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(71) Applicant *(for all designated States except US)*: **TROJAN TECHNOLOGIES** [CA/CA]; 3020 Gore Road, London, Ontario N5V 4T7 (CA).

(72) Inventor; and

(75) Inventor/Applicant *(for US only)*: **O'KEEFE, William** [CA/CA]; 155 Eramosa Road, Guelph, Ontario N1E 2M1 (CA).

(74) Agents: **NASSIF, Omar,A.** et al.; Gowling Lafleur Henderson LLP, 100 King Street West, 1 First Canadian Place, Suite 1600, Toronto, Ontario M5X 1 G5 (CA).

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(54) **Title**: ANTI-FOULING SURFACE. AND RADIATION SOURCE ASSEMBLY AND FLUID TREATMENT SYSTEM COMPRISING SAME

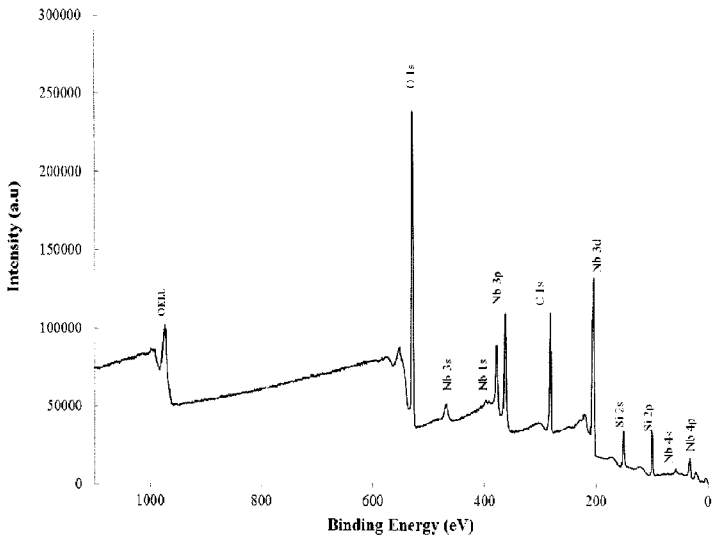


Figure 1 XPS survey scan of specimen 003

(57) **Abstract**: There is described an element having an immersible portion for contact with an aqueous liquid, the immersible portion comprising a contact surface which is for contact with the aqueous liquid, the contact surface configured to have strong acidity. The invention also relates to a radiation (e.g., ultraviolet radiation) source assembly, a radiation (e.g., ultraviolet radiation) source module and a fluid (e.g., water) treatment system incorporating this element. The present invention is applicable to any surface in contact with fluid that is susceptible to build-up of fouling materials. Thus, the present inventor has discovered an approach which obviates or mitigates the rate of accumulation of fouling on surfaces in contact with aqueous solution, such as the protective (e.g., quartz) sleeves in an ultraviolet radiation fluid treatement system. This approach involves modifying at least a portion of the surface of those sleeves in contact with fluid (e.g., water) to have an inherent strong surface acidity. In some cases, this can obviate the need for complex mechanical cleaning equipment or at least result in a reduced frequency of mechanical cleaning.

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