Abridged version

KAWASAKI STEEL TECHNICAL REPORT

No.41 (October 1999)

Advances in Iron and Steel Technologies, Commemorating the 30th Anniversary of Technical Research Laboratories

Recent Activities in Research of Analysis and Material Science

Keiichi Yoshioka, Makoto Shimura, Akira Yamamoto

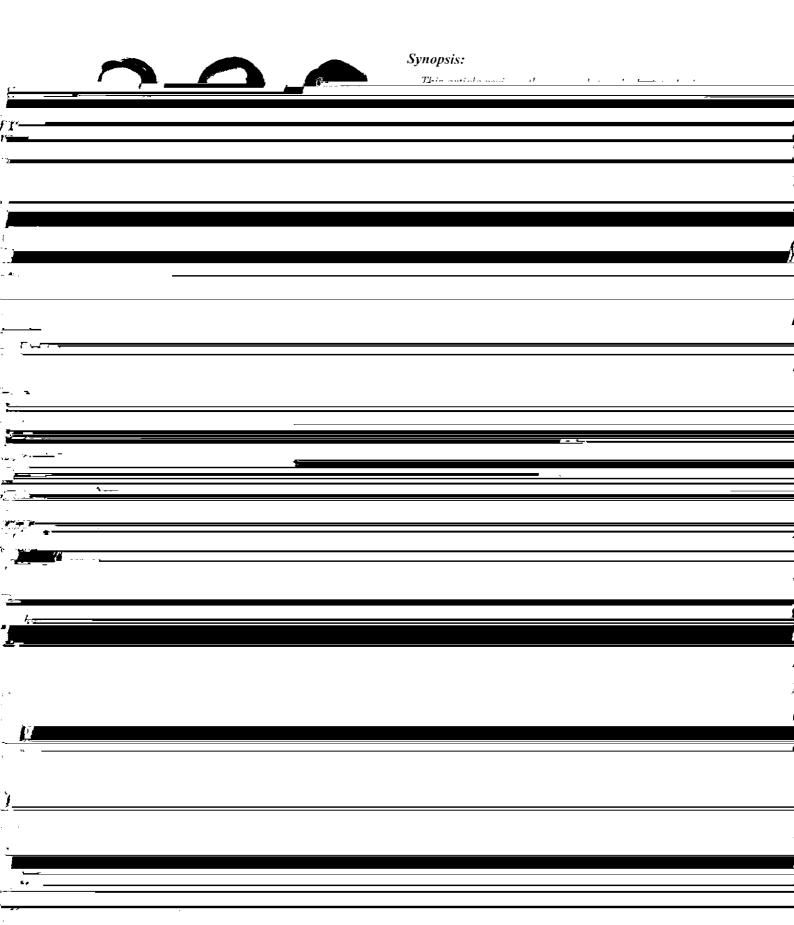
Synopsis:

This article reviews the research trends during the last decade in chemical analysis, process control analysis, surface analysis and microscopic characterization in Kawasaki Steel. The analytical methods, such as the highly accurate ultratrace analysis for steels and silicon materials and the spark discharge optical emission spectroscopy for gaseous constituents in steels, have been developed in order to meet the requirements from the material developments and manufacturing process. It is demonstrated that field emission gun Auger electron spectroscopy (FE-AES) and field emission gun transmission electron microscope (FE-TEM) have become novel powerful tools for the surface and structure characterization. The application of X-ray diffraction and Raman spectroscopy to in situ analysis at high temperature are also described.

(c) JFE Steel Corporation, 2003

The body can be viewed from the next page.

Recent Activities in Research of Analysis and Material Science*



a matrix element, Cr was removed as Cr2Cl2O2 sufficiently sensitive. Therefore, P was converted to vapor.31 This procedure isolated the elements Be, Al, molybdophosphate, which was isolated as an ion-pair Ca, Ti, V, Cr, Mn, Co, Ni, Cu, Zn, Ba, Pb, Bi, as well with cationic surfactant, and Mo in the molybdophosne rara earth a hangara

	between anomalous and no ground intensity of O emis	ssions could be significantly	devaloned method-gand	converters of automobiles. T	he
	- Primer				
* .					
**					
7	k.				
	_	<u> </u>			

