

# **Methamphetamine and Ecstasy (MDMA) Assessment**

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Laboratory results show environmental concerns with methylenedioxymethamphetamine (MDMA), and methamphetamine throughout Unit 22. Venting from the MDMA “cooking” was discharged to the rooftop of the building. All building materials inside Unit 22 have been contaminated with methylenedioxymethamphetamine (MDMA), and methamphetamine, including drywall walls, drywall ceilings, wood components, flooring, concrete block masonry units, concrete flooring, steel ceiling structure (roof and beams), fans, and equipment. Powder and residual concentrations of methylenedioxymethamphetamine (MDMA), and methamphetamine have contaminated all building surfaces in Unit 22.

Units 21 and 23 have no environmental concerns with methylenedioxymethamphetamine (MDMA), and methamphetamine. Four (4) composite swab samples obtained from each Unit show non-detect levels ( $<0.02 \mu\text{g}/100\text{cm}^2$ ) of methylenedioxymethamphetamine (MDMA). Composite swab samples from floors, walls, and ceilings were obtained for laboratory analysis.

Based on the visual inspection, swab sampling for methylenedioxymethamphetamine (MDMA), methamphetamine, and indoor air quality sampling, remediation of Unit 22 is recommended, following Colorado Department of Public Health & Environment – Cleanup of Clandestine Methamphetamine Labs, Minnesota Department of Health – Clandestine Drug Lab General Cleanup Guidance, and American Industrial Hygiene Association (AIHA) guidance document” *“Clandestine Methamphetamine Laboratory Assessment and Remediation Guidance, 2008”*. Structural drying of building materials should follow the Institute of Inspection, Cleaning and Restoration Certification (IICRC – S500) and should only be performed after the remediation is complete, in order to prevent cross contamination.

The following recommendations are provided for the remediation of Unit 22:

- 1) Perform sampling for potential asbestos containing materials as per Ontario Regulation 278/05 Designated Substance – Asbestos on Construction Projects and in Building and Repair Operations.
- 2) Have containment and negative air machines (HEPA) during the remedial efforts in Unit 22. Provide containment and negative pressure during remediation and tear out work. Provide a minimum negative pressure of - 5 to - 7 Pascals (- 0.02 inches of water column) to the containment areas in Unit 22.
- 3) Remove and discard all ecstasy manufacturing equipment consisting of flex duct venting, freezers, tanks, totes, pails, polyethylene tubing, vent motors, venting, burners, propane tanks, ceiling fans, roof venting, and ecstasy waste (hazardous material waste removal).

- 4) Remove and discard the following building materials: all drywall walls, drywall ceilings, insulation, vapour barrier, wood wall studs, wood bottom plate, wood subfloor (mezzanine), wood stairs, ceramic floor tiles, wood laminate flooring, bathroom shower, toilet, vanity, sink, ductwork, venting, and HVAC units. The reception, offices, bathroom, warehouse, and mezzanine areas are complete guts.
  - 5) HEPA (High-Efficiency Particulate Air) vacuum and wet wipe (detergent and hot water) all remaining porous surfaces such as: concrete floors, concrete masonry unit firewalls, steel beams/supports, and garage bay door (all building surfaces). Repeat HEPA vacuuming and wet wiping for three (3) cleanings.
  - 6) Detergent wash (power-wash) all surfaces twice (2), rinsing with fresh water: consisting of the masonry unit firewalls, concrete floors, and steel ceiling structure. Collect wash water and dry building materials to acceptable moisture content levels.
  - 7) Spray paint all structure surfaces with two (2) coats of high quality paint, polyurethane or concrete/brick sealer. Seal by spraying all surfaces with a special encapsulating coating such as those used for asbestos or lead. Paint should be sprayed and not brushed or rolled. Paint should be allowed to cure for the recommended time between coats.
  - 8) Flush the bathroom drains and floor drains with a 30% solution of hydrogen peroxide. Rinse three (3) times with fresh water.
  - 9) It is recommended to perform inspections during the remediation work (qualified person).
  - 10) Perform swab sampling, indoor air quality (IAQ), and building inspections after clean up to verify remedial actions.
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## Re: Methamphetamine and Ecstasy (MDMA) Assessment & Testing

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### 1.0 INTRODUCTION

Á..... was retained by ..... to conduct a Methamphetamine and Ecstasy (MDMA) Assessment at three (3) commercial units located at Á....., Units 21, 22, & 23, Vaughan, Ontario. Unit 22 was used for manufacturing ecstasy (methylenedioxyamphetamine or MDMA), which is against the Building Code Act, S.O. 1992. The City of Vaughan issued an Unsafe Building – Order to Make Safe at ..... , Unit 22, Vaughan. An Order to Prohibit Use or Occupancy was also issued, pursuant to Subsection 15(3) and 15(5) of The Building Code Act, 1992.

The manufacturing of ecstasy includes the use of the following chemicals: ether, ammonia, methanol, acetone, kerosene, ketamine, MDA, methylene, methamphetamine, amphetamine, dextromethorphan, and methylenedioxyamphetamine (MDMA).

An MDMA manufacturing operation was present inside Unit 22. The mezzanine area was used for mixing and cooking MDMA. Chemical storage was present in the warehouse area, mezzanine rooms, and main level office rooms. Plastic tanks, pails, flex duct venting, filters, propane tanks, burners, freezers, fans, cooking equipment, scales, and other MDMA processing equipment are present throughout Unit 22. Waste chemical and powder residue is present on all building surfaces throughout Unit 22.

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## 2.0 BACKGROUND

The objective of Methamphetamine and Ecstasy (MDMA) Assessment was to determine the extent of MDMA, methamphetamine, and chemical contamination on building materials throughout the Unit 21, 22 and 23. Visual observations, moisture content of building materials, temperature/relative humidity measurements, infra-red camera scanning, and boroscope investigations were performed throughout these Units.

The Methamphetamine and Ecstasy (MDMA) Assessment was performed on ' '. The following sampling was performed at ' ', Units 21, 22, and 23, Vaughan, ON:

- a) Twenty (20) surface swab samples were collected for analysis of methylenedioxymethamphetamine (MDMA) and methamphetamine on ' '. Samples were submitted to Morse Environmental Inc. (Auburn, Washington) and Legacy Laboratory Services in Portland, Oregon. Four (4) composite swab samples were obtained in Units 21 and 23. Eleven (11) composite swab samples were obtained in Unit 22
- b) Three (3) air samples were obtained for the following parameters: carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>), formaldehyde (HCHO), ammonia (NH<sub>3</sub>), volatile organic compounds (VOC's), and phosphine (PH<sub>3</sub>).

## 3.0 SCOPE OF WORK

The scope of work for the Chemical Pre-Inspection includes the following:

- 1) Physical and visual inspections for mould.
  - 2) Temperature, relative humidity measurements of individual rooms, and moisture content of building materials.
  - 3) Air monitoring for carbon monoxide, carbon dioxide, ammonia, phosphine (phosphorus hydride), and volatile organic compounds. Air samples were obtained from Unit 22, Unit 21, and Unit 23.
  - 4) Scanning of the interior/exterior of the Unit with an infrared camera.
  - 5) Aerosolized or airborne particle measurement using a Laser Particle Counter (indoor & outdoor measurement comparison).
  - 7) Monitoring of the residence for explosive conditions and chemicals using a hand held explosive meter (photoionization detector (PID) and an explosive meter).
  - 8) Twenty (20) surface swab samples for analysis of methamphetamine and ecstasy (MDMA). Samples were submitted to Morse Environmental Inc. (Auburn, Washington) and Legacy Laboratory Services in Portland, Oregon. Samples were obtained from Unit 22, Unit 21, and Unit 23.
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- 9) Assessment of HVAC units.
- 10) Assessment of plumbing, drains and traps (PID measurements, visual inspection).
- 11) Digital photos of building materials, chemicals, and sampling.
- 12) Structural site assessment and review of building conditions.
- 13) Full report presenting findings and remediation protocols; following the Colorado Department of Public Health and Environment's *Cleanup of Clandestine Methamphetamine Labs Guidance Document (2007)*, and Minnesota Department of Health and Minnesota Pollution Control Agency's *Clandestine Drug Lab General Cleanup Guidance (2007)*.

#### **4.0 CLANDESTINE DRUG LABORATORY REMEDIATION REFERENCE DOCUMENTATION**

The assessment, building investigation, and remediation protocols follow generally accepted standards, guidelines and current professional practices following:

- Institute of Inspection, Cleaning and Restoration Certification (IICRC – S520 and S500);
- “Guidelines on Assessment and Remediation of Fungi in Indoor Environments”, New York City Department of Health, Bureau of Environmental & Occupational Disease Epidemiology, April 2000;
- “Field Guide for the Determination of Biological Contaminants in Environmental Samples”, American Industrial Hygiene Association (AIHA), 2005;
- “Recognition, Evaluation, and Control of Indoor Mold”, American Industrial Hygiene Association (AIHA), 2008;
- Bioaerosols: Assessment and Control”, American Conference of Governmental Industrial Hygienists (ACGIH), 1999;
- Colorado Department of Public Health and Environment's *Cleanup of Clandestine Methamphetamine Labs Guidance Document (2007)*;
- Minnesota Department of Health and Minnesota Pollution Control Agency's *Clandestine Drug Lab General Cleanup Guidance (2007)*.
- American Industrial Hygiene Association (AIHA) guidance document” “*Clandestine Methamphetamine Laboratory Assessment and Remediation Guidance, 2008*”.

## 5.0 SITE INVESTIGATION

The property under investigation is located at ' ', Units 21, 22, & 23, Vaughan, Ontario. An ecstasy (methylenedioxyamphetamine - MDMA) manufacturing operation was present inside Unit 22. The mezzanine area was used for mixing and cooking MDMA. Chemical storage was present in the warehouse area, mezzanine rooms, and main level office rooms. Plastic tanks, pails, flex duct venting, filters, propane tanks, burners, freezers, fans, cooking equipment, scales, and other MDMA processing equipment are present throughout Unit 22. Waste chemical and powder residue is present on all building surfaces throughout Unit 22.

### Unit 21 (Arthur Murray Franchised Dance Studios)

Four (4) swab samples were collected in Unit 21 for analysis of methylenedioxyamphetamine (MDMA). The following tables (Table 1 & 2) summarize the results of swab sampling for methylenedioxyamphetamine (MDMA), and indoor air quality (IAQ) parameters.

**Table 1.** Methylenedioxyamphetamine (MDMA) swab sampling results. ,

Unit 21, Vaughan, ON. Wipe sampling performed on July 8, 2009. Exceedances are listed in bold font (exceeding 0.1 µg/100cm<sup>2</sup> – methamphetamine & MDMA).

Sample No.	Sample Area	Number of Composites	Analysis	Lab Results
U21-1	Mezzanine area – drywall walls	4	MDMA	< 0.02 µg/100cm <sup>2</sup>
U21-2	Dance Studio – Hardwood floor and drywall walls	4	MDMA	< 0.02 µg/100cm <sup>2</sup>
U21-3	Kitchen & South Office – Floor, walls, counter top	4	MDMA	< 0.02 µg/100cm <sup>2</sup>
U21-4	Reception and North Office – drywall walls	4	MDMA	< 0.02 µg/100cm <sup>2</sup>

**Table 2.** Indoor Air Quality Parameters. Unit 21, Vaughan, ON. Air sampling performed on July 8, 2009. Exceedances are listed in bold font.

Sample Area	Temp.	Relative Humidity	CO (ppm)	CO <sub>2</sub> (ppm)	NH <sub>3</sub> (ppm)	PH <sub>3</sub> (ppm)	VOC's (ppm)
Mezzanine area	24.8°C	46.3%	1	610	<0.1	<0.01	<0.01
Dance Studio	23.9°C	45.3%	1	610	<0.1	<0.01	<0.01
Kitchen, South Office, Reception	23.5°C	44.8%	1	600	<0.1	<0.01	<0.01

Unit 21 has no environmental concerns with methylenedioxyamphetamine (MDMA). Four (4) composite swab samples obtained from Unit 21 reveals non-detect levels ( $<0.02 \mu\text{g}/100\text{cm}^2$ ) of methylenedioxyamphetamine (MDMA).

Ammonia ( $\text{NH}_3$ ), phosphine ( $\text{PH}_3$ ), and volatile organic compound (VOC) testing revealed non-detect levels in all sample areas ( $<0.1 \text{ ppm}$  or  $<0.01\text{ppm}$ ). Carbon monoxide (CO) and carbon dioxide ( $\text{CO}_2$ ) air concentrations are within suggested levels.

All interior surfaces on in Unit 21 have normal moisture content (10 – 12 % moisture content of wood, and 0.1 - 0.15 % moisture content of drywall walls). No visual mould growth was present on building materials throughout Unit 21 (Arthur Murray Dance Studio).

***Therefore, there are no environmental concerns with methylenedioxyamphetamine (MDMA), carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>), ammonia (NH<sub>3</sub>), phosphine (PH<sub>3</sub>), and volatile organic compounds (VOC's) throughout Unit 21 (Arthur Murray Dance Studio). Measured concentrations are well within acceptable levels.***

## Unit 23 (Auto-Edge Appearance Centre)

Four (4) swab samples were collected in Unit 23 for analysis of methylenedioxymethamphetamine (MDMA). The following tables (Table 3 & 4) summarize the results of swab sampling for methylenedioxymethamphetamine (MDMA), and indoor air quality (IAQ) parameters.

**Table 3.** Methylenedioxymethamphetamine (MDMA) swab sampling results.

Unit 23, Vaughan, ON. Wipe sampling performed on July 8, 2009. Exceedances are listed in bold font (exceeding  $0.1 \mu\text{g}/100\text{cm}^2$  – methamphetamine & MDMA).

Sample No.	Sample Area	Number of Composites	Analysis	Lab Results
U23-5	Reception Area – Tile floors and drywall wall	2	MDMA	< 0.02 $\mu\text{g}/100\text{cm}^2$
U23-6	Workshop Bay – Concrete block walls and floor	3	MDMA	< 0.02 $\mu\text{g}/100\text{cm}^2$
U23-7	Mezzanine – Concrete block walls, ceiling, and floor	3	MDMA	< 0.02 $\mu\text{g}/100\text{cm}^2$
U23-8	Washroom – Drywall walls and tile floor	2	MDMA	< 0.02 $\mu\text{g}/100\text{cm}^2$
U22-9	Blank	1	MDMA	< 0.02 $\mu\text{g}/100\text{cm}^2$

**Table 4.** Indoor Air Quality Parameters. Unit 23, Vaughan, ON. Air sampling performed on July 8, 2009. Exceedances are listed in bold font.

Sample Area	Temp.	Relative Humidity	CO (ppm)	CO <sub>2</sub> (ppm)	NH <sub>3</sub> (ppm)	PH <sub>3</sub> (ppm)	VOC's (ppm)
Reception Area	24.5°C	46.5%	0	600	<0.1	<0.01	<0.01
Workshop Bay	25.9°C	47.5%	1	640	<0.1	<0.01	<0.01
Mezzanine Area	26.1°C	48.9%	1	650	<0.1	<0.01	<0.01

Unit 23 has no environmental concerns with methylenedioxymethamphetamine (MDMA). Four (4) composite swab samples obtained from Unit 23 reveals non-detect levels (<0.02  $\mu\text{g}/100\text{cm}^2$ ) of methylenedioxymethamphetamine (MDMA).

Ammonia (NH<sub>3</sub>), phosphine (PH<sub>3</sub>), and volatile organic compound (VOC) testing revealed non-detect levels in all sample areas (<0.1 ppm or <0.01ppm). Carbon monoxide (CO) and carbon dioxide (CO<sub>2</sub>) air concentrations are within suggested levels.

All interior surfaces on in Unit 23 have normal moisture content (10 – 12 % moisture content of wood, and 0.1 - 0.15 % moisture content of drywall walls). No visual mould growth was present on building materials throughout Unit 23 (Auto-Edge Appearance Centre).

***Therefore, there are no environmental concerns with methylenedioxymethamphetamine (MDMA), carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>), ammonia (NH<sub>3</sub>), phosphine (PH<sub>3</sub>), and volatile organic compounds (VOC's) throughout Unit 23 (Auto-Edge Appearance Centre). Measured concentrations are well within acceptable levels.***

## Unit 22 (Ecstasy Lab)

An ecstasy (methylenedioxyamphetamine - MDMA) manufacturing operation was present inside Unit 22. The mezzanine area was used for mixing and cooking MDMA. Chemical storage was present in the warehouse area, mezzanine rooms, and main level office rooms. Plastic tanks, pails, flex duct venting, filters, propane tanks, burners, freezers, fans, cooking equipment, scales, and other MDMA processing equipment are present throughout Unit 22. Waste chemical and powder residue is present on all building surfaces throughout Unit 22.

Ten (10) swab samples were collected in Unit 22 (Ecstasy Lab) for analysis of methylenedioxyamphetamine (MDMA). The following tables (Table 5 & 6) summarize the results of swab sampling for methylenedioxyamphetamine (MDMA), and indoor air quality (IAQ) parameters.

**Table 5.** Methylenedioxyamphetamine (MDMA) swab sampling results.

Unit 22, Vaughan, ON. Wipe sampling performed on July 8, 2009. Exceedances are listed in bold font (exceeding  $0.1 \mu\text{g}/100\text{cm}^2$  – methamphetamine & MDMA).

Sample No.	Sample Area	Number of Composites	Analysis	Lab Results
U22-9	Blank	1	MDMA	< 0.02 $\mu\text{g}/100\text{cm}^2$
U22-10	Reception Area – Ceramic tile floor	1	MDMA	<b>36.58 <math>\mu\text{g}/100\text{cm}^2</math></b>
U22-11	Reception Area – Drywall walls	4	MDMA	<b>0.09 <math>\mu\text{g}/100\text{cm}^2</math></b>
U22-12	Bathroom – Ceramic tile floor and drywall walls	2	MDMA	<b>10.91 <math>\mu\text{g}/100\text{cm}^2</math></b>
U22-13	South Office Room – Drywall walls and floor	2	MDMA	<b>28.69 <math>\mu\text{g}/100\text{cm}^2</math></b>
U22-14	Northwest Office Room – Drywall walls and tile floor	2	MDMA	<b>33.88 <math>\mu\text{g}/100\text{cm}^2</math></b>
U22-15	Warehouse Area – Concrete block wall and floor	2	MDMA	<b>18.96 <math>\mu\text{g}/100\text{cm}^2</math></b>
U22-16	Mezzanine Area – OSB floor and freezer	2	MDMA	<b>58.26 <math>\mu\text{g}/100\text{cm}^2</math></b>
U22-17	Mezzanine Area – Concrete block walls	2	MDMA	<b>61.27 <math>\mu\text{g}/100\text{cm}^2</math></b>
U22-18	Mezzanine Area – Wood floors	2	MDMA	<b>6.95 <math>\mu\text{g}/100\text{cm}^2</math></b>
U22-19	Mezzanine Area – Drywall walls (East and West)	2	MDMA	<b>60.00 <math>\mu\text{g}/100\text{cm}^2</math></b>
U22-20	Blank	1	MDMA	< 0.02 $\mu\text{g}/100\text{cm}^2$

**Table 6.** Indoor Air Quality Parameters. Unit 23, Vaughan, ON. Air sampling performed on July 8, 2009. Exceedances are listed in bold font.

Sample Area	Temp.	Relative Humidity	CO (ppm)	CO <sub>2</sub> (ppm)	NH <sub>3</sub> (ppm)	PH <sub>3</sub> (ppm)	VOC's (ppm)
Reception Area	24.9°C	46.9%	1	650	<0.1	<0.01	<b>5</b>
Workshop Area	26.5°C	48.8 %	1	680	<0.1	<0.01	<b>4</b>
Mezzanine Area	26.9°C	50.1%	1	680	<0.1	<0.01	<b>17</b>

Laboratory results show environmental concerns with methylenedioxymethamphetamine (MDMA), and methamphetamine throughout Unit 22. Venting from the MDMA “cooking” was discharged to the rooftop of the building. All building materials inside Unit 22 have been contaminated with methylenedioxymethamphetamine (MDMA), and methamphetamine, including drywall walls, drywall ceilings, wood components, flooring, concrete block masonry units, concrete flooring, steel ceiling structure (roof and beams), fans, and equipment. Powder and residual concentrations of methylenedioxymethamphetamine (MDMA), and methamphetamine have contaminated all building surfaces in Unit 22.

Ammonia (NH<sub>3</sub>), phosphine (PH<sub>3</sub>), testing revealed non-detect levels in all sample areas (<0.1 ppm or <0.01ppm). Carbon monoxide (CO) and carbon dioxide (CO<sub>2</sub>) air concentrations are within suggested levels. Volatile organic compounds (VOC's) levels are above suggested levels, resulting from chemicals inside Unit 22 (acetone, kerosene, and propane).

All interior surfaces on in Unit 22 have normal moisture content (10 – 12 % moisture content of wood, and 0.1 - 0.15 % moisture content of drywall walls). No visual mould growth was present on building materials throughout Unit 22.

***Therefore, there are environmental concerns with methylenedioxymethamphetamine (MDMA) throughout Unit 22. All building materials inside Unit 22 have been contaminated with methylenedioxymethamphetamine (MDMA), and methamphetamine, including drywall walls, drywall ceilings, wood components, flooring, concrete block masonry units, concrete flooring, steel ceiling structure (roof and beams), fans, and equipment. Powder and residual concentrations of methylenedioxymethamphetamine (MDMA), and methamphetamine have contaminated all building surfaces in Unit 22.***

***Remediation of Unit 22 should follow Colorado Department of Public Health and Environment's Cleanup of Clandestine Methamphetamine Labs Guidance Document (2007), Minnesota Department of Health and Minnesota Pollution Control Agency's Clandestine Drug Lab General Cleanup Guidance (2007), and American Industrial Hygiene Association (AIHA) guidance document" "Clandestine Methamphetamine Laboratory Assessment and Remediation Guidance, 2008".***

## 6.0 METHYLENEDIOXYMETHAMPHETAMINE REMEDIATION PROTOCOL

Based on the visual inspection, swab sampling for methylenedioxyamphetamine (MDMA), methamphetamine, and indoor air quality sampling, remediation of Unit 22 is recommended, following Colorado Department of Public Health & Environment – Cleanup of Clandestine Methamphetamine Labs, Minnesota Department of Health – Clandestine Drug Lab General Cleanup Guidance, and American Industrial Hygiene Association (AIHA) guidance document “*Clandestine Methamphetamine Laboratory Assessment and Remediation Guidance, 2008*”. Structural drying of building materials should follow the Institute of Inspection, Cleaning and Restoration Certification (IICRC – S500) and should only be performed after the remediation is complete, in order to prevent cross contamination.

The following recommendations are provided for the remediation of Unit 22:

- 1) Perform sampling for potential asbestos containing materials as per Ontario Regulation 278/05 Designated Substance – Asbestos on Construction Projects and in Building and Repair Operations.
- 2) Have containment and negative air machines (HEPA) during the remedial efforts in Unit 22. Provide containment and negative pressure during remediation and tear out work. Provide a minimum negative pressure of - 5 to - 7 Pascals (- 0.02 inches of water column) to the containment areas in Unit 22.
- 3) Remove and discard all ecstasy manufacturing equipment consisting of flex duct venting, freezers, tanks, totes, pails, polyethylene tubing, vent motors, venting, burners, propane tanks, ceiling fans, roof venting, and ecstasy waste (hazardous material waste removal).
- 4) Remove and discard the following building materials: all drywall walls, drywall ceilings, insulation, vapour barrier, wood wall studs, wood bottom plate, wood subfloor (mezzanine), wood stairs, ceramic floor tiles, wood laminate flooring, bathroom shower, toilet, vanity, sink, ductwork, venting, and HVAC units. The reception, offices, bathroom, warehouse, and mezzanine areas are complete guts.
- 5) HEPA (High-Efficiency Particulate Air) vacuum and wet wipe (detergent and hot water) all remaining porous surfaces such as: concrete floors, concrete masonry unit firewalls, steel beams/supports, and garage bay door (all building surfaces). Repeat HEPA vacuuming and wet wiping for three (3) cleanings.
- 6) Detergent wash (power-wash) all surfaces twice (2), rinsing with fresh water: consisting of the masonry unit firewalls, concrete floors, and steel ceiling structure. Collect wash water and dry building materials to acceptable moisture content levels.
- 7) Spray paint all structure surfaces with two (2) coats of high quality paint, polyurethane or concrete/brick sealer. Seal by spraying all surfaces with a special encapsulating

coating such as those used for asbestos or lead. Paint should be sprayed and not brushed or rolled. Paint should be allowed to cure for the recommended time between coats.

- 8) Flush the bathroom drains and floor drains with a 30% solution of hydrogen peroxide. Rinse three (3) times with fresh water.
- 9) It is recommended to perform inspections during the remediation work (qualified person).
- 10) Perform swab sampling, indoor air quality (IAQ), and building inspections after clean up to verify remedial actions.

## **7.0 PERSONAL PROTECTIVE EQUIPMENT**

The following PPE is recommended for entry and remediation of the residence. The following PPE will be used for Level C protection:

- Full-face air purifying respirator (APR) with organic vapour cartridges and high efficiency particulate filters (P-100).
- Tyvek suits with hoods taped to boots and gloves.
- Nitrile gloves over work gloves.
- Tyvek booties over safety boots.
- Steel toe/steel shank work boots, ANSI approved.
- Hardhat, ANSI approved.

**Table 6.** Indoor Air Quality Parameters. Unit 23, Vaughan, ON. Air sampling performed on July 8, 2009. Exceedances are listed in bold font.

Sample Area	Temp.	Relative Humidity	CO (ppm)	CO <sub>2</sub> (ppm)	NH <sub>3</sub> (ppm)	PH <sub>3</sub> (ppm)	VOC's (ppm)
Reception Area	24.9°C	46.9%	1	650	<0.1	<0.01	<b>5</b>
Workshop Area	26.5°C	48.8 %	1	680	<0.1	<0.01	<b>4</b>
Mezzanine Area	26.9°C	50.1%	1	680	<0.1	<0.01	<b>17</b>

Laboratory results show environmental concerns with methylenedioxymethamphetamine (MDMA), and methamphetamine throughout Unit 22. Venting from the MDMA “cooking” was discharged to the rooftop of the building. All building materials inside Unit 22 have been contaminated with methylenedioxymethamphetamine (MDMA), and methamphetamine, including drywall walls, drywall ceilings, wood components, flooring, concrete block masonry units, concrete flooring, steel ceiling structure (roof and beams), fans, and equipment. Powder and residual concentrations of methylenedioxymethamphetamine (MDMA), and methamphetamine have contaminated all building surfaces in Unit 22.

Ammonia (NH<sub>3</sub>), phosphine (PH<sub>3</sub>), testing revealed non-detect levels in all sample areas (<0.1 ppm or <0.01ppm). Carbon monoxide (CO) and carbon dioxide (CO<sub>2</sub>) air concentrations are within suggested levels. Volatile organic compounds (VOC's) levels are above suggested levels, resulting from chemicals inside Unit 22 (acetone, kerosene, and propane).

All interior surfaces on in Unit 22 have normal moisture content (10 – 12 % moisture content of wood, and 0.1 - 0.15 % moisture content of drywall walls). No visual mould growth was present on building materials throughout Unit 22.

***Therefore, there are environmental concerns with methylenedioxymethamphetamine (MDMA) throughout Unit 22. All building materials inside Unit 22 have been contaminated with methylenedioxymethamphetamine (MDMA), and methamphetamine, including drywall walls, drywall ceilings, wood components, flooring, concrete block masonry units, concrete flooring, steel ceiling structure (roof and beams), fans, and equipment. Powder and residual concentrations of methylenedioxymethamphetamine (MDMA), and methamphetamine have contaminated all building surfaces in Unit 22.***



**Figure 5:**

Photo of swab sample U21-3, located in the kitchen and south office on ceramic floor tiles, counter top, and drywall walls (4 composite samples) in Unit 21.

**DATE:**

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**LOCATION**

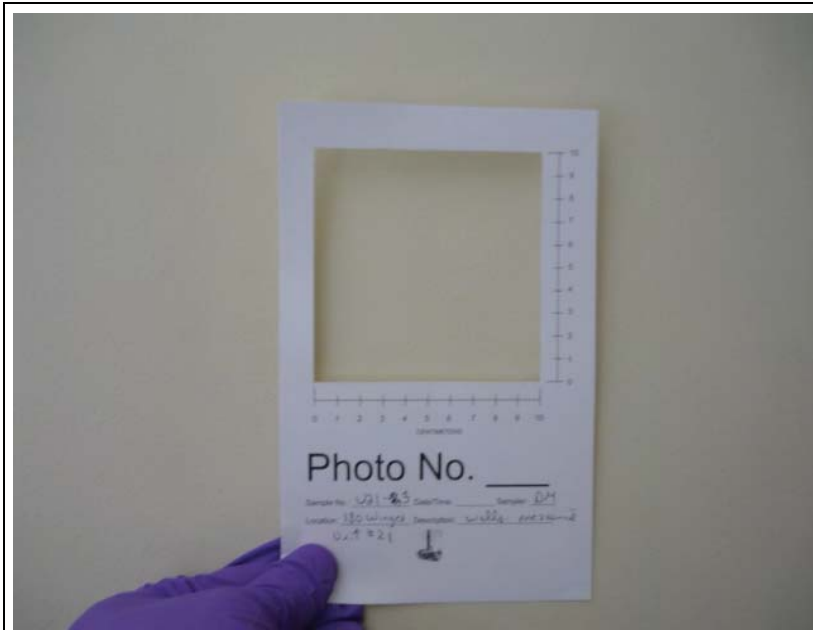
Units 21, 22, & 23,  
Vaughan, ON

**CLIENT:**

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**REF. #**

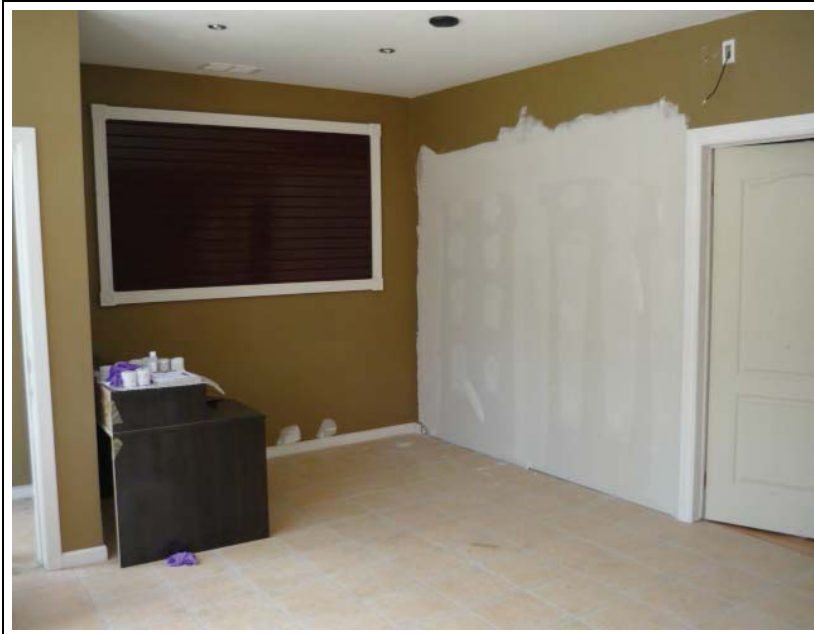
**C/BY:**



**Figure 6:**

Photo of swab sample U21-3, located in the kitchen and south office on ceramic floor tiles, counter top, and drywall walls (4 composite samples) in Unit 21.

**DATE:**

**Figure 19:**

Photo of the reception area located in Unit 22 (Ecstasy Lab).

**DATE:**

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**LOCATION**

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**CLIENT:**

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**REF. #**



**Figure 20:**

Photo the south office showing two (2) storage tanks and one (1) freezer that were used for the production of ecstasy (Unit 22 - Ecstasy Lab).

**DATE:**

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**LOCATION**

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**CLIENT:**

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**REF. #**

**C/BY:**



**Figure 21:**

Photo the south office showing two (2) storage tanks and one (1) freezer that were used for the production of ecstasy (Unit 22 - Ecstasy Lab).

**DATE:**

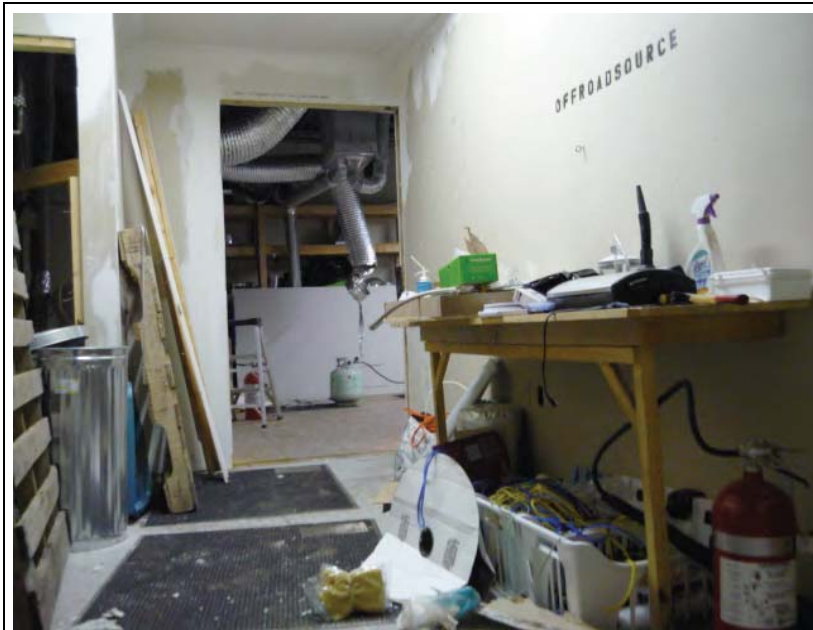
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**LOCATION**

**CLIENT:**

**REF. #**

**C/BY:**



**Figure 22:**

Photo of the mezzanine area of Unit 22 showing ecstasy manufacturing equipment.

**DATE:**

**LOCATION**

**CLIENT:**

**REF. #**



**Figure 23:**

Photo of the mezzanine area of Unit 22 showing ecstasy manufacturing equipment in the “cook area”.

DATE:

LOCATION

CLIENT:

REF. #

C/BY:



**Figure 24:**

Photo of the mezzanine area of Unit 22 showing ecstasy manufacturing equipment in the “cook area”.

DATE:

LOCATION



**Figure 25:**

Photo of the mezzanine area of Unit 22 showing ecstasy manufacturing equipment in the “cook area”.

DATE:

LOCATION

CLIENT:

REF. #



**Figure 26:**

Photo of the mezzanine area of Unit 22 showing ecstasy manufacturing equipment in the “cook area”.




**Figure 27:**

Photo of the mezzanine area of Unit 22 showing ecstasy manufacturing equipment in the “cook area”.

DATE:

LOCATION

CLIENT:

REF. #



**Figure 28:**

Photo of the mezzanine area of Unit 22 showing ecstasy manufacturing equipment in the “cook area”.

DATE:

LOCATION

CLIENT:



**Figure 29:**

Photo of the mezzanine area of Unit 22 showing ecstasy manufacturing equipment in the "cook area".

DATE:

LOCATION

CLIENT:

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**Figure 30:**

Photo of the mezzanine area of Unit 22 showing ecstasy manufacturing equipment in the "cook area".




## APPENDIX C – LABORATORY RESULTS



Client: Å  
 Address: Å  
 Site Location:  
 Report Date:  
 Date of Analysis:  
 Report No.:

**Morse Environmental, Inc.**  
 PO Box 1557  
 Auburn, WA 98071

Office: 253.887.1550  
 Fax: 253.887.1449

Report of Analytical Results

Sample No.	Area Sampled	Analysis	Method	Result	Units	Result	Units	Flag
421-1	Mezzanine	MDMA	GC/MS	< 0.02	ug/100cm <sup>2</sup>	< 0.08	ug/ 400 cm <sup>2</sup>	
421-2	Dance Studio	MDMA	GC/MS	< 0.02	ug/100cm <sup>2</sup>	< 0.08	ug/ 400 cm <sup>2</sup>	
421-3	Kitchen + S. Off	MDMA	GC/MS	< 0.02	ug/100cm <sup>2</sup>	< 0.08	ug/ 400 cm <sup>2</sup>	
421-4	Reception + N Off	MDMA	GC/MS	< 0.02	ug/100cm <sup>2</sup>	< 0.08	ug/ 400 cm <sup>2</sup>	
423-5	Reception + N Off	MDMA	GC/MS	< 0.02	ug/100cm <sup>2</sup>	< 0.04	ug/ 200 cm <sup>2</sup>	
423-6	Bay	MDMA	GC/MS	< 0.02	ug/100cm <sup>2</sup>	< 0.06	ug/ 300 cm <sup>2</sup>	
423-7	Mezzanine	MDMA	GC/MS	< 0.02	ug/100cm <sup>2</sup>	< 0.06	ug/ 300 cm <sup>2</sup>	
423-8	Washroom	MDMA	GC/MS	< 0.02	ug/100cm <sup>2</sup>	< 0.04	ug/ 200 cm <sup>2</sup>	
422-9	Blank	MDMA	GC/MS	< 0.02	ug/100cm <sup>2</sup>			
422-10	Reception + N Off	MDMA	GC/MS	p 36.58	ug/100cm <sup>2</sup>			Meth, MDA
422-11	Reception + N Off	MDMA	GC/MS	p 0.09	ug/100cm <sup>2</sup>	p 0.34	ug/ 400 cm <sup>2</sup>	MDA
422-12	Bathroom	MDMA	GC/MS	p 10.91	ug/100cm <sup>2</sup>	p 21.82	ug/ 200 cm <sup>2</sup>	
422-13	Tank Room	MDMA	GC/MS	p 28.69	ug/100cm <sup>2</sup>	p 57.38	ug/ 200 cm <sup>2</sup>	
422-14	Room 42	MDMA	GC/MS	p 33.88	ug/100cm <sup>2</sup>	p 67.75	ug/ 200 cm <sup>2</sup>	
422-15	Warehouse	MDMA	GC/MS	p 18.96	ug/100cm <sup>2</sup>	p 37.91	ug/ 200 cm <sup>2</sup>	
422-16	Mezzanine	MDMA	GC/MS	p 58.26	ug/100cm <sup>2</sup>	p 116.52	ug/ 200 cm <sup>2</sup>	MDA
422-17	Mezzanine	MDMA	GC/MS	p 61.27	ug/100cm <sup>2</sup>	p 122.54	ug/ 200 cm <sup>2</sup>	MDA
422-18	Mezzanine	MDMA	GC/MS	p 6.95	ug/100cm <sup>2</sup>	p 13.90	ug/ 200 cm <sup>2</sup>	Meth
422-19	Mezzanine	MDMA	GC/MS	p 60.00	ug/100cm <sup>2</sup>	p 120.00	ug/ 200 cm <sup>2</sup>	MDA
422-20	Blank	MDMA	GC/MS	< 0.02	ug/100cm <sup>2</sup>			

<0.02 ug/100cm<sup>2</sup>=No Methamphetamine Detected in Sample

=Sample is Positive for Methamphetamine Flags: Sample is positive for Meth=Methamphetamine, MDA=3,4-Methylenedioxyamphetamine

*Chad Morse*

Chadrick Morse  
 Principal Chemist  
 Morse Environmental, Inc. Å



Site Location:  
Report Date:  
Date of Analysis:

Report No.:

Quality Control/Quality Assurance Report

**Morse Environmental, Inc.**  
PO Box 1557  
Auburn, WA 98071

Office: 253.887.1550  
Fax: 253.887.1449

Quality Assurance	CV	Units	LV	Units	
Lab Blank:	ND	ug/mL	ND	ug/mL	
Method Blank:	ND	ug/mL	ND	ug/mL	
Quality Control	CV	Units	LV	Units	Percent Recovery
Check Standard	1250	ng/mL	1226	ng/mL	98%
Matrix Spike	225	ng/mL	224	ng/mL	100%

Surrogate=Amphetamine, Check Standard=Methamphetamine  
CV=Control Value, LV=Lab Value, Surrogate/Control Value Must Be +/- 20%

MDL= Method Detection Limit by 40 CFR Part 136 Appendix B Method, 0.018 ug/mL.  
PQL=Practical Quantitative Limit 0.018 ug/100cm<sup>2</sup>