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Registered office:

Station Road ♦ Chipping Campden ♦ Gloucestershire ♦ GL55 6LD ♦ UK

Confidential report for:

Campden BRI

FAO: Microscopy Section

Station Road

Chipping Campden

Gloucestershire

GL55 6LD

Report on:

Examination of Suspected Glass Reported from Bulgar Wheat

Work performed by Campden BRI (Chipping Campden) Limited

Report number: MI/REP/181356-02565/1 ♦ Issue date: 1st March 2018

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Our ref: Silicate Mineral Report

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Station Road ♦ Chipping Campden ♦ Gloucestershire ♦ GL55 6LD ♦ UK

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SAMPLE DETAILS

Initial Complaint Date: 21st January 2018
Batch No.: 25652313
Purchase Order No.: 25456253692

SAMPLE INFORMATION

Date sample(s) received : 25th February 2018
Packaging : In a sample pot
Storage conditions : Ambient temperature
Date(s) sample(s) examined : 28th February 2018

METHODS AND REFERENCES

Analyst reference : AJB
Method reference(s) : TES-AC-192 : Light Stereomicroscopy
TES-AC-198 : Scanning Electron Microscopy and X-ray
Microanalysis
Deviations from the
method reference(s) : None

RESULTS

The complaint sample consisted of five very small pieces of clear, colourless material suspected by the client to be glass, which were photographed as received and can be referred to in Plate 1. The pieces had an organic appearance, with all surfaces appearing naturally formed.

A small amount of cream-coloured surface deposit was seen adhered to the complaint sample, which was removed and examined under a compound microscope. Here it was possible to see ungelatinised wheat starch granules (Plate 2), cross cells (Plate 3) and aleurone cells (Plate 4), all of which are consistent with wheat.

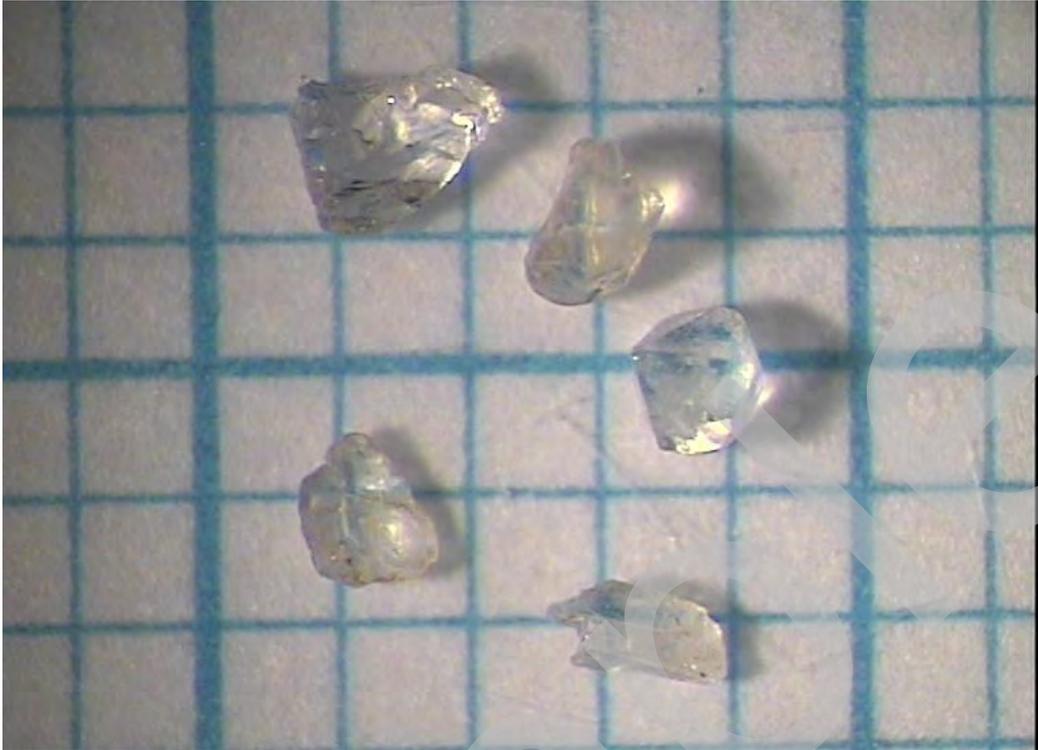
X-ray microanalysis was performed on all five pieces of the complaint sample. Three produced spectra consistent with silicate minerals and two produced spectra consistent with alumino-silicate minerals. A representative spectrum of the silicate mineral and alumino-silicate mineral can be referred to in Figures 1 and 2 respectively.

CONCLUSIONS

It was concluded that the complaint material was not glass, but five very small pieces of silicate mineral and alumino-silicate mineral. Silicate minerals are very hard and abundant materials present in soil, which can become inadvertently associated with products through the harvesting process. Similarly, they can be accidentally brought into homes/buildings from driveways/paths via footwear. The ubiquitous nature of stones meant that an exact source for the sample could not be determined. The surface deposit seen adhered to the complaint sample was consistent with the reported product.

Sample

PLATE 1 Shows the complaint sample photographed as received against a millimetre-squared background



Sample

PLATE 2 Shows examples of the ungelatinised wheat starch granules under bright field light (top image) and under polarised light (bottom image), seen within the surface deposit adhered to the complaint sample. Magnification x 220

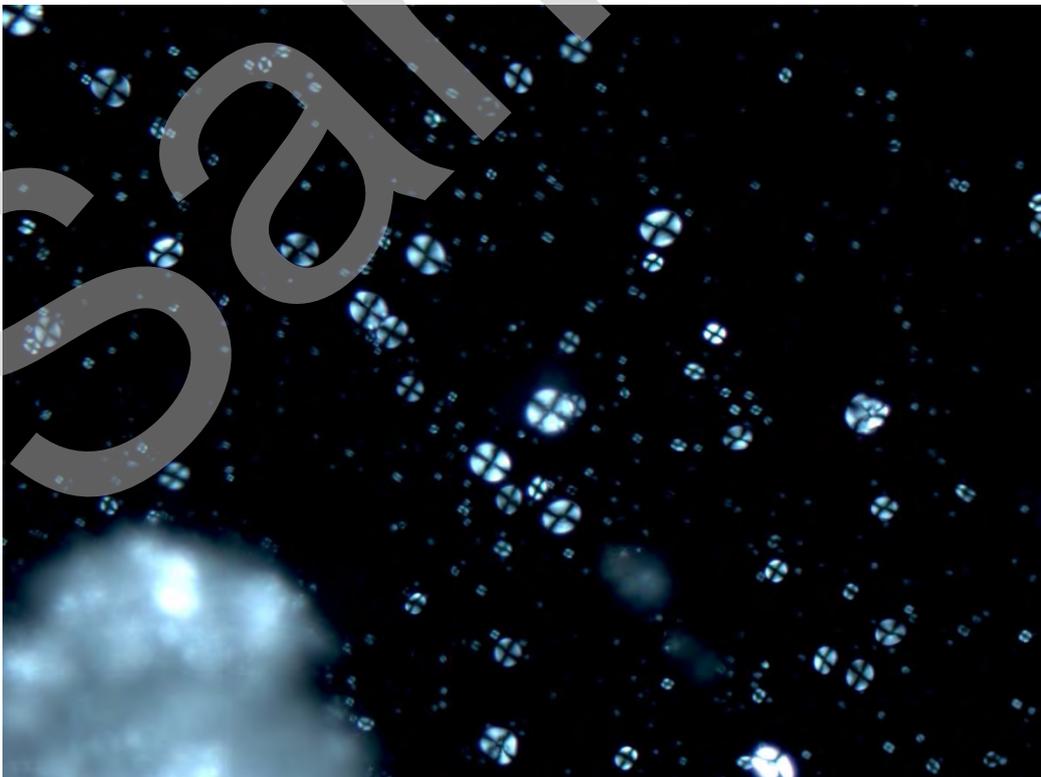
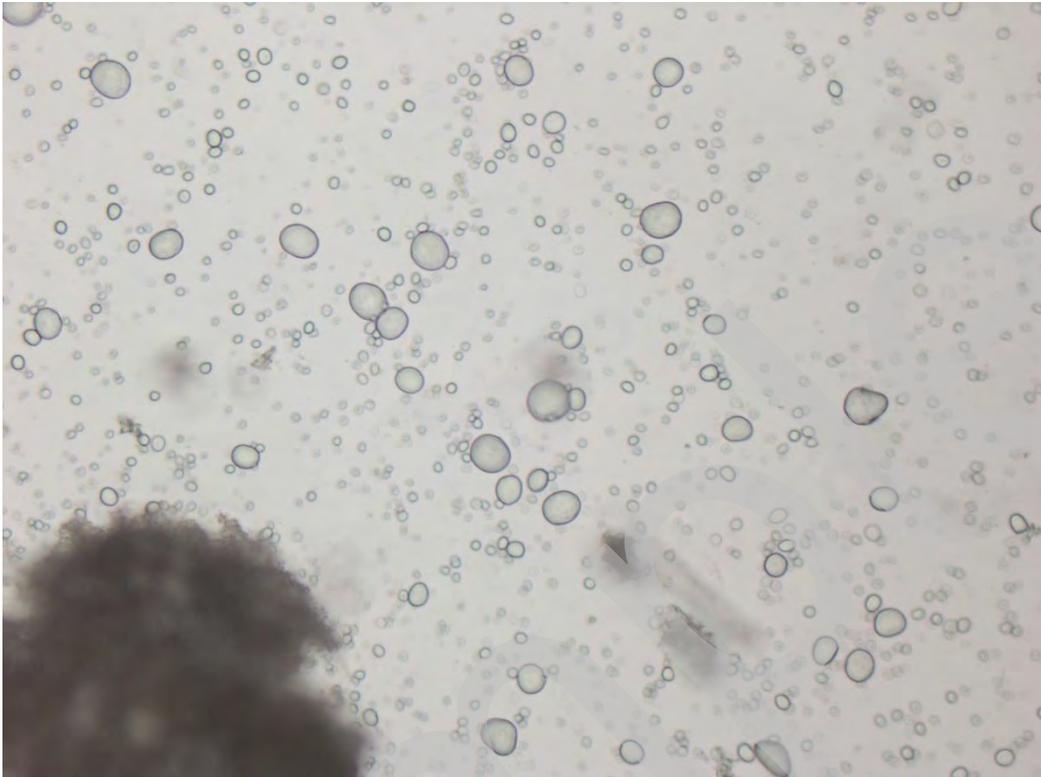


PLATE 3 Shows an example of the cross cells, with characteristic beaded cell walls, seen within the surface deposit adhered to the complaint sample. Magnification x 435

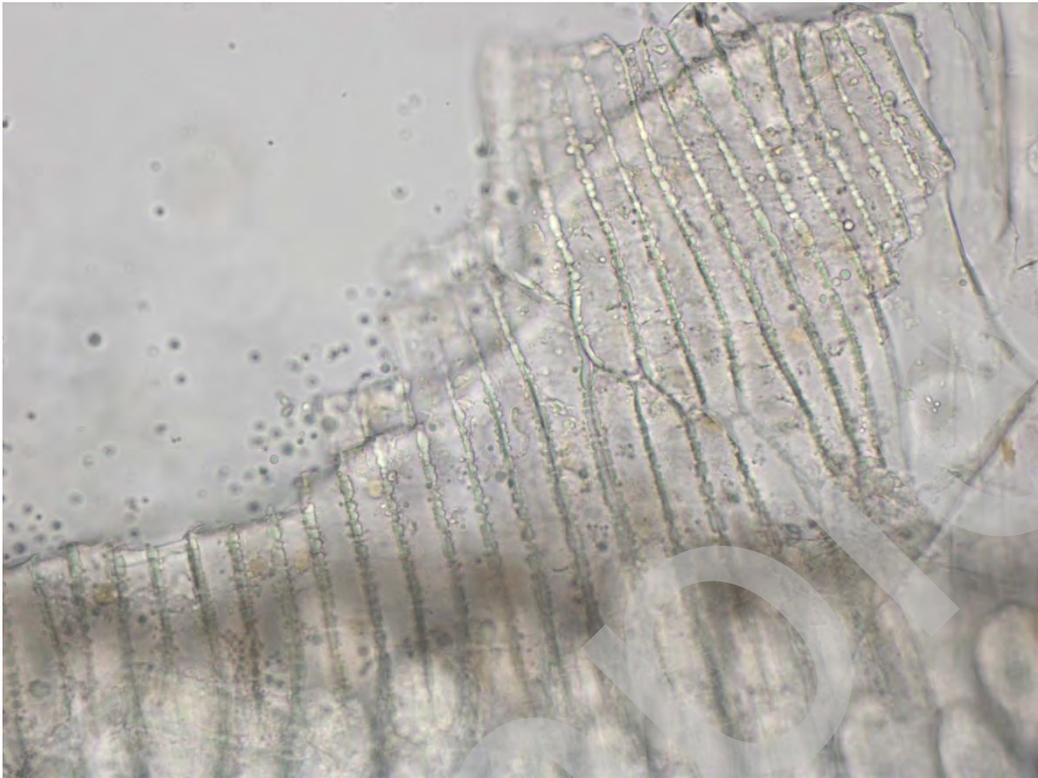
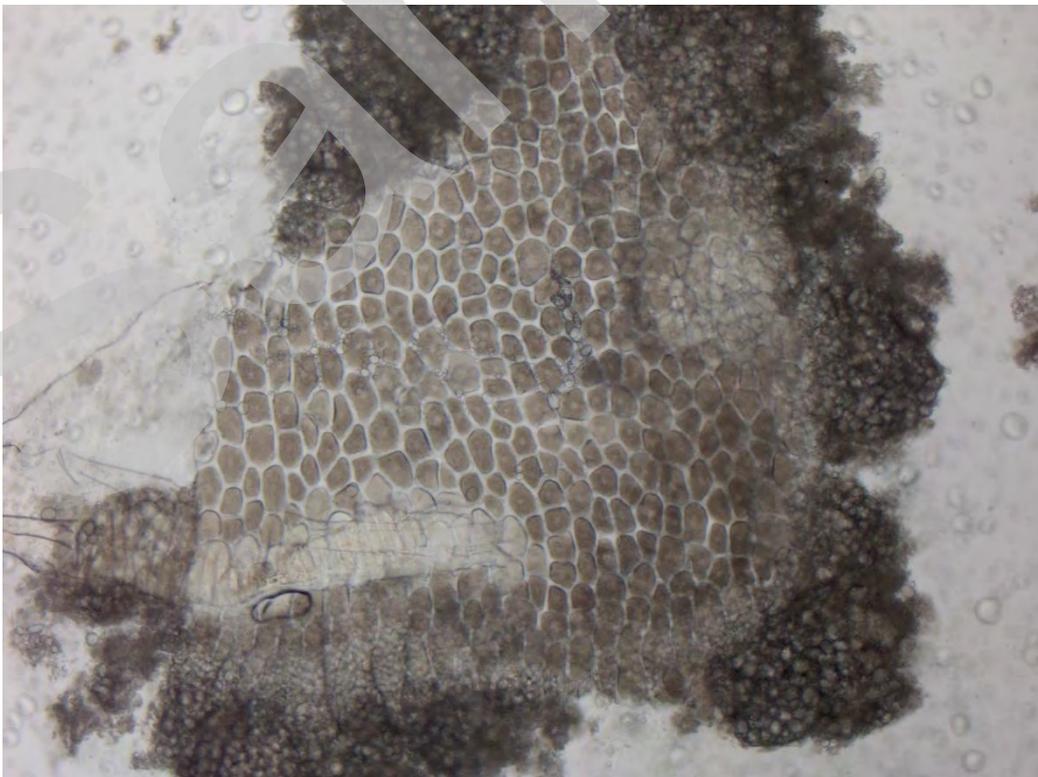
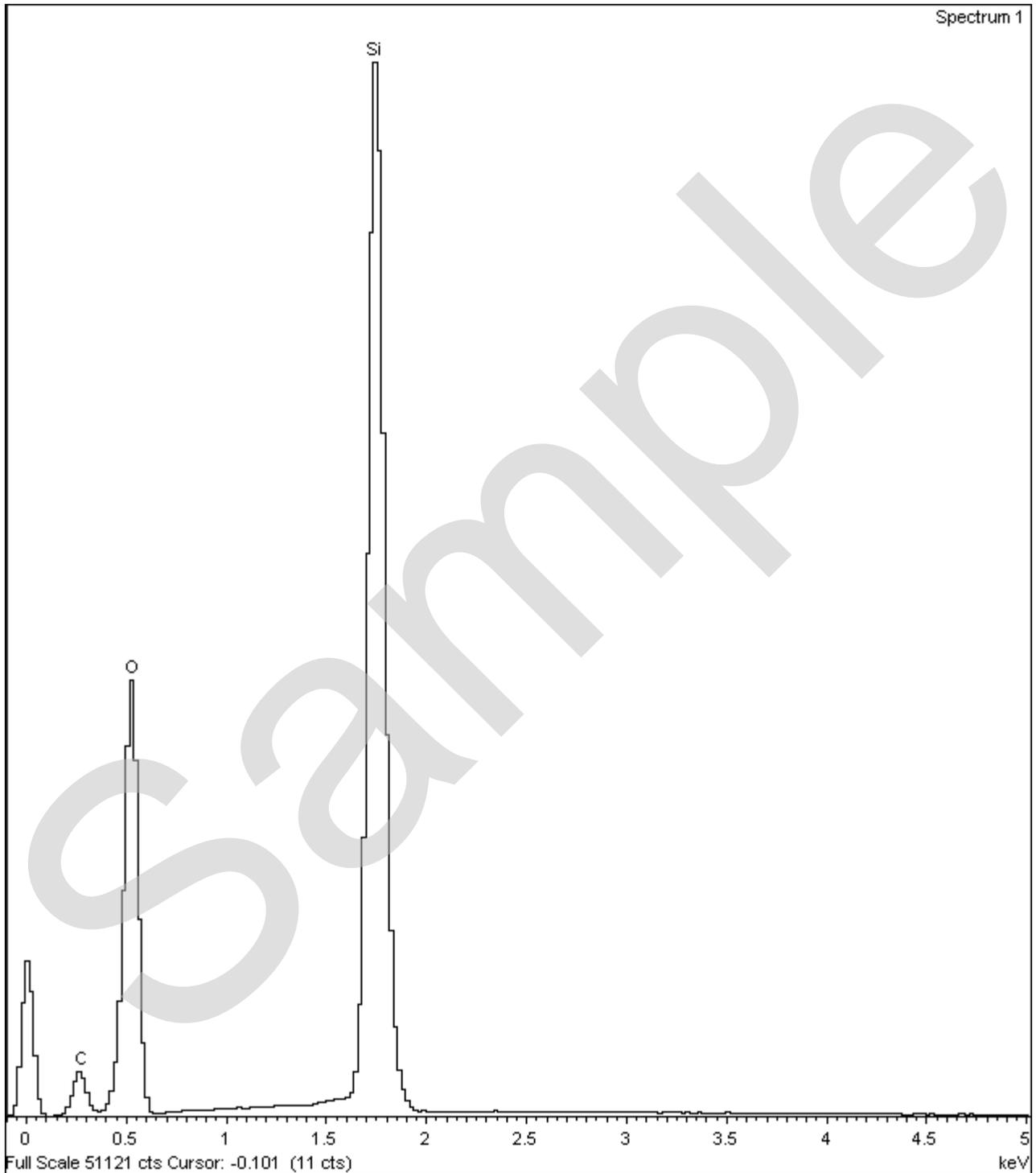


PLATE 4 Shows an example of the aleurone cells seen within the surface deposit adhered to the complaint sample. Magnification x 109



Foreign Body Analysis for Campden BRI

LIMS Project Number : 181356-02565
Spectrum of Silicate Mineral



Foreign Body Analysis for Campden BRI

LIMS Project Number : 181356-02565
Spectrum of Alumino-silicate Mineral

