

NIM Reports

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Report No. 1647

The industrial application of KEGOLD electrodes.

A simple on-line electrode system has been developed for the measurement of the cyanide concentration of gold pulps in the continuous leaching process.

The electrode is immersed direct in the process pulp, and, once calibrated for its particular environment, it provides a ready indication of changes in cyanide concentration. During plant trials, the system has acted both as a

'policeman' (for more than one year) and as a control element for the automatic addition of cyanide (for the last nine months).

Report No. 1665

The determination of minor amounts of antimony in ores and concentrates by atomic-absorption spectrophotometry.

The use of atomic-absorption spectrophotometry for the direct measurement of antimony in solutions of sulphide ores and concentrates fused with sodium peroxide is examined. No interferences were observed from other elements at concentrations twenty times that of the antimony (1,5 and 0,05 per cent), and no interference from zinc at

concentrations of up to 40 per cent. Lead interfered at concentrations above 25 per cent. A correction for this interference can be applied or, if the antimony content is sufficiently high, a dilution made.

The precision of the suggested method is 1,5 per cent, and the average deviations from volumetric and X-ray data (obtained in another laboratory) were less than or equal to 1,5 per cent at an antimony concentration of 3 per cent and *ca* 4 per cent at the 0,5 per cent concentration level.

At high concentrations (approximately 60 per cent), the average deviation from volumetric data was less than or equal to 2 per cent.

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