CONFIDENTIAL - N	OT FOR	PUBLIC	RELEASE
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US.Department of Transportation Federal Avlation Administration Mike Monroney Aeronautical Center Wednesday, August 21, 2019 P.O. Box 25082 Oklahoma City, Oklahoma 73125

Air Accident Investigation Department

Manx Corporate Center, P.O. Box CB11702

Nassau, Bahamas

Pilot-In-Command

ACCIDENT # 0147 INDIVIDUAL#: 002 NAME: DATE OF ACCIDENT 07/04/2019 DATE R

DATE RECEIVED 07/10/2019 NTSB# ERA19FA210 MODE: AVIATION PUTREFACTION: Yes CAMI REF # 201900147002

N # 32CC NTSB # EI LOCATION OF ACCIDENT Big Grand Cay, Bahamas

SPECIMENS Blood (Cavity), Brain, Gastric, Heart, Kidney, Liver, Lung, Muscle, Spleen, Urine

## 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.

NO CARBOXYHEMOGLOBIN detected in Blood (Cavity)

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.

- 55 (mg/dL, mg/hg) Ethanol detected in Blood (Cavity)
- 20 (mg/dL, mg/hg) Ethanol detected in Urine
- Propanol (N-) detected in Urine

DRUGS: Specimens are analyzed using immunoassay, chromatography, mass spectrometry, or spectrophotometry. 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), marihuana (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/).

- Ibuprofen detected in Blood (Cavity)
- Ibuprofen detected in Urine



Russell Lewis, Ph.D., F-ABFT Supervisor, Forensic Sciences Bioaeronautical Sci. Research Lab CAMI, FAA c=US, o=U.S. Government, ou=AMC, ou=AMC, cn=RUSSELL J LEWIS 2019.08.22 09:33:17 -05'00'

CONF	IDENTI	AL - NO	T FOR	PUBLIC	RELEASE
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US. Department of Transportation

Federal Aviation

Administration

Mike Monroney Aeronautical Center Wednesday, August 21, 2019 P.O. Box 25082 Oklahoma City, Oklahoma 73125

Air Accident Investigation Department

Manx Corporate Center, P.O. Box CB11702

Nassau, Bahamas

Second-In-Command

ACCIDENT # 0147 INDIVIDUAL#: 001 NAME: DATE OF ACCIDENT 07/04/2019 DATE F

DATE RECEIVED 07/10/2019 NTSB # ERA19FA210 MODE: AVIATION PUTREFACTION: Yes CAMI REF # 201900147001

N # 32CC NTSB # E LOCATION OF ACCIDENT Big Grand Cay, Bahamas

SPECIMENS Blood (Cavity), Gastric, Heart, Kidney, Liver, Lung, Muscle, Spleen, Urine

## 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.

NO CARBOXYHEMOGLOBIN detected in Blood (Cavity)

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.

- 11 (mg/dL, mg/hg) Ethanol detected in Blood (Cavity)
- N-Butanol detected in Blood (Cavity)
- 25 (mg/dL, mg/hg) Ethanol detected in Urine
- N-Butanol detected in Urine

DRUGS: Specimens are analyzed using immunoassay, chromatography, mass spectrometry, or spectrophotometry. 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), marihuana (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/).

NO DRUGS listed above detected in Urine

c=US, o=U.S. Government, ou=AMC, ou=AMC, cn=RUSSELL J LEWIS 2019.08.29 10:20:37 -05'00'

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