

25 September 2009

Ms. Shannon Weitz
Technical Services Manager
Bode Technology
10430 Furnace Road
Suite 107
Lorton, VA 22079

Re : Bode Case 2S04-114

Dear Ms. Weitz :

We have completed our search of eleven items (10 knives and one file) for the presence of fibers that could originate from any of four shoelaces that were submitted for comparison. This search has been completed and the results were reported to you by telephone yesterday. This brief, preliminary report is issued in the interest of time.

Each package was removed from the box in which they were shipped, inventoried and photographed in its original packaging. Next one item was opened at a time, placed on a clean sheet of glossy paper and photographed. Each knife (in one case a file) was then examined under a stereomicroscope and examined over its entire surface for the presence of black fibers¹. Any dark fibers located in this way were noted on a print made from the image of the knife. This permitted us to know exactly where on an item it was found. Each potential target fiber was then photographed under the stereomicroscope *in situ*. Finally, the fiber was isolated from the knife surface while observing under the microscope with a tungsten needle and transferred to a clean microscope slide for later identification and comparison. Each fiber was given an individual number.

A total of 103 fibers were recovered from the items. Each of these fibers was individually examined by polarized light microscopy and compared to the fibers comprising the four black shoe laces.

After all the fibers were recovered, the shoelaces were sampled and specimens were prepared on microscope slides for comparison. They were then characterized microscopically and it was discovered that the L1 fibers are composed of pleochroic nylon, L2 fibers are black, pigmented polyester and the L3 laces are also pleochroic nylon.

¹ We determined during our preliminary examination that only the four black shoelaces (out of six) would have potential evidential value due to their color. The other two are white and, therefore, of limited value as target fibers. Letter to Shannon Weitz from Skip Palenik dated 19 June 2009.

The questioned (Q) fibers recovered from the items of evidence were individually compared with all of the known (K) fibers from the fourshoe laces. Many of the isolated fibers were found to be cotton, hair, acrylic, etc. At the end of the examination all of the fibers could be distinguished from the shoelace fibers with the exception of ten polyester fibers.

These ten fibers are microscopically similar to the fibers comprising the black L2 shoelace. They are all polyester, have the same diameter and appear to have been “solution dyed” with carbon black pigment. While there are many more characteristics that need to be considered to be able to state that these cannot be distinguished from each other and, therefore, could have originated from the same source, at this level of examination the Q and K (L2) fibers cannot be distinguished from each other. At present many of these Q fibers also have a clear deposit surrounding them, which in turn holds other foreign particles. These “sheaths” will need to be removed before a more complete comparison could be performed. It should also be noted that all of the Q fibers exist as short lengths, averaging, in most cases about 0.5 mm. The attached figure shows the Item 48E knife and the locations from which Q fibers were recovered.

Thank you for consulting Microtrace. If you have any questions concerning this report please contact me directly.

Sincerely,

A handwritten signature in black ink that reads "Skip Palenik". The signature is written in a cursive, slightly slanted style.

Skip Palenik
Senior Research Microscopist

MT09-0082

Electronically submitted

Attachment: One figure of knife with fiber recovery locations