VA Application Note No. V- 30

Title:	**Zinc, cadmium, lead, nickel and cobalt in $FeCl_3$ solution 40%**

***Summary*:**	Determination of Zn, Cd, Pb, Ni and Co in $FeCl_3$ solution 40%

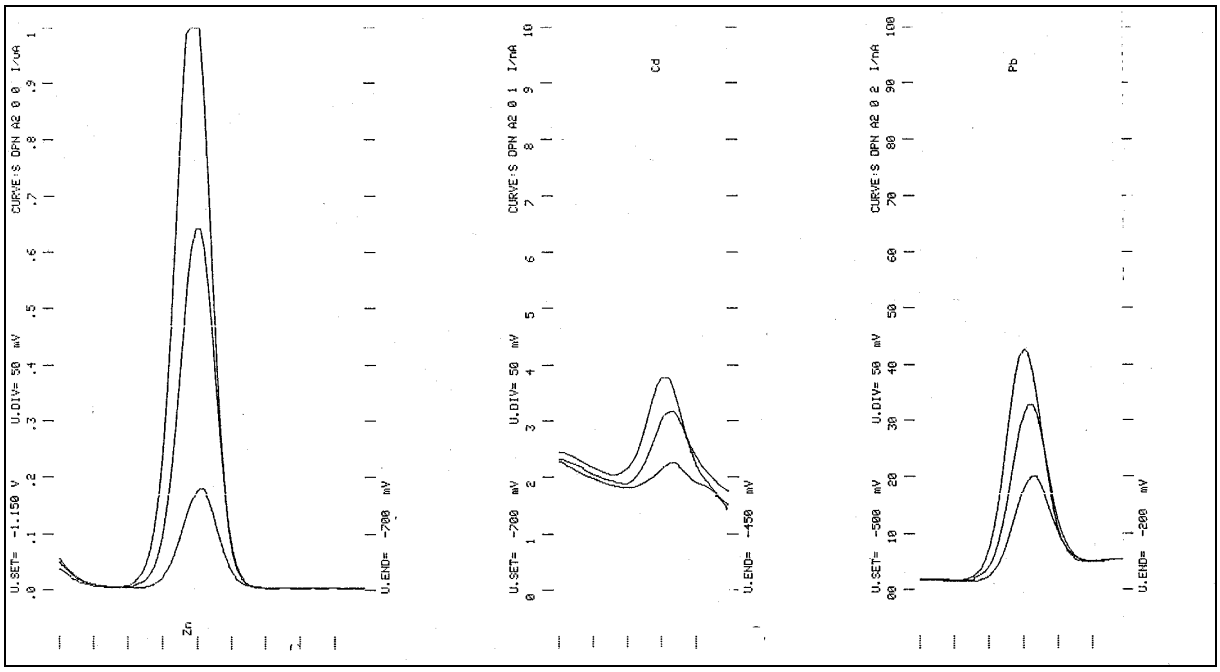
Sample:	$FeCl_3$ solution 40%
Sample Preparation:	Dilution 1/100 for nickel and cobalt

Zinc, cadmium and lead:	
Electrolyte:	NH_4Ac buffer, ascorbic acid
AE:	Pt
RE:	Ag/AgCl/KCl 3M
Parameters:	DPASV (+50 mV), HMDE U_{meas} = -1150 mV (30s), U_{start} = -1150 mV, U_{end} = -200 mV Ep (Zn) = -960 mV, Ep (Cd) = -580 mV Ep (Pb) = -380 mV

Nickel and cobalt:	
Electrolyte:	Dimethylglyoxime in triethanolamine and NH_4Cl buffer
AE:	Pt
RE:	Ag/AgCl/KCl 3M
Parameters:	DPCSV (-75 mV), HMDE U_{meas} = -700 mV (30s), U_{meas} = -800 mV (10s), U_{start} = -800 mV, U_{end} = -1000 mV Ep (Ni) = -940 mV, Ep (Co) = -1050 mV

Results:	**Zn** mg/L	**Cd** µg/L	**Pb** mg/L	**Ni** mg/L	**Co** mg/L
	212	**550**	**36**	**141**	**19**

Determination of zinc (left), cadmium (center) and lead (right)



Determination of nickel (top) and cobalt (bottom)