



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

Mike Monroney
Aeronautical Center

P.O. Box 25082
Oklahoma City, Oklahoma 73125

Tuesday, October 31, 2017

National Transportation Safety Board
45065 Riverside Parkway
Ashburn, VA 20147

ACCIDENT #	0206	INDIVIDUAL#:	001	NAME:	[REDACTED]	MODE:	AVIATION
DATE OF ACCIDENT	09/28/2017	DATE RECEIVED	10/03/2017	PUTREFACTION:	No		
	N # 152AH	NTSB #	ERA17FA339	CAMI REF #	201700206001		
LOCATION OF ACCIDENT	Umatilla, FL						
SPECIMENS	Bile, Brain, Gastric, Heart, Kidney, Liver, Lung, Muscle, Spleen						

FINAL FORENSIC TOXICOLOGY FATAL ACCIDENT REPORT

CARBON MONOXIDE: The carboxyhemoglobin (COHb) saturation is determined by spectrophotometry with a 10% cut off and confirmed by chromatography.

>> NOT PERFORMED

CYANIDE: The presence of cyanide is screened by Conway Diffusion, when the COHb level is equal to or greater than 10% or upon special request. Cyanides are quantitated by spectrophotometry and confirmed by chromatography. The reporting cutoff for cyanide is 0.25 ug/mL. Normal blood cyanide concentrations are less than 0.15 ug/mL, while lethal concentrations are greater than 3 ug/mL.

>> NOT PERFORMED

VOLATILES: The volatile concentrations are determined by headspace gas chromatography at a cut off of 10 mg/dL. Where possible, positive ethanol values are confirmed by Radiative Energy Attenuation.

>> NO ETHANOL detected in Muscle

>> NO ETHANOL detected in Brain

DRUGS: Specimens are analyzed using immunoassay, chromatography, GC/MS, HPLC/MS, or GC/FTIR. Concentrations (ug/mL) at or above those in () can be determined for, but not limited to, the following drugs: amphetamines (0.010), opiates (0.010), marijuana (0.001), cocaine (0.020), phencyclidine (0.002), benzodiazepines (0.030), barbiturates (0.060), antidepressants (0.100), and antihistamines (0.020). Drugs and/or their metabolites, that are not impairing or abused, may be reported from the initial tests. See the CAMI Drug Information Web Site for additional information (<http://jag.cami.jccbi.gov/toxicology/>).

>> Diphenhydramine detected in Liver
>> Diphenhydramine detected in Muscle

c=US, o=U.S. Government, ou=AMC, ou=AMC, cn=RUSSELL J
LEWIS
2017.10.31 14:33:31 -05'00'

Russell Lewis, Ph.D., F-ABFT
Supervisor, Forensic Sciences
Bioaeronautical Sci. Research Lab
CAMI, FAA



NMS Labs

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Phone: [REDACTED]

Willow Grove, PA
Fax: [REDACTED]

Robert A. Middleberg, PhD, F-ABFT, DABCC-TC, Laboratory Director

Supplemental Report

Report Issued 10/31/2017 08:00

Last Report Issued 10/21/2017 13:00

To: 10810

District 5 Medical Examiner

Attn: Dr. Barbara C. Wolf

Leesburg, FL [REDACTED]

Patient Name [REDACTED]

Patient ID 2017-1341

Chain 17305840

Age 73 Y DOB Not Given

Gender Male

Workorder 17305840

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Positive Findings:

Compound	Result	Units	Matrix Source
Ethanol	SEE COMMENT	mg/100 g	002 - Liver Tissue

See Detailed Findings section for additional information

Testing Requested:

Analysis Code	Description
0170FL	Alcohol Panel, Fluid
8051TI	Postmortem, Basic, Tissue (Forensic)

Tests Not Performed:

Part or all of the requested testing was unable to be performed. Refer to the Analysis Summary and Reporting Limits section for details.

Specimens Received:

ID	Tube/Container	Volume/ Mass	Collection Date/Time	Matrix Source	Miscellaneous Information
001	Blue Plastic Container	39.21 g	09/29/2017 11:00	Liver Tissue	
002	Homogenate Container	Not Given	09/29/2017 11:00	Liver Tissue	
003	White Plastic Container	39.56 g	09/29/2017 11:00	Brain Tissue	
004	Red Top Tube	1.5 mL	09/29/2017 11:00	Vitreous Fluid	

All sample volumes/weights are approximations.

Specimens received on 10/03/2017.

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Detailed Findings:

Analysis and Comments	Result	Units	Rpt. Limit	Specimen Source	Analysis By
Ethanol	SEE COMMENT	mg/100 g	40	002 - Liver Tissue	Headspace GC
The Ethanol concentration increased from 160 to 620 mg/100 g over multiple analyses. The nature of the specimen and/or the container type, which may not contain preservative, may explain the variable quantitative results.					

Other than the above findings, examination of the specimen(s) submitted did not reveal any positive findings of toxicological significance by procedures outlined in the accompanying Analysis Summary.

Reference Comments:

1. Ethanol (Ethyl Alcohol) - Liver Tissue:

Ethyl alcohol (ethanol, drinking alcohol) is a central nervous system depressant and can cause effects such as impaired judgment, reduced alertness and impaired muscular coordination. Ethanol can also be a product of decomposition or degradation of biological samples.

Sample Comments:

- C01 Tissue specimen required homogenization: 17305840-001
002 NMS Labs generated homogenized Tissue sample: 17305840-002

Unless alternate arrangements are made by you, the remainder of the submitted specimens will be discarded two (2) years from the date of this report; and generated data will be discarded five (5) years from the date the analyses were performed.

Workorder 17305840 was electronically signed on 10/31/2017 07:18 by:

Denice M. Teem,
Certifying Scientist

Analysis Summary and Reporting Limits:

All of the following tests were performed for this case. For each test, the compounds listed were included in the scope. The Reporting Limit listed for each compound represents the lowest concentration of the compound that will be reported as being positive. If the compound is listed as None Detected, it is not present above the Reporting Limit. Please refer to the Positive Findings section of the report for those compounds that were identified as being present.

Acocde 0170FL - Alcohol Panel, Fluid - Vitreous Fluid

-Analysis by Headspace Gas Chromatography (GC) for:

Compound	Rpt. Limit	Compound	Rpt. Limit
Acetone	N/A	Isopropanol	N/A
Ethanol	N/A	Methanol	N/A

Testing Not Performed: Test was canceled due to [Sample Matrix Problem].

Acocde 50010TI - Amphetamines Confirmation, Tissue (Forensic) - Liver Tissue

-Analysis by High Performance Liquid Chromatography/
Tandem Mass Spectrometry (LC-MS/MS) for:

Compound	Rpt. Limit	Compound	Rpt. Limit
Amphetamine	20 ng/g	MDA	20 ng/g
Ephedrine	20 ng/g	MDEA	20 ng/g

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Analysis Summary and Reporting Limits:

<u>Compound</u>	<u>Rpt. Limit</u>	<u>Compound</u>	<u>Rpt. Limit</u>
MDMA	20 ng/g	Phentermine	20 ng/g
Methamphetamine	20 ng/g	Phenylpropanolamine	20 ng/g
Norpseudoephedrine	20 ng/g	Pseudoephedrine	20 ng/g

Acode 52250TI - Alcohols and Acetone Confirmation, Tissue (Forensic) - Liver Tissue

-Analysis by Headspace Gas Chromatography (GC) for:

<u>Compound</u>	<u>Rpt. Limit</u>	<u>Compound</u>	<u>Rpt. Limit</u>
Acetone	20 mg/100 g	Isopropanol	20 mg/100 g
Ethanol	40 mg/100 g	Methanol	20 mg/100 g

Acode 8051TI - Postmortem, Basic, Tissue (Forensic) - Liver Tissue

-Analysis by Enzyme-Linked Immunosorbent Assay (ELISA) for:

<u>Compound</u>	<u>Rpt. Limit</u>	<u>Compound</u>	<u>Rpt. Limit</u>
Amphetamines	80 ng/g	Fentanyl / Acetyl Fentanyl	1.0 ng/g
Barbiturates	0.16 mcg/g	Methadone / Metabolite	100 ng/g
Benzodiazepines	400 ng/g	Methamphetamine / MDMA	80 ng/g
Buprenorphine / Metabolite	2.0 ng/g	Opiates	80 ng/g
Cannabinoids	40 ng/g	Oxycodone / Oxymorphone	40 ng/g
Cocaine / Metabolites	80 ng/g	Phencyclidine	40 ng/g

-Analysis by Headspace Gas Chromatography (GC) for:

<u>Compound</u>	<u>Rpt. Limit</u>	<u>Compound</u>	<u>Rpt. Limit</u>
Acetone	20 mg/100 g	Isopropanol	20 mg/100 g
Ethanol	40 mg/100 g	Methanol	20 mg/100 g

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