



Smithsonian
National Museum of Natural History

Don Kramer
NTSB – Materials Laboratory
Washington, DC 20594
[REDACTED]

24 October 2024

Feather Lab # 240703.53: WPR24FA024

Dear Mr. Kramer,

The Smithsonian Institution's Feather Identification Lab received 9 bags of samples from you for examination on 2 July 2024. The samples were associated with an investigation of an aircraft crash that occurred in Huntington, Utah in October 2023. Samples from all bags were submitted for DNA and morphological analysis.

DNA results from all 9 samples were inconclusive due to the poor quality of the samples. The results of the morphological exam are listed below for each sample.

Microscopic Examination Results:

Bag 1. Inboard wing: microscopic insect parts.

Bag 2. Cockpit: microscopic insect parts.

Bag 3. Window fragments: microscopic insect parts.

Bag 4. White piece on rudder: microscopic insect parts.

Bag 5. R ele hor stab: several microscopic partial downy barbules characteristic of waterfowl (Anatidae), unidentified species.

Bag 6. Aft door: No wildlife detected in microscopic exam.

Bag 7. R wing inboard: microscopic partial downy barbule characteristic of passerine (perching bird), unidentified species.

Bag 8. Pieces not burned: microscopic insect parts.

Bag 9. In Panel: two complete feathers: Rock Pigeon (*Columba livia*). The physical condition of these feathers is not typical of those involved in birdstrike events.

Because Rock Pigeon does not typically congregate with waterfowl, the whole feathers in sample #9 could have originated in an aircraft hangar or storage area where pigeons gather to rest or roost. The microscopic evidence from multiple microslides made from sample #5 (horizontal stabilizer) is consistent with waterfowl by having the triangular shaped nodes located distally on the feather barbules (see photos below). According to your information from the field investigator, the parts of the aircraft with the waterfowl samples were located far from the burned wreckage, thereby ruling out waterfowl feather contamination from clothing.

If you have any questions, please call.

Good luck with this investigation.

Sincerely,

A black rectangular redaction box covering the signature of Carla J. Dove.

Carla J. Dove, Ph.D.
Feather Identification Lab
Smithsonian Institution

Two black rectangular redaction boxes covering contact information, likely a phone number and email address.

Photomicrographs of partial downy feather barbules found in sample #5 (horizontal stabilizer) showing feather micro-characteristics (triangular shaped nodes, distal on barbule) typical of waterfowl.

