

National Transportation Safety Board

Office of Research and Engineering

Washington, DC 20594



Medical Factual Memorandum for Record

February 11, 2024

A. CASE

NTSB ID: WPR22FA216
Location: Porterville, California
Date: June 18, 2022

B. MEDICAL SPECIALIST

Specialist JE Tuttle MD MHA FACS
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.

- Federal Aviation Administration (FAA) medical case review
- Autopsy report (with toxicology) - pilot
- FAA toxicology report - pilot

2.0 Summary of Medical Facts

According to the FAA medical case review, the 31-year-old male pilot's last aviation medical exam was June 6, 2021. At that time, he reported no medication use

or active medical conditions. He was issued a third-class medical certificate without limitation.

An autopsy of the pilot was performed by NAAG Pathology Labs at the request of the Tulare County Sheriff's Office. According to the pilot's autopsy report, his cause of death was blunt trauma, and his manner of death was accident. Due to the extent of his injuries, his brain and heart examinations were limited. Within these limitations, his autopsy did not identify significant natural disease. Toxicology testing was performed on thigh muscle and liver tissue and no tested-for substances were detected. Vitreous fluid was negative for ethanol.¹

The FAA Forensic Sciences Laboratory performed toxicological testing of postmortem liver and brain tissue.² This testing detected ethanol in liver tissue at 0.036 g/dL. Ethanol was not detected in brain tissue. No blood or vitreous fluid was available for FAA testing.

Ethanol is a type of alcohol. It is the intoxicating alcohol in beer, wine, and liquor, and, if consumed, can impair judgment, psychomotor performance, cognition, and vigilance.³ FAA regulation imposes strict limits on flying after consuming ethanol, including prohibiting pilots from flying with a blood ethanol level of 0.04 g/dL or greater.⁴ Alcohol consumption is not the only possible source of ethanol in postmortem specimens. Ethanol can sometimes be produced by microbes in a person's body after death. Postmortem ethanol production is made more likely by extensive traumatic injury and can cause an affected toxicological specimen to test positive for ethanol while another specimen from the same person tests negative.⁵

Submitted by:

JE Tuttle MD MHA FACS
Medical Officer

¹ According to results documented in the autopsy report, thigh muscle and liver were negative for "drugs of abuse" and vitreous fluid was negative for ethanol. Specific tested-for substances/reporting thresholds were not otherwise documented in the autopsy report.

² The FAA Forensic Sciences laboratory has the capability to test for around a thousand substances including toxins, prescription and over-the-counter medications, and illicit drugs.

³ Cook CCH. Alcohol and aviation. *Addiction*. 1997;92(5):539-555.

⁴ 14 Code of Federal Regulations §91.17.

⁵ 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.