**Docket No. SA-539**

**Exhibit No. 18-C**

# NATIONAL TRANSPORTATION SAFETY BOARD

**Washington, D.C.**

NMS Labs
Forensic Toxicology Report

(9 Pages)

NMS LABS

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## Toxicology Report

**Report Issued** 08/13/2016 22:00

**To:** [redacted]

**Patient Name** [redacted]
**Patient ID** [redacted]
**Chain** [redacted]
**Age** 49 Y **DOB** [redacted]
**Gender** Male
**Workorder** 16234693



### Positive Findings:

| Compound | Result | Units | Matrix Source |
|---|---|---|---|
| Caffeine | Positive | mcg/mL | 001 - Femoral Blood |
| Diazepam | 130 | ng/mL | 001 - Femoral Blood |
| Nordiazepam | 180 | ng/mL | 001 - Femoral Blood |
| Oxycodone - Free | 8.1 | ng/mL | 001 - Femoral Blood |
| Bupropion | 62 | ng/mL | 001 - Femoral Blood |
| Hydroxybupropion | 340 | ng/mL | 001 - Femoral Blood |
| Methylphenidate | 5.0 | ng/mL | 001 - Femoral Blood |
| Ritalinic Acid | 180 | ng/mL | 001 - Femoral Blood |
| Diphenhydramine | 65 | ng/mL | 001 - Femoral Blood |
| Cyclobenzaprine | 20 | ng/mL | 001 - Femoral Blood |
| Fluoxetine | 500 | ng/mL | 001 - Femoral Blood |
| Norfluoxetine | 96 | ng/mL | 001 - Femoral Blood |
| Dextro / Levo Methorphan | 100 | ng/mL | 001 - Femoral Blood |
| Benzodiazepines | Presump Pos | ng/mL | 002 - Urine |
| Amphetamines | Presump Pos | ng/mL | 002 - Urine |
| Oxycodone / Oxymorphone | Presump Pos | ng/mL | 002 - Urine |

See Detailed Findings section for additional information

### Testing Requested:

| Analysis Code | Description |
|---|---|
| 8052B | Postmortem, Expanded, Blood (Forensic) |
| 8050U | Postmortem, Urine Screen Add-on (6-MAM Quantification only) |
| 1002B | Carbon Monoxide Exposure Biouptake Screen, Blood |

### Specimens Received:

| ID | Tube/Container | Volume/ Mass | Collection Date/Time | Matrix Source | Miscellaneous Information |
|---|---|---|---|---|---|
| 001 | Gray Top Tube | 11 mL | 07/31/2016 09:40 | Femoral Blood | |
| 002 | Red Vial | 9.5 mL | 07/31/2016 09:40 | Urine | |

All sample volumes/weights are approximations.

Specimens received on 08/02/2016.

## Detailed Findings:

| Analysis and Comments | Result | Units | Rpt. Limit | Specimen Source | Analysis By |
|---|---|---|---|---|---|
| Caffeine | Positive | mcg/mL | 1.0 | 001 - Femoral Blood | LC/TOF-MS |
| Diazepam | 130 | ng/mL | 20 | 001 - Femoral Blood | LC-MS/MS |
| Nordiazepam | 180 | ng/mL | 20 | 001 - Femoral Blood | LC-MS/MS |
| Oxycodone - Free | 8.1 | ng/mL | 5.0 | 001 - Femoral Blood | LC-MS/MS |
| Bupropion | 62 | ng/mL | 10 | 001 - Femoral Blood | LC-MS/MS |
| Hydroxybupropion | 340 | ng/mL | 100 | 001 - Femoral Blood | LC-MS/MS |
| Methylphenidate | 5.0 | ng/mL | 4.0 | 001 - Femoral Blood | LC-MS/MS |
| Ritalinic Acid | 180 | ng/mL | 20 | 001 - Femoral Blood | LC-MS/MS |
| Diphenhydramine | 65 | ng/mL | 50 | 001 - Femoral Blood | LC-MS/MS |
| Cyclobenzaprine | 20 | ng/mL | 2.0 | 001 - Femoral Blood | LC-MS/MS |
| Fluoxetine | 500 | ng/mL | 20 | 001 - Femoral Blood | GC |
| Norfluoxetine | 96 | ng/mL | 20 | 001 - Femoral Blood | GC |
| Dextro / Levo Methorphan | 100 | ng/mL | 5.0 | 001 - Femoral Blood | LC-MS/MS |
| Benzodiazepines | Presump Pos | ng/mL | 50 | 002 - Urine | EIA |
| This test is an unconfirmed screen. Confirmation by a more definitive technique such as GC/MS is recommended. | | | | | |
| Amphetamines | Presump Pos | ng/mL | 500 | 002 - Urine | EIA |
| This test is an unconfirmed screen. Confirmation by a more definitive technique such as GC/MS is recommended. | | | | | |
| Oxycodone / Oxymorphone | Presump Pos | ng/mL | 100 | 002 - Urine | EIA |
| This test is an unconfirmed screen. Confirmation by a more definitive technique such as GC/MS is recommended. | | | | | |

**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. Amphetamines - Urine:

   Amphetamines are a class of central nervous system stimulant drugs, with some therapeutic uses, and a high potential for abuse.

   This result derives from a presumptive test, which may be subject to cross-reactivity with non-amphetamine related compounds. A second test is necessary to confirm the presence of amphetamine related compounds.

2. Benzodiazepines - Urine:

   Benzodiazepines are a class of drugs that are prescribed for their anxiolytic, muscle relaxant, anticonvulsant and hypnotic effects. The degree of each effect is dependent upon the specific drug, its pharmacokinetics and any relevant metabolite.

   This result derives from a presumptive test, which may be subject to cross-reactivity with non-benzodiazepine related compounds. A second test is necessary to confirm the presence of benzodiazepine related compounds.

3. Bupropion (Wellbutrin®) - Femoral Blood:

   Bupropion is a drug that is marketed for oral use as an antidepressant (Wellbutrin®) and as a smoking deterrent (Zyban®). As an antidepressant, it is chemically different than other antidepressant compounds; it is structurally similar to the sympathomimetic compound diethylpropion. For use as an antidepressant, the common adult dosage of bupropion is up to 300 mg daily, given in 3 divided doses (via immediate-release tablets) or once daily (by using extended-release tablets). For use as an aid to stop smoking, the recommended dosage is 300 mg per day, given as 150 mg twice daily (sustained-release tablets).

**Reference Comments:**

Maximum antidepressant response was observed at trough plasma concentrations of 50 - 100 ng/mL bupropion with virtually no response below 25 ng/mL. Juvenile patients taking once daily, extended release bupropion for two weeks had the following peak plasma levels:
100 mg/day (n = 11), 25 +/- 8 ng/mL bupropion
200 mg/day (n = 8), 53 +/- 22 ng/mL bupropion
Bupropion is extensively metabolized to several products (e.g., hydroxybupropion, and erythroamino and threoamino metabolites). Although all metabolites have less pharmacological activity than the parent drug, they have longer elimination half-lives than bupropion and generally exceed the plasma concentration of the parent compound.
Adverse effects of bupropion overdose may include nausea and vomiting, agitation, dizziness, seizures, sleep disturbances, tachycardia, lethargy, confusion, tremors and death. In five fatalities from overdose of bupropion, postmortem blood concentrations have been reported to range from 4000 - 13000 ng/mL (mean, 7300 ng/mL). The ratio of whole blood concentration to serum or plasma concentration is unknown for this analyte.

4. Caffeine (No-Doz) - Femoral Blood:

   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.

   The reported qualitative result for this substance was based upon a single analysis only. If confirmation testing is required please contact the laboratory.

5. Cyclobenzaprine (Flexeril®) - Femoral Blood:

   Cyclobenzaprine is a tricyclic compound that acts on the central nervous system to relax skeletal muscle. Its mechanism of action is not well understood; however, it does potentiate norepinephrine, has some anticholinergic effects, and has central nervous system depressant activity. It is generally used as an adjunct to rest and physical therapy in the treatment of painful musculoskeletal conditions.

   Commonly, plasma cyclobenzaprine concentrations of 15 - 30 ng/mL are required for skeletal muscle relaxant effects.

   Cyclobenzaprine overdose produces drowsiness, tachycardia, nausea, paresthesia, hypotension, convulsions, cardiac arrhythmias and coma. In two fatal overdose cases, blood concentrations averaged 500 ng/mL, other central nervous system depressants were also contributory in these cases.

6. Dextro / Levo Methorphan - Femoral Blood:

   Dextromethorphan (DM) is the d-isomer of a synthetic codeine analog that has antitussive activity, but is without a significant analgesic effect. The drug is frequently found as a constituent of cough and cold medications for adults and children that are available over-the-counter. Oral doses range from 5 to 120 mg per day.

   DM is metabolized in the liver to a few products including dextrorphan, a pharmacologically active antitussive. Genetic polymorphism exists for the rate and extent of DM metabolism. Rapid metabolizers show a mean elimination half-life of 3.4 hours while slow metabolizers (about 10% of the population) exhibit half-lives that may exceed 24 hours. Dextrorphan is generally not observed in the bloodstream; free DM, free dextrorphan, and conjugated dextrorphan are eliminated in the urine.

   Following a single oral 20 mg dose, peak serum DM concentrations averaged 2 ng/mL after 2.5 hours. With chronic doses of 30 mg 4 times daily for 7 days, the mean peak plasma DM concentration was 2.4 ng/mL in extensive metabolizers and approximately 200 ng/mL in poor metabolizers.

   Overdose with DM is rare, however, toxicity (which may include death) is usually manifested when doses exceed 100 times the normal adult dose. The observed symptoms include central nervous system depression, hallucinations, dizziness and ataxia. Fatalities have been reported at dextromethorphan concentrations as low as 3300 ng/mL in blood.

   This test is not chiral specific; therefore, Dextromethorphan and/or Levomethorphan may be present.

**Reference Comments:**

7. Diazepam (Valium®) - Femoral Blood:

   Diazepam is a benzodiazepine used primarily for its sedative anxiolytic or muscle relaxing effects. It is a U.S. DEA Schedule IV listed central nervous system depressant, and patients using this medication are warned accordingly, especially concerning motor functions. It is habituating, and frequently abused. It is metabolized to several pharmacologically active compounds: nordiazepam, oxazepam and temazepam. In order to evaluate the effects of this compound, concentrations of these metabolites must also be considered.

   The reported diazepam concentration in a chronic steady-state regimen of 5 mg twice daily ranges from 100 - 400 ng/mL with nordiazepam being in the range of 130 - 500 ng/mL. Oxazepam and temazepam may be present in low concentrations.

   Toxic effects may be produced by blood concentrations in excess of 1500 ng/mL; fatalities produced by diazepam alone are rare, but may occur at blood concentrations greater than 5000 ng/mL. Alcohol greatly enhances the activity of the benzodiazepines.

8. Diphenhydramine (Benadryl®; Ingredient of Benylin and Panadol; Nytol; Unisom) - Femoral Blood:

   Diphenhydramine is an antihistamine with sedative and anti-emetic effects. It is rapidly absorbed following oral administration; however, it is frequently given IV. Patients taking this medication are usually warned against the operation of complicated machinery, because of its strong sedative effects.
   Following a single 50 mg oral dose of diphenhydramine, peak plasma concentrations at 2.3 hr averaged 66 ng/mL.
   Signs and symptoms of acute diphenhydramine toxicity include tremor, seizures, fever, respiratory depression and cardiac arrhythmias. The average blood diphenhydramine concentrations reported in fatal overdoses were 1400 ng/mL in infants, 4400 ng/mL in children and 15000 ng/mL in adults.
   The blood to plasma concentration ratio for diphenhydramine is approximately 0.80.

9. Fluoxetine (Prozac®) - Femoral Blood:

   Fluoxetine is a chemically-atypical antidepressant used to help control major depressive disorders. Norfluoxetine, the major metabolite of fluoxetine, is also active pharmacologically. Recommended daily doses range between 20 to 80 mg.

   Following a single 40 mg dose, reported peak plasma levels were between 20 - 60 ng/mL after 6 to 8 hr. Chronic daily doses of 40 mg for 1 month produced reported plasma concentrations ranging from 90 - 300 ng/mL for fluoxetine and 70 - 300 ng/mL for norfluoxetine. There is, however, no clear relationship between plasma concentrations of fluoxetine and/or norfluoxetine and efficacy.

   Toxicity with fluoxetine is not routinely observed at pre-mortem combined concentrations of fluoxetine and norfluoxetine below 2000 ng/mL. Concentrations much greater than 2000 ng/mL are not necessarily fatal. There have been reports of survived overdose involving fluoxetine with combined blood or plasma concentrations of parent compound and metabolite over 4000 ng/mL. In deaths attributable to fluoxetine overdose, reported blood or plasma combined concentrations range from 2000 - 11000 ng/mL.

10. Hydroxybupropion (Bupropion Metabolite) - Femoral Blood:

    Bupropion is a drug that is marketed for oral use as an antidepressant (Wellbutrin®) and as a smoking deterrent (Zyban®). Bupropion is extensively metabolized to several products (e.g., hydroxybupropion, and erythroamino and threoamino metabolites). Although all metabolites have less pharmacological activity than the parent drug, they have longer elimination half-lives than bupropion and generally exceed the plasma concentration of the parent compound.
    Juvenile patients taking once daily, extended release bupropion for two weeks had the following peak plasma levels:
    100 mg/day (n = 11), 450 +/- 210 ng/mL hydroxybupropion
    200 mg/day (n = 8), 710 +/- 350 ng/mL hydroxybupropion
    A delayed death due to overdose with bupropion had serum concentrations of 446 ng/mL bupropion and 3212 ng/mL hydroxybupropion at 20 hours post ingestion.
    The ratio of whole blood concentration to Serum or plasma concentration is unknown for this analyte.

## Reference Comments:

11. Methylphenidate (Ritalin®) - Femoral Blood:

    Methylphenidate is a DEA Schedule II central nervous system stimulant similar to amphetamine. It is used in the treatment of attention deficit disorder, depression, narcolepsy and hyperkinesia. It has other effects such as anorexia, insomnia, and weight loss. The substance also possesses strong abuse potential. It is rapidly biotransformed to ritalinic acid.

    The usually encountered therapeutic range for methylphenidate is 10 - 40 ng/mL with corresponding values of ritalinic acid of 80 - 250 ng/mL.

    Symptoms seen with excessive ingestion of methylphenidate include nausea, vomiting, agitation, tremors, hallucinations, tachycardia, convulsions, and coma. Few fatalities have been reported with this compound, however, in one case a postmortem blood concentration of 2800 ng/mL was reported.

12. Nordiazepam (Chlordiazepoxide Metabolite) - Femoral Blood:

    Nordiazepam is a pharmacologically active metabolite of several benzodiazepines, including diazepam (Valium®) and chlordiazepoxide (Librium®). The action of this compound is based on its central nervous system depressant activity. Nordiazepam has a very long elimination half-life and may be identified long after the parent drug has been completely eliminated from the circulation.

    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). Chronic therapy with a daily oral dose of 22.5 mg clorazepate produced reported steady-state plasma concentrations of nordiazepam of 660 +/- 140 ng/mL. The active metabolites oxazepam and temazepam may be present in low concentrations. The blood to plasma ratio of nordiazepam is 0.6.

    A fatal case was reported with a nordiazepam blood concentration of 5500 ng/mL along with 0.180 g/dL ethanol and 7000 ng/mL chlordiazepoxide. Alcohol greatly enhances the activity of the benzodiazepines.

13. Norfluoxetine (Fluoxetine Metabolite) - Femoral Blood:

    Daily therapy with 40 mg fluoxetine/day: Steady-state concentration at 4 to 8 hr after dosing ranges from 72 - 258 ng/mL serum.

14. Oxycodone - Free (OxyContin®; Roxicodone®) - Femoral Blood:

    Oxycodone is a DEA Schedule II controlled semi-synthetic narcotic analgesic. It is used to control pain associated with such ailments as bursitis, injuries, simple fractures and neuralgia. The addiction liability of oxycodone is about the same as for morphine. This compound should be administered in the smallest effective dose and as infrequently as possible. The usual adult dose of the hydrochloride salt is 5 mg every 6 hr.

    Following the oral administration of oxycodone as both sustained-release (Oxycontin®) and regular formulations, peak plasma concentrations of the compound are generally less than 100 ng/mL; however, the sustained-release preparation may also result in peak concentrations of oxycodone less than 10 ng/mL serum. Oxymorphone is a pharmacologically active metabolite of oxycodone that may be seen in blood in very low concentrations.

    In overdose, oxycodone can produce stupor, coma, muscle flaccidity, severe respiratory depression, hypotension and cardiac arrest. In twelve oxycodone-related deaths, blood concentrations averaged 1600 ng/mL (range 240 to 8400 ng/mL). However, sustained-release preparations appear to produce adverse reactions, up to and including death, at concentrations of oxycodone well below 1000 ng/mL, especially in combination with other central nervous system depressants, depending on use pattern and route of administration.

15. Oxycodone / Oxymorphone - Urine:

    Oxycodone and oxymorphone are in a class of drugs that have effects similar to morphine. These drugs are most commonly prescribed as analgesics for the relief of pain, but are also utilized for sedation, preanesthetic medication and anesthesia in the hospital setting.

    This result derives from a presumptive test, which may be subject to cross-reactivity with non-oxycodone related compounds. A second test is necessary to confirm the presence of oxycodone related compounds.

### Reference Comments:

16. Ritalinic Acid (Methylphenidate Metabolite) - Femoral Blood:

    Plasma concentrations 3 to 6 hours post-dose in children given a 10 to 15 mg oral dose of Methylphenidate: 80 - 250 ng Ritalinic Acid/mL.

Unless alternate arrangements are made by you, the remainder of the submitted specimens will be discarded one (1) year from the date of this report; and generated data will be discarded five (5) years from the date the analyses were performed.

Workorder 16234693 was electronically signed on 08/13/2016 21:43 by:

[redacted]

Forensic Toxicologist

### 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. The Reporting Limit listed for each compound represents the lowest concentration of the compound that will be reported as being positive. If the compound is listed as None Detected, it is not present above the Reporting Limit. Please refer to the Positive Findings section of the report for those compounds that were identified as being present.

Acode 1002B - Carbon Monoxide Exposure Biouptake Screen, Blood - Femoral Blood

-Analysis by Spectrophotometry (SP) for:

| Compound | Rpt. Limit | Compound | Rpt. Limit |
|---|---|---|---|
| Carboxyhemoglobin | 5 %Saturation | | |

Acode 50012B - Benzodiazepines Confirmation, Blood (Forensic) - Femoral Blood

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

| Compound | Rpt. Limit | Compound | Rpt. Limit |
|---|---|---|---|
| 7-Amino Clonazepam | 5.0 ng/mL | Flurazepam | 2.0 ng/mL |
| Alpha-Hydroxyalprazolam | 5.0 ng/mL | Hydroxyethylflurazepam | 5.0 ng/mL |
| Alprazolam | 5.0 ng/mL | Hydroxytriazolam | 5.0 ng/mL |
| Chlordiazepoxide | 20 ng/mL | Lorazepam | 5.0 ng/mL |
| Clobazam | 20 ng/mL | Midazolam | 5.0 ng/mL |
| Clonazepam | 2.0 ng/mL | Nordiazepam | 20 ng/mL |
| Desalkylflurazepam | 5.0 ng/mL | Oxazepam | 20 ng/mL |
| Diazepam | 20 ng/mL | Temazepam | 20 ng/mL |
| Estazolam | 5.0 ng/mL | Triazolam | 2.0 ng/mL |

Acode 50016B - Opiates - Free (Unconjugated) Confirmation, Blood (Forensic) - Femoral Blood

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

| Compound | Rpt. Limit | Compound | Rpt. Limit |
|---|---|---|---|
| 6-Monoacetylmorphine - Free | 1.0 ng/mL | Hydromorphone - Free | 1.0 ng/mL |
| Codeine - Free | 5.0 ng/mL | Morphine - Free | 5.0 ng/mL |
| Dihydrocodeine / Hydrocodol - Free | 5.0 ng/mL | Oxycodone - Free | 5.0 ng/mL |
| Hydrocodone - Free | 5.0 ng/mL | Oxymorphone - Free | 1.0 ng/mL |

Acode 52012B - Bupropion and Metabolite Confirmation, Blood (Forensic) - Femoral Blood

## Analysis Summary and Reporting Limits:

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

| Compound | Rpt. Limit | Compound | Rpt. Limit |
|---|---|---|---|
| Bupropion | 10 ng/mL | Hydroxybupropion | 100 ng/mL |

Acode 52079B - Methylphenidate and Metabolite Confirmation, Blood (Forensic) - Femoral Blood

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

| Compound | Rpt. Limit | Compound | Rpt. Limit |
|---|---|---|---|
| Methylphenidate | 4.0 ng/mL | Ritalinic Acid | 20 ng/mL |

Acode 52441B - Diphenhydramine Confirmation, Blood (Forensic) - Femoral Blood

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

| Compound | Rpt. Limit | Compound | Rpt. Limit |
|---|---|---|---|
| Diphenhydramine | 50 ng/mL | | |

Acode 52445B - Cyclobenzaprine Confirmation, Blood (Forensic) - Femoral Blood

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

| Compound | Rpt. Limit | Compound | Rpt. Limit |
|---|---|---|---|
| Cyclobenzaprine | 2.0 ng/mL | | |

Acode 52450B - GC Confirmation Set 1, Blood (Forensic) - Femoral Blood

-Analysis by Gas Chromatography (GC) for:

| Compound | Rpt. Limit | Compound | Rpt. Limit |
|---|---|---|---|
| Amitriptyline | 20 ng/mL | Fluoxetine | 20 ng/mL |
| Amoxapine | 20 ng/mL | Maprotiline | 20 ng/mL |
| Brompheniramine | 40 ng/mL | Mirtazapine | 10 ng/mL |
| Chlorpromazine | 20 ng/mL | Norfluoxetine | 20 ng/mL |
| Clomipramine | 20 ng/mL | Nortriptyline | 20 ng/mL |
| Desmethylclomipramine | 20 ng/mL | Pheniramine | 40 ng/mL |
| Desmethyldoxepin | 20 ng/mL | Trazodone | 0.20 mcg/mL |
| Doxepin | 20 ng/mL | Verapamil | 20 ng/mL |
| Doxylamine | 100 ng/mL | | |

Acode 52451B - Dextro/Levo Methorphan Confirmation, Blood (Forensic) - Femoral Blood

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

| Compound | Rpt. Limit | Compound | Rpt. Limit |
|---|---|---|---|
| Dextro / Levo Methorphan | 5.0 ng/mL | | |

Acode 8050U - Postmortem, Urine Screen Add-on (6-MAM Quantification only)

-Analysis by Enzyme Immunoassay (EIA) for:

## Analysis Summary and Reporting Limits:

| Compound | Rpt. Limit | Compound | Rpt. Limit |
|---|---|---|---|
| Amphetamines | 500 ng/mL | Fentanyl / Metabolite | 2.0 ng/mL |
| Barbiturates | 0.30 mcg/mL | Methadone / Metabolite | 300 ng/mL |
| Benzodiazepines | 50 ng/mL | Opiates | 300 ng/mL |
| Cannabinoids | 20 ng/mL | Oxycodone / Oxymorphone | 100 ng/mL |
| Cocaine / Metabolites | 150 ng/mL | Phencyclidine | 25 ng/mL |

Acode 8052B - Postmortem, Expanded, Blood (Forensic) - Femoral Blood

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

| Compound | Rpt. Limit | Compound | Rpt. Limit |
|---|---|---|---|
| Barbiturates | 0.040 mcg/mL | Salicylates | 120 mcg/mL |
| Cannabinoids | 10 ng/mL | | |

-Analysis by Headspace Gas Chromatography (GC) for:

| Compound | Rpt. Limit | Compound | Rpt. Limit |
|---|---|---|---|
| Acetone | 5.0 mg/dL | Isopropanol | 5.0 mg/dL |
| Ethanol | 10 mg/dL | Methanol | 5.0 mg/dL |

-Analysis by High Performance Liquid Chromatography/
Time ofFlight-Mass Spectrometry (LC/TOF-MS) for: The following is a general list of compound classes included in this screen. The detection of any specific analyte is concentration-dependent. Note, not all known analytes in each specified compound class are included. Some specific analytes outside these classes are also included. For a detailed list of all analytes and reporting limits, please contact NMS Labs.
Amphetamines, Anticonvulsants, Antidepressants, Antihistamines, Antipsychotic Agents, Benzodiazepines, CNS Stimulants, Cocaine and Metabolites, Hallucinogens, Hypnosedatives, Hypoglycemics, Muscle Relaxants, Non-Steroidal Anti-Inflammatory Agents, Opiates and Opioids.