NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C.

ATTACHMENTS TO  
MEDICAL/FORENSIC  
GROUP CHAIRMAN’S FACTUAL  
REPORT OF INVESTIGATION

FLIGHTCREW TOXICOLOGICAL REPORTS (7)  
DATA MAPING (28 CHARTS)  
BODY RECOVERY LOCATION PLOT (1 CHART)
DIVISION OF MEDICAL-LEGAL INVESTIGATIONS AND FORENSIC SCIENCES
SUFFOLK COUNTY, NEW YORK

TOXICOLOGIC REPORT

NAME CAMPBELL, RICHARD  CHEMICAL NO. 2193-96  M.E. NO. 96-5283

ANALYSIS PERFORMED  GENERAL UNKNOWN

SPECIMENS SUBMITTED  BRAIN, LIVER, FEMORAL BLOOD, CHEST FLUID, MUSCLE, BILE, EDTA TUBE OF CHEST FLUID, VITREOUS FLUID

SPECIMENS USED FOR ANALYSIS  BRAIN, LIVER, FEMORAL BLOOD, CHEST FLUID, BILE

RESULTS

BRAIN - ETHANOL PRESENT 0.01% (8-5-96)

BRAIN - OTHER VOLATILE SUBSTANCES NOT DETECTED (8-5-96)

FEMORAL BLOOD - ETHANOL PRESENT 0.01% (8-5-96)

LIVER - ETHANOL PRESENT 0.02% (8-5-96)

BILE - ETHANOL PRESENT 0.01% (8-5-96)

FEMORAL BLOOD - CARBON MONOXIDE NOT DETECTED (8-3-96)

CHEST FLUID - BARBITURATES, STRONG ACIDS AND NEUTRAL DRUGS NOT DETECTED (8-5-96)

CHEST FLUID - BARBITURATES, OPIATES, AMPHETAMINES, METHADONE, PROPOXYPHENE, ACETAMINOPHEN, COCAINE METABOLITES, BENZODIAZEPINE METABOLITES, PCP, AND TETRAHYDROCANNABINOL METABOLITES NOT DETECTED (8-5-96)

LIVER - BASIC DRUGS NOT DETECTED (8-5-96)

LIVER - HEAVY METALS NOT DETECTED (8-5-96)

Reviewed by: STEPHANIE A. HOROWITZ, M.D.
DEPUTY MEDICAL EXAMINER

EDWARD J. BRIGLIA, Ph.D.
CHIEF - TOXICOLOGY LABORATORY

DATE TYPED 11-18-96 BAK
THESE RECORDS MAY BE RELEASABLE UNDER THE FOIA REQUEST 15 DAYS AFTER SIGNATURE DATE UNLESS WE HEAR OTHERWISE FROM FAA OR NTSB COUNSEL.

August 15, 1996

National Transportation Safety Board
2001 Route 46, Suite 203
Parsippany, NJ 07054

CASE#: 9600172001 NAME: CAMPBELL, RICHARD G. JR  Putrefied: No
DATE OF INCIDENT: 071796  DATE RECEIVED: 072096
LOCATION OF ACCIDENT: EAST MORICHES, NY
SPECIMENS RECEIVED: Serum, Bile, Liver, Lung, Kidney, Muscle, Brain Heart

FORENSIC TOXICOLOGY FATAL ACCIDENT REPORT

CARBON MONOXIDE:
Carbon monoxide analysis was not performed due to a lack of suitable specimen.

CYANIDE:
Cyanide analysis was not performed due to a lack of suitable specimen.

VOLATILES: The volatile concentrations were determined by headspace gas chromatography at a cutoff of 10 mg/dl. All positive ethanols were confirmed by Radiative Energy Attenuation.
- 27.000 (mg/dl) Ethanol detected in Muscle Fluid
- 13.000 (mg/dl) Ethanol detected in Lung Fluid
- 1.000 (mg/dl) Acetaldehyde detected in Lung Fluid
- 1.000 (mg/dl) Acetone detected in Lung Fluid

NOTE: The ethanol found in this case may be the result of postmortem ethanol production.

DRUGS: Immunoassay was used to screen for illegal drugs which include amphetamine (0.010), opiates (0.010), marihuana (0.001), cocaine (0.020), phencyclidine (0.002), benzodiazepines (0.030), and barbiturates (0.060). The values in () are the threshold values in ug/ml used to report positive results. Values below this concentration are normally reported as not detected.
GC/Mass Spec, or GC/FTIR, is used to confirm most positive results.
-> NO Drugs detected in Muscle Fluid

Dennis V. Canfield, Ph.D.
Manager Toxicology and Accident Research Laboratory
DIVISION OF MEDICAL-LEGAL INVESTIGATIONS AND FORENSIC SCIENCES
SUFFOLK COUNTY, NEW YORK

TOXICOLOGIC REPORT

NAME KEVORKIAN, RALPH
CHEMICAL NO. 2192-96 M.E. NO. 96-5278

ANALYSIS PERFORMED GENERAL UNKNOWN

SPECIMENS SUBMITTED LIVER, CHEST BLOOD, BILE, URINE, STOMACH CONTENTS, MUSCLE, SPLEEN, HEAD HAIR

SPECIMENS USED FOR ANALYSIS LIVER, BILE, CHEST BLOOD, URINE, STOMACH CONTENTS

RESULTS

LIVER - ETHANOL NOT DETECTED (8-5-96)
LIVER - OTHER VOLATILE SUBSTANCES NOT DETECTED (8-5-96)
BILE - ETHANOL NOT DETECTED (8-5-96)
CHEST BLOOD - ETHANOL PRESENT 0.02% (8-5-96)
URINE - ETHANOL PRESENT LESS THAN 0.01% (8-5-96)
STOMACH CONTENT - ETHANOL PRESENT 0.01% (8-5-96)
CHEST BLOOD - CARBON MONOXIDE NOT DETECTED (8-4-96)
CHEST BLOOD - BARBITURATES, STRONG ACIDS AND NEUTRAL DRUGS NOT DETECTED (8-5-96)
URINE - BARBITURATES, OPIATES, AMPHETAMINES, METHADONE, PROPOXYPHENE, PCP, ACETAMINOPHEN, COCAINE METABOLITES, BENZODIAZEPINE METABOLITES, AND TETRAHYDROCANNABINOL METABOLITES NOT DETECTED (8-5-96)
LIVER - BASIC DRUGS NOT DETECTED (8-5-96)
LIVER - HEAVY METALS NOT DETECTED (8-5-96)

Reviewed by: BARBARA WOLF, M.D.
PATHOLOGIST, SEMO

DATE TYPED 11-18-96 BAK
FORENSIC TOXICOLOGY FATAL ACCIDENT REPORT

CARBON MONOXIDE: The carboxyhemoglobin saturation was determined by spectrophotometry with a 10% cut off.

--> NO Carboxyhemoglobin detected in Blood

CYANIDE: The presence of cyanide was screened by Conway Diffusion. Positive cyanides are quantitated using spectrophotometry. The limit of quantitation of cyanide is 0.25 ug/ml. Normal blood cyanide concentrations are less than 0.15 ug/ml while lethal concentrations are greater than 3ug/ml.

--> NO Cyanide detected in Blood

VOLATILES: The volatile concentrations were determined by headspace gas chromatography at a cutoff of 10 mg/dl. All positive ethanol were confirmed by Radiative Energy Attenuation.

--> NO Ethanol detected in Urine

DRUGS: Immunoassay and chromatography are used to screen for legal and illegal drugs which include amphetamine(0.010), opiates(0.010), marihuana(0.001), cocaine(0.020), phencyclidine(0.002), benzodiazepines(0.030), barbiturates(0.060), antidepressants(0.100), antihistamines(0.020), meprobamate(0.100), methaqualone(0.100), and nicotine(0.050). The values in () are the threshold values in ug/ml used to report positive results. Values below this concentration are normally reported as not detected.

GC/Mass Spec, or GC/FTIR, is used to confirm most positive results.

--> NO Drugs detected in Blood
DIVISION OF MEDICAL-LEGAL INVESTIGATIONS AND FORENSIC SCIENCES
SUFFOLK COUNTY, NEW YORK

TOXICOLOGIC REPORT

NAME KRICK, OLIVER  CHEMICAL NO. 2131-96  M.E. NO. 96-5162
ANALYSIS PERFORMED GENERAL UNKNOWN
SPECIMENS SUBMITTED BRAIN, LIVER, CHEST BLOOD, BILE, URINE, STOMACH CONTENTS, PSOAS MUSCLE, SPLEEN
SPECIMENS USED FOR ANALYSIS BRAIN, LIVER, CHEST BLOOD, BILE, URINE, STOMACH CONTENTS

RESULTS

CHEST BLOOD - ETHANOL PRESENT 0.02% (7-26-96)
CHEST BLOOD - OTHER VOLATILE SUBSTANCES NOT DETECTED (7-26-96)
LIVER - ETHANOL PRESENT 0.01% (7-26-96)
URINE - ETHANOL PRESENT LESS THAN 0.01% (7-26-96)
BILE - ETHANOL NOT DETECTED (7-26-96)
BRAIN - ETHANOL NOT DETECTED (7-26-96)
STOMACH CONTENT - ETHANOL NOT DETECTED (7-26-96)
CHEST BLOOD - CARBON MONOXIDE PRESENT LESS THAN 5% SATURATION (7-26-96)
LIVER - BARBITURATES, STRONG ACIDS AND NEUTRAL DRUGS NOT DETECTED (7-26-96)
CHEST BLOOD - BARBITURATES, OPIATES, AMPHETAMINES, METHADONE, PROPOXYPHENE, ACETAMINOPHEN, COCAINE METABOLITES, BENZODIAZEPINE METABOLITES, PCP, AND TETRAHYDROCANNABINOL METABOLITES NOT DETECTED (7-26-96)
LIVER - BASIC DRUGS NOT DETECTED (7-26-96)

Reviewed by: GWEN HARLEMAN, M.D.
DEPUTY MEDICAL EXAMINER

EDWARD J. BRIGLIA, Ph.D.
CHIEF - TOXICOLOGY LABORATORY

DATE TYPED 7-30-96 BAK
DIVISION OF MEDICAL-LEGAL INVESTIGATIONS AND FORENSIC SCIENCES
SUFFOLK COUNTY, NEW YORK

TOXICOLOGIC REPORT

NAME: KRICK, OLIVER

CHEMICAL NO. 2131-96  M.E. NO. 96-5162

ANALYSIS PERFORMED: CARBON MONOXIDE

SPECIMENS SUBMITTED: BRAIN, LIVER, CHEST BLOOD, BILE, URINE, STOMACH CONTENTS, PSOAS, SPLEEN

SPECIMENS USED FOR ANALYSIS: CHEST BLOOD

RESULTS:

CHEST BLOOD - CARBON MONOXIDE PRESENT LESS THAN 5% SATURATION (7-26-96)

Reviewed by: GWEN HARLEMAN, M.D.
DEPUTY MEDICAL EXAMINER

Date

EDWARD J. BRIGLIA, Ph.D.
CHIEF - TOXICOLOGY LABORATORY

DATE TYPED: 7-30-96  DAK
THese records may be releasable under the FOIA request 15 days after signature date unless we hear otherwise from FAA or NTSB counsel.

U.S. Department of Transportation
Federal Aviation Administration
National Transportation Safety Board
2001 Route 46, Suite 203
Parsippany, NJ 07054

CASE#: 9600172002 NAME: KRICK, OLIVER Putrefied: Yes
DATE OF INCIDENT: 07/17/96 DATE RECEIVED: 07/27/96
LOCATION OF ACCIDENT: EAST MORICHES, NY
SPECIMENS RECEIVED: Blood, Bile, Gastric Contents, Liver, Lung
Kidney, Spleen, Muscle, Brain, Heart

FORENSIC TOXICOLOGY FATAL ACCIDENT REPORT

CARBON MONOXIDE: The carboxyhemoglobin saturation was determined by spectrophotometry with a 10% cut off.
--> NO Carboxyhemoglobin detected in Blood

CYANIDE: The presence of cyanide was screened by Conway Diffusion. Positive cyanides are quantitated using spectrophotometry. The limit of quantitation of cyanide is 0.25 ug/ml. Normal blood cyanide concentrations are less than 0.15 ug/ml while lethal concentrations are greater than 3ug/ml.
--> NO Cyanide detected in Blood

VOLATILES: The volatile concentrations were determined by headspace gas chromatography at a cutoff of 10 mg/dl. All positive ethanols were confirmed by Radiative Energy Attenuation.
--> 29.000 (mg/dl) Ethanol detected in Blood
--> 15.000 (mg/dl) Ethanol detected in Heart Fluid
--> 19.000 (mg/dl) Ethanol detected in Muscle Fluid
--> 2.000 (mg/dl) Acetaldehyde detected in Blood

NOTE: The ethanol found in this case is most likely from postmortem ethanol production.

DRUGS: Immunoassay and chromatography are used to screen for legal and illegal drugs which include amphetamine(0.010), opiates(0.010), marihuana(0.001), cocaine(0.020), phencyclidine(0.002), benzodiazepines(0.030), barbiturates(0.060), antidepressants(0.100), antihistamines(0.020), meprobamate(0.100), methaqualone(0.100), and nicotine(0.050). The values in () are the threshold values in ug/ml used to report positive results. Values below this concentration are normally reported as not detected.
GC/Mass Spec, or GC/FTIR, is used to confirm most positive results.
--> NO Drugs detected in Blood

Dennis V. Canfield, Ph.D.
Manager Toxicology and Accident Research Laboratory

Dennis V. Canfield, Ph.D.
Manager Toxicology and Accident Research Laboratory

page 1/1
Chart 4.1 - Assigned Seats (216)

Chart 4.4 Seats and Victims Recovered

Recovered victims (216)

Recovered seats (420)
Chart 4.5 Seats Not Recovered

Chart 4.6 Recovered Seats and Fire Damaged Seats

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Note: Seating arrangements have been assigned and passengers may have changed seats during the one hour prior to departure. The flight attendants who were performing their duties throughout the flight are not depicted.
Chart 4.9 Body Fragmentation and Seat Damage

Chart 4.10 Evidence of Seat Restraint Use
Chart 4.11 Victims with Foreign Bodies

- Foreign Bodies (89)
- Recovered Victims (216)

Chart 4.12 Floating Victims/Assigned Seats

- Floating Victims (88)
- Assigned Seats (216)

Note:
- Seating positions depict assigned seats. Passengers may have changed seats during the one hour flight prior to takeoff. The 14 flight attendants, who were performing their duties throughout the flight, are not depicted.
Chart 4.15 Thermal Injuries, Fire Damaged Seats, and Assigned Seats

Chart 4.16 - Thermal Injuries (Including Possible), Fire Damaged Seats, and Assigned Seats
Chart 4.17 Chemical Burns, Floating Victims, and Assigned Seats

Chart 4.18 Injury Predominance: Right vs. Left
Chart 4.19 Injury Predominance: Right vs Left with Floating Victims

- Right (43)
- Left (32)
- Floating Victims (88)
- Assigned Seats (216)

Chart 4.20 Seat Deformation: Right vs. Left

- Right Deformation (191)
- Left Deformation (151)
- Recovered seats (422)

Note: Description of seat deformation is based on a "forward facing" orientation.

Note: Seating positions depict assigned seats. Passengers may have changed seats during the one hour prior to impact. The 47 right attendants, who were performing their duties throughout the event, are not depicted.
Chart 4.21 Right vs. Left Injury Predominance and Seat Deformation

Chart 4.22 Injury Predominance: Anterior vs. Posterior
Chart 4.23 Posterior Injuries and Floating Victims

Chart 4.24 Seat Deformation: Fore vs. Aft
Chart 4.25 Seat Deformation: Up vs. Down

- Up Deformation (164)
- Down Deformation (157)
- Recovered Seats (422)

Chart 4.26 Trauma Severity

Trauma Severity Index:
- Severe (183)
- Moderate (15)
- Minimal (4)
- Floating Victims (88)
Chart 4.27 Tibia/Fibula Fractures

Chart 4.28 Midshaft Femur Fractures and Forward Horizontal Seat Frame Damage