



NMS Labs

CONFIDENTIAL

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

Demo Report

Report Issued 09/29/2017 13:10
Last Report Issued 09/22/2017 10:15

88888
Clinical Example Report
Attn: IT Department
200 Welsh Road
Horsham, PA 19044-2208

Patient Name 8091SP-POS
Patient ID 8091SP-POS
Chain 17001852
Age Not Given DOB Not Given
Gender Not Given
Workorder 17001852
Received 09/21/2017 11:48

Sample ID 17001852-001
Matrix Serum or Plasma
Patient Name 8091SP-POS
Patient ID 8091SP-POS
Container Type Clear vial

Collect Dt/Tm Not Given
Source Not Given

Approx Vol/Weight Not Given

Receipt Notes None Entered

Table with 5 columns: Analysis and Comments, Result, Units, Reporting Limit, Notes

8091SP Drugs of Abuse (10 Panel) and Alcohol Screen, Serum/Plasma (Forensic)

Analysis by Headspace Gas Chromatography (GC)

Ethanol 85 mg/dL 10
Synonym(s): Ethyl Alcohol

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.

Methanol 85 mg/dL 5.0
Synonym(s): Methyl Alcohol

Endogenous blood levels of methanol from metabolic and dietary sources are approximately 0.15 mg/dL.

Exposure to 800 ppm methanol for 8 hours produced a maximum average blood methanol concentration of 3.1 mg/dL.

The blood to plasma ratio of methanol is 0.9.

Isopropanol 85 mg/dL 5.0

Results for sample 17001852-001 are continued on next page



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**Sample ID** 17001852-001  
**Matrix** Serum or Plasma  
**Patient Name** 8091SP-POS  
**Patient ID** 8091SP-POS

**Collect Dt/Tm** Not Given  
**Source** Not Given

Analysis and Comments	Result	Units	Reporting Limit	Notes
Synonym(s): Isopropyl Alcohol  Three workers exposed to 191 - 200 ppm isopropanol in air had blood isopropanol concentrations <1 mg/dL; acetone levels were 4 - 16 mg/dL during the exposure. After a sponge bath with isopropanol, one adult had a blood isopropanol concentration of 10 mg/dL.  In a study of 31 isopropanol deaths, postmortem blood concentrations ranged from 10 to 250 mg/dL (mean, 140 mg/dL) and acetone blood concentrations ranged from 40 - 300 mg/dL (mean, 170 mg/dL).  The blood to plasma ratio of isopropanol is 0.9 - 1.1.				
Acetone	85	mg/dL	5.0	
Reported normal endogenous acetone levels in blood are up to 3 mg/dL. Levels associated with diabetic or fasting ketoacidosis range from 10 - 70 mg/dL. After exposure to 100 and 500 ppm acetone for 2 hr, reported blood acetone concentrations peaked at 2 and 10 mg/dL, respectively. A blood level of 250 mg/dL was reported in an individual who became lethargic following ingestion of acetone.  The blood to plasma ratio of acetone is 1.0 - 1.1.				
Analysis by Enzyme-Linked Immunosorbent Assay (ELISA)				
Opiates	See Comment	ng/mL	20	
Comment: Based on this screening result, confirmation testing was performed. Refer to the confirmation test result(s).				
Cocaine / Metabolites	See Comment	ng/mL	20	
Comment: Based on this screening result, confirmation testing was performed. Refer to the confirmation test result(s).				
Benzodiazepines	See Comment	ng/mL	100	
Comment: Based on this screening result, confirmation testing was performed. Refer to the confirmation test result(s).				
Cannabinoids	See Comment	ng/mL	10	
Comment: Based on this screening result, confirmation testing was performed. Refer to the confirmation test result(s).				

Results for sample 17001852-001 are continued on next page



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Sample ID 17001852-001
Matrix Serum or Plasma
Patient Name 8091SP-POS
Patient ID 8091SP-POS

Collect Dt/Tm Not Given
Source Not Given

Table with 5 columns: Analysis and Comments, Result, Units, Reporting Limit, Notes. Rows include Amphetamines, Barbiturates, Methadone / Metabolite, Phencyclidine, Methamphetamine / MDMA, and Oxycodone / Oxymorphone.

50010SP Amphetamines Confirmation, Serum/Plasma (Forensic)

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

Table with 5 columns: Analysis and Comments, Result, Units, Reporting Limit, Notes. Rows include Ephedrine and Pseudoephedrine.

Results for sample 17001852-001 are continued on next page



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Sample ID 17001852-001
Matrix Serum or Plasma
Patient Name 8091SP-POS
Patient ID 8091SP-POS

Collect Dt/Tm Not Given
Source Not Given

Table with 5 columns: Analysis and Comments, Result, Units, Reporting Limit, Notes. Contains data for Phenylpropanolamine, Norpseudoephedrine, Amphetamine, and Phentermine.

Results for sample 17001852-001 are continued on next page



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**Sample ID** 17001852-001  
**Matrix** Serum or Plasma  
**Patient Name** 8091SP-POS  
**Patient ID** 8091SP-POS

**Collect Dt/Tm** Not Given  
**Source** Not Given

Analysis and Comments	Result	Units	Reporting Limit	Notes
<p>A single 26 mg/70 kg oral dose produced a mean peak blood concentration of 90 ng/mL at 4 hours, declining to 30 ng/mL after 40 hours.</p> <p>Adults receiving 30 mg daily oral doses for 2 weeks achieved a mean steady-state plasma concentration of 360 ng/mL (range 180 to 510 ng/mL).</p>				
Methamphetamine	50	ng/mL	5.0	
<p>Therapeutic Range (treatment of Obesity and Attention Deficit Disorder) following a 12.5 mg oral dose: Mean peak blood concentrations were 20 ng/mL at 2.5 hours.</p> <p>This test reports Methamphetamine as the total of the undifferentiated d and l enantiomers. The ratio of these enantiomers is important in determining whether the source of Methamphetamine is from over the counter medications, prescribed medication or controlled substances.            Call lab for further information on d to l enantiomer ratio determination.</p>				
MDA	50	ng/mL	5.0	
<p>Synonym(s): 3,4-Methylenedioxyamphetamine; Adam; MDMA Metabolite</p> <p>MDA is a metabolite of MDMA and methylenedioxyethylamphetamine (MDEA) and is abused for its central nervous system stimulant and hallucinogenic properties.            The peak concentration of the MDA metabolite following a 110 mg dose of MDMA was reported as 28 ng/mL at 4 hours.</p>				
MDMA	50	ng/mL	5.0	
<p>Synonym(s): 3,4-Methylenedioxymethamphetamine; Ecstasy</p> <p>Following a single 50 mg oral dose, the mean peak plasma concentration was 110 ng/mL at 2 hours.</p>				
MDEA	50	ng/mL	5.0	
<p>Synonym(s): 3,4-methylenedioxyethamphetamine; Eve</p> <p>A single oral 140 mg dose given to 6 adults produced peak plasma concentrations that averaged 260 ng/mL at 2.2 hours.</p>				

Results for sample 17001852-001 are continued on next page



**Sample ID** 17001852-001  
**Matrix** Serum or Plasma  
**Patient Name** 8091SP-POS  
**Patient ID** 8091SP-POS

**Collect Dt/Tm** Not Given  
**Source** Not Given

Analysis and Comments	Result	Units	Reporting Limit	Notes
<b>50011SP Barbiturates Confirmation, Serum/Plasma (Forensic)</b>				
Analysis by Gas Chromatography/Mass Spectrometry (GC/MS)				
Butabarbital Synonym(s): Butisol Sodium Plasma concentrations of 2 - 3 mcg/mL produce sedation and plasma concentrations of 25 mcg/mL produce sleep in most patients. Plasma concentrations of greater than 30 mcg/mL may produce coma and plasma concentrations in excess of 50 mcg/mL are potentially lethal.	50	mcg/mL	0.20	
Butalbital A single oral 100 mg dose resulted in a mean peak blood concentration of 2.1 mcg/mL (range, 1.7 - 2.6 mcg/mL) at 2 hours, with a decline to 1.5 mcg/mL (range, 1.3 - 1.7 mcg/mL) by 24 hours. Potentially toxic at plasma concentrations greater than 10 mcg/mL.	50	mcg/mL	0.20	
Amobarbital Following a single oral administration of 120 mg, serum concentrations peaked at about 1.8 mcg/mL at 2 hours, and declined slowly thereafter with a half-life of approximately 24 hours. Potentially toxic at plasma concentrations greater than 9 mcg/mL.	50	mcg/mL	0.20	
Pentobarbital Peak serum concentrations of 1.2 - 3.1 mcg/mL were produced 0.5 - 2.0 hours after a 100 mg oral dose and peak serum concentrations of 3 mcg/mL were produced 6 min. following a 100 mg IV dose. Potentially toxic at blood concentrations greater than 10 mcg/mL.	50	mcg/mL	0.20	
Secobarbital Synonym(s): Seconal®	50	mcg/mL	0.20	

Results for sample 17001852-001 are continued on next page



**Sample ID** 17001852-001  
**Matrix** Serum or Plasma  
**Patient Name** 8091SP-POS  
**Patient ID** 8091SP-POS

**Collect Dt/Tm** Not Given  
**Source** Not Given

Analysis and Comments	Result	Units	Reporting Limit	Notes
<p>A 3.3 mg/kg oral dose (approx. 230 mg/70 kg) produced a mean peak blood concentration of 2.0 mcg/mL (range, 1.8 - 2.2 mcg/mL) at 3 hours, diminishing to 1.3 mcg/mL by 20 hours and 0.8 mcg/mL by 40 hours. Potentially toxic at blood concentrations greater than 8 mcg/mL.</p>				
Phenobarbital Synonym(s): Luminal® Serum/plasma concentrations of 10 - 30 mcg/mL are generally considered desirable when given as an anticonvulsant.	50	mcg/mL	0.20	
<p><b>50012SP Benzodiazepines Confirmation, Serum/Plasma (Forensic)</b></p> <p>Analysis by High Performance Liquid Chromatography/Tandem Mass Spectrometry (LC-MS/MS)</p>				
Diazepam Synonym(s): Valium® Therapeutic range: 100 - 1000 ng/mL.	50	ng/mL	20	
Nordiazepam Synonym(s): Chlordiazepoxide Metabolite Psychiatric patients taking chronic diazepam doses ranging from 2 to 55 mg daily had steady state plasma concentrations of nordiazepam averaging 390 ng/mL (range 26 to 1600 ng/mL).	50	ng/mL	20	
Oxazepam Synonym(s): Serax® When used as a drug, the therapeutic plasma concentration: 200 - 1400 ng/mL. Potentially toxic greater than 2000 ng/mL. As a metabolite of Diazepam, low concentrations may be observed. In one study, following chronic daily doses of about 70 mg of Diazepam, the steady-state serum concentrations were 50 - 400 ng Oxazepam/mL.	50	ng/mL	20	
Temazepam Synonym(s): Normison®; Diazepam Metabolite	50	ng/mL	20	

Results for sample 17001852-001 are continued on next page



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Sample ID 17001852-001
Matrix Serum or Plasma
Patient Name 8091SP-POS
Patient ID 8091SP-POS

Collect Dt/Tm Not Given
Source Not Given

Table with 5 columns: Analysis and Comments, Result, Units, Reporting Limit, Notes. Rows include Clobazam, Chlordiazepoxide, Lorazepam, Clonazepam, 7-Amino Clonazepam, Alprazolam, and Alpha-Hydroxyalprazolam with their respective results and limits.

Results for sample 17001852-001 are continued on next page





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**Sample ID** 17001852-001  
**Matrix** Serum or Plasma  
**Patient Name** 8091SP-POS  
**Patient ID** 8091SP-POS

**Collect Dt/Tm** Not Given  
**Source** Not Given

Analysis and Comments	Result	Units	Reporting Limit	Notes
Synonym(s): Alprazolam Metabolite Alpha-Hydroxyalprazolam has approximately 66% of the pharmacological activity of Alprazolam.				
Midazolam	50	ng/mL	5.0	
Synonym(s): Versed® Peak plasma levels following a single 12.5 mg IM dose: approximately 200 ng/mL within 45 minutes of dose. Following a single 75 mcg/kg IV dose over 1 minute: 320 ng/mL at 0.25 hours 250 ng/mL at 0.5 hours 210 ng/mL at 1 hour 140 ng/mL at 2 hours 80 ng/mL at 4 hours 40 ng/mL at 6 hours 20 ng/mL at 8 hours.				
Triazolam	50	ng/mL	2.0	
Synonym(s): Halcion® Following a single 0.25 mg oral dose, the mean plasma concentration: 3.0 ng/mL (range, 2.3 - 3.7 ng/mL) within 1.5 hours. Following a single 0.5 mg oral dose, the mean plasma concentration: 4.4 ng/mL (range, 1.7 - 9.4 ng/mL) within 4 hours.				
Hydroxytriazolam	50	ng/mL	5.0	
Synonym(s): Triazolam Metabolite Hydroxytriazolam has 50 to 100% of the pharmacological activity of triazolam.				
Hydroxyethylflurazepam	50	ng/mL	5.0	
Synonym(s): Flurazepam Metabolite The mean peak plasma concentration following a 30 mg oral dose of Flurazepam was 18 ng Hydroxyethylflurazepam/mL at 1 hour post dose.				
Desalkylflurazepam	50	ng/mL	5.0	
Synonym(s): Flurazepam Metabolite The mean peak plasma concentration following a 30 mg oral dose of Flurazepam was 23 ng Desalkylflurazepam/mL at 12 hours post dose.				
Flurazepam	50	ng/mL	2.0	

Results for sample 17001852-001 are continued on next page



**Sample ID** 17001852-001  
**Matrix** Serum or Plasma  
**Patient Name** 8091SP-POS  
**Patient ID** 8091SP-POS

**Collect Dt/Tm** Not Given  
**Source** Not Given

Analysis and Comments	Result	Units	Reporting Limit	Notes
<p>Synonym(s): Dalmane®</p> <p>The mean peak plasma concentration following a 30 mg oral dose was 2.1 ng/mL at 1 hour post dose, but was undetectable at subsequent times.</p>				
Estazolam	50	ng/mL	5.0	
<p>Synonym(s): ProSom®</p> <p>The mean peak plasma concentration following a 1 mg oral dose was 55 ng/mL (range, 40 - 70 ng/mL).</p> <p>The mean peak plasma concentration following a 2 mg oral dose was 98 ng/mL (range, 75 - 140 ng/mL).</p>				
<p><b>50013SP Cannabinoids Confirmation, Serum/Plasma (Forensic)</b></p> <p>Analysis by High Performance Liquid Chromatography/Tandem Mass Spectrometry (LC-MS/MS)</p>				
11-Hydroxy Delta-9 THC	50	ng/mL	1.0	
<p>Synonym(s): Active Metabolite</p> <p>11-Hydroxy Delta-9 THC is an active intermediate metabolite of tetrahydrocannabinol (THC) the active component of marijuana. Usual peak levels: Less than 10% of THC levels after smoking.</p>				
Delta-9 Carboxy THC	50	ng/mL	5.0	
<p>Synonym(s): Inactive Metabolite</p> <p>Usual peak levels in serum for 1.75% or 3.55% THC marijuana cigarettes: 10 - 101 ng/mL about 32 to 240 minutes after beginning smoking, with a slow decline. Usually not detectable after passive inhalation.</p>				
Delta-9 THC	50	ng/mL	0.50	
<p>Synonym(s): Active Ingredient of Marijuana</p> <p>Usual peak levels in serum for 1.75% or 3.55% THC marijuana cigarettes: 50 - 270 ng/mL at 6 to 9 minutes after beginning smoking, decreasing to less than 5 ng/mL by 2 hrs.</p>				

**50014SP Cocaine and Metabolites Confirmation, Serum/Plasma (Forensic)**

Results for sample 17001852-001 are continued on next page



**Sample ID** 17001852-001  
**Matrix** Serum or Plasma  
**Patient Name** 8091SP-POS  
**Patient ID** 8091SP-POS

**Collect Dt/Tm** Not Given  
**Source** Not Given

Analysis and Comments	Result	Units	Reporting Limit	Notes
Analysis by Gas Chromatography/Mass Spectrometry (GC/MS)				
Cocaine Following oral or nasal intake of 2 mg/kg: Up to 200 ng/mL.	500	ng/mL	20	
Cocaethylene Synonym(s): Cocaine/Ethanol By-Product	500	ng/mL	20	
Benzoylecgonine Synonym(s): Cocaine Degradation Product	500	ng/mL	50	
<b>50015SP Methadone and Metabolite Confirmation, Serum/Plasma (Forensic)</b>				
Analysis by High Performance Liquid Chromatography/Tandem Mass Spectrometry (LC-MS/MS)				
Methadone Synonym(s): Dolophine® Usual narcotic stabilization range: 50 - 1000 ng/mL.	500	ng/mL	20	
EDDP Synonym(s): Methadone Metabolite	500	ng/mL	20	
<b>50016SP Opiates - Free (Unconjugated) Confirmation, Serum/Plasma (Forensic)</b>				
Analysis by High Performance Liquid Chromatography/Tandem Mass Spectrometry (LC-MS/MS)				
Dihydrocodeine / Hydrocodol - Free Synonym(s): Hydrocodone Metabolite Adult therapeutic range: 72-150 ng/mL.	50	ng/mL	5.0	
Codeine - Free Adult therapeutic range: 20-210 ng/mL.	50	ng/mL	5.0	
Morphine - Free Synonym(s): Codeine Metabolite Adult therapeutic range: <73 ng/mL.	50	ng/mL	5.0	

Results for sample 17001852-001 are continued on next page



**Sample ID** 17001852-001  
**Matrix** Serum or Plasma  
**Patient Name** 8091SP-POS  
**Patient ID** 8091SP-POS

**Collect Dt/Tm** Not Given  
**Source** Not Given

Analysis and Comments	Result	Units	Reporting Limit	Notes
Hydrocodone - Free Synonym(s): Vicodin®; Zohydro® Adult therapeutic range: 6-29 ng/mL.	50	ng/mL	5.0	
6-MAM - Free Synonym(s): 6-Monoacetylmorphine; Heroin Metabolite 6-Monoacetylmorphine is a metabolite of heroin.	50	ng/mL	1.0	
Hydromorphone - Free Synonym(s): Dilaudid®; Hydrocodone Metabolite Adult therapeutic range: 5-20 ng/mL.	50	ng/mL	1.0	
Oxycodone - Free Synonym(s): OxyContin®; Roxicodone® Adult therapeutic range: 13-120 ng/mL.	50	ng/mL	5.0	
Oxymorphone - Free Synonym(s): Numorphan®; Opana®; Oxycodone Metabolite Adult therapeutic range: 3-8 ng/mL.	50	ng/mL	1.0	

**50017SP Phencyclidine Confirmation, Serum/Plasma (Forensic)**

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

Phencyclidine Synonym(s): PCP; Angel Dust; Sherm	500	ng/mL	5.0	
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**52250SP Alcohols and Acetone Confirmation, Serum/Plasma (Forensic)**

Analysis by Headspace Gas Chromatography (GC)

Ethanol Synonym(s): Ethyl Alcohol	Confirmed	mg/dL	10	
Methanol Synonym(s): Methyl Alcohol	Confirmed	mg/dL	5.0	
Isopropanol	Confirmed	mg/dL	5.0	

Results for sample 17001852-001 are continued on next page



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**Sample ID** 17001852-001  
**Matrix** Serum or Plasma  
**Patient Name** 8091SP-POS  
**Patient ID** 8091SP-POS

**Collect Dt/Tm** Not Given  
**Source** Not Given

<b>Analysis and Comments</b>	<b>Result</b>	<b>Units</b>	<b>Reporting Limit</b>	<b>Notes</b>
Synonym(s): Isopropyl Alcohol Acetone	Confirmed	mg/dL	5.0	