VA Application Note No. V- 16

Title:	**Nickel, iron and copper in a silver plating bath**

***Summary*:**	Determination of Ni, Fe and Cu in a silver plating bath

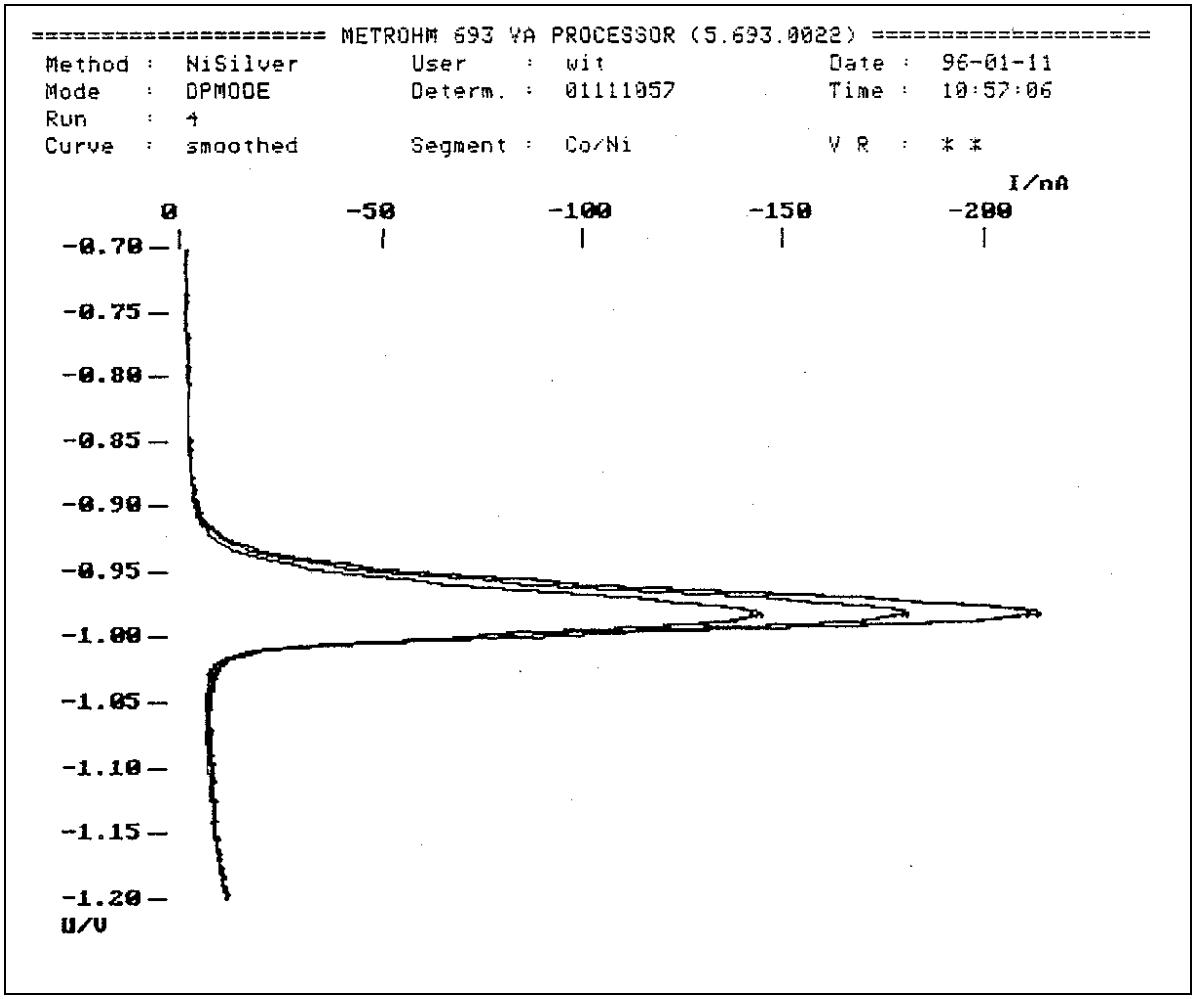
Sample:	Strongly alkaline silver bath containing 2.5 g/L CN^- and 60 g/L Ag
Sample Preparation:	Wet digestion with HNO_3

Nickel:	
Electrolyte:	Dimethylglyoxime, NH_4Cl buffer
AE:	Pt
RE:	Ag/AgCl/KCl 3M
Parameters:	DPCSV (-50 mV), HMDE U_{meas} = -700 mV (30s), U_{start} = -700 mV, U_{end} = -1200 mV Ep (Ni) = -985 mV

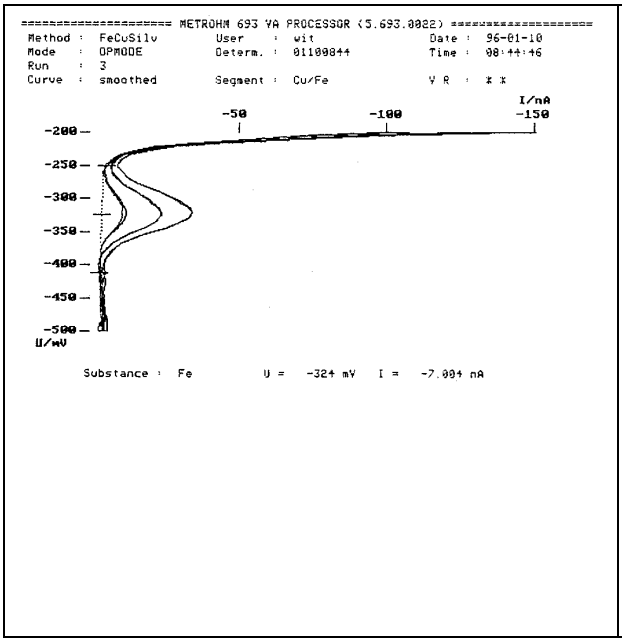
Iron and copper:	
Electrolyte:	Catechol, Pipes buffer pH = 7.0 with NH_3
AE:	Pt
RE:	Ag/AgCl/KCl 3M
Parameters:	DPCSV (-50 mV), HMDE U_{meas} = -100 mV (60s), U_{start} = 0 mV, U_{end} = -600 mV Ep (Cu) = -175 mV, Ep (Fe) = - 325 mV

Results:	**Ni** mg/L	**Fe** mg/L	**Cu** mg/L
	25.5	**4.1**	**31.6**

Determination of nickel



Determination of iron



Determination of copper and iron