



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

THESE RECORDS MAY BE RELEASABLE UNDER THE FOIA REQUEST 15  
DAYS AFTER SIGNATURE DATE UNLESS WE HEAR OTHERWISE FROM  
FAA NTSB COUNSEL

Mike Monroney  
Aeronautical Center

P.O. Box 25082  
Oklahoma City, Oklahoma 73125

Monday, November 01, 2010

National Transportation Safety Board  
2001 Route 46, Suite 504  
Parsippany, NJ 07054

ACCIDENT # 0227    INDIVIDUAL#: 002    NAME: SOBOTA, EDWARD F.    MODE: AVIATION  
DATE OF ACCIDENT 08/07/2010    DATE RECEIVED 09/15/2010    PUTREFACTION: Yes  
N # 28MR    NTSB # ERA10FA404    CAMI REF # 201000227002  
LOCATION OF ACCIDENT    Saltsburg, PA  
SPECIMENS    Bile, Blood, Brain, Gastric, Heart, Kidney, Liver, Lung, Muscle, Spinal Fluid, Spleen, Urine, Vitreous

### 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

**CYANIDE:** The presence of cyanide is screened by Conway Diffusion. Positive 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.

>> NO CYANIDE detected in Blood

**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 Vitreous

**DRUGS:** Immunoassay and/or chromatography are used to screen for drugs. GC/Mass Spec, HPLC/Mass Spec, or GC/FTIR is used to confirm most positive results. Concentrations (ug/mL) at or below 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). For comprehensive information concerning all drugs detected by the laboratory, see the CAMI Drug Information Web Site <http://jag.camii.jccbi.gov/toxicology/>.

>> Naproxen detected in Urine  
>> Quinine detected in Urine

Dennis V. Canfield, Ph. D.  
Manager, Bioaeronautical Sci.  
Research Lab CAMI

2010.11.17 11:22:53 -06'00'



# NMS Labs

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Robert A. Middleberg, PhD, DABFT, DABCC-TC, Laboratory Director

## Corrected Report

Report Issued 09/02/2010 15:00

Last Report Issued 08/31/2010 13:00

To: 10192

Westmoreland County Coroner's Office  
Attn: Kenneth A. Bacha/Ste.602  
Courthouse Sq, 2 North Main St  
Greensburg, PA 15601

Patient Name SOBOTA, EDWARD

Patient ID CHW10-202

Chain 11198133

Age 65

Gender Male

Workorder 10177793

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## Positive Findings:

<u>Compound</u>	<u>Result</u>	<u>Units</u>	<u>Matrix Source</u>
Carboxyhemoglobin	10	%	Blood
Carboxyhemoglobin	See Note	%	Blood

See Detailed Findings section for additional information

## Testing Requested:

<u>Analysis Code</u>	<u>Description</u>
1005B	Carbon Monoxide Profile, Blood (Forensic)
8051B	Postmortem Toxicology - Basic, Blood

## Specimens Received:

<u>ID</u>	<u>Tube/Container</u>	<u>Volume/ Mass</u>	<u>Collection Date/Time</u>	<u>Matrix Source</u>	<u>Miscellaneous Information</u>
001	Gray Top Tube	8.5 mL	08/08/2010 12:40	Blood	
002	Gray Top Tube	7.5 mL	08/08/2010 12:40	Blood	
003	Red Top Tube	4.5 mL	08/08/2010 12:40	Bile	
004	Red Top Tube	8 mL	08/08/2010 12:40	Urine	

All sample volumes/weights are approximations.

Specimens received on 08/11/2010.

The undersigned certifies that this is a  
RED INK STAMP COPY

Westmo

By:

DO NOT DUPLICATE



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Workorder 10177793  
Chain 11198133  
Patient ID CHW10-202

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**Detailed Findings:**

Analysis and Comments	Result	Units	Rpt. Limit	Specimen Source	Analysis By
Carboxyhemoglobin	10	%	2.0	001 - Blood	SP
An interference in this sample may have caused the false elevation of the quantitative value by spectrophotometry. Confirmatory testing by microdiffusion was negative.					
Carboxyhemoglobin	See Note	%	2.0	001 - Blood	MD
Microdiffusion (MD) result is not congruent with the Spectrophotometry (SP) result.					

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. Carboxyhemoglobin (COHb) - Blood:

Hemoglobin is a protein found in red blood cells that is responsible for the oxygen carrying capacity of blood. In normal conditions, hemoglobin receives oxygen via blood circulation through the lungs and delivers the oxygen to tissues and organs throughout the body. In situations where the inspired air is high in carbon monoxide concentration, the hemoglobin then binds the carbon monoxide in place of oxygen. This leads to a functional deficiency in oxygen delivery to the organs and tissues of the body.

Measurement of carbon monoxide hemoglobin saturation gives an indication of the carbon monoxide concentration in the inspired air and its possible sequelae. Normal endogenous carboxyhemoglobin levels are generally up to 4% in non-smokers and up to 8% in smokers (although it may be higher); toxic symptoms may be noted at levels >10%. Concentrations over 10% saturation have been reported to produce adverse effects, e.g., headache and nausea. Deaths from carbon monoxide, in the absence of resuscitative measures, generally have associated carboxyhemoglobin levels >40%. However, individuals with a compromised cardiovascular system are at a potentially greater risk of toxic effects at much lower carbon monoxide hemoglobin saturation values.

**Sample Comments:**

001 \* Patient Name modified 09/01/10. Previous value: DOE, JOHN #2

001 \* Age modified 09/01/10. Previous value: Not Given

Chain of custody documentation has been maintained for the analyses performed by NMS Labs.

Unless alternate arrangements are made by you, the remainder of the submitted specimens will be discarded six (6) weeks from the date of this report; and generated data will be discarded five (5) years from the date the analyses were performed.

Workorder 10177793 was electronically  
signed on 09/02/2010 14:02 by:

Edward J. Barbieri, Ph.D.  
Forensic Toxicologist

**Analysis Summary and Reporting Limits:**

Acode 1005B - Carbon Monoxide Profile, Blood (Forensic)

-Analysis by Microdiffusion (MD) for:

Compound	Rpt. Limit	Compound	Rpt. Limit
Carboxyhemoglobin	2.0 %		



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Chain 11198133  
Patient ID CHW10-202

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**Analysis Summary and Reporting Limits:**

-Analysis by Spectrophotometry (SP) for:

<u>Compound</u>	<u>Rpt. Limit</u>	<u>Compound</u>	<u>Rpt. Limit</u>
Carboxyhemoglobin	2.0 %		

Acode 52167B - Buprenorphine and Metabolite - Free (Unconjugated) Confirmation, Blood (Forensic)

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

<u>Compound</u>	<u>Rpt. Limit</u>	<u>Compound</u>	<u>Rpt. Limit</u>
Buprenorphine - Free	1.0 ng/mL	Norbuprenorphine - Free	1.0 ng/mL

Acode 8051B - Postmortem Toxicology - Basic, Blood

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

<u>Compound</u>	<u>Rpt. Limit</u>	<u>Compound</u>	<u>Rpt. Limit</u>
Amphetamines	20 ng/mL	Methadone	25 ng/mL
Barbiturates	0.040 mcg/mL	Opiates	20 ng/mL
Benzodiazepines	100 ng/mL	Phencyclidine	10 ng/mL
Cannabinoids	10 ng/mL	Propoxyphene	50 ng/mL
Cocaine / Metabolites	20 ng/mL		

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

<u>Compound</u>	<u>Rpt. Limit</u>	<u>Compound</u>	<u>Rpt. Limit</u>
Buprenorphine	0.50 ng/mL		

-Analysis by Headspace Gas Chromatography (GC) for:

<u>Compound</u>	<u>Rpt. Limit</u>	<u>Compound</u>	<u>Rpt. Limit</u>
Acetone	1.0 mg/dL	Isopropanol	1.0 mg/dL
Ethanol	10 mg/dL	Methanol	5.0 mg/dL