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**Campden BRI**

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**Report on:**

**Examination of a Plastic Sample Reported from Smoked Salmon Fillets**

Work performed by Campden BRI (Chipping Campden) Limited

Report number: MI/REP/181325-05265/1 ♦ Issue date: 19<sup>th</sup> February 2018

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Our ref: Plastic Report

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## SAMPLE INFORMATION

Date sample(s) received : 10<sup>th</sup> February 2018  
Packaging : In a plastic bag  
Storage conditions : Ambient temperature  
Date(s) sample(s) examined : 17<sup>th</sup> February 2018

## METHODS AND REFERENCES

Analyst reference : SDA  
Method reference(s) : TES-AC-192 : Light Stereomicroscopy  
TES-AC-193 : Compound Light Microscopy  
TES-AC-385 : Fourier Transform Infrared Spectroscopy  
Deviations from the method reference(s) : None

## RESULTS

The complaint sample consisted of one piece of orange coloured plastic, which was photographed as received and can be referred to in Plate 1. The sample had two opposing flat surfaces, one of which had a ridge (see Plate 1). The thickness between the two opposing surfaces was approximately 2.1 – 2.3 mm. All edges were fractured and one end of the complaint sample showed signs of heat damage (Plate 2). Surface deposits seen adhering to the complaint sample were removed and examined under the compound microscope. Here it was possible to see muscle fibres (Plate 3).

FT-IR spectroscopy was performed on the complaint sample (Figure 1). This produced a good match in the reference libraries with polypropylene plastic, in addition to peaks consistent with oil/fat and protein. The peaks consistent with oil/fat were considered to be most likely due to surface residues.

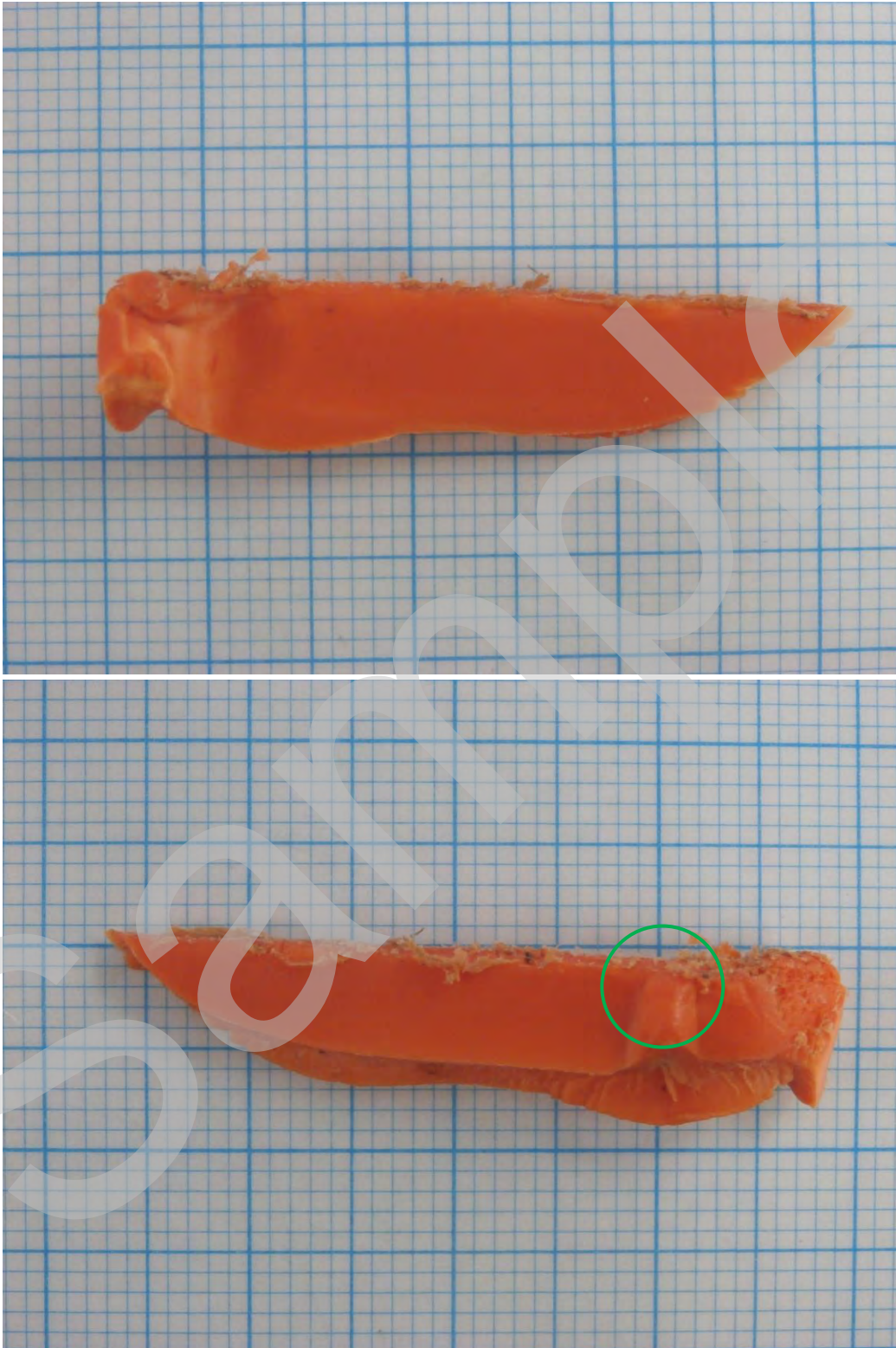
## CONCLUSIONS

It was concluded that the complaint sample consisted of one fragment of orange coloured polypropylene plastic. Polypropylene has many wide and varied uses, including (but not limited to); toys, food packaging – rigid and flexible including squeeze bottles, caps and closures, pallets and crates, reusable storage containers, storage boxes, chopping boards, washing up bowls, buckets, picnic wares. A more specific source could not be determined due to a lack of distinguishing features. Although the plastic showed some signs of heat distortion / damage, it is not possible to state at what temperature this was likely to occur. The specific softening / melting point of plastics are dependent on a potentially large number of factors (for example if the plastic is reinforced, flame retardant,

contains fillers etc), which in turn are determined by their end use. Surface deposits examined were consistent with meat, fish or poultry.

Sample

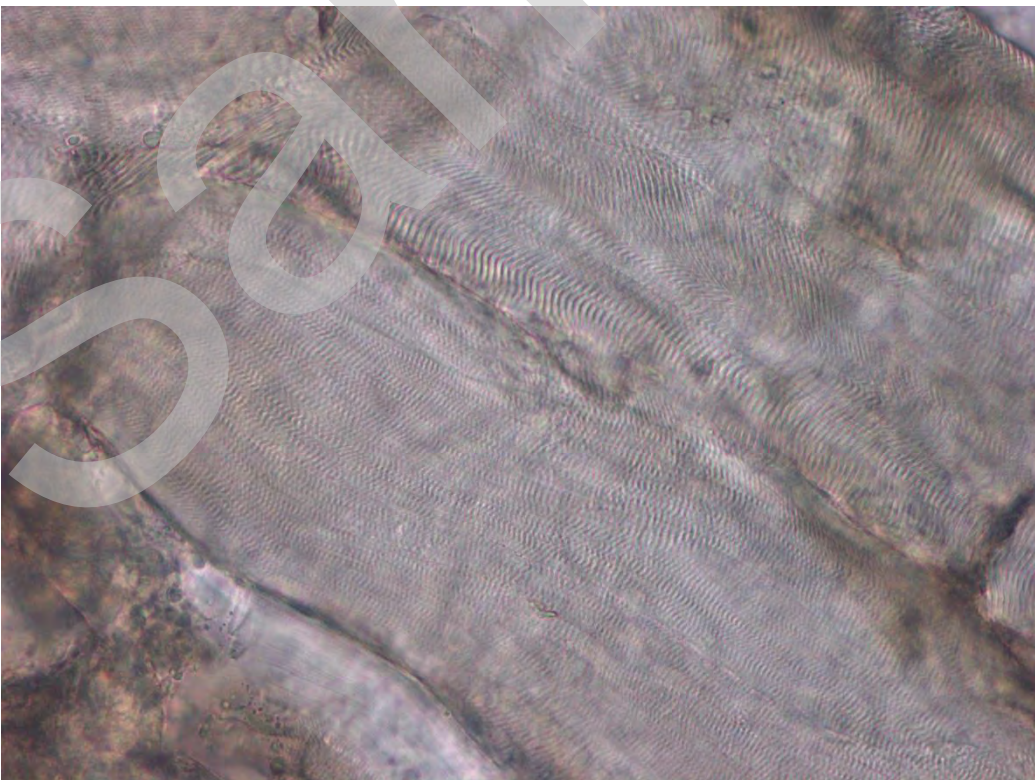
**PLATE 1** Shows the complaint sample, viewed from both sides, photographed as received against a millimetre-squared background. Note the ridge, circled in green in the bottom image.



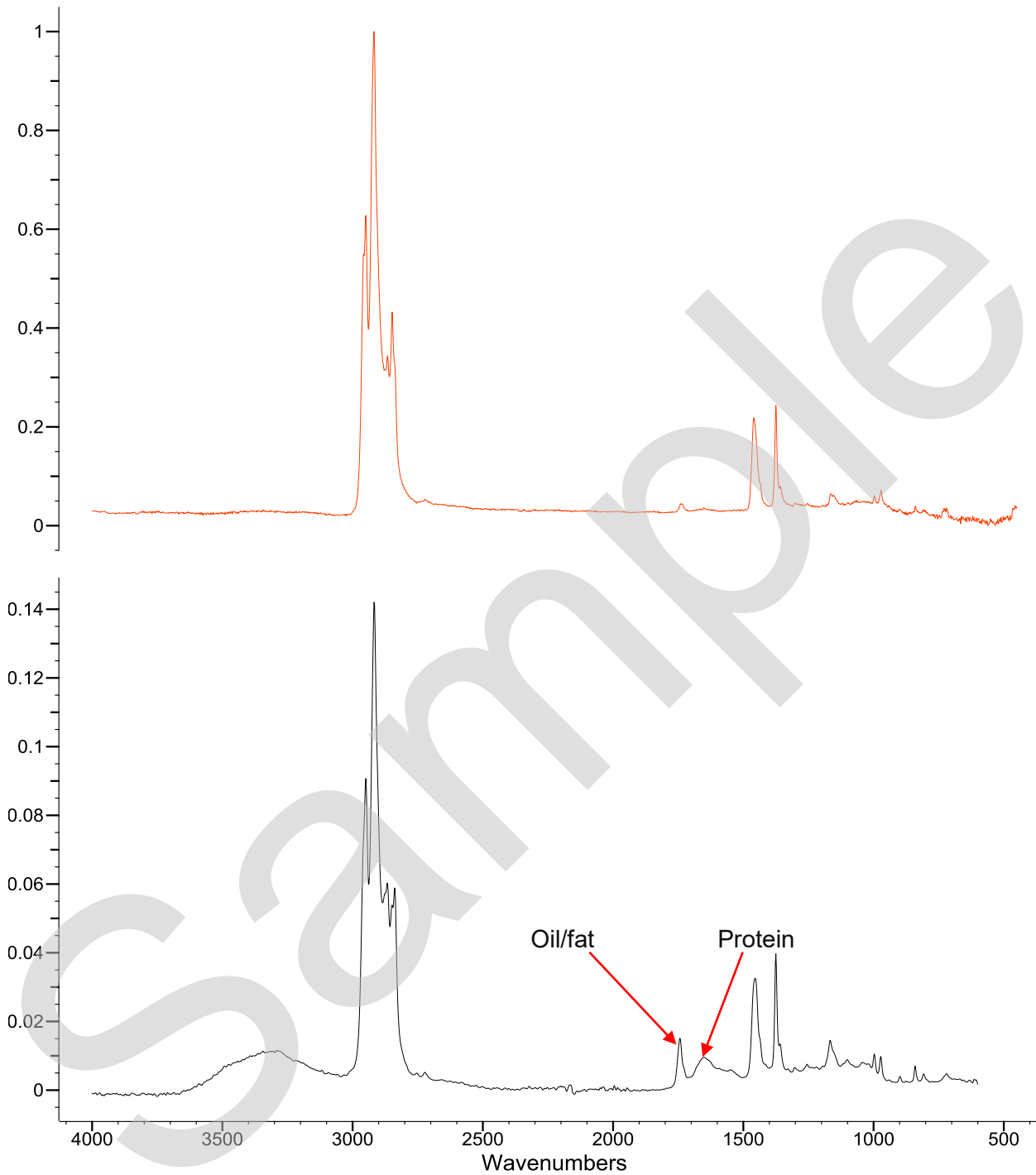
**PLATE 2** Shows the area of the complaint sample which showed signs of heat damage



**PLATE 3** Shows an example of the muscle fibres, seen in the surface deposits removed from the complaint sample. Magnification x 435



Foreign Body Analysis for Campden BRI



Top Spectrum : Polypropylene  
Bottom Spectrum : Complaint Sample