolyte.

Working standard solution (1 mg/l)
Dilute 100 µl of 1 g/l Pb standard solution in 100 ml of distilled water, in a volumetric flask. Add also 20 µl of Cd concentrated standard solution if cadmium has to be analysed in the same scanning.

Alternative supporting electrolytes
HCl or KCl or NaCl solution from 0.1 up to 1 M
0.1 M Acetate buffer pH 4.5 or 0.1 M citrate buffer a pH 3
0.1 M Tartrate buffer H 9 (when zinc has to be analysed in the same solution)
Avoid any addition of HNO_3 to the sample, because this acid could raise up the analytical peak. Use HCl instead of HNO_3. If HNO_3 has to be used, dry the sample solution first and after add the supporting electrolyte.

Analytical report

Analysis: tap water
Sample Concentration = 4.40 µg/l
Method: 3 additions



Volumes Table

Solvent Volume	0 (ml)
Supporting Sol.	0.01 (ml)
Sample Volume	10 (ml)
Standard Conc.	1000 (µg/l)

Height Table

#	Peak Pot.	Height
0	-318.4	295.0 nA
1	-322.8	882.4 nA
2	-322.9	1.529 µA
3	-323.8	2.130 µA

Regression Data

#	Add.Conc.	Height x dilution
0	0 µg/l	295.3 nA
1	10.0 "	892.1 nA
2	20.0 "	1.562 µA
3	30.0 "	2.197 µA

y = ax + b
a = 63.75 nA*l/µg
b = 280.4 nA
r^2= .9995