Iron

Method: TEA – NaOH Buffer
Function: Differential Pulse Voltammetry (DPV/a)

Start Potential (mV)	-700
End Potential (mV)	-1500
Current range	1,024 μA
Scan Speed (mV/s)	20
Number of cycles	3
Delay before sweep (s)	5
Purge and stir time (s)	600
Stirring speed (rpm)	300
Drop Size (a.u.)	60

Iron concentrated standard solution (1 g/l)
Dissolve 1 g of pure iron wire in a minimum volume of 8 M HNO_3. Bring to volume in a 1 l volumetric flask with distilled water.

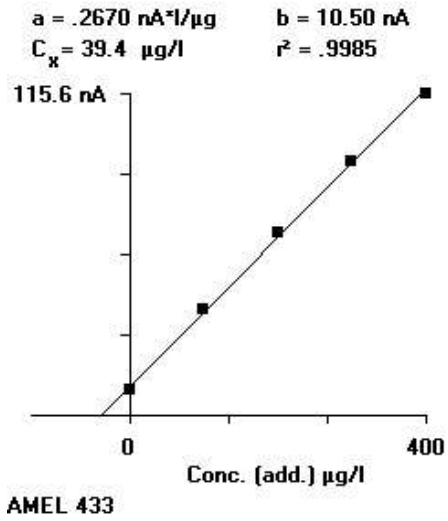
Supporting Electrolyte
TEA 0.3 M – NaOH 0.2 M buffer solution
Dissolve 45 g of triethanol ammine (TEA) and 8 g of NaOH in 1 l of distilled water. Store in polythene bottle.

Procedure
Add 2 ml of TEA – NaOH buffer solution to 10 ml of neutralised sample.

Working standard solution (10 mg/l)
Dilute the concentrated standard solution 1+99 in distilled water, at the moment of the analysis.

Warnings
Use 1 nitroso – 2 naphtol method for samples below 50 μg/l.
Tightly deaerate the solution for a long time because oxygen interfere in the region of scanning.
Tightly wash accurately the capillary at the end of the analysis because NaOH could damage its tip.
Do not use yellow the buffer solution.

Analytical Report
Analysis: tap water
Sample Concentration = 39.4 µg/l
Method: 4 additions



Volumes Table

Solvent Volume	0 (ml)
Supporting Sol.	2 (ml)
Sample Volume	10 (ml)
Standard Conc.	1000 (µg/l)

Height Table

#	Peak Pot.	Height
0	-936.5	7.230 nA
1	-933.1	29.42 nA
2	-935.5	46.79 nA
3	-931.6	60.73 nA
4	-931.6	72.22 nA

Regression Data

#	Add.Conc.	Height x dilution
0	0 µg/l	8.677 nA
1	100 "	38.25 nA
2	200 "	65.52 nA
3	300 "	91.11 nA
4	400 "	115.6 nA

y = ax + b
a = .2670 nA*l/µg
b = 10.50 nA
r^2= .9985