

VA Application Note No. V - 162

Title:	Total iron in deoxidation solution (oxalate method)
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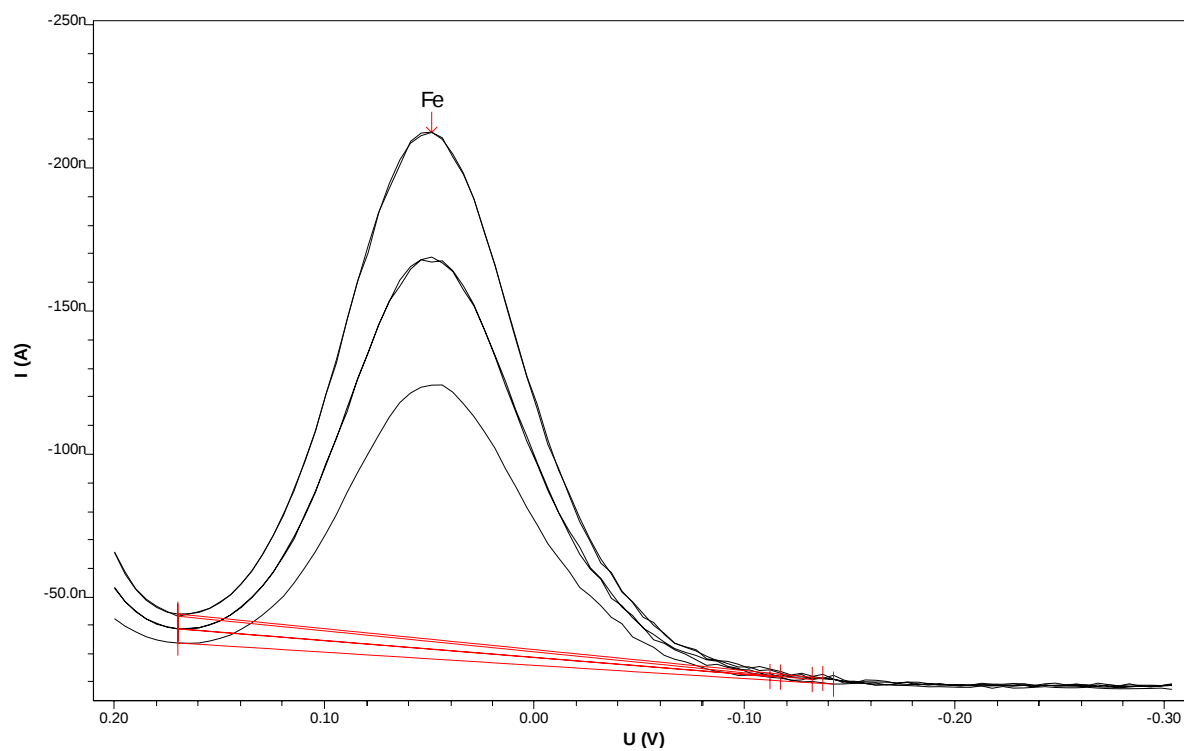
Summary:	The concentration of Fe(total) is determined by polarography in oxalate buffer pH 2. This method is suitable for iron concentrations in the mg/L range.
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Sample:	Deoxidation solution
Sample preparation:	None

Analysis of total Fe(total)		
Electrolyte	c((NH ₄) ₂ C ₂ O ₄) = 0.1 mol/L pH 2 is adjusted with H ₂ SO ₄	
Measuring solution	5 mL H ₂ O + 5 mL electrolyte + 0.1 mL deoxidation solution	
Working electrode (WE)	MME (Multi Mode Electrode)	6.1246.020
Auxiliary electrode (AE)	Pt	6.0343.000
Reference electrode (RE)	Reference system: Ag/AgCl/KCl (3 mol/L)	6.0728.020
	Intermediate electrolyte: c(KCl) = 3 mol/L	6.1245.010
Parameters	Working electrode	DME
	Stirrer speed	2000 rpm
	Mode	DP
	Purge time	300 s
	Equilibration time	5 s
	Pulse amplitude	0.05 V
	Start potential	0.2 V
	End potential	-0.3 V
	Voltage step	0.005 V
	Voltage step time	0.5 s
	Sweep rate	0.01 V/s
	Peak potential Fe	0.05 V

Results:	Fe
	235.2 mg/L

Determination of total Fe(total)



Fe
 $c = 235.198 \text{ mg/L}$
 $\pm 0.987 \text{ mg/L (0.42\%)}$

