

National Transportation Safety Board

Office of Research and Engineering

Washington, DC 20594



Medical Factual Memorandum for Record

February 18, 2025

A. CASE

NTSB ID: WPR24FA073
Location: Half Moon Bay, California
Date: January 14, 2024

B. MEDICAL SPECIALIST

Specialist Turan Kayagil, MD, FACEP
National Transportation Safety Board
Washington, DC

C. DETAILS

1.0 Description of Review

For purposes of evaluating the pilot for potentially impairing substances and potentially impairing medical conditions, the above Medical Specialist reviewed the following sources of medical information, along with selected relevant regulation, medical literature, and investigator reports.

- Final Federal Aviation Administration (FAA) medical case review
- Autopsy report
- FAA Forensic Sciences Laboratory toxicology report

2.0 Summary of Medical Facts

The 27-year-old male pilot's last aviation medical examination was April 17, 2023. At that time, he reported no active medical conditions or medication use. He was issued a first-class medical certificate limited by a requirement to use corrective lenses to meet vision standards at all required distances.

The County of San Mateo Coroner's Office performed the pilot's autopsy. According to the pilot's autopsy report, his cause of death was blunt trauma. Autopsy evaluation for natural disease was limited by the extent of injury; the brain and lungs were not available for examination. Within this limitation, the autopsy did not identify significant natural disease. The autopsy documentation indicated that the pilot's body was recovered from water 2 weeks after the crash. Evidence of tissue breakdown was noted.

At the request of the Coroner's Office, NMS Labs performed postmortem toxicological testing of liver tissue from the pilot. No tested-for substances were detected (ethanol was not detected at a reporting limit of 0.08 g/hg). Postmortem toxicological testing by the FAA Forensic Sciences Laboratory detected ethanol at 0.016 g/hg in liver tissue, 0.037 g/hg in spleen tissue, and 0.024 g/hg in spleen tissue.¹ No blood, vitreous fluid, or urine was available for FAA testing.

Ethanol is the intoxicating alcohol in beer, wine, and liquor, and, if consumed, can impair judgment, psychomotor performance, cognition, and vigilance, with worse effects at higher blood ethanol levels.² FAA regulation imposes strict limits on flying after consuming ethanol, including a prohibition on piloting a civil aircraft while having a blood ethanol level of 0.04 g/dL or greater.³ Alcohol consumption is not the only possible source of ethanol in postmortem specimens. Ethanol may sometimes be produced by microbes in a person's body after death, potentially elevating ethanol levels in some postmortem specimens more than others. Postmortem ethanol production is made more likely by extensive trauma and delayed recovery of remains, and prolonged water immersion can further complicate interpretation of postmortem ethanol results.⁴

Submitted by:

Turan Kayagil, MD, FACEP
Medical Officer

¹ In tissue, concentrations in g/hg are approximately equivalent to concentrations in g/dL.

² Cook CCH. Alcohol and aviation. *Addiction*. 1997;92(5):539-555.

³ [14 Code of Federal Regulations § 91.17](#).

⁴ Kugelberg FC, Jones AW. Interpreting results of ethanol analysis in postmortem specimens: a review of the literature. *Forensic Sci Int*. 2007;165(1):10-29. doi:10.1016/j.forsciint.2006.05.004.