



# COUNTY OF VENTURA SHERIFF'S OFFICE

800 S. VICTORIA AVENUE VENTURA, CA 93009 (805) 654-2370

## FORENSIC SCIENCES LABORATORY REPORT

### TOXICOLOGY SECTION

**LAB CASE NUMBER:**  
L14-04465-1

<b>SUBJECT(S):</b> HERDMAN, MICHAEL (D)	
<b>AGENCY:</b> MEDICAL EXAMINER	
<b>AGENCY CASE NUMBER:</b> MISC0720-14	<b>OFFENSE(S):</b> DEATH

### FINAL REPORT

The following item or items were received for analysis by the Forensic Sciences Laboratory on 7/1/2014 2:34:28 PM.

#### SPECIMENS RECEIVED

<u>LAB ITEM #</u>	<u>DESCRIPTION</u>	<u>AMOUNT *</u>
001	LIVER FROM HERDMAN, MICHAEL	56 g
002	MUSCLE FROM HERDMAN, MICHAEL	70 g

COMMENTS: Left quadriceps.

\*Approximate Amount

#### ANALYTICAL FINDINGS

##### LIVER-ITEM 001

<u>Tests</u>	<u>Results</u>	<u>Method</u>	<u>Reporting Limit of Detection</u>
AUTOPSY THERAPEUTIC & ABUSED DRUG SCREEN	SEE ATTACHED REPORT	NMS Labs	

#### ANALYTICAL FINDINGS

##### MUSCLE-ITEM 002

<u>Tests</u>	<u>Results</u>	<u>Method</u>	<u>Reporting Limit of Detection</u>
AUTOPSY THERAPEUTIC & ABUSED DRUG SCREEN	SEE ATTACHED REPORT	NMS Labs	

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Jm S

VENTURA COUNTY SHERIFF'S FORENSIC SCIENCES LABORATORY REPORT  
TOXICOLOGY SECTION  
L14-04465-1

*I have reviewed all the examination records generated with respect to this case prior to issuing this report.*

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LINDA J. ZYCH  
FORENSIC SCIENTIST

*Received & reviewed  
7/29/14*

*JMS*



NMS Labs

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e-mail: nms@nmslabs.com
Robert A. Middleberg, PhD, DABFT, DABCC-TC, Laboratory Director

Toxicology Report

Report Issued 07/21/2014 11:00

Patient Name HERDMAN MICHAEL
Patient ID L14-04465-1
Chain 24192
Age Not Given DOB Not Given
Gender Not Given
Workorder 14165886

To: 40170
Ventura County Sheriff's Crime Lab
Attn: Fabiola Nunes-Daniel
800 South Victoria Avenue
Ventura, CA 93009

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Positive Findings:

Table with 4 columns: Compound, Result, Units, Matrix Source. Rows include Ethanol, Caffeine, Amphetamine, MDA, MDMA, and their respective results and matrix sources.

See Detailed Findings section for additional information

Testing Requested:

Table with 2 columns: Analysis Code, Description. Row: 8052TI Postmortem Toxicology - Expanded, 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:

Table with 5 columns: ID, Tube/Container, Volume/Mass, Collection Date/Time, Matrix Source, Miscellaneous Information. Rows 001-004.

All sample volumes/weights are approximations.
Specimens received on 07/03/2014.

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Detailed Findings:

Analysis and Comments	Result	Units	Rpt. Limit	Specimen Source	Analysis By
Ethanol	56	mg/100 g	40	002 - Liver Tissue	Headspace GC
Caffeine	Positive	mcg/g	0.10	002 - Liver Tissue	GC/MS
Amphetamine	3000	ng/g	20	002 - Liver Tissue	LC-MS/MS
MDA	390	ng/g	20	002 - Liver Tissue	LC-MS/MS
MDMA	9800	ng/g	20	002 - Liver Tissue	LC-MS/MS
Ethanol	Confirmed	mg/100 g	40	002 - Liver Tissue	Headspace GC
Caffeine	Positive	mcg/g	0.10	004 - Muscle Tissue	GC/MS
Amphetamine	530	ng/g	20	004 - Muscle Tissue	LC-MS/MS
MDA	45	ng/g	20	004 - Muscle Tissue	LC-MS/MS
MDMA	1700	ng/g	20	004 - Muscle Tissue	LC-MS/MS

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:

- Amphetamine - Muscle Tissue, Liver Tissue:  
Amphetamine is a Schedule II phenethylamine CNS-stimulant. It is used therapeutically in the treatment of narcolepsy and obesity and also in the treatment of hyperactivity in children. Amphetamine has a high potential for abuse. Amphetamine is also a metabolite of methamphetamine and selegiline.  
  
Overdose with amphetamine can produce restlessness, hyperthermia, convulsions, hallucinations, respiratory and/or cardiac failure.
- Caffeine (No-Doz) - Muscle Tissue, Liver Tissue:  
Caffeine is a xanthine-derived central nervous system stimulant. It also produces diuresis and cardiac and respiratory stimulation. It can be readily found in such items as coffee, tea, soft drinks and chocolate. As a reference, a typical cup of coffee or tea contains between 40 to 100 mg caffeine.
- 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.
- MDA (3,4-Methylenedioxyamphetamine; Adam; MDMA Metabolite) - Muscle Tissue, Liver Tissue:  
3,4-Methylenedioxyamphetamine (MDA) is an amphetamine derivative and a chemical analogue of 3,4-methylenedioxymethamphetamine (MDMA). This compound is abused for its central nervous system stimulant and hallucinogenic properties. Illicit forms of the drug have been found containing 50 to 250 mg of the substance as the hydrochloride salt and can be used either orally or by injection. Occasionally these preparations contain related substances such as MDMA. In addition to being used itself as a drug of abuse, MDA is a metabolite of MDMA.  
  
Overdose with MDA may result in agitation, tremor, tachycardia, rapid breathing, dilated pupils, increased body temperature, muscular rigidity, convulsions and coma.
- MDMA (3,4-Methylenedioxymethamphetamine; Ecstasy) - Muscle Tissue, Liver Tissue:  
3,4-Methylenedioxymethamphetamine (MDMA) is a DEA Schedule I controlled substance and is a synthetic sympathomimetic compound with mixed stimulant, psychotropic, and hallucinogenic activities. It was used briefly as an adjunct to psychotherapy, but because of widespread abuse it has now been reclassified as a DEA Schedule I compound. It has been most commonly administered orally, in doses between 100 and 150 mg, as the hydrochloride salt. An administration of 200 mg MDMA produced visual hallucinations, confusion agitation, coma, and hypotension.

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Chain 24192
Patient ID L14-04465-1

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Sample Comments:

- 001 Tissue specimen required homogenization: 14165886-001
002 NMS Labs generated homogenized Tissue sample: 14165886-002
002 Due to the nature of the specimen, some analytes may not be detected by the GC/MS screen.
003 Tissue specimen required homogenization: 14165886-003
004 NMS Labs generated homogenized Tissue sample: 14165886-004
004 Due to the nature of the specimen, some analytes may not be detected by the GC/MS screen.
004 Please test BOTH samples and return both samples to Ventura County Crime Laboratory when analysis is completed.

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 14165886 was electronically signed on 07/21/2014 10:22 by:

Dawn Sherwood

Dawn N. Sherwood,
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. Please refer to the Positive Findings section of the report for those compounds that were identified as being present.

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

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

Table with 4 columns: Compound, Rpt. Limit, Compound, Rpt. Limit. Lists various amphetamines and their reporting limits.

Acode 50010TI - Amphetamines Confirmation, Tissue (Forensic) - Muscle Tissue

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

Table with 4 columns: Compound, Rpt. Limit, Compound, Rpt. Limit. Lists various amphetamines and their reporting limits.

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**Analysis Summary and Reporting Limits:**

<u>Compound</u>	<u>Rpt. Limit</u>	<u>Compound</u>	<u>Rpt. Limit</u>
Pseudoephedrine	20 ng/g	Selegiline	20 ng/g

Acode 50012TI - Benzodiazepines Confirmation, Tissue (Forensic) - Muscle Tissue

-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>
7-Amino Clonazepam	N/A	Flurazepam	8.0 ng/g
Alpha-Hydroxyalprazolam	20 ng/g	Hydroxyethylflurazepam	20 ng/g
Alprazolam	20 ng/g	Hydroxytriazolam	20 ng/g
Chlordiazepoxide	80 ng/g	Lorazepam	20 ng/g
Clobazam	80 ng/g	Midazolam	20 ng/g
Clonazepam	8.0 ng/g	Nordiazepam	80 ng/g
Desalkylflurazepam	20 ng/g	Oxazepam	80 ng/g
Diazepam	80 ng/g	Temazepam	80 ng/g
Estazolam	20 ng/g	Triazolam	8.0 ng/g

**Not Reported:** 7-Amino Clonazepam: Test was canceled due to [Interfering Substance].

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 8052TI - Postmortem Toxicology - Expanded, Tissue (Forensic) - Liver Tissue

-Analysis by Colorimetry (C) for:

<u>Compound</u>	<u>Rpt. Limit</u>	<u>Compound</u>	<u>Rpt. Limit</u>
Salicylates	800 mcg/g		

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

<u>Compound</u>	<u>Rpt. Limit</u>	<u>Compound</u>	<u>Rpt. Limit</u>
Benzodiazepines	400 ng/g	Opiates	80 ng/g
Cannabinoids	40 ng/g	Oxycodone	40 ng/g
Cocaine / Metabolites	80 ng/g		

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

<u>Compound</u>	<u>Rpt. Limit</u>	<u>Compound</u>	<u>Rpt. Limit</u>
Buprenorphine / Metabolite	2.0 ng/g		

-Analysis by Gas Chromatography/Mass Spectrometry (GC/MS) for: The following is a general list of compound classes included in the Gas Chromatographic screen. The detection of any particular compound is concentration-dependent. Please note that not all known compounds included in each specified class or heading are included. Some specific compounds outside these classes are also included. For a detailed list of all compounds and reporting limits included in this screen, please contact NMS Labs.

Amphetamines, Analgesics (opioid and non-opioid), Anesthetics, Anticholinergic Agents, Anticonvulsant Agents, Antidepressants, Antiemetic Agents, Antihistamines, Antiparkinsonian Agents, Antipsychotic Agents, Anxiolytics (Benzodiazepine and others), Cardiovascular Agents (non digitalis), Hallucinogens, Hypnosedatives (Barbiturates, Non-Benzodiazepine Hypnotics and others), Muscle Relaxants, Non-Steroidal Anti-Inflammatory Agents (excluding Salicylate) and Stimulants (Amphetamine-like and others).

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**Analysis Summary and Reporting Limits:**

-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 8052TI - Postmortem Toxicology - Expanded, Tissue (Forensic) - Muscle Tissue

-Analysis by Colorimetry (C) for:

<u>Compound</u>	<u>Rpt. Limit</u>	<u>Compound</u>	<u>Rpt. Limit</u>
Salicylates	800 mcg/g		

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

<u>Compound</u>	<u>Rpt. Limit</u>	<u>Compound</u>	<u>Rpt. Limit</u>
Benzodiazepines	400 ng/g	Opiates	80 ng/g
Cannabinoids	40 ng/g	Oxycodone	40 ng/g
Cocaine / Metabolites	80 ng/g		

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

<u>Compound</u>	<u>Rpt. Limit</u>	<u>Compound</u>	<u>Rpt. Limit</u>
Buprenorphine / Metabolite	2.0 ng/g		

-Analysis by Gas Chromatography/Mass Spectrometry (GC/MS) for: The following is a general list of compound classes included in the Gas Chromatographic screen. The detection of any particular compound is concentration-dependent. Please note that not all known compounds included in each specified class or heading are included. Some specific compounds outside these classes are also included. For a detailed list of all compounds and reporting limits included in this screen, please contact NMS Labs.

Amphetamines, Analgesics (opioid and non-opioid), Anesthetics, Anticholinergic Agents, Anticonvulsant Agents, Antidepressants, Antiemetic Agents, Antihistamines, Antiparkinsonian Agents, Antipsychotic Agents, Anxiolytics (Benzodiazepine and others), Cardiovascular Agents (non digitalis), Hallucinogens, Hypnotics (Barbiturates, Non-Benzodiazepine Hypnotics and others), Muscle Relaxants, Non-Steroidal Anti-Inflammatory Agents (excluding Salicylate) and Stimulants (Amphetamine-like and others).

-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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