VA Application Note No. V- 2

Title:	**Chromium, manganese and titanium in a polyterephthalic acid solution**

***Summary*:**	Determination of Cr, Mn and Ti in a PTA solution containing HCl.

Sample:	PTA in HCl
Sample Preparation:	none

Chromium:

Electrolyte:	NaAc, DTPA (diethylenetriaminepentaaceticacid), $NaNO_3$. pH = 6.2 with NaOH.
AE:	Pt
RE:	Ag/AgCl/KCl 3M
Parameters:	DPASV (–50 mV), HMDE U_{meas} = –1000 mV (60s), U_{start} = –1000 mV, U_{end} = –1500 mV, **Ep (Cr)** = –1250 mV

Manganese:

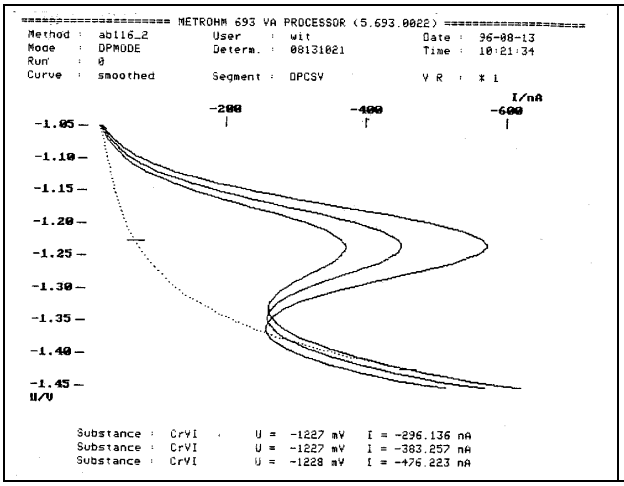
Electrolyte:	NH_4Cl / NH_3 buffer, borate buffer, Zn standard
AE:	Pt
RE:	Ag/AgCl/KCl 3M
Parameters:	DPCSV (–75 mV), HMDE U_{meas} = –1700 mV (90s), U_{start} = –1620 mV, U_{end} = –1250 mV, **Ep (Mn)** = –1400 mV

Titanium:

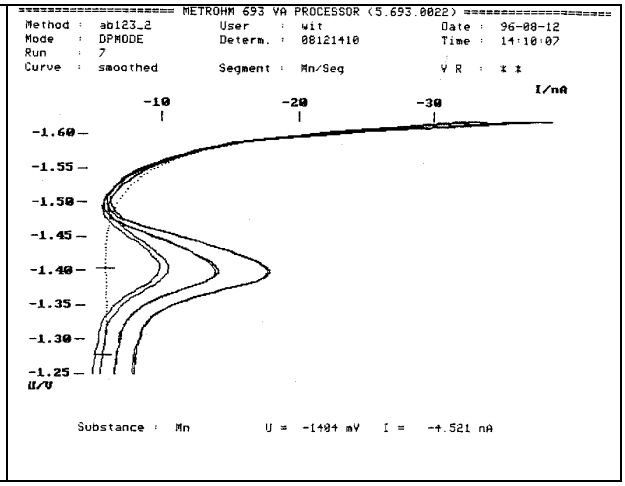
Electrolyte:	Mandelic acid. pH = 3 with NH_3 25%.
AE:	Pt
RE:	Ag/AgCl/KCl 3M
Parameters:	DPCSV (–50 mV), HMDE U_{meas} = –100 mV (30s), U_{start} = –100 mV, U_{end} = –900 mV, **Ep (Ti)** = –750 mV

Results:	**Cr** µg/L	**Mn** µg/L	**Ti** µg/L
	7.2	**324.8**	**91.8**

Determination of chromium



Determination of manganese



Determination of titanium