



U.S. Department
of Transportation
**Federal Aviation
Administration**

OCT 12 2023

Mike Monroney Aeronautical Center
P.O. Box 25082
Oklahoma City, OK 73125-5066

Subject: Freedom of Information Act (FOIA) Request 2023-03459CA

This letter is in response to your Freedom of Information Act (FOIA) request received on January 06, 2023, pertaining to the Federal Aviation Administration (FAA) referral of records for review and release determination regarding a copy of the presentation slides for the training class Mass Fatalities for Medicolegal Professionals (TDA403).

Presentation slides were discovered during the search for records pertaining to this request. No syllabus was found, all training in this course was derived from these slides as presented.

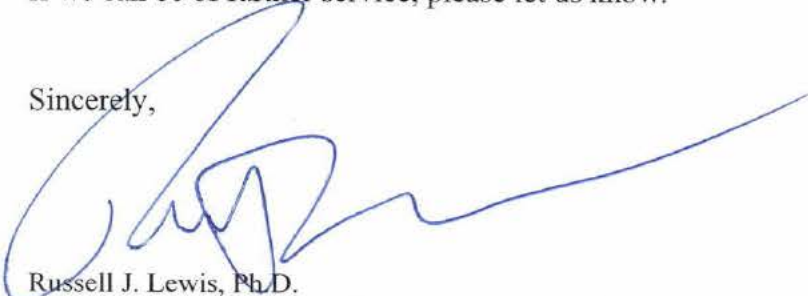
There is no charge for the processing of this request because the cost to process was less than \$ 20.00.

You also have the right to seek dispute resolution services from the following:
FAA FOIA Public Liaison via phone (202) 267-7799 or email 9-AFN-FOIA-Public-Liaison@faa.gov noting FOIA Public Liaison; or

Government Information Services (<https://ogis.archives.gov>) via phone (202) 741-5770
Toll-free 1-877-684-6448; fax (202) 741-5769; or email (ogis@nara.gov).

If we can be of further service, please let us know.

Sincerely,



Russell J. Lewis, Ph.D.
Manager, Bioaeronautical Sciences Research Laboratory

RJL/djy

Enclosure

Cc: Melba D. Moye

This document is made available through the declassification efforts
and research of John Greenewald, Jr., creator of:

The Black Vault



The Black Vault is the largest online Freedom of Information Act (FOIA)
document clearinghouse in the world. The research efforts here are
responsible for the declassification of hundreds of thousands of pages
released by the U.S. Government & Military.

Discover the Truth at: **<http://www.theblackvault.com>**

Toxicological Processing of Biological Specimens from Aviation Accident Fatalities



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Kristi J. Craft
 Bioaeronautical Sciences Research Laboratory
 FAA Civil Aerospace Medical Institute (CAMI)
 Oklahoma City, OK



OVERVIEW

- Why does the Bioaeronautical Sciences Research Laboratory (BSRL) exist?
- Public Law, Department of Transportation Orders, and Safety Recommendations
- Processing & Accessioning of Tox Boxes
- Quality Control/Quality Assurance



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Are you and your family ready to take a flight?





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- Safety of the flying public is our #1 priority
- CAMI Toxicology Lab provides critical investigative data to:
 - National Transportation Safety Board (NTSB) for determination of cause of accident
 - FAA for safety rules/regulations
- Toxicology testing for carbon monoxide, cyanide, ethanol, and drugs on approximately 300 aviation cases per year





Government Authority

- **AVIATION SAFETY RESEARCH ACT OF 1988, PUBLIC LAW 100-591[H.R. 4686]**
- **DOT ORDER 1100.2C (1989), Chap 53, Par 53-15 ... CAMI investigate ... general aviation and air carrier accidents and searches for biomedical clinical causes of the accidents, including evidence of ... chemical abuse.**
- **DOT ORDER 8020.11A (1991), Chap 4, Par 170 ... CAMI conduct toxicological analyses on specimens from ... aircraft accident fatalities.**



Government Authority

(Continued)



- **THE NTSB SAFETY RECOMMENDATION A-84-93 ... Requests that FAA establish at CAMI state-of-the art toxicological tests on the blood, urine, and tissue of pilots involved in fatal accidents.**
- **REIMBURSABLE MEMORANDUM OF AGREEMENT (1986), between DOT/FAA and NTSB ... CAMI provide pathological services ... for all fatal civil aircraft accidents, either air carrier or general aviation.**





Notification of accident
by Medical Examiner,
Coroner, or
Accident Investigator





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TOX-BOX CONTENTS







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TOX-BOX Contents

- Instruction sheet
- Chain of custody and accident information forms
- Glass tubes for blood, bile, vitreous humor, and spinal fluid
- Plastic bottles for urine and gastric contents

- Plastic bags for tissues
- Syringes and needles
- Zip-Lock bags
- Specimen labels and evidence tape
- Permanent marker/ice packs
- Preprinted return address label



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Tox-boxes are shipped by Federal Express, preferably
Priority Overnight



Mike Monroney Aeronautical Center receiving warehouse
personnel bring TOX-BOXes to the laboratory and complete
a Transfer Form

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- ❖ Gather victim identification
- ❖ Gather airman medical information
- ❖ Gather pilot license information



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**TOX-BOX Received
at CAMI**



TOX-BOX Transfer Form



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- ✓ Only one TOX-BOX opened at a time, while two personnel are present
- ✓ Assign case number
- ✓ Videotape opening of TOX-BOX
- ✓ Inventory & catalog specimen(s) noting their condition and weight



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- Add specimens to batches depending on type and quantity:
 - Carbon monoxide
 - Glucose
 - Alcohol
 - Drug screening
- All samples on a batch are "blind" to the chemist; no bias
- Specimens stored in -20 °C freezer
- Demographic data & batch information is entered into database
- Review of case & batch information performed
- Specimens released for analyses



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Case Processing Documents

- ☐ Accessioning check sheet
- ☐ External specimen chain of custody
- ☐ Accident information
- ☐ Internal chain of custody
- ☐ Specimen chain of custody
- ☐ Analytical batch chain of custody





Controlled Substance Examples

Amphetamine/Methamphetamine
 Barbiturates, Benzodiazepines, Cocaine
 Codeine/Morphine, Synthetic Opiates
 THC, THC-COOH
 MDMA (3,4-Methylenedioxymethamphetamine)
 Phentermine
 Propoxyphene/Norpropoxyphene
 Zolpidem



Prescription Drug Examples

Amitriptyline/ Nortriptyline	Citalopram	Labetalol	Quinidine
Analdipine	Cyclobenzaprine	Lidocaine	Ranitidine
Atenolol	Diltiazem	Metoclopramide	Sertraline/Des- methylsertraline
Atropine	Diphenhydramine	Metoprolol	Sildenafil
Azacyclonol	Doxazosin	Mirtazapine	Theophylline
Benzocaine	Doxepin/Nordoxepin	Moricizine	Tramadol
Bisoprolol	Etomidate	Nadolol	Trazodone
Brompheniramine	Fluconazole	Naproxen	Triamterene
Bupropion	Fluoxetine/ Norfluoxetine	Nizatidine	Trimethoprim
Carbamazepine	Hydrochlorothiazide	Pantoprazole	Venlafaxine/Des- methylvenlafaxine
Cetirizine	Hydroxyzine	Paroxetine	Verapamil/ Norverapamil
Chloroquine	Imipramine/ Desipramine	Phenylephrine	
Cimetidine		Procainamide	
		Propafenone	

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Nonprescription Drug Examples

Acetaminophen, Chlorpheniramine
Dextromethorphan/Metabolite(s)
Doxylamine, Ephedrine
Meclizine, Methamphetamine
Oxymetazoline
Phenylpropanolamine, Pseudoephedrine
Quinine, Salicylate, Triprolidine

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Storage of Specimens

Positive cases are kept for 5 years

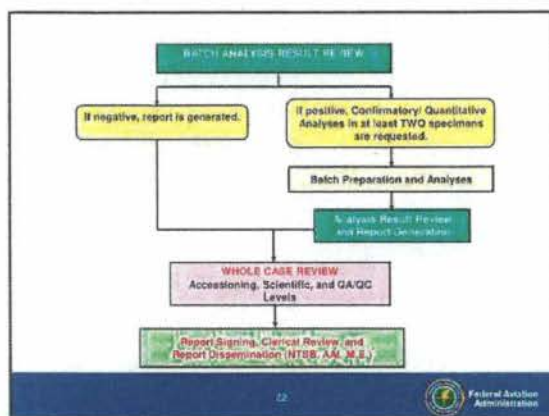
Negative cases are kept for 2 years

Cases are destroyed on a monthly basis



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Quality Assurance/Quality Control

- ❖ Critical review of records is always enforced, and records are maintained in a secure environment
- ❖ Quality Assurance Committee (7 members)
 - 5 internal/2 external doctorate level toxicologists
 - Laboratory procedures and other issues are evaluated weekly



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Quality Assurance/Quality Control (Continued)

- ❖ By multilevel reviews, open/blind analytical controls, and participation in ethanol and drug proficiency-testing surveys from the College of American Pathologists programs
- ❖ American Board of Forensic Toxicology (ABFT) accreditation of the CAMI laboratory
- ❖ Guidelines from ABFT
- ❖ ISO 9001:2008 Quality Management System



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SUMMARY

The Bioaeronautical Sciences Research Laboratory's mission is to perform cutting edge scientific research that is above reproach and leads to a reduction of deaths and injuries in the transportation industry.

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QUESTIONS?



<http://www.faa.gov/go/toxlab> (405) 954-6254

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Federal Aviation Administration Autopsy Program Team Overview

Improving Aviation Safety Through
Collection and Analyses of Aviation
Autopsy Reports

Presented to: National Transportation Safety Board
Mass Fatality Incidents for Medical Legal Professionals

By: C. Hileman, MBA, RHIA
Federal Aviation Administration

Date: 21 October 2014



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Autopsy Program Staff

Christy Hileman, MBA, RHIA
Cheryl McNeil, RHIA

Mass Fatality Incidents for Medical Legal Professionals



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The Team

• Autopsy Program Team Objectives

- Help coordinate accident autopsy and toxicology for U.S. registered fatal aviation accidents
- Collect, file, and distribute autopsy reports

• Composed of two full-time employees

- Registered Health Information Administrator (RHIA)
- American Health Information Management Association (AHIMA)

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Autopsy Program

- The Federal Aviation Administration's Autopsy Program was centralized to the Civil Aerospace Medical Institute (CAMI) in Oklahoma City, OK and began operations October 1, 2008
- Coordinates, acquires, and stores information for all U.S. registered fatal aviation accidents
- Supports the FAA Office of Accident Investigation, Office of Aerospace Medicine, and the National Transportation Safety Board (NTSB)
- Present information at the Transportation Safety Institute (TSI) such as the Rotorcraft Investigation and Advanced Investigation Courses throughout the year

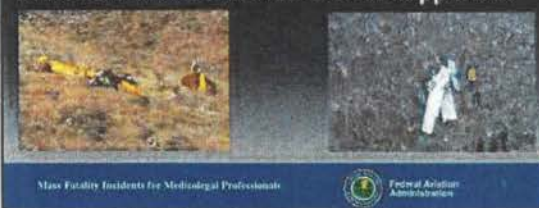
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Fatal Aircraft Accidents.... What happened?



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FAA logo

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DCAD99-0001
Narita, Japan
22 March 1999
McDonnell Douglas C-17

The autopsy team responds to all civilian fatal aircraft accidents in the U.S.A. Occasionally, we will get involved when a registered U.S. civilian aircraft crashes in another country

Mass Fatality Incidents for Medical Legal Professionals

FAA logo

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Outside the U.S.A.

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Introduction

U.S. civil aviation accidents

- 2010 – 1,500 accidents with 469 fatalities
- 2011 – 1,550 accidents with 485 fatalities

General aviation accidents account for the greatest number of civilian accidents

- 2010 – 268 accidents with 454 fatalities
- 2011 – 263 accidents with 444 fatalities

Source: National Transportation Safety Board – Aviation Statistical Reports

Mass Fatality Incidents for Multidisciplinary Professionals



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Autopsy Program Team Fiscal Year 2013 Statistics

- 253 Fatal Accidents
- 284 Pilots identified – 255 of these were fatalities



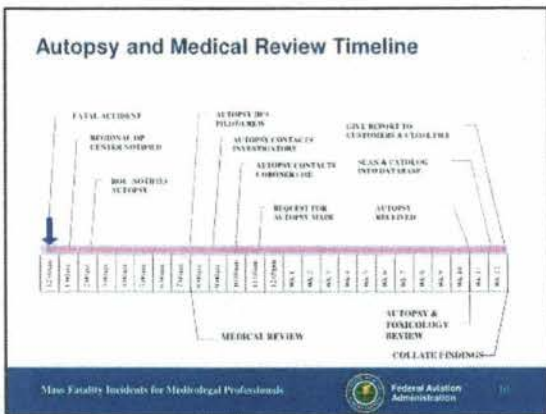
CEN1328161
Hayden, Colorado
19 February 2012
Cessna 441Q

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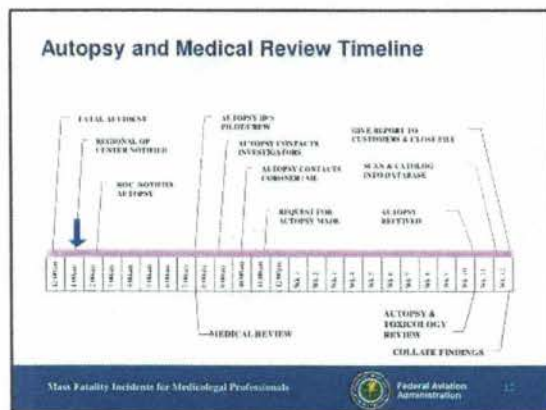
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First responders and/or airport authorities notify the Regional Operation Center (ROC) of the accident details

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Autopsy and Medical Review Timeline



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Autopsy and Medical Review Timeline



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The B2020 is a software accident/incident preliminary analysis completed by a FAA investigator.

The Regional Operations Center notifies autopsy team – phone, fax, & email. Initial notification includes:

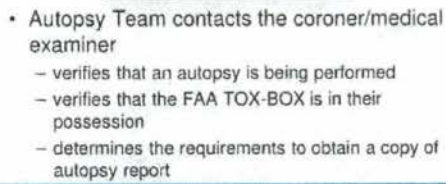
- Tail Number (N#), type of aircraft
- Number of persons on board (number of fatal and injured)
- location
- Form 8020-9* usually will not have pilot ID

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- **An autopsy should include:**
 - Forensic identification
 - External examination
 - Internal examination
 - Toxicology
 - Histology
 - Manner of Death
 - Cause of Death
 - Final Pathological Diagnosis
 - Incidental Medical Findings



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graph TD
    A[FATAL ACCIDENT] --> B[REGIONS OF INTEREST NOTED]
    B --> C[BODY NOTED AT autopsy]
    C --> D[AUTOPSY CRITICAL FINDINGS]
    C --> E[AUTOPSY CRITICAL FINDINGS]
    D --> F[REQUEST FOR AUTOPSY MADE]
    E --> F
    F --> G[MEDICAL REVIEW]
    G --> H[COLLECT FINDINGS]
    H --> I[AUTOPSY & TOXICOLOGY REVIEW]
    I --> J[GIVE REPORT TO USER & CLOSE FILE]
    J --> K[SCANS & TOXICOLOGY DATABASE]
  
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[illegible]

Dear Coroner or Medical Examiner:

Your office handled the death investigation of the following aircraft accident:

JOHN DOE
Oct. 28, 2008
Oklahoma City, OK

We respectfully request that a copy of the autopsy report be forwarded to our office at your earliest convenience.

Respectfully,
Christy Hileman, MBA, RHIA

Example letter to the Coroner or Medical Examiner

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Case Example

- Light sport aircraft fatal aviation accident
- Airman had 2,500 hours of flight time; 20 hours in last 6 months
- Significant pre-existing cardiac issues
- Accident occurred in a coroner system state
- Local coroner was also the County District Attorney



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The Situation

- Local coroner did not want to conduct an autopsy
 - No crime was committed
 - Blunt-force injury was the obvious cause of death
- Concerned that the cause of the accident might be medical, the Autopsy Team worked with the NTSB and a local pathologist group to obtain an autopsy



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The Outcome

- Exam of the heart revealed severe atherosclerotic coronary artery disease with complete occlusion of the left anterior descending coronary artery with a fresh thrombus

"Widow Maker"

- The pathologist determined
 - CAUSE OF DEATH: Ischemic heart disease
 - MANNER OF DEATH: Natural

Yellow-tan plaques of atheroma narrowed this coronary artery



<http://pubs.rsos.royalsocietypublishing.org/doi/10.1098/rsos.180111>

Mass Fatality Incidents for Medical Professionals



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Resources

- The Autopsy Team created a brochure for investigators, coroners, and medical examiners describing our goals.
- <http://www.faa.gov/go/toxlab>



Mass Fatality Incidents for Medical Professionals



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Civil Aerospace Medical Institute

- Located in Oklahoma City, OK
- 5 Divisions
 - Aeronautical Certification
 - Aeronautical Medical Education and Training
 - Aerospace Human Factors Research
 - Aeronautical Research
 - Occupational Health
- Over 280 scientists, engineers, physicians, pilots, educators, technicians, and administrative personnel



Fact:
http://www.faa.gov/about/office/org_functions/index.cfm
http://www.faa.gov/about/office/org_functions/index.cfm

Mass Fatality Incidents for Medical Professionals



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Aerospace Medical Research

- **Who Are we...**

- Group of scientist and researchers to find the truth for aviation safety.

Mass Fatality Incidents for Medicolegal Professionals



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The Research - Civil Aerospace Medical Institute

- **Data Collected from Autopsy Reports were utilized in the following research projects:**

- Analysis of Post-Crash Fire in Contributing to Fatal Accidents of U.S. Registered, Type Certificated Rotorcraft
- Challenges in the Analysis of Cardiac Pathology in Civil Aviation Accident Investigations
- Decision Support - Such as the "Conditions the Airman Medical Examiner can Issue" - CACI Program



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Questions



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