

# VA Application Note No. V- 29

<b>Title:</b>	<b>Zinc, cadmium, lead, nickel and cobalt in Javelle water</b>
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<b>Summary:</b>	Determination of Zn, Cd, Pb, Ni and Co in Javelle water
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<b>Sample:</b>	Javelle water
<b>Sample Preparation:</b>	Neutralisation with HCl

## Zinc, cadmium and lead:

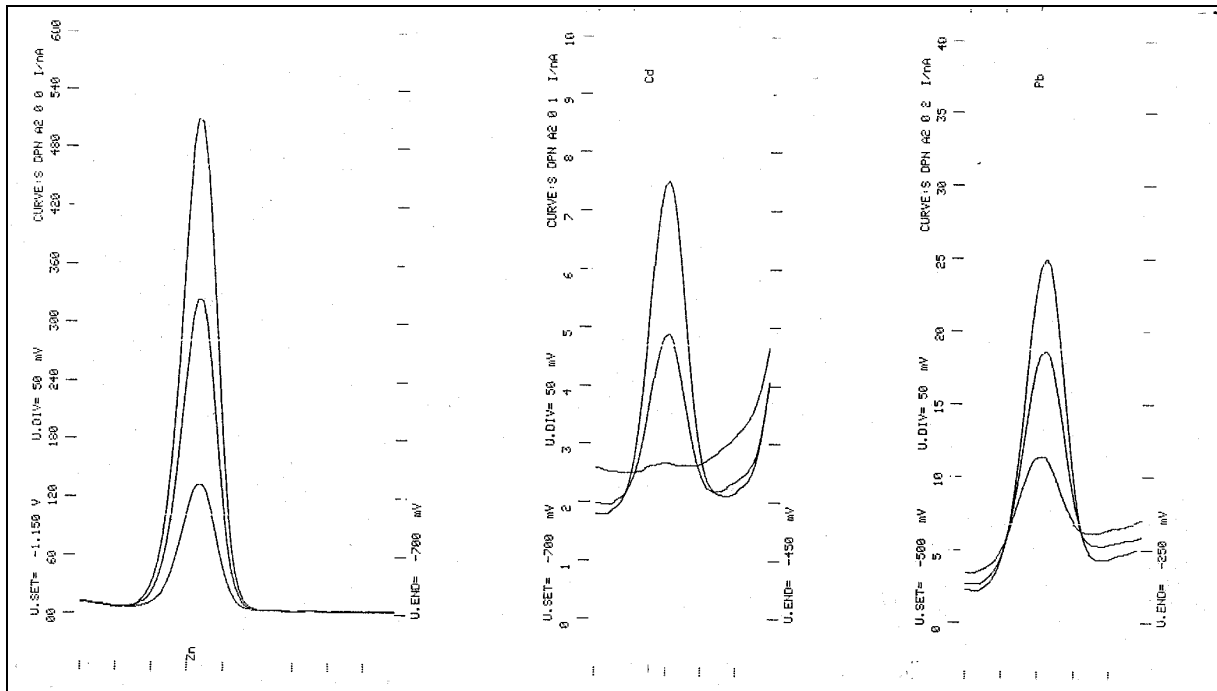
<b>Electrolyte:</b>	NH <sub>4</sub> Ac Buffer
<b>AE:</b>	Pt
<b>RE:</b>	Ag/AgCl/KCl 3M
<b>Parameters:</b>	DPASV (+50 mV), HMDE $U_{\text{meas}} = -1150 \text{ mV (180s)}$ , $U_{\text{start}} = -1150 \text{ mV}$ , $U_{\text{end}} = -250 \text{ mV}$ $E_p (\text{Zn}) = -960 \text{ mV}$ , $E_p (\text{Cd}) = -580 \text{ mV}$ $E_p (\text{Pb}) = -380 \text{ mV}$

## Nickel and cobalt in the same vessel:

<b>Electrolyte:</b>	Addition of dimethylglyoxime in triethanol amine and NH <sub>4</sub> Cl buffer (same vessel)
<b>AE:</b>	Pt
<b>RE:</b>	Ag/AgCl/KCl 3M
<b>Parameters:</b>	DPCSV (-75 mV), HMDE $U_{\text{meas}} = -600 \text{ mV (40s)}$ , $U_{\text{meas}} = -800 \text{ mV (20s)}$ , $U_{\text{start}} = -800 \text{ mV}$ , $U_{\text{end}} = -1000 \text{ mV}$ $E_p (\text{Ni}) = -920 \text{ mV}$ , $E_p (\text{Co}) = -1050 \text{ mV}$

<b>Results:</b>	<b>Zn</b> µg/L	<b>Cd</b> µg/L	<b>Pb</b> µg/L	<b>Ni</b> µg/L	<b>Co</b> µg/L
	<b>344</b>	<b>0.2</b>	<b>46</b>	<b>36.7</b>	<b>1.7</b>

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



Determination of nickel (top) and cobalt (bottom)

