

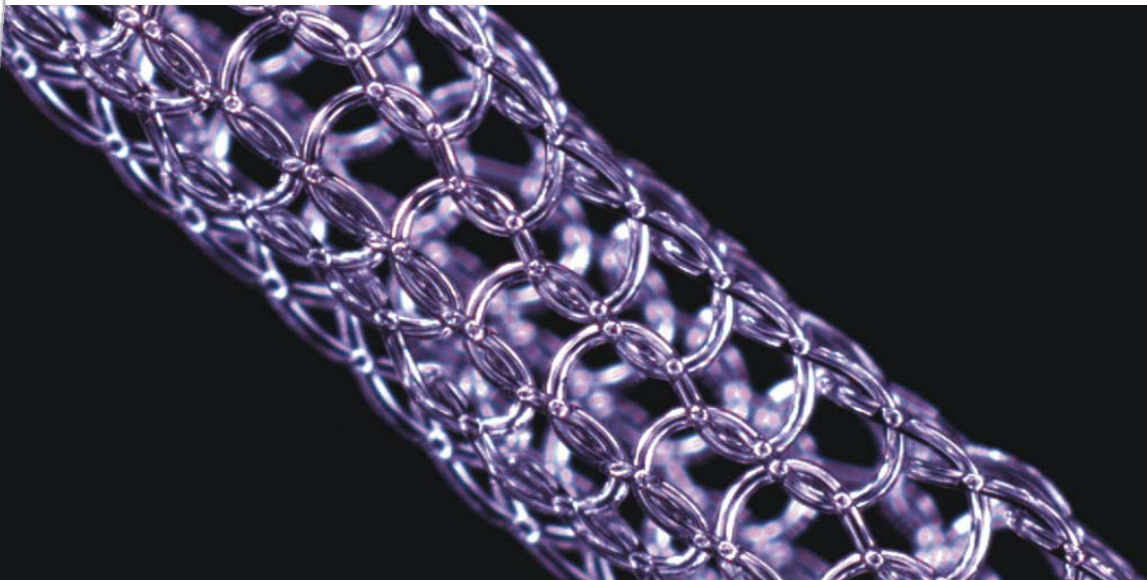
# Microscopy Report

Materials Science & Engineering  
Report Number: 2558  
Date: 19<sup>th</sup> March 2010

Client Name: Amazing Turf

CSIRO Contact: Colin Veitch

Commercial-in-confidence



A piece of each component of the sample was placed on conductive carbon tape on a sample holder. This was then placed in the Hitachi S4300 SE/N Scanning Electron Microscope (SEM). The microscope is equipped with a TSI WinEDS Energy Dispersive X-ray System (EDXS) which was used to perform the elemental analysis of the sample.

The following figures show images and spectra from each sample – dark green “grass” (figures 1 and 2), light green “grass” (figures 3 and 4), brown “grass” (figures 5 and 6), the black ribbon like material from the base (figures 7 and 8), the fibres from the base (figures 9 and 10) and the rubber base (figures 11 and 12). The rectangular box in each image indicates the area which was used for analysis.

In each case the large peak at the low energy end of the spectrum is carbon. There were traces of sulphur in the two green “grasses”, with even smaller traces of titanium and chromium in the lighter shade. These presumably come from the pigment. Aside from a small amount of calcium in the black ribbon fabric, some oxygen in the black fibres and some oxygen, magnesium, aluminium, silicon and calcium there were no other elements detected. No heavy metals were detected in the sample.





Figure 1

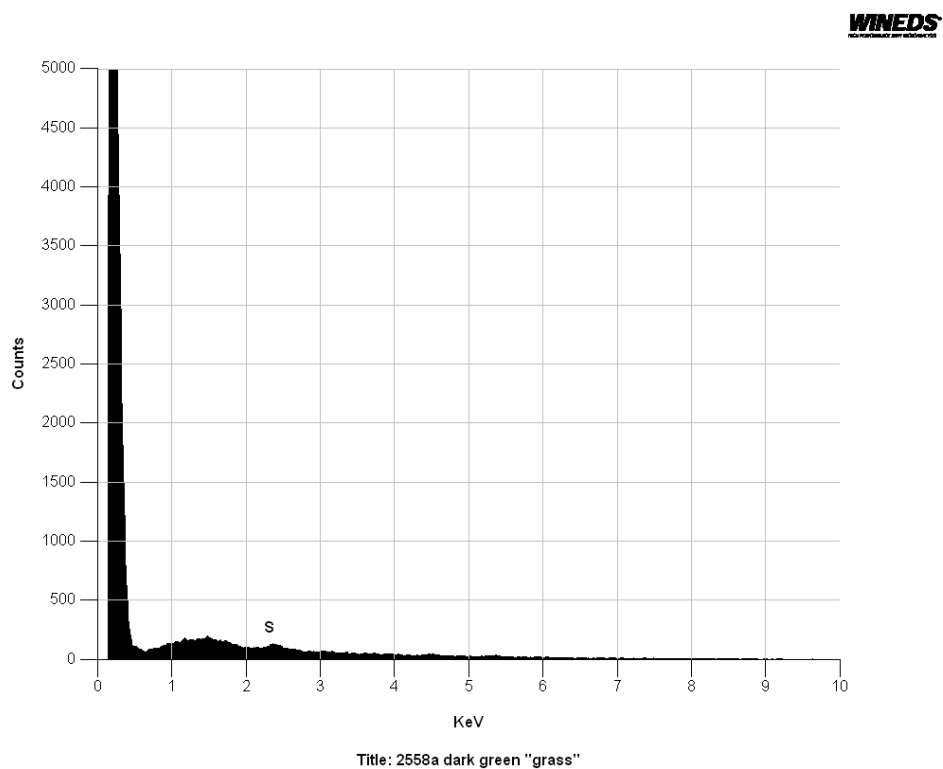


Figure 2



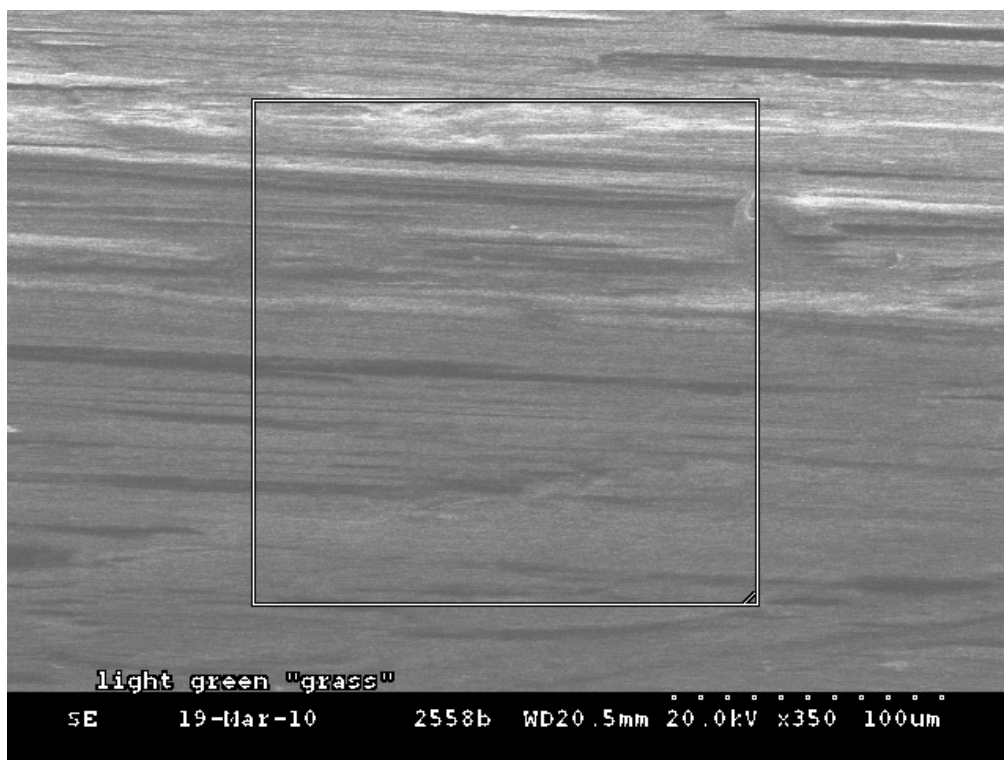


Figure 3

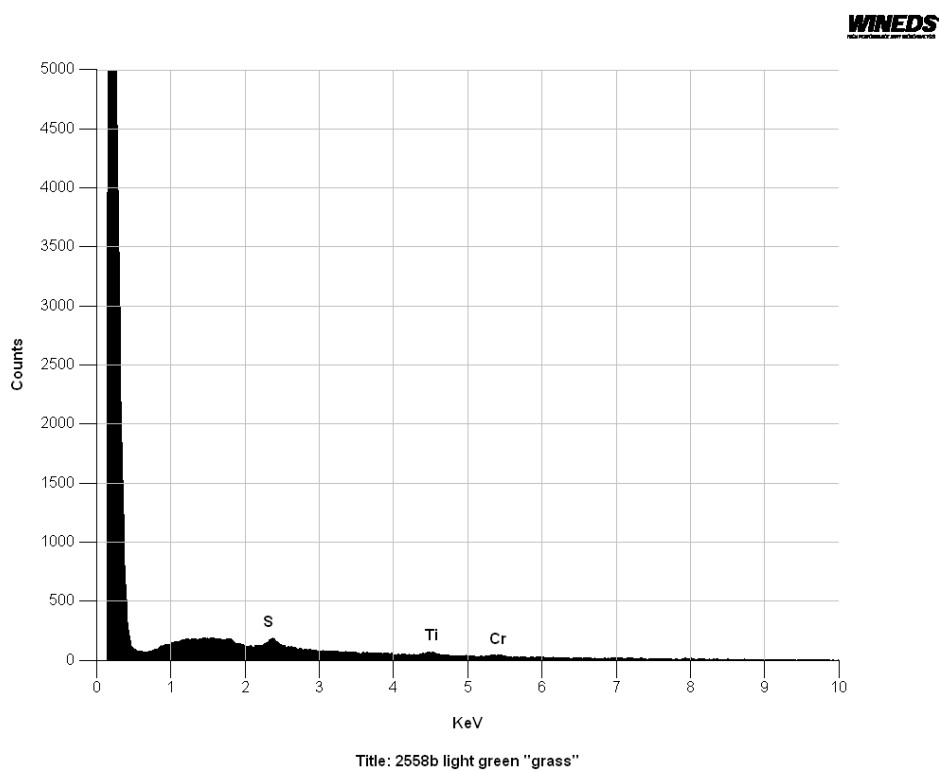


Figure 4



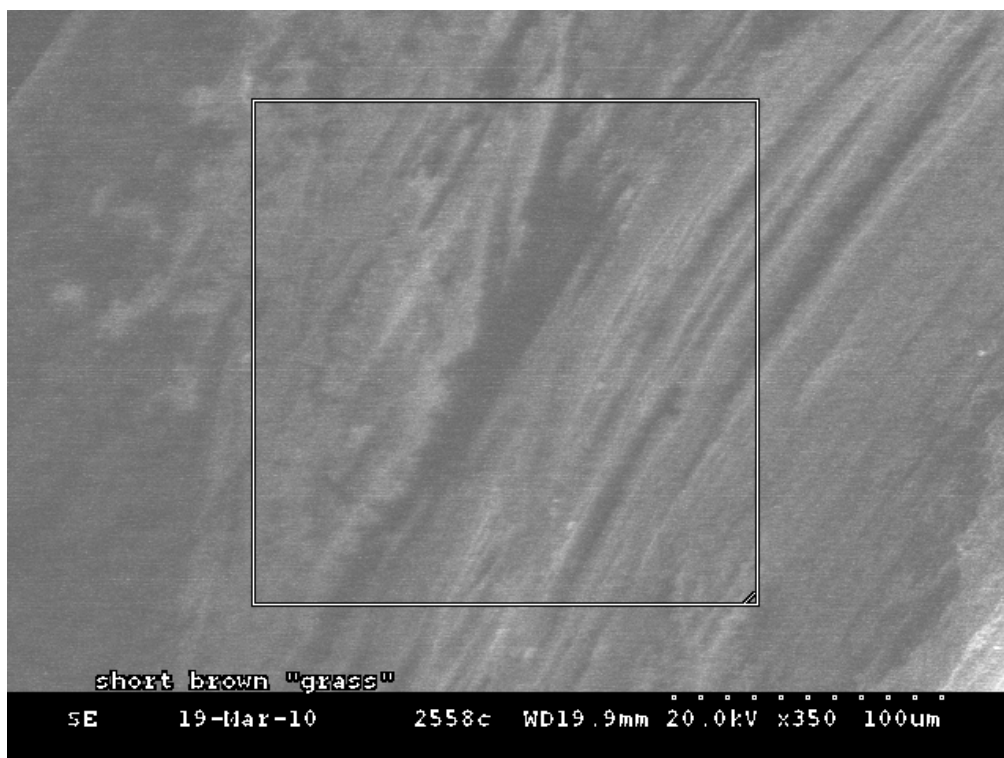


Figure 5

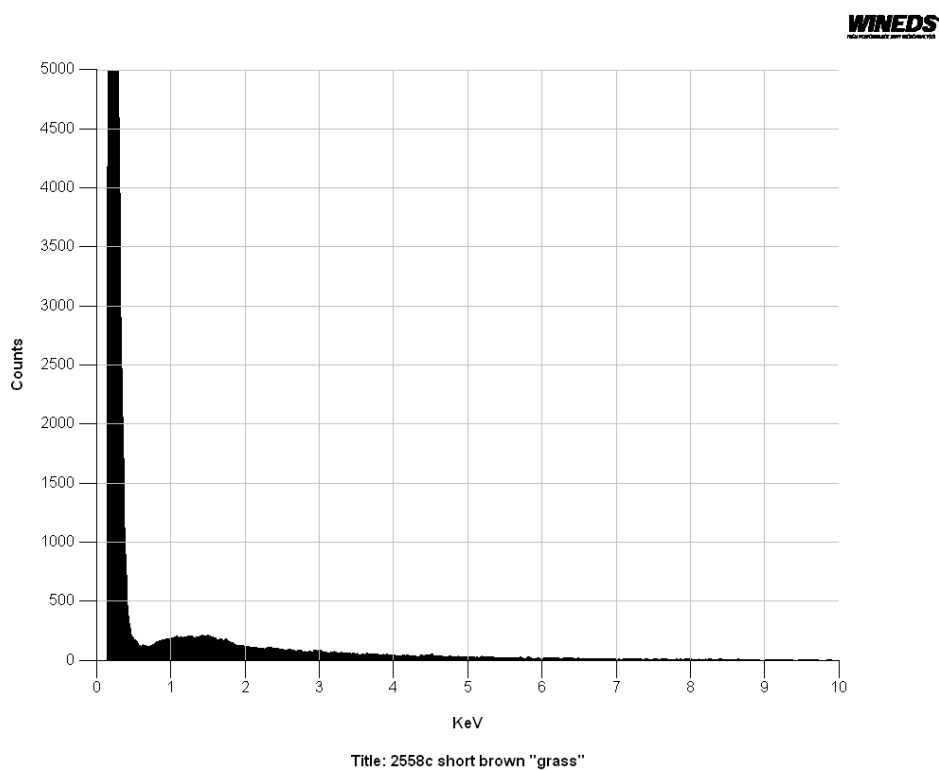
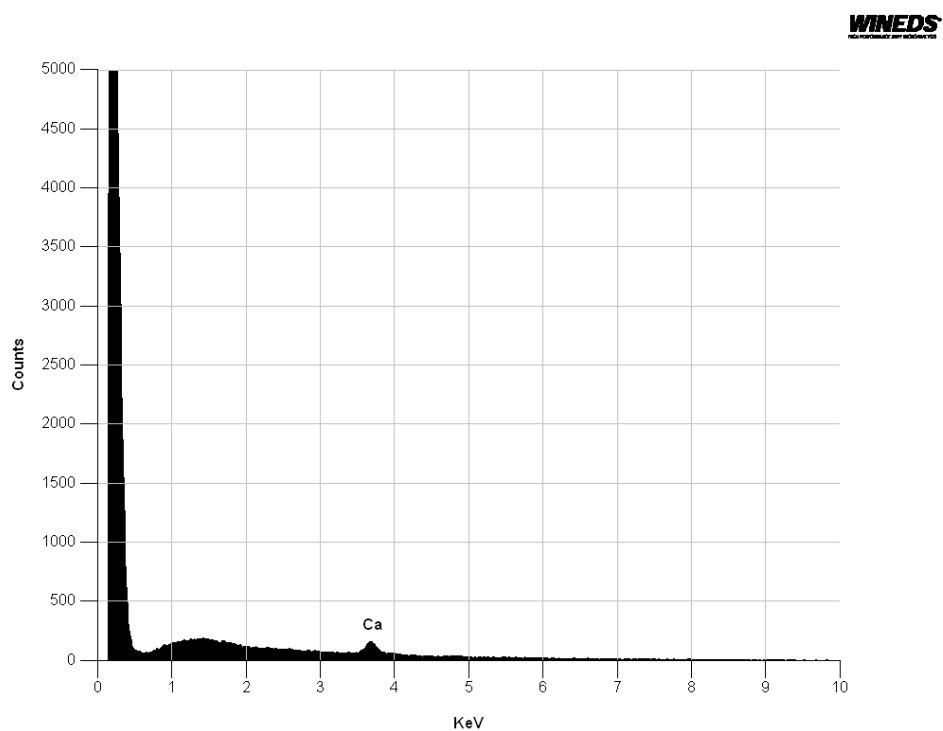


Figure 6





Figure 7



Title: 2558d black ribbon from base

Figure 8



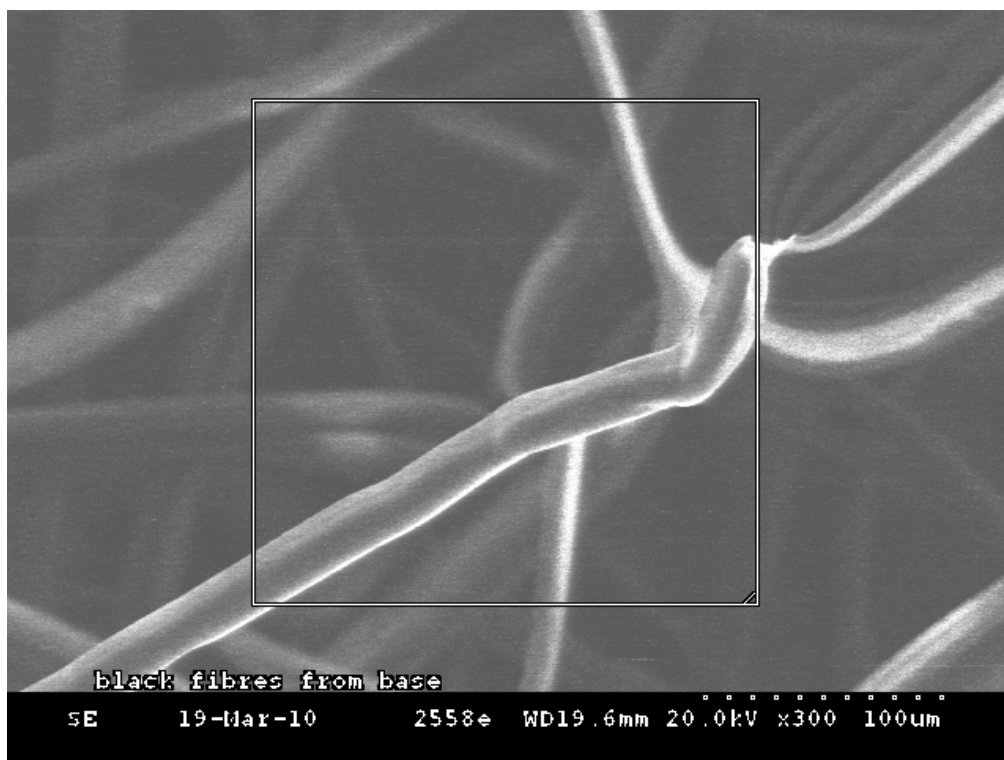
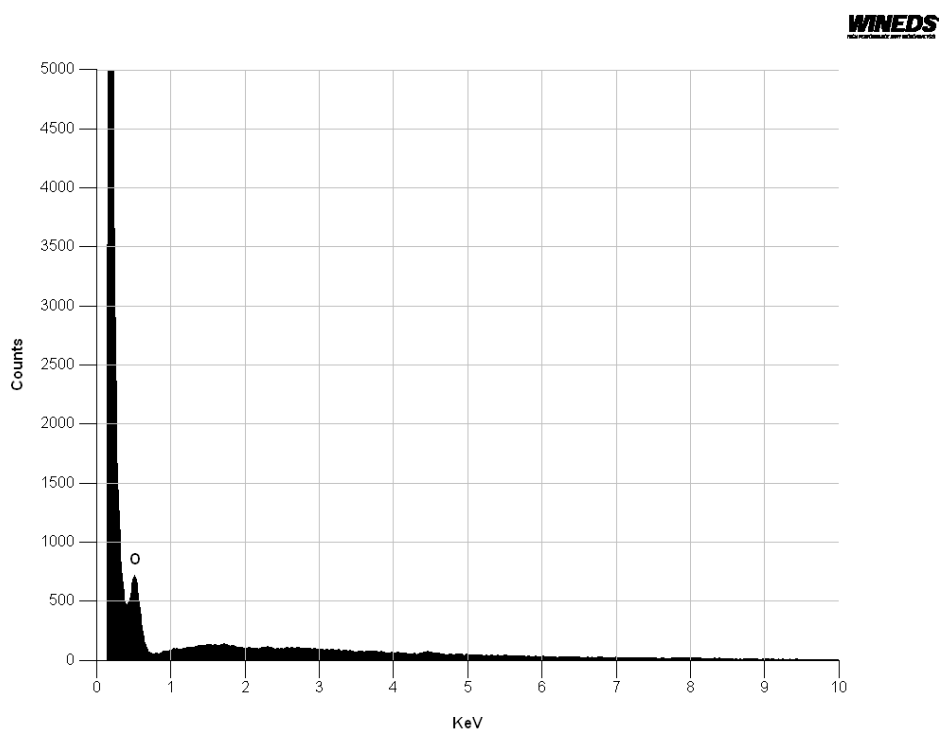


Figure 9



Title: 2558e black fibres from base

Figure 10



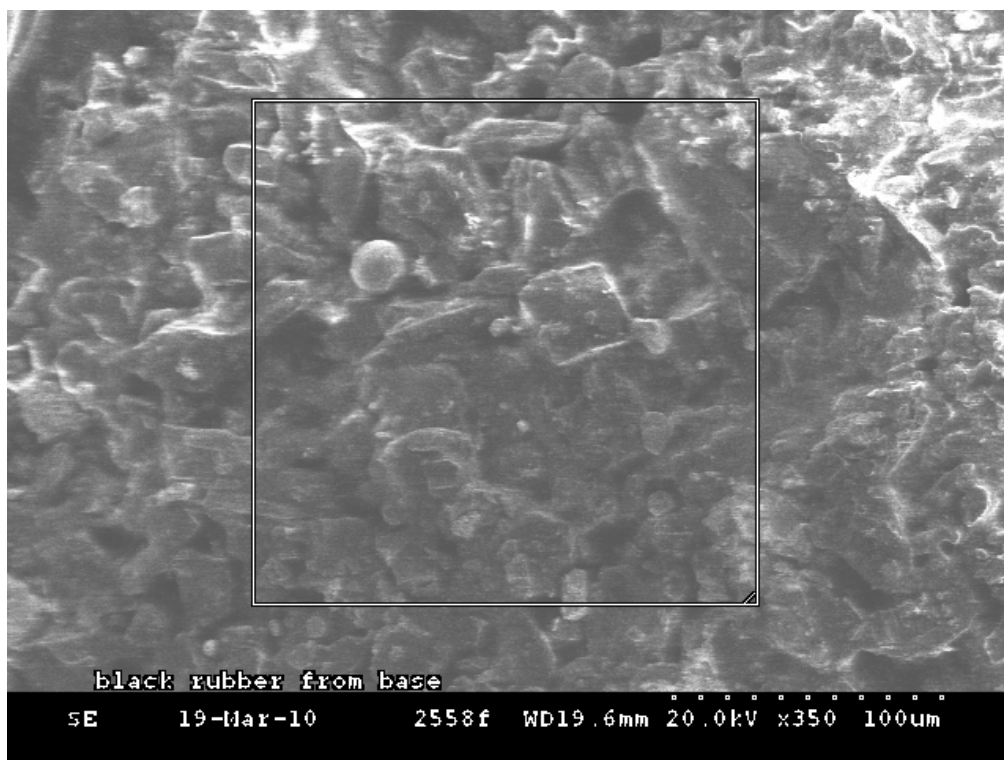
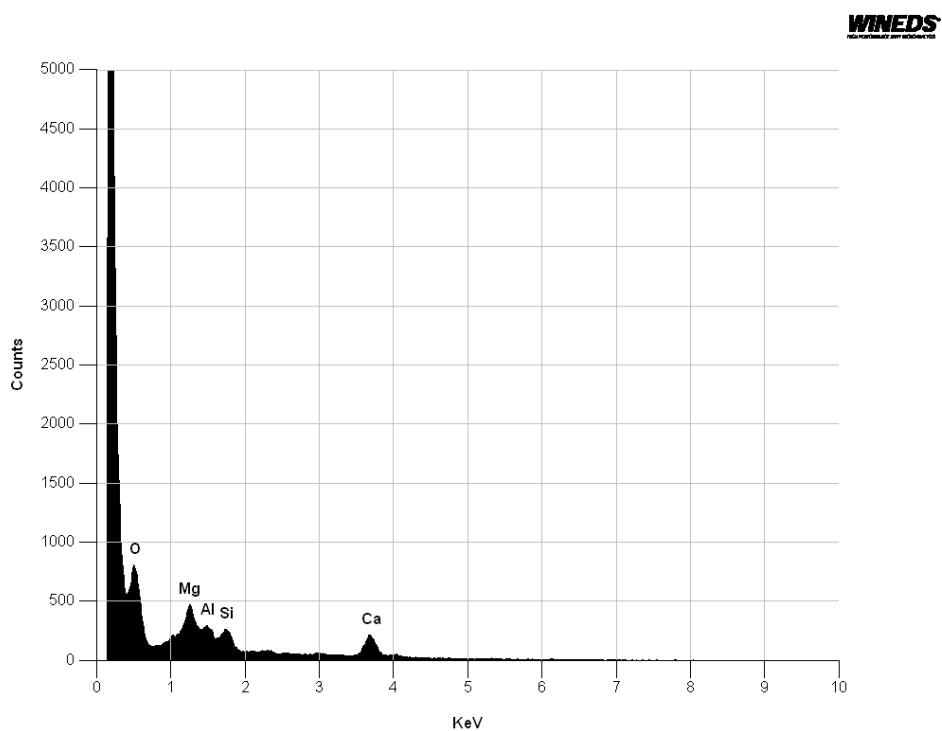


Figure 11

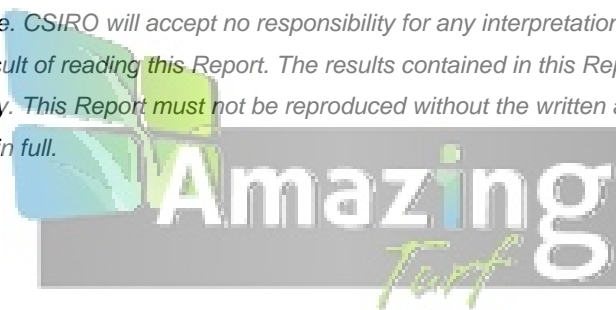


Title: 2558f black rubber from base

Figure 12



*This Report is a summary of the results obtained from the Services carried out on the Client Contributions both of which are described above. CSIRO will accept no responsibility for any interpretation, opinion or conclusion that any person forms as a result of reading this Report. The results contained in this Report apply only to the sample submitted to the laboratory. This Report must not be reproduced without the written authority of CSIRO and then must only be reproduced in full.*



Materials Science & Engineering:  
Microscopy Laboratory

ABN: 41 687 119 230

Corner Princes Highway & Henry Street,  
Belmont, Geelong Victoria.  
P.O. Box 21 Belmont VIC 3216 Australia  
Phone: (03) 5246 4000  
Fax: (03) 5246 4057

#### Contact Us

Phone: 1300 363 400

+61 3 9545 2176

Email: [enquiries@csiro.au](mailto:enquiries@csiro.au)

Web: [www.csiro.au](http://www.csiro.au)

#### Your CSIRO

Australia is founding its future on science and innovation. Its national science agency, CSIRO, is a powerhouse of ideas, technologies and skills for building prosperity, growth, health and sustainability. It serves governments, industries, business and communities across the nation.

