

## HUMAN PERFORMANCE FACTORS

Attachment 2 – 1996 MCI Driver FAA Toxicology Report

Palm Springs, CA

HWY17MH005

(3 pages)



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

Thursday, April 27, 2017

National Transportation Safety Board, Highway Safety

490 L'Enfant Plaza East, S.W.

Washington, DC 20594

 ACCIDENT #
 0231
 INDIVIDUAL#:
 001
 NAME:
 Mathematical

 DATE OF ACCIDENT
 10/23/2016
 DATE RECEIVED
 11/03/2016

 N #
 NTSB #
 HWY17MH005

LOCATION OF ACCIDENT Hot Desert Springs, CA

SPECIMENS Blood (Heart), Urine

 MODE: HIGHWAY

 PUTREFACTION:
 No

 CAMI REF #
 201600231001

## 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 CARBON MONOXIDE detected in Blood (Heart)

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 Urine

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), 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

Russell Lewis, Ph.D., F-ABFT TC, FAA, Forensic Toxicology Research Team CAMI



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**MODE: HIGHWAY** 

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## **CLINICAL REPORT**

Vitreous fluid and urine are screened qualitatively (reagent strips) and quantitatively (enzymatic spectrophotometric analysis) for the presence of glucose. The Limit of Reporting (LOR) for glucose in urine and vitreous fluid is 5.0 mg/dL. Postmortem levels above 125 mg/dL in vitreous and 100 mg/dL in urine are considered abnormal. Creatinine is quantitatively tested in postmortem urine and vitreous fluid is 2.5 mg/dL. Normal adult creatinine levels range from 0.6 mg/dL to 1.3 mg/dL in vitreous fluid and 20 mg/dL to 370 mg/dL in urine. Urine concentrations with < 20 mg/dL creatinine and specific gravity of < 1.003 are considered "dilute". Concentrations of serotonin metabolites 5-hydroxytryptophol (5-HTOL) and 5-hydroxyindole-3-acetic acid (5-HIAA) are measured by LC/MS. A 5-HTOL/5-HIAA ratio value < 15 pmol/nmol is not consistent with ethanol ingestion, while a ratio value > 15 pmol/nmol is indicative of ethanol ingestion.

>> 281 (mg/dl ) Glucose detected in Urine
>> 11.4 (%) Hemoglobin A1C detected in Blood (Heart)

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