

## Methamphetamine Test Certificate

### Property Details:

Address: **s 9(2)(a)** Auckland  
Job Number: S1630  
Testing Date: 13 July 2017  
Property Reference: TUS0002661  
Works Order Number: WO1656541

**This property is suitable to be occupied**

- Testing for methamphetamine contamination was performed on the above date
- The analysis of samples was subcontracted to an IANZ accredited laboratory
- The limits outlined in NZS 8510:2017 *Testing and decontamination of methamphetamine-contaminated properties* are:
  - 1.5 µg/100cm<sup>2</sup> (in high-use areas)
  - 3.8 µg/100cm<sup>2</sup> (in low-use areas)
- All methamphetamine test results are below this standard

**s 9(2)(a)**

Key Technical Person





South Island – Head Office	North Island Office
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## Housing New Zealand Corporation Retest 1 Methamphetamine Assessment



s 9(2)(a)

**Auckland**

Site Assessment Date	13 <sup>th</sup> July 2017
Sample Team	s 9(2)(a)
Report Author	
Report Checked by	
Key Technical Person	
Property Reference	TUS0002661
Works Order	WO1656541
Author Signature	KTP Signature
s 9(2)(a)	s 9(2)(a)

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**TABLE OF CONTENTS**

**1 EXECUTIVE SUMMARY ..... 1**

**1.1 Detail ..... 1**

**2 SITE INFORMATION..... 1**

**2.1 Conditions of the Interior of the Dwelling ..... 1**

**2.2 Conditions of the Exterior and Grounds ..... 1**

**3 DISCLAIMER ..... 2**

**4 ACCREDITATION..... 2**

**5 SITE MAP ..... 3**

**6 RESULTS AND RECOMMENDATIONS..... 4**

**7 CONCLUSION ..... 10**

**7.1 Occupation of Property..... 10**

**8 SITE PHOTOS..... 11**

**APPENDICES ..... 13**

**A.1. Lab Reports ..... 14**

**A.2. K2 Environmental Sampling Methodology ..... 15**

**A.3. Table of Materials Abbreviations ..... 16**

**A.4. Table of Recommended Actions Abbreviations ..... 17**

**A.5. Table of Actions Completed Abbreviations ..... 17**

**A.6. New Zealand Standards Recommended Limits ..... 17**

**A.7. Ministry of Health Recommended Limits ..... 17**

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**INDEX OF TABLES AND FIGURES**

Figure 1 Site Map Showing Sample Locations ..... 3

Table 1: Guide to Results and Actions Recommended ..... 4

Table 2: General recommendations table ..... 4

Table 3: Methamphetamine results ..... 5

## 1 EXECUTIVE SUMMARY

- **Remediation Passed**
- This property is suitable to be occupied

### 1.1 Detail

- Methamphetamine was detected in the one location tested
- All methamphetamine results are now below the Standards New Zealand recommended<sup>1</sup> limit of 1.5 µg/100cm<sup>2</sup> for high-use areas
- Testing and sampling was performed in accordance with the 2016 Ministry of Health guidelines<sup>2</sup>

## 2 SITE INFORMATION

On the 13<sup>th</sup> July 2017, a retest 1 site investigation for methamphetamine was undertaken at s 9(2) s 9(2)(a), Auckland.

Sampling was undertaken to determine what level of methamphetamine contamination is present.

**Reason for testing:** Retest 1

**Property reference number:** TUS0002661

**Works Order reference number:** WO1656541

### 2.1 Conditions of the Interior of the Dwelling

- Majority of the dwelling has been completely stripped
- Surfaces appear to have been cleaned well
- Interior is in a clean and tidy condition
- The garage and lounge appear to be slightly fire damaged

### 2.2 Conditions of the Exterior and Grounds

- Garage is empty and clean
- Garage door is dented
- Lawns and vegetation are tidy and well maintained
- Faeces are present at the front entrance
- Rubbish has been removed

<sup>1</sup> Standards New Zealand. NZS 8510:2017: *Testing and decontamination of methamphetamine-contaminated properties*. Standards NZ, 2017.

<sup>2</sup> Ministry of Health review. Review of remediation standards for clandestine methamphetamine laboratories. Risk assessment recommendations for New Zealand. Oct 2016,

### 3 DISCLAIMER

Limited sampling was performed. Variations in surface contamination are possible. The results only present a snapshot of surface conditions.

While a high result may indicate that there is a hazard which needs to be managed, a low result or a non-detect does not necessarily mean a complete absence of a hazard.

### 4 ACCREDITATION

K2 Environmental Ltd is IANZ accredited for methamphetamine sampling using a surface swabbing technique. Sampling is conducted in accordance with an in-house method based on NIOSH 9111.

Recommendations and opinions expressed in this report are based on experience and knowledge of involved substances. These are not covered by accreditation.

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5 SITE MAP

The following is a map indicating where samples were collected from.

Note: This map is not to scale and is to be used as an indication only.

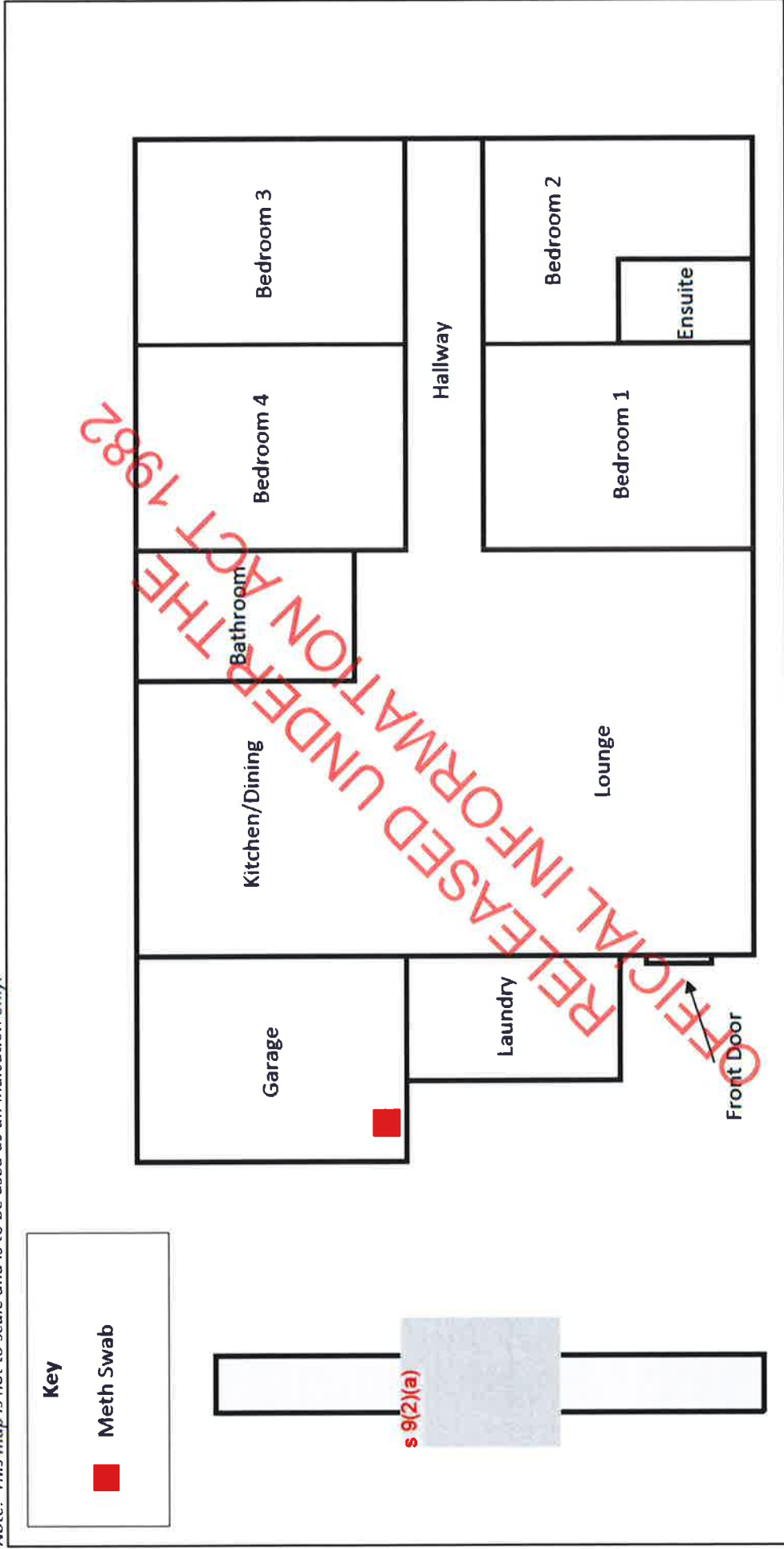


Figure 1 Site Map Showing Sample Locations

**6 RESULTS AND RECOMMENDATIONS**

The following tables detail the results of sampling for methamphetamine at the above property. Analysis of these samples has been subcontracted to an IANZ accredited laboratory, all samples were analysed using LC-MSMS (Modified method based on NIOSH9111).

**Table 1: Guide to Results and Actions Recommended**

Below Standards NZ Recommended Limit <sup>3</sup> Or No Action Needed	Precautionary Clean Recommended - as there are elevated contamination levels detected in other locations	Above Standards NZ Recommended Limit Or Remediation required
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See appendix A.3, A.4, and A.5 for the summary of abbreviations used in the following tables.

**Table 2: General recommendations table**

Items	Initial (Third Party)			Post Remediation		Retest 1
	AR	AC	AC	AR	AC	
Air quality	NI	Scrub+Vent		NAN	NA	NAN
All surfaces	NI	HEPA		NAN	NA	NAN
Carpet, curtains, blinds, & wallpaper	NI	REM		NAN	NA	NAN
Light fittings, switches, & electrical fixtures	NI	REM		NAN	NA	NAN
Oven, Appliances, & Whiteware	NI	REM		NAN	NA	NAN
Heat pump, heaters, & climate control appliances	NI	REM		NAN	NA	NAN
Ceiling vents, fans, & extractions	NI	REM		NAN	NA	NAN
Ceiling insulation - Removed	NI	REM		NAN	NA	NAN
Underfloor insulation	NI	NAN		NAN	NA	NAN

<sup>3</sup> Standards NZ Recommended limits are detailed in appendix A.6



Table 3: Methamphetamine results

Location	Initial (Third Party)					Post-Remediation					Retest 1					
	Item	Area Tested	Level	Material	Area Tested	Level	Material	AR	AC	Ref.	Area Tested	Level	Material	AR	AC	Ref.
Kitchen	Walls	Wall	0.33	NI	Framing	0.03	NA	NAN	NA			NA	NAN	NA		
	Ceiling	Ceiling	29.6	NI	Framing	0.29	NA	NAN	NA			NA	NAN	NA		
	Flooring			TILE			TILE	NAN	NA			TILE	NAN	NA		
	Doors			AL-PC			AL-PC	NAN	NA			AL-PC	NAN	NA		
	Doors			WD-P			WD-B	NAN	NA			WD-B	NAN	NA		
	Windows			WD-P	Frame	0.23	WD-B	NAN	NA			WD-B	NAN	NA		
	Skirtings			NI			NA	NAN	NA			NA	NAN	NA		
	Mouldings			NI			NA	NAN	NA			NA	NAN	NA		
	Cabinetry	Cupboard		52.6	NI			NA	NAN	NA			NA	NAN	NA	
	Range-hood			NI			NA	NAN	NA			NA	NAN	NA		
	Sink			NI			NA	NAN	NA			NA	NAN	NA		
	Bench			NI			NA	NAN	NA			NA	NAN	NA		
	Walls			GIB-P			GIB-P	NAN	NA			GIB-P	NAN	NA		
	Lounge	Ceiling	Ceiling	0.16	GIB-P			GIB-P	NAN	NA			GIB-P	NAN	NA	
Flooring				CON-B			CON-B	NAN	NA			CON-B	NAN	NA		
Doors		Door	1.3	WD-P			WD-B	NAN	NA			WD-B	NAN	NA		
Doors				AL-PC			AL-PC	NAN	NA			AL-PC	NAN	NA		
Windows		Window	0.71	WD-P			WD-P	NAN	NA			WD-P	NAN	NA		
Windows				AL-PC			AL-PC	NAN	NA			AL-PC	NAN	NA		
Skirtings				WD-P			WD-P	NAN	NA			WD-P	NAN	NA		
Mouldings				WD-P			WD-P	NAN	NA			WD-P	NAN	NA		

Location	Initial (Third Party)					Post-Remediation					Retest 1				
	Item	Area Tested	Level	Material	Area Tested	Level	Material	AR	AC	Ref.	Area Tested	Level	Material	AR	
Bathroom	Walls			GIB-P			GIB-P	NAN	NA			GIB-P	NAN		
	Walls			TILE			TILE	NAN	NA			TILE	NAN		
	Ceiling	Ceiling	0.33	GIB-P			GIB-P	NAN	NA			GIB-P	NAN		
	Flooring			TILE			TILE	NAN	NA			TILE	NAN		
	Doors			NI			NA	NAN	NA			NA	NAN		
	Windows	Window	8.5	WD-P	Frame	0.20	WD-B	NAN	NA			WD-B	NAN		
	Windows			AL-PC			AL-PC	NAN	NA			AL-PC	NAN		
	Skirtings			TILE			TILE	NAN	NA			TILE	NAN		
	Mouldings			WD-P			WD-P	NAN	NA			WD-P	NAN		
	Cabinetry	Cabinet	0.95	LAM			LAM	NAN	NA			LAM	NAN		
	Sink/Vanity			CRMC			CRMC	NAN	NA			CRMC	NAN		
	Bath			PLSTC			PLSTC	NAN	NA			PLSTC	NAN		
	Shower			AL-PC			AL-PC	NAN	NA			AL-PC	NAN		
	Toilet Bowl			CRMC			CRMC	NAN	NA			CRMC	NAN		
Hallway	Walls	Wall	1.4	NI	Wall	0.13	NA	NAN	NA			NA	NAN		
	Ceiling	Ceiling	18.3	NI	Ceiling	0.29	NA	NAN	NA			NA	NAN		
	Flooring			CON-B			NA	NAN	NA			NA	NAN		
	Doors			NI			NA	NAN	NA			NA	NAN		
	Skirtings			NI			NA	NAN	NA			NA	NAN		
	Mouldings			NI			NA	NAN	NA			NA	NAN		
	Cabinetry			NI			NA	NAN	NA			NA	NAN		

		Initial (Third Party)					Post-Remediation					Retest 1				
Location	Item	Area Tested	Level	Material	Area Tested	Level	Material	AR	AC	Ref.	Area Tested	Level	Material	AR		
Bedroom 1	Walls			NI			NA	NAN	NA				NA	NAN		
	Ceiling	Ceiling	5.8	NI	Ceiling	0.10	NA	NAN	NA				NA	NAN		
	Flooring			CON-B			NA	NAN	NA				NA	NAN		
	Doors			NI			NA	NAN	NA				NA	NAN		
	Windows			WD-P	Frame	0.20	WD-B	NAN	NA				WD-B	NAN		
	Windows			AL-PC			AL-PC	NAN	NA				AL-PC	NAN		
	Skirtings			NI			NA	NAN	NA				NA	NAN		
	Mouldings			NI			NA	NAN	NA				NA	NAN		
	Cabinetry	Door		3.2	NI			NA	NAN	NA			NA	NAN		
		Wall		0.27	NI			NA	NAN	NA			NA	NAN		
Bedroom 2	Ceiling	Ceiling	0.06	NI			NA	NAN	NA				NA	NAN		
	Flooring			CON-B			NA	NAN	NA				NA	NAN		
	Doors			NI			NA	NAN	NA				NA	NAN		
	Windows			WD-P			WD-B	NAN	NA				WD-B	NAN		
	Windows			AL-PC			AL-PC	NAN	NA				AL-PC	NAN		
	Skirtings			NI			NA	NAN	NA				NA	NAN		
	Mouldings			NI			NA	NAN	NA				NA	NAN		
	Cabinetry			NI			NA	NAN	NA				NA	NAN		

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Location	Initial (Third Party)						Post-Remediation						Retest 1					
	Item	Area Tested	Level	Material	Area Tested	Level	Material	Level	Material	AR	AC	Ref.	Area Tested	Level	Material	AR		
Bedroom 3	Walls			NI			NA		NA	NAN	NA				NA	NAN		
	Ceiling	Ceiling	5.7	NI	Ceiling	0.18	NA		NA	NAN	NA				NA	NAN		
	Flooring			CON-B			NA		NA	NAN	NA				NA	NAN		
	Doors			NI			NA		NA	NAN	NA				NA	NAN		
	Windows	Window	1.8	WD-P	Frame	0.08	WD-B		WD-B	NAN	NA				WD-B	NAN		
	Windows			AL-PC			AL-PC		AL-PC	NAN	NA				AL-PC	NAN		
	Skirtings			NI			NA		NA	NAN	NA				NA	NAN		
	Mouldings			NI			NA		NA	NAN	NA				NA	NAN		
	Cabinetry			NI			NA		NA	NAN	NA				NA	NAN		
		Walls	Wall	0.18	GIB-P			GIB-P		GIB-P	NAN	NA			GIB-P	NAN		
Bedroom 4	Ceiling	Ceiling	0.06	GIB-P			GIB-P		GIB-P	NAN	NA			GIB-P	NAN			
	Flooring			CON-B			CON-B		CON-B	NAN	NA			CON-B	NAN			
	Doors			NI			NA		NA	NAN	NA			NA	NAN			
	Windows			WD-P			WD-B		WD-B	NAN	NA			WD-B	NAN			
	Windows			AL-PC			AL-PC		AL-PC	NAN	NA			AL-PC	NAN			
	Skirtings			WD-P			WD-P		WD-P	NAN	NA			WD-P	NAN			
	Mouldings			WD-P			WD-P		WD-P	NAN	NA			WD-P	NAN			
	Cabinetry			WD-P			WD-P		WD-P	NAN	NA			WD-P	NAN			

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Location	Initial (Third Party)					Post-Remediation					Retest 1				
	Item	Area Tested	Level	Material	Area Tested	Level	Material	AR	AC	Ref.	Area Tested	Level	Material	AR	
Ensuite	Walls			NI			NA	NAN	NA			NA	NAN		
	Ceiling	Ceiling	7.8	NI	Ceiling	0.16	NA	NAN	NA			NA	NAN		
	Flooring			TILE			TILE	NAN	NA			TILE	NAN		
	Doors			NI			NA	NAN	NA			NA	NAN		
	Windows			WD-P	Frame	0.23	WD-B	NAN	NA			WD-B	NAN		
	Windows			AL-PC			AL-PC	NAN	NA			AL-PC	NAN		
	Skirtings			NI			NA	NAN	NA			NA	NAN		
	Mouldings			NI			NA	NAN	NA			NA	NAN		
	Cabinetry	Cabinet	2.4	NI			NA	NAN	NA			NA	NAN		
	Toilet Bowl			CRMC			CRMC	NAN	NA			CRMC	NAN		
	Shower			PLSTC			PLSTC	NAN	NA			PLSTC	NAN		

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Location	Initial (Third Party)					Post-Remediation					Retest 1				
	Item	Area Tested	Level	Material	Area Tested	Level	Material	AR	AC	Ref.	Area Tested	Level	Material	AR	
Garage	Walls	Wall	0.87	GIB-P			GIB-P	NAN	NA			GIB-P	NAN		
	Walls			NI			NA	NAN	NA			NA	NAN		
	Ceiling	Ceiling	11.8	NI			NA	NAN	NA			NA	NAN		
	Flooring			CON-B			CON-B	NAN	NA			CON-B	NAN		
	Doors			WD-P	Frame	9.3	WD-B	REM	REM			NA	NAN		
	Doors			AL-PC			AL-PC	CLE	NC			AL-PC	NAN		
	Doors			NI			NA	NAN	NA			NA	NAN		
	Windows			WD-P			WD-B	NAN	NA	1	Frame	0.19	WD-B	NAN	
	Windows			AL-PC			AL-PC	NAN	NA				AL-PC	NAN	

## 7 CONCLUSION


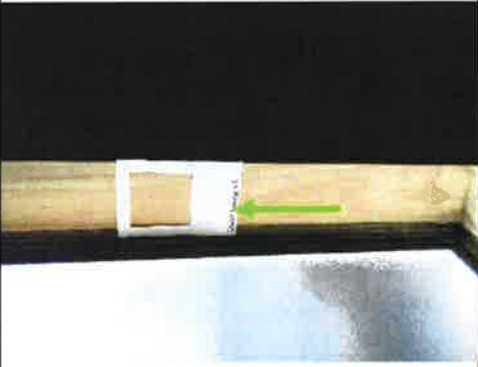


The Standards New Zealand maximum concentration of methamphetamine contamination is 1.5 µg/100cm<sup>2</sup> in high-use areas, as detailed in NZS 8510:2017.

All locations have tested below this level.

### 7.1 Occupation of Property

This property therefore can be occupied.

**8 SITE PHOTOS**

			
<p><b>Picture 1: Garage</b></p>	<p><b>Picture 2: Garage Window Frame – 0.19 µg/100cm<sup>2</sup></b></p>	<p><b>Picture 3: Lounge</b></p>	<p><b>Picture 4: Kitchen/Dining</b></p>
			
<p><b>Picture 5: Hallway</b></p>	<p><b>Picture 6: Bedroom 1</b></p>	<p><b>Picture 7: Bedroom 2</b></p>	<p><b>Picture 8: Ensuite</b></p>

			
<p><b>Picture 9: Bedroom 3</b></p>	<p><b>Picture 10: Bedroom 4</b></p>	<p><b>Picture 11: Bathroom</b></p>	<p><b>Picture 12: Laundry</b></p>
			
<p><b>Picture 13: Exterior</b></p>	<p><b>Picture 14: Exterior</b></p>		

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**APPENDICES**

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A.1. Lab Reports



**Hill Laboratories**  
TRIED, TESTED AND TRUSTED

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**ANALYSIS REPORT** Page 1 of 1

<b>Client:</b> K2 Environmental Limited	<b>Lab No:</b> 1808881	SP-1
<b>Contact:</b> s 9(2)(a)	<b>Date Received:</b> 14-Jul-2017	
C/- K2 Environmental Limited	<b>Date Reported:</b> 14-Jul-2017	
PO Box 28147	<b>Quote No:</b> 79334	
Beckenham	<b>Order No:</b> S1630	
Christchurch 8242	<b>Client Reference:</b> WO1656541	
	<b>Add. Client Ref:</b> s 9(2)(a)	Auckland
	<b>Submitted By:</b> s 9(2)(a)	

Sample Type: Miscellaneous Wipe			
<b>Sample Name:</b>	S1630 1 Garage	S1630 2 Blank	
	WF 13-Jul-2017	13-Jul-2017	
<b>Lab Number:</b>	1808881.1	1808881.2	
Methamphetamine Including Precursors on Wipes by LCMSMS			
Amphetamine	µg/sample	< 0.02	< 0.02
Ephedrine	µg/sample	< 0.02	< 0.02
Methamphetamine	µg/sample	0.19	< 0.02
Pseudoephedrine	µg/sample	< 0.02	< 0.02

**Analyst's Comments**

**Samples 1-2 Comment:**  
For interpretation of the results presented in this Analysis Report, please contact the person or company that collected the samples.

**SUMMARY OF METHODS**

The following table(s) gives a brief description of the methods used to conduct the analysis for this job. The detection limits given below are those attainable in a relatively clean matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis.

Sample Type: Miscellaneous Wipe			
Test	Method Description	Default Detection Limit	Sample No
Methamphetamine Including Precursors on Wipes by LCMSMS	Description with 0.1M Sulphuric by shaking, LCMSMS analysis. (modified NIOSH 111).	0.02 µg/sample	1-2

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory

Samples are held at the laboratory after reporting for a length of time depending on the preservation used and the stability of the analytes being tested. Once the storage period is completed the samples are discarded unless otherwise advised by the client.

This report must not be reproduced, except in full, without the written consent of the signatory.

s 9(2)(a)

Client Services Manager - Environmental



This Laboratory is accredited by International Accreditation New Zealand (IANZ), which represents New Zealand in the International Laboratory Accreditation Cooperation (ILAC). Through the ILAC Mutual Recognition Arrangement (ILAC-MRA) this accreditation is internationally recognised. The tests reported herein have been performed in accordance with the terms of accreditation, with the exception of tests marked \*, which are not accredited.

## A.2. K2 Environmental Sampling Methodology

Sampling as carried out following the guidelines outlined in NIOSH 9111 - *Methamphetamine on wipes by Liquid Chromatography/mass Spectrometry 9111*

### Sampling Procedure

- A new pair of gloves (not vinyl) are used for each sample
- Gauze which has been pre-moistened with 3-4ml of methanol is used
- A new (named) template is fixed to the sampling surface
- Each position is photographed
- The surface to be sampled is wiped with firm pressure:
  - using vertical strokes followed by
  - horizontal strokes, then folded again by and then followed by
  - Vertical strokes and horizontal strokes the gauze is then folded with the pad, exposed side in, and placed in shipping container & sealed.
- Each sample clearly Labelled with a unique sample identifier.
- Documentation is completed and samples sent for analysis via courier as soon as practicable.

### Blank Samples

A field blank is included with each set of samples for all comprehensive testing.

### Sample site Selection

In each room to be sampled the following strategy used to select sampling points:

- High points (fume rises and condenses at higher levels such as ceilings) these are also less likely to have been cleaned
- Areas around windows which are cooler this is where fume is likely to condense
- Painted and varnished surfaces have higher recovery rates
- Hard non-porous surfaces such as benchtops, ranges, range hoods, tiles and glass surfaces. (these will have higher concentrations if present as fume will not have been absorbed)

### Areas less likely to be sampled (due to low recovery rates)

- Porous surfaces such as non-vinyl coated wall papers
- Bare wood surfaces
- Pinex walls and tiles (especially if not painted)
- Fabrics, carpets and other furnishings

### Recovery Using Methanol Swabs<sup>4</sup>

Surface	Methamphetamine Recovery
Unpainted Dry wall	0.93%
Painted Drywall	74%
Unpainted Plywood	5.7%
Glass	53%
Metal	90%
Tile	12%
Carpet	1.3%

<sup>4</sup> Methamphetamine Sampling Variability on Different Surfaces Using Different Solvents, John W. Martyny, National Jewish Medical and Research Center, October 2008

**A.3. Table of Materials Abbreviations**

<b>Material</b>	<b>Abbreviation for tester table</b>
Aluminium	AL
Aluminium - Powder Coated	AL-PC
Brick - bare	BRK-B
Brick - painted	BRK-P
Building Paper	BP
Carpet	CPT
Cement sheet	CMNTS
Ceramic	CRMC
Concrete - bare	CON-B
Concrete -painted	CON-P
Cinder block - bare	CIND-B
Cinder block - painted	CIND-P
GIB - bare	GIB-B
GIB - painted	GIB-P
Hardboard - painted	HRDB-P
Hardboard - varnished	HRDB-V
Hardiglaze	HGL
Lathe and plaster – bare	L&P
Lathe and plaster - painted	L&P-P
Laminate	LAM
Pinex	PINEX
Plastic	PLSTC
Soft-board Ceiling Tile	SCT
Stainless steel	STEEL
Stipple	STIPPLE
Tiles	TILE
Tin	TIN
Vinyl/lino	VINYL
Wallpaper	WALP
Wallpaper - vinyl	WALP-V
Wallpaper - painted	WALP-P
Wood - bare	WD-B
Wood - painted	WD-P
Wood - varnished	WD-V
Wood - stained	WD-S
Not Applicable	NA
Not Identified	NI

## A.4. Table of Recommended Actions Abbreviations

AR (Action recommended)	Abbreviation for Tester Table
Ventilate rooms with mechanical assistance	Scrub+Vent
Vacuum flooring with H13 rated vacuum cleaner	HEPA
Item to be removed	REM
Remove coating (e.g. paint/varnish)	CR
Triple Clean – Remediation Required	CLE
Triple clean – Precautionary or Recommended	CLE
Action not identified	NI
No action needed	NAN

## A.5. Table of Actions Completed Abbreviations

AC (Action completed)	Abbreviation for tester table
Triple Cleaned with sugar soap – <i>decon. team must advise if any alternative cleaning products used so a new code can be generated, decon. team must inform testers if using anything other than sugar soap for a specific property</i>	CLE
Item removed	REM
Coating (e.g. paint/varnish) fully removed	CR-F
Coating partially removed	CR-P
Action Not Identified	NI
Not Completed	NC
Not Applicable / No Action	NA

## A.6. New Zealand Standards Recommended Limits

NZ Standards Methamphetamine Limits 2017	
<b>High-use areas</b> Easily accessed and regularly used by adults and children	1.5 µg/100cm <sup>2</sup>
<b>Limited-use areas</b> Accessed for short periods of time only by adults	3.8 µg/100cm <sup>2</sup>

## A.7. Ministry of Health Recommended Limits

Ministry of Health Methamphetamine Standard 2016	
Former clandestine methamphetamine laboratory	0.5 µg/100cm <sup>2</sup>
Non-lab houses with carpet present	1.5 µg/100cm <sup>2</sup>
Non-lab houses with no carpet present	2.0 µg/100cm <sup>2</sup>





South Island – Head Office	North Island Office
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# Housing New Zealand Corporation Post-remediation Methamphetamine Assessment

13<sup>th</sup> June 2017



Photo from www.hvn.co.nz

## Auckland

Sample Team	s 9(2)(a)
Report Author	s 9(2)(b)(i)
Report Checked by	
Key Technical Person	
Property Reference	TUS0002661
Works Order	WO1656541

Author Signature	KTP Signature
s 9(2)(a)	s 9(2)(a)

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## TABLE OF CONTENTS

<b>1</b>	<b>EXECUTIVE SUMMARY .....</b>	<b>1</b>
1.1	Detail .....	1
<b>2</b>	<b>SITE INFORMATION.....</b>	<b>1</b>
2.1	Conditions of the Interior of the Dwelling .....	1
2.2	Conditions of the Exterior and Grounds .....	1
<b>3</b>	<b>DISCLAIMER .....</b>	<b>2</b>
<b>4</b>	<b>ACCREDITATION.....</b>	<b>2</b>
<b>5</b>	<b>SITE MAP .....</b>	<b>3</b>
<b>6</b>	<b>RESULTS AND RECOMMENDATIONS.....</b>	<b>4</b>
<b>7</b>	<b>CONCLUSION .....</b>	<b>10</b>
7.1	Occupation of Property.....	10
<b>8</b>	<b>SITE PHOTOS.....</b>	<b>11</b>
	<b>APPENDICES.....</b>	<b>14</b>
A.1.	Lab Reports .....	15
A.2.	K2 Environmental Sampling Methodology .....	19
A.3.	Table of Materials Abbreviations .....	20
A.4.	Table of Recommended Actions Abbreviations .....	21
A.5.	Table of Actions Completed Abbreviations.....	21
A.6.	Ministry of Health Recommended Limits .....	21

## INDEX OF TABLES AND FIGURES

Figure 1 Site Map Showing Sample Locations .....	3
Table 1: Guide to Results and Actions Recommended.....	4
Table 2: General recommendations table .....	4
Table 3: Methamphetamine results .....	5



## 1 EXECUTIVE SUMMARY

- **Remediation Failed**
- This property is not suitable to be occupied

### 1.1 Detail

- Methamphetamine was detected in thirteen of fourteen locations tested
- One methamphetamine result is above the Ministry of Health recommended<sup>1</sup> limit of 2.0 µg/100cm<sup>2</sup> for properties with no soft furnishings present

## 2 SITE INFORMATION

On the 13<sup>th</sup> of June 2017, a post-remediation site investigation for methamphetamine was undertaken at s 9(2)(a) Auckland.

Sampling was undertaken to determine what level of methamphetamine contamination is present.

**Reason for testing:** Post-Remediation

**Property reference number:**

**Works Order reference number:** WO1656541

;

### 2.1 Conditions of the Interior of the Dwelling

- Interior is clean and tidy, most walls have been removed
- No rubbish or debris is present
- Interior surfaces all appear to have been cleaned well
- All electrical sockets, light shades and switches have been removed
- All soft furnishings such as carpet and curtains have been removed
- All internal doors and door framing have been removed
- Paint has been stripped from the windowsills
- Ceiling insulation has been removed from throughout

### 2.2 Conditions of the Exterior and Grounds

- Garage is empty and tidy
- Lawns and vegetation are tidy and well maintained
- Small amount of rubbish has not been removed

---

<sup>1</sup> Ministry of Health review. Review of remediation standards for clandestine methamphetamine laboratories. Risk assessment recommendations for New Zealand. Oct 2016,

### 3 DISCLAIMER

Limited sampling was performed. Variations in surface contamination are possible. The results only present a snapshot of surface conditions.

While a high result may indicate that there is a hazard which needs to be managed, a low result or a non-detect does not necessarily mean a complete absence of a hazard.

### 4 ACCREDITATION

K2 Environmental Ltd is IANZ accredited for methamphetamine sampling using a surface swabbing technique. Sampling is conducted in accordance with an in-house method based on NIOSH 9111.

Recommendations and opinions expressed in this report are based on experience and knowledge of involved substances. These are not covered by accreditation.

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### 5 SITE MAP

The following is a map indicating where samples were collected from.

Note: This map is not to scale and is to be used as an indication only.

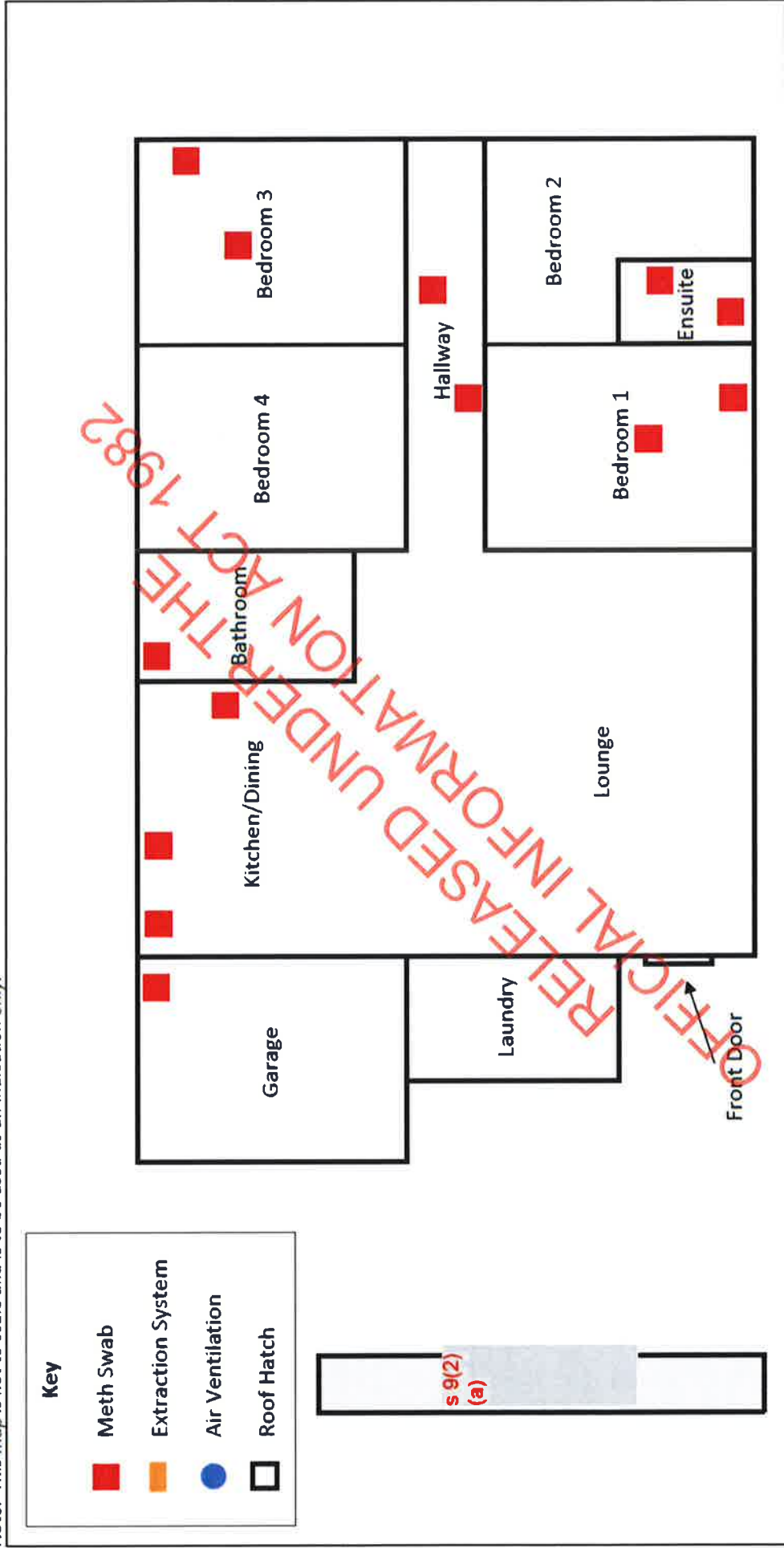


Figure 1 Site Map Showing Sample Locations

## 6 RESULTS AND RECOMMENDATIONS

The following tables detail the results of sampling for methamphetamine at the above property. Analysis of these samples has been subcontracted to an IANZ accredited laboratory, all samples were analysed using LC-MSMS (Modified method based on NIOSH9111).

**Table 1: Guide to Results and Actions Recommended**

Below MoH Recommended Limit <sup>2</sup> Or No Action Needed	Precautionary Clean Recommended - as there are elevated contamination levels detected in other locations	Above MoH Recommended Limit Or Remediation required
--	--	---

See appendix A.4 and A.5 for the summary of abbreviations used in the following tables.

**Table 2: General recommendations table**

Items	Initial (Third Party)			Post Remediation	
	AR	AC	AC	AR	AC
Air quality	NI	Scrub+Vent	NAN	NAN	
All surfaces	NI	HEPA	NAN	NAN	
Carpet, curtains, blinds, & wallpaper	NI	REM	NAN	NAN	
Light fittings, switches, & electrical fixtures	NI	REM	NAN	NAN	
Oven, Appliances, & Whiteware	NI	REM	NAN	NAN	
Heat pump, heaters, & climate control appliances	NI	REM	NAN	NAN	
Ceiling vents, fans, & extractions	NI	REM	NAN	NAN	
Ceiling insulation - Removed	NI	REM	NAN	NAN	
Underfloor insulation	NI	NAN	NAN	NAN	

<sup>2</sup> MoH Recommended limits are detailed in section A.6 below

Table 3: Methamphetamine results

Location	Initial (Third Party)					Post-Remediation					
	Item	Area Tested	Level ( $\mu\text{g}/100\text{cm}^2$ )	Material	AC	Ref.	Area Tested	Level ( $\mu\text{g}/100\text{cm}^2$ )	Material	AR	AC
Kitchen/Dining	Walls	Wall	0.33	NI	REM	2	Framing	0.03	WD-B	NAN	
	Ceiling	Ceiling	29.6	NI	REM	3	Framing	0.29	NA	NAN	
	Flooring			TILE	CLE				TILE	NAN	
	Doors			AL-PC	CLE				AL-PC	NAN	
	Doors			WD-P	CR-F				WD-B	NAN	
	Windows			WD-P	CR-F	15	Frame	0.05	WD-B	NAN	
	Skirtings			NI	REM				NA	NAN	
	Mouldings			NI	REM				NA	NAN	
	Cabinetry	Cupboard		NI	REM				NA	NAN	
	Range-hood			NI	REM				NA	NAN	
	Sink			NI	REM				NA	NAN	
	Bench			NI	REM				NA	NAN	
	Walls			NI	REM				NA	NAN	
	Ceiling	Ceiling		0.16	GIB-P	CLE			GIB-P	NAN	
	Lounge	Flooring			CON-B	CLE				CON-B	NAN
Doors		Door		WD-P	CR-F				WD-B	NAN	
Doors				AL-PC	CLE				AL-PC	NAN	
Windows		Window		WD-P	CLE				WD-P	NAN	
Windows				AL-PC	CLE				AL-PC	NAN	
Skirtings				WD-P	CLE				WD-P	NAN	
Mouldings				WD-P	CLE				WD-P	NAN	

Location	Initial (Third Party)					Post-Remediation					
	Item	Area Tested	Level (µg/100cm <sup>2</sup> )	Material	AC	Ref.	Area Tested	Level (µg/100cm <sup>2</sup> )	Material	AR	AC
Bathroom	Walls			GIB-P	CLE				GIB-P	NAN	
	Walls			TILE	CLE				TILE	NAN	
	Ceiling	Ceiling	0.33	GIB-P	CLE				GIB-P	NAN	
	Flooring			TILE	CLE				TILE	NAN	
	Doors			NI	REM				NA	NAN	
	Windows	Window	8.5	WD-P	CR-F	10	Frame	0.20	WD-B	NAN	
	Windows			AL-PC	CLE				AL-PC	NAN	
	Skirtings			TILE	CLE				TILE	NAN	
	Mouldings			WD-P	CLE				WD-P	NAN	
	Cabinetry	Cabinet	0.95	LAM	CLE				LAM	NAN	
	Sink/Vanity			CRMC	CLE				CRMC	NAN	
	Bath			PLSTC	CLE				PLSTC	NAN	
	Shower			AL-PC	CLE				AL-PC	NAN	
	Toilet Bowl			CRMC	CLE				CRMC	NAN	
Hallway	Walls	Wall	1.4	NI	REM	5	Wall Framing	0.13	NA	NAN	
	Ceiling	Ceiling	18.3	NI	REM	16	Ceiling Framing	0.10	NA	NAN	
	Flooring			CON-B	REM				NA	NAN	
	Doors			NI	REM				NA	NAN	
	Skirtings			NI	REM				NA	NAN	
	Mouldings			NI	REM				NA	NAN	
	Cabinetry			NI	REM				NA	NAN	

		Initial (Third Party)					Post-Remediation				
Location	Item	Area Tested	Level ( $\mu\text{g}/100\text{cm}^2$ )	Material	AC	Ref.	Area Tested	Level ( $\mu\text{g}/100\text{cm}^2$ )	Material	AR	AC
Bedroom 1	Walls			NI	REM				NA	NAN	
	Ceiling	Ceiling	5.8	NI	REM	17	Ceiling Framing	0.06	NA	NAN	
	Flooring			CON-B	REM				NA	NAN	
	Doors			NI	REM				NA	NAN	
	Windows			WD-P	CR-F	7	Frame	0.20	WD-B	NAN	
	Windows			AL-PC	CLE				AL-PC	NAN	
	Skirtings			NI	REM				NA	NAN	
	Mouldings			NI	REM				NA	NAN	
	Cabinetry	Door		3.2	NI	REM			NA	NAN	
		Walls	Wall	0.27	NI	REM			NA	NAN	
Bedroom 2	Ceiling	Ceiling	0.06	NI	REM				NA	NAN	
	Flooring			CON-B	REM				NA	NAN	
	Doors			NI	REM				NA	NAN	
	Windows			WD-P	CR-F				WD-B	NAN	
	Windows			AL-PC	CLE				AL-PC	NAN	
	Skirtings			NI	REM				NA	NAN	
	Mouldings			NI	REM				NA	NAN	
	Cabinetry			NI	REM				NA	NAN	

Location	Initial (Third Party)						Post-Remediation					
	Item	Area Tested	Level (µg/100cm <sup>2</sup> )	Material	AC	Ref.	Area Tested	Level (µg/100cm <sup>2</sup> )	Material	AR	AC	
Bedroom 3	Walls			NI	REM				NA	NAN		
	Ceiling	Ceiling	5.7	NI	REM	18	Ceiling Framing	0.14	NA	NAN		
	Flooring			CON-B	REM				NA	NAN		
	Doors			NI	REM				NA	NAN		
	Windows	Window	1.8	WD-P	CR-F	9	Frame	0.08	WD-B	NAN		
	Windows			AL-PC	CLE				AL-PC	NAN		
	Skirtings			NI	REM				NA	NAN		
	Mouldings			NI	REM				NA	NAN		
	Cabinetry			NI	REM				NA	NAN		
	Bedroom 4	Walls	Wall	0.18	GIB-P	CLE				GIB-P	NAN	
Ceiling		Ceiling	0.06	GIB-P	CLE				GIB-P	NAN		
Flooring				CON-B	CLE				CON-B	NAN		
Doors				NI	REM				NA	NAN		
Windows				WD-P	CR-F				WD-B	NAN		
Windows				AL-PC	CLE				AL-PC	NAN		
Skirtings				WD-P	CLE				WD-P	NAN		
Mouldings				WD-P	CLE				WD-P	NAN		
Cabinetry				WD-P	CLE				WD-P	NAN		



		Initial (Third Party)					Post-Remediation				
Location	Item	Area Tested	Level (µg/100cm <sup>2</sup> )	Material	AC	Ref.	Area Tested	Level (µg/100cm <sup>2</sup> )	Material	AR	AC
Ensuite	Walls			NI	REM				NA	NAN	
	Ceiling	Ceiling	7.8	NI	REM	19	Ceiling Framing	0.29	NA	NAN	
	Flooring			TILE	CLE				TILE	NAN	
	Doors			NI	REM				NA	NAN	
	Windows			WD-P	CR-F	12	Frame	0.23	WD-B	NAN	
	Windows			AL-PC	CLE				AL-PC	NAN	
	Skirtings			NI	REM				NA	NAN	
	Mouldings			NI	REM				NA	NAN	
	Cabinetry	Cabinet		2.4	NI	REM			NA	NAN	
	Toilet Bowl				CRMC	CLE			CRMC	NAN	
	Shower				PLSTC	CLE			PLSTC	NAN	
	Walls	Wall		0.87	GIB-P	CLE			GIB-P	NAN	
	Garage	Walls			NI	REM				NA	NAN
Ceiling		Ceiling	11.8	NI	REM				NA	NAN	
Flooring				CON-B	CLE				CON-B	NAN	
Doors				WD-P	CR-F	13	Frame	9.3	WD-B	REM	
Doors				AL-PC	CLE				AL-PC	CLE	
Doors				NI	REM				NA	NAN	
Windows				WD-P	CR-F				WD-B	NAN	
Windows				AL-PC	CLE				AL-PC	NAN	

**7 CONCLUSION**

Methamphetamine was detected above the Ministry of Health recommended level of 2.0 µg/100cm<sup>2</sup> in the garage.

**7.1 Occupation of Property**

This property therefore should not be occupied.

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8 SITE PHOTOS

			
<p><b>Picture 1: Kitchen</b></p>	<p><b>Picture 2: Kitchen/Dining</b></p>	<p><b>Picture 3: Kitchen Wall Framing</b> – 0.03 µg/100cm<sup>2</sup></p>	<p><b>Picture 4: Kitchen Window Frame</b> – 0.23 µg/100cm<sup>2</sup></p>
			
<p><b>Picture 5: Kitchen/Dining Ceiling Framing</b> – 0.05 µg/100cm<sup>2</sup></p>	<p><b>Picture 6: Hallway</b></p>	<p><b>Picture 7: Hallway Wall Framing</b> – 0.13 µg/100cm<sup>2</sup></p>	<p><b>Picture 8: Hallway Ceiling Framing</b> – 0.10 µg/100cm<sup>2</sup></p>

			
<p>Picture 9: Bedroom 1</p>	<p>Picture 10: Bedroom 1 Window Frame – 0.20 µg/100cm<sup>2</sup></p>	<p>Picture 11: Bedroom 1 Ceiling Framing – 0.06 µg/100cm<sup>2</sup></p>	<p>Picture 12: Bedroom 3</p>
			
<p>Picture 13: Bedroom 3 Window Frame – 0.08 µg/100cm<sup>2</sup></p>	<p>Picture 14: Bedroom 3 Ceiling Framing – 0.14 µg/100cm<sup>2</sup></p>	<p>Picture 15: Ensuite</p>	<p>Picture 16: Ensuite Window Frame – 0.23 µg/100cm<sup>2</sup></p>

			<p>Picture 20: Garage</p>
<p>Picture 21: Garage</p>	<p>Picture 22: Garage Door Frame – 9.3 µg/100cm²</p>		

**APPENDICES**

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A.1. Lab Reports

Swabs 3, 4, 6, 8, and 11 resampled to comply with K2's sampling SOP



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ANALYSIS REPORT

Page 1 of 2

<p><b>Client:</b> K2 Environmental Limited <b>Contact:</b> s 9(2)(a)</p> <p>C/- K2 Environmental Limited PO Box 28147 Beckenham Christchurch 8242</p>	<p><b>Lab No:</b> 1791884 <span style="float: right;">SP.1</span> <b>Date Received:</b> 14-Jun-2017 <b>Date Reported:</b> 15-Jun-2017 <b>Quote No:</b> 79334 <b>Order No:</b> S1342 <b>Client Reference:</b> WO1656541 <b>Add. Client Ref:</b> s 9(2)(a) Auckland <b>Submitted By:</b> s 9(2)(a)</p>
---	--

**Sample Type: Miscellaneous Wipe**

Sample Name:	S1342- 1 Kitchen Window Frame 13-Jun-2017	S1342- 2 Kitchen Wall 13-Jun-2017	S1342- 5 Hallway Walls 13-Jun-2017
Lab Number:	1791884.1	1791884.2	1791884.5

Methamphetamine Including Precursors on Wipes by LCMSMS				
Compound	µg/sample	S1342- 1	S1342- 2	S1342- 5
Amphetamine	< 0.02	< 0.02	< 0.02	< 0.02
Ephedrine	< 0.02	< 0.02	< 0.02	< 0.02
Methamphetamine	0.23	0.03	0.13	0.13
Pseudoephedrine	< 0.02	< 0.02	< 0.02	< 0.02

Sample Name:	S1342- 7 Bedroom 1 Window Frame 13-Jun-2017	S1342- 9 Bedroom 3 Window Frame 13-Jun-2017	S1342- 10 Bathroom Window Frame 13-Jun-2017
Lab Number:	1791884.7	1791884.9	1791884.10

Methamphetamine Including Precursors on Wipes by LCMSMS				
Compound	µg/sample	S1342- 7	S1342- 9	S1342- 10
Amphetamine	< 0.02	< 0.02	< 0.02	< 0.02
Ephedrine	< 0.02	< 0.02	< 0.02	< 0.02
Methamphetamine	0.20	0.08	0.20	0.20
Pseudoephedrine	< 0.02	< 0.02	< 0.02	< 0.02

Sample Name:	S1342- 12 Ensuite Window Frame 13-Jun-2017	S1342- 13 Garage Door Frame 13-Jun-2017	S1342- 14 Blank 13-Jun-2017
Lab Number:	1791884.12	1791884.13	1791884.14

Methamphetamine Including Precursors on Wipes by LCMSMS				
Compound	µg/sample	S1342- 12	S1342- 13	S1342- 14
Amphetamine	< 0.02	< 0.02	0.09	< 0.02
Ephedrine	< 0.02	< 0.02	< 0.02	< 0.02
Methamphetamine	0.23	9.3	< 0.02	< 0.02
Pseudoephedrine	< 0.02	< 0.02	< 0.02	< 0.02

**Analyst's Comments**

**Samples 1-14 Comment:**  
For interpretation of the results presented in this Analysis Report, please contact the person or company that collected the samples.

SUMMARY OF METHODS

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively clean matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis.

**Sample Type: Miscellaneous Wipe**

Test	Method Description	Default Detection Limit	Sample No
Methamphetamine Including Precursors on Wipes by LCMSMS	Desorption with 0.1M Sulphuric by shaking. LCMSMS analysis (modified NIOSH9111).	0.02 µg/sample	1-14



This Laboratory is accredited by International Accreditation New Zealand (IANZ), which represents New Zealand in the International Laboratory Accreditation Cooperation (ILAC). Through the ILAC Mutual Recognition Arrangement (ILAC-MRA) this accreditation is internationally recognised. The tests reported herein have been performed in accordance with the terms of accreditation, with the exception of tests marked \* which are not accredited.

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Samples are held at the laboratory after reporting for a length of time depending on the preservation used and the stability of the analytes being tested. Once the storage period is completed the samples are discarded unless otherwise advised by the client.

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**ANALYSIS REPORT** Page 1 of 2

<b>Client:</b> K2 Environmental Limited	<b>Lab No:</b> 1797900	SPVL
<b>Contact:</b> s 9(2)(a)	<b>Date Received:</b> 24-Jun-2017	
C/- K2 Environmental Limited	<b>Date Reported:</b> 27-Jun-2017	
PO Box 28147	<b>Quote No:</b> 79334	
Beckenham	<b>Order No:</b> S1342	
Christchurch 8242	<b>Client Reference:</b> WO1656541	
	<b>Add. Client Ref:</b> s 9(2)(a)	Auckland
	<b>Submitted By:</b> s 9(2)(a)	

**Sample Type: Miscellaneous Wipe**

Sample Name:	S1342 -15	S1342 -16	S1342 -17	S1342 -18	S1342 -19
Kitchen/ Dining Ceiling	Kitchen/ Dining Ceiling	Hallway Ceiling	Bedroom 1 Ceiling	Bedroom 3 Ceiling	Ensuite Ceiling
23-Jun-2017	23-Jun-2017	23-Jun-2017	23-Jun-2017	23-Jun-2017	23-Jun-2017
<b>Lab Number:</b>	1797900.1	1797900.2	1797900.3	1797900.4	1797900.5

Methamphetamine Including Precursors on Wipes by LCMSMS					
Amphetamine	µg/sample	< 0.02	< 0.02	< 0.02	< 0.02
Ephedrine	µg/sample	< 0.02	< 0.02	< 0.02	< 0.02
Methamphetamine	µg/sample	0.05	0.10	0.08	0.29
Pseudoephedrine	µg/sample	< 0.02	< 0.02	< 0.02	< 0.02

<b>Sample Name:</b> S1342 -20 Blank
23-Jun-2017
<b>Lab Number:</b> 1797900.6

Methamphetamine Including Precursors on Wipes by LCMSMS					
Amphetamine	µg/sample	< 0.02	-	-	-
Ephedrine	µg/sample	< 0.02	-	-	-
Methamphetamine	µg/sample	< 0.02	-	-	-
Pseudoephedrine	µg/sample	< 0.02	-	-	-

**Analyst's Comments**

**Samples 1-6 Comment:**  
 For interpretation of the results presented in this Analysis Report, please contact the person or company that collected the samples

**SUMMARY OF METHODS**

The following table(s) give a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively clean matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis.

Test	Method Description	Default Detection Limit	Sample No
Methamphetamine Including Precursors on Wipes by LCMSMS	Description with 0.1M Sulphuric by shaking, LCMSMS analysis (modified NIOSH9111).	0.02 µg/sample	1-6



This Laboratory is accredited by International Accreditation New Zealand (IANZ), which represents New Zealand in the International Laboratory Accreditation Cooperation (ILAC). Through the ILAC Mutual Recognition Arrangement (ILAC-MRA) this accreditation is internationally recognised. The tests reported herein have been performed in accordance with the terms of accreditation, with the exception of tests marked \* which are not accredited.

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Samples are held at the laboratory after reporting for a length of time depending on the preservation used and the stability of the analytes being tested. Once the storage period is completed the samples are discarded unless otherwise advised by the client.

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## A.2. K2 Environmental Sampling Methodology

Sampling as carried out following the guidelines outlined in NIOSH 9111 - *Methamphetamine on wipes by Liquid Chromatography/mass Spectrometry 9111*

### Sampling Procedure

- A new pair of gloves (not vinyl) are used for each sample
- Gauze which has been pre-moistened with 3-4ml of methanol is used
- A new (named) template is fixed to the sampling surface
- Each position is photographed
- The surface to be sampled is wiped with firm pressure:
  - using vertical strokes followed by
  - horizontal strokes, then folded again by and then followed by
  - Vertical strokes and horizontal strokes the gauze is then folded with the pad, exposed side in, and placed in shipping container & sealed.
- Each sample clearly Labelled with a unique sample identifier.
- Documentation is completed and samples sent for analysis via courier as soon as practicable.

### Blank Samples

A field blank is included with each set of samples for all comprehensive testing.

### Sample site Selection

In each room to be sampled the following strategy used to select sampling points:

- High points (fume rises and condenses at higher levels such as ceilings) these are also less likely to have been cleaned
- Areas around windows which are cooler this is where fume is likely to condense
- Painted and varnished surfaces have higher recovery rates
- Hard non-porous surfaces such as benchtops, ranges, range hoods, tiles and glass surfaces. (these will have higher concentrations if present as fume will not have been absorbed)

### Areas less likely to be sampled (due to low recovery rates)

- Porous surfaces such as non-vinyl coated wall papers
- Bare wood surfaces
- Pinex walls and tiles (especially if not painted)
- Fabrics, carpets and other furnishings

### Recovery Using Methanol Swabs<sup>3</sup>

Surface	Methamphetamine Recovery
Unpainted Dry wall	0.93%
Painted Drywall	74%
Unpainted Plywood	5.7%
Glass	53%
Metal	90%
Tile	12%
Carpet	1.3%

<sup>3</sup> Methamphetamine Sampling Variability on Different Surfaces Using Different Solvents, John W. Martyny, National Jewish Medical and Research Center, October 2008

## A.3. Table of Materials Abbreviations

Material	Abbreviation for tester table
Aluminium	AL
Aluminium - Powder Coated	AL-PC
Brick - bare	BRK-B *
Brick - painted	BRK-P *
Building Paper	BP
Carpet	CPT
Cement sheet	CMNTS
Ceramic	CRMC
Concrete - bare	CON-B
Concrete -painted	CON-P
Cinder block - bare	CIND-B
Cinder block - painted	CIND-P
GIB - bare	GIB-B
GIB - painted	GIB-P
Hardboard - painted	HRDB-P
Hardboard - varnished	HRDB-V
Hardglaze	HGL
Lathe and plaster – bare	L&P
Lathe and plaster - painted	L&P-P
Laminate	LAM
Pirnex	PINEX
Plastic	PLSTC
Soft-board Ceiling Tile	SCT
Stainless steel	STEEL
Stipple	STIPPLE
Tiles	TILE
Tin	TIN
Vinyl/lino	VINYL
Wallpaper	WALP
Wallpaper - vinyl	WALP-V
Wallpaper - painted	WALP-P
Wood - bare	WD-B
Wood - painted	WD-P
Wood - varnished	WD-V
Wood - stained	WD-S
Not Applicable	NA
Not Identified	NI

## A.4. Table of Recommended Actions Abbreviations

AR (Action recommended)	Abbreviation for Tester Table
Ventilate rooms with mechanical assistance	Scrub+Vent
Vacuum flooring with H13 rated vacuum cleaner	HEPA
Item to be removed	REM
Remove coating (e.g. paint/varnish)	CR
Triple Clean – Remediation Required	CLE
Triple clean – Precautionary or Recommended	CLE
Action not identified	NI
No action needed	NAN

## A.5. Table of Actions Completed Abbreviations

AC (Action completed)	Abbreviation for tester table
Triple Cleaned with sugar soap – <i>decon. team must advise if any alternative cleaning products used so a new code can be generated, decon. team must inform testers if using anything other than sugar soap for a specific property</i>	CLE
Item removed	REM
Coating (e.g. paint/varnish) fully removed	CR-F
Coating partially removed	CR-P
Action Not Identified	NI
Not Completed	NC
Not Applicable / No Action	NA

## A.6. Ministry of Health Recommended Limits

Ministry of Health Methamphetamine Standard	
Former clandestine methamphetamine laboratory	0.5 µg/100cm <sup>2</sup>
Non-lab houses with carpet present	1.5 µg/100cm <sup>2</sup>
Non-lab houses with no carpet present	2.0 µg/100cm <sup>2</sup>





**DOWDELL  
& ASSOCIATES LTD**

4 Cain Rd, Penrose, Auckland, PO Box 112-017, Penrose, AUCKLAND 1642 phone: 09 5260246, fax: 09 5795389



**IANZ**

Accreditation for Methamphetamine and associated precursor surface sampling

7<sup>th</sup> April 2017

Housing New Zealand Corporation  
Auckland Regional Office  
PO Box 74589  
Greenlane

Attention: s 9(2)(a)

Re: Clandestine Drug Assessment  
Property: s 9(2)(a) Auckland 0612  
Job No: 48784

Dear s 9(2)(a)

**Background:**

In accordance with your instruction, s 9(2)(a) of Dowdell & Associates Ltd attended the above property on 29 March 2017 and completed an investigation into potential methamphetamine and associated chemical contamination **Out of Scope**

This examination was performed in accordance with the 'Guidelines for the Remediation of Clandestine Methamphetamine Laboratory Sites' - Ministry of Health, August 2010 and the 'Review of the Remediation Standards' published by ESR for the MoH October 2016.

**Executive Summary:**

From the observations made, samples taken and subsequent results obtained it appears that the property at s 9(2)(a) is contaminated with drug residue above the threshold levels as documented in the above publications.

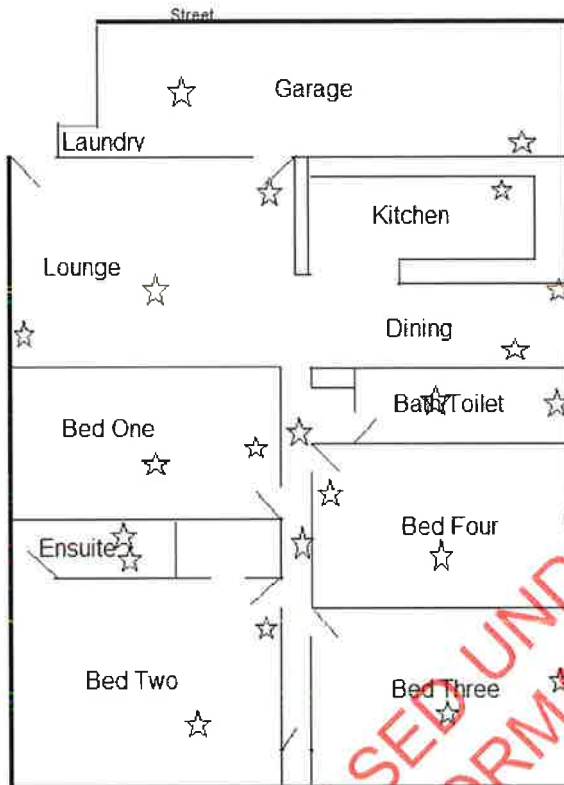
**Contents:**

- 1. Property Description
- 2. Methodology and sample plan
- 3. Scope
- 4. Results
- 5. Conclusion and remediation plan
- 6. Appendices
  - Results table
  - IANZ accredited external laboratory report

## 1. Property Description:

The house at s 9(2)(a) is a modern single story standalone building comprising an open plan lounge, kitchen and dining room, a hallway, four bedrooms, a combined bath and toilet, a combined ensuite bath and toilet and a two car garage which included the laundry.

### Floor Plan:



Drawing is not to Scale  
Stars indicate approximate sampling locations.

## 2. Methodology: Sampling plan and Limitations

Observations throughout the property, followed by sampling of various compounds was carried out to establish the possible presence or absence of a range of narcotic drugs and chemicals. Swabs for methamphetamine and precursors on surfaces were taken throughout the property. The locations sampled are representative of similar areas and surfaces within the dwelling as a whole.

The following equipment, methodologies and laboratories have been utilised.

1. General total volatile organic compound levels using a Rae Systems calibrated data logging ppb~Rae PID.
2. General narcotic residues screening using standard "Mistral" Forensic Drug Test Kits.
3. Swabs analysed for specific Methamphetamine Including Precursor Levels per 100 cm<sup>2</sup> using Modified NIOSH 9111 – LCMS. Analysis performed at IANZ accredited external laboratory - Labtec, Auckland
4. Insulation material analysed for specific Methamphetamine Including Precursor Levels per gram using Modified NIOSH 9111 – LCMS Analysis performed at IANZ accredited external laboratory - Labtec, Auckland
5. pH Screening on surfaces using JT Baker Test Strips.



3. Scope:

The scope in performing this work is to determine any factors that may present a potential health risk to people who will subsequently inhabit the property. Several of the procedures referred to above are screening techniques only and as such **should not** be used to determine the guilt or innocence of any parties involved.

4. Results:

Visual Inspection:

Photograph 1 – House



Photograph 2 – Lounge



Photograph 3 – Kitchen



Photograph 4 – Dining



Photograph 5 – Bedroom One



Photograph 6 – Bedroom Four



Photograph 7 – Bath/Toilet



Photograph 8 – Garage



The property was no longer occupied but did contain some personal items and furniture, especially in the garage. The inside of the dwelling was smoke damaged and the garage was both smoke and fire damaged. The carpets were stained throughout and were missing in bedroom four (only underlay remaining). There were small holes and some larger holes (which were hastily repaired) in the walls throughout with damage to some of the bedroom doors as well as damage to a cabinet in the kitchen. A window in the garage and one panel of the dining room sliding door were broken and boarded up. The front door appears to have been replaced and did not contain a locking system. The closet door in Bedroom four was missing. It appears that some attempt was made to clean the smoke damage in the kitchen/dining and bedrooms prior to the assessment.

Outside the dwelling there was no evidence of fire pits, rubbish burial or vegetation die back that would indicate soil or ground water contamination. There was no rubbish or personal belongings observed in the front or back yards.

**b) Total Volatile Organic Compounds (TVOC's):**

The volatile organic compound concentrations in all areas were less than  $0.1 \mu\text{g}/\text{m}^3$  and are well within normal guidelines for total volatile organic compound levels ( $< 500 \mu\text{g}/\text{m}^3$ ) as indicated by the Australian National Health & Medical Research Council. Therefore no further specific organic compounds in air samples were taken.

Based on the minimal concentration of TVOCs species specific VOC monitoring was not warranted.

**c) Residual Drug Tests:**

General Narcotic Residues were screened for using standard "Mistral" Forensic Drug Test Kits. Cannabis was detected on the bench and floor in the kitchen and on the vanity in the ensuite, however no other narcotic drug residue was detected on the property using this screening method.

The laboratory results for the surface swabs indicated that methamphetamine was detected in multiple locations above the current threshold levels as outlined in the Ministry of Health Guidelines and ESR publications. Levels of methamphetamine were also detected in the ceiling insulation, although there are no current threshold levels to compare against.

Methamphetamine precursors were also detected throughout the dwelling. (see attached laboratory result sheet)

**d) pH Screen:**

General surface in the kitchen, and bathrooms one were screened for pH levels. The bathroom and laundry pH levels ranged from 6 to 9, the more alkaline results may be linked to cleaning products typically used to for smoke damage.

(see attached worksheet)

**5. Conclusions and Remediation plan:**

From the observations made, samples taken and subsequent results obtained it appears that the property at s 9(2)(a) is contaminated with drug residue above the applicable threshold levels as documented in the '*Guidelines for the Remediation of Clandestine Methamphetamine Laboratory Sites*' - Ministry of Health, August 2010 and the 'Review of the Remediation Standards' published by ESR for the MoH. **Please note that as the property is contaminated it should not be occupied.**

**The locations sampled are representative of similar areas and surfaces within the dwelling as a whole.**

There was no visual evidence of manufacture or processes observed however these can be easily disguised or rectified before this initial assessment was performed. Due to the significantly high methamphetamine levels found, precursors found, levels of contamination in the insulation and the source of the fire not been confirmed it is recommended that levels of methamphetamine on surfaces are remediated to below the manufacture threshold level of 0.5 µg/100 cm<sup>2</sup>.

Remediation steps are therefore required to be performed throughout the dwelling, such as a FULL PROFESSIONAL DECONTAMINATION as outlined within the '*Guidelines for the Remediation of Clandestine Methamphetamine Laboratory Sites*' - Ministry of Health, August 2010. This must be performed by a company with both training and certification in both decontamination processes and health and safety as stated in the above publication.

The remediation company engaged to complete decontamination will have more detailed recommendations regarding the decontamination of specific surfaces. This could include either or both the decontamination or removal of materials that have not undergone swabbing in this assessment. These recommendations will be based on results in the larger area, or results on similar materials. As the combination of contamination sources and materials is different in each case, more in-depth actions may be required if initial remediation does not remove drug residues below threshold levels.

Further recommendations are;

- Removal of any carpets and floor covering and disposed as contaminated waste
- Removal of curtains and drapes to be disposed of as contaminated waste
- Rubbish and personal property remaining around property to be disposed of as contaminated waste
- Extraction and ducting systems should be decontaminated or removed and disposed of as contaminated waste
- It is also recommended that the insulation be removed and disposed of as contaminated waste however there is currently no legislative requirement to do so

Please be aware of the potential for asbestos containing materials to be present on this property. Such materials should be handled in accordance with the Health and Safety in Employment (Asbestos) Regulations 1998. Lead based paint may also be present, so care should be taken when remediating painted surfaces.

Once the above remediation steps have been completed a further inspection will be required in order to validate the decontamination process and thus clear the property for occupancy. Part of this inspection will be sighting a 'crush and bury' certificate for the contaminated waste.

Once this procedure has been completed then subsequent contractors can be engaged to complete the refurbishment.

Should you require any further assistance, please do not hesitate to contact us.

Yours Faithfully  
**DOWDELL & ASSOCIATES LTD**

s 9(2)(a)



Consultant

Checked by

s 9(2)(a)



Occupational Hygienist  
General Manager

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## VISUAL EXAMINATION

Date: 28<sup>th</sup> March 2017

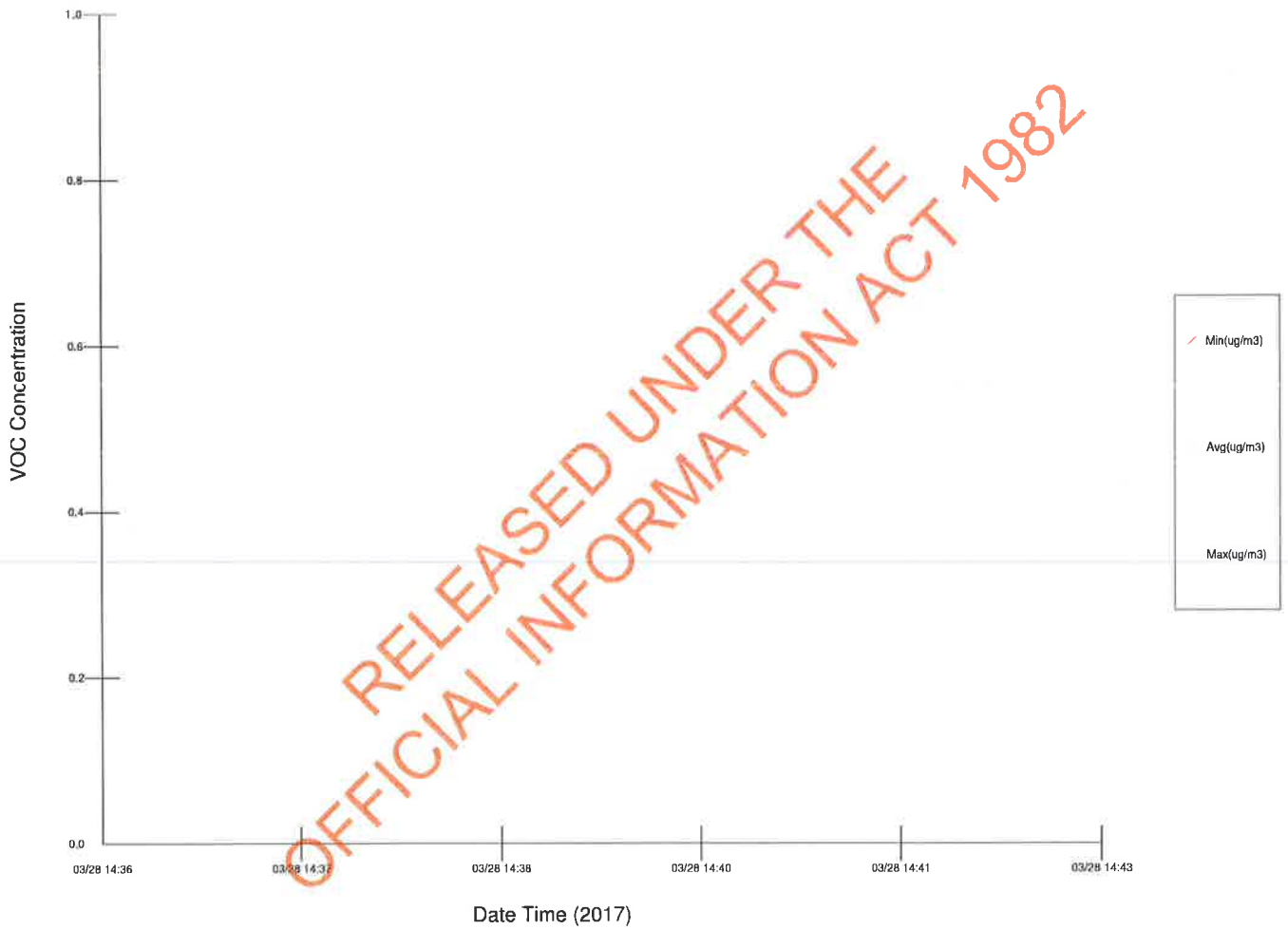
Client: Housing New Zealand Corporation

Consultant: s 9(2)(a)

Property Address: s 9(2)(a)

Area	Walls	Ceilings	Floors	Other – Blinds, Tiles, Cabinets etc.
Kitchen	Painted Plaster Board	Painted Plaster Board	Tile	Tile Backsplash, fan ventilation hood, plastic coated cabinets. Under sink cabinet damaged, no fridge. Light smoke damage. Some post fire cleaning apparent.
Dining Room	Painted Plaster Board	Painted Plaster Board	Tile	Sliding door damaged on panel boarded up, heavy smoke damage and appears cleaning attempted. Heavy smoke damage. Light smoke damage. Some post fire cleaning apparent.
Lounge	Painted Plaster Board	Painted Plaster Board	Carpet	Front door does not appear to be original and has not dead bolt. Stick of incense sticking out from wall, many small holes in walls. Some furniture remaining. Heavy smoke damage.
Hallway/Stairs	Painted Plaster Board	Painted Plaster Board	Carpet	Moderate smoke damage
Bedroom One	Painted Plaster Board	Painted Plaster Board	Carpet	Various holes in walls hastily repaired. Light smoke damage. Light smoke damage. Some post fire cleaning apparent. Closet door damage.
Bedroom Two	Painted Plaster Board	Painted Plaster Board	Carpet	Various holes in walls with some hastily repaired. Some personal items remaining. Light smoke damage. Some post fire cleaning apparent. Door damaged.
Bedroom Three	Painted Plaster Board	Painted Plaster Board	Carpet	Various holes in walls with some hastily repaired. Some personal items remaining. Light smoke damage. Some post fire cleaning apparent.
Bedroom Four	Painted Plaster Board	Painted Plaster Board	Carpet pad	Carpet removed and closet doors missing. Lighter or match damage to one shelf in closet. Light smoke damage. Some post fire cleaning apparent. Door damaged.
Bath/Toilet	Painted Plaster Board	Painted Plaster Board	Tile	Tile Backsplash, fan ventilation, porcelain cistern. Heated towel rack ripped from wall.
Ensuite	Painted Plaster Board	Painted Plaster Board	Tile	Fan ventilation, porcelain cistern.
Garage/Laundry	Painted Plaster Board	Painted Plaster Board	Carpet/Concrete	

Materials stated are approximate based on observation, but have not been tested to determine exact composition



Instrument: ppbRAE (PGM7240) Serial Number: 100721  
User ID: 00000001 Site ID: 00000499  
Data Points: 85 Gas Name: VOC Sample Period: 5 sec  
Last Calibration Time: 04/20/2016 08:53  
Start At: 03/28/2017 14:36 End At: 03/28/2017 14:43

Measurement Type:	Min(ug/m3)	Avg(ug/m3)	Max(ug/m3)
High Alarm Levels:	5000	5000	5000
Low Alarm Levels:	2000	2000	2000
STEL Alarm Levels:	5000	5000	5000
TWA Alarm Levels:	2000	2000	2000

Measurement Type:	Min(ug/m3)	Avg(ug/m3)	Max(ug/m3)
Peak Data Value:	0	0	0
Min Data Value:	0	0	0
TWA Data Value:	0	0	0
AVG Data Value:	0	0	0

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**SAMPLING LOCATIONS AND RESULTS**

**Date:** 28<sup>th</sup> March 2017  
**Client:** Housing New Zealand Corporation  
**Consultant:** s 9(2)(a)  
**Property Address:** s 9(2)(a)

Note – Please refer to site plan for locations		Narcotic Screening	Methamphetamine (µg/100 cm <sup>2</sup> )	Surface (pH)
Room	Location			
Kitchen	Wall	-	0.33	9
	Cupboard	-	52.6	-
	Bench	-'ve	-	6
	Floor	-'ve	-	-
Dining	Ceiling	-	29.6	-
Lounge	Ceiling	-	0.15	-
	Window Lounge	-	0.71	-
	Door Lounge to Garage	-	1.3	-
Hallway	Ceiling	-	18.3	-
	Walls	-	1.4	-
Bedroom One	Ceiling	-	5.8	-
	Closet Door	-	3.2	-
Bedroom Two	Ceiling	-	0.06	-
	Wall	-	0.27	-
Bedroom Three	Ceiling	-	5.7	-
	Window Surround	-	1.8	-
Bedroom Four	Ceiling	-	0.06	-
	Wall	-	0.18	-
Bath/Toilet	Ceiling	-	0.33	-
	Window Ledge	-	8.5	-
	Wall	-	-	7
	Vanity	-'ve	0.95	9
Ensuite	Ceiling	-	7.8	9
	Vanity	-'ve	2.4	-
	Cistern	-	-	7
Garage/Shed	Ceiling	-	11.8	-
	Wall	-	0.87	-
Roof cavity	Ceiling Insulation	-	(µg/g) 1.1	

**NIOSH 9111 - DETECTION LIMITS**

Amphetamine 0.02 µg  
 Ephedrine 0.02 µg  
 Methamphetamine 0.02 µg  
 Pseudoephedrine 0.02 µg

**MINISTRY OF HEALTH GUIDELINE THRESHOLDS**

Methamphetamine (Clandestine Methamphetamine Laboratories) 0.5 µg/100 cm<sup>2</sup>  
 Methamphetamine (Non-clandestine Laboratory Contaminated Property with carpet) 1.5 µg/100 cm<sup>2</sup>  
 Methamphetamine (Non-clandestine Laboratory Contaminated Property without carpet) 2.0 µg/100 cm<sup>2</sup>

### SAMPLE DETAILS

Sample Description:	Wipes and Insulation Material for Drug Residue Analysis		
Customer Job Reference:	48784		
Laboratory Report:	12316 Page 1/2	Date Received:	29/03/2017
Laboratory Reference:	NB68-187	Date Reported:	6/04/2017
Number of Samples:	22 of 24	Service Code:	702

### RESULTS

Lab.No.	Location	Ephedrine µg/sample	Pseudoephedrine µg/sample	Amphetamine µg/sample	Methamphetamine µg/sample
26058	Kitchen/Dining Wall	<0.02	<0.02	<0.02	0.33
26059	Kitchen Cupboard	0.04	<0.02	0.51	52.6
26060	Dining/Kitchen Ceiling	0.07	0.02	1.1	29.6
26061	Lounge Ceiling	<0.02	<0.02	<0.02	0.15
26062	Lounge Window Ledge	<0.02	<0.02	0.05	0.71
26063	Lounge/Garage Door	<0.02	<0.02	0.03	1.3
26064	Hallway Ceiling	<0.02	<0.02	0.74	18.3
26065	Hallway Walls	<0.02	<0.02	0.05	1.4
26066	Bed One Ceiling	<0.02	<0.02	0.27	5.8
26067	Bed One Closet Door	<0.02	<0.02	0.06	3.2
26068	Bed Two Ceiling	<0.02	<0.02	<0.02	0.06
26069	Bed Two Wall	<0.02	<0.02	0.03	0.27
26070	Bed Three Ceiling	<0.02	<0.02	0.35	5.7
26071	Bed Three Window Surround	<0.02	<0.02	0.06	1.8
26072	Bed Four Ceiling	<0.02	<0.02	<0.02	0.06
26073	Bed Four Wall	<0.02	<0.02	0.02	0.18
26074	Bathroom Ceiling	<0.02	<0.02	<0.02	0.33
26075	Bathroom Window Ledge	0.02	<0.02	0.30	8.5
26076	Bathroom Vanity	<0.02	<0.02	0.04	0.95
26077	Ensuite Ceiling	<0.02	<0.02	0.16	7.8
26078	Ensuite Vanity	<0.02	<0.02	0.08	2.4
26079	Garage Ceiling	0.04	0.02	0.59	11.8

### Notes

<sup>1</sup> NIOSH 9111 - modified (LABTEC Test Method TM-0408), LC-MS

<sup>2</sup> Default detection limit is 0.02µg/sample for wipe samples

<sup>3</sup> Samples not collected by LABTEC staff. Results are for samples 'as received'

<sup>4</sup> Report may not be reproduced, except in full, without written consent

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LABTEC LTD - Scientific & Technical Services

s 9(2)(a)

s 9(2)(a)

Chemist (Analytical)

Laboratory Manager



All tests reported herein have been performed in accordance with the laboratory's scope of accreditation

**SAMPLE DETAILS**

Sample Description:	Wipes and Insulation Material for Drug Residue Analysis		
Customer Job Reference:	48784		
Laboratory Report:	12316 Page 2/2	Date Received:	29/03/2017
Laboratory Reference:	NB68-187	Date Reported:	6/04/2017
Number of Samples:	2 of 24	Service Code:	702

**RESULTS**

Lab.No.	Location	Ephedrine µg/sample	Pseudoephedrine µg/sample	Amphetamine µg/sample	Methamphetamine µg/sample
26080	Garage Wall	<0.02	<0.02	0.04	0.87
		µg/g	µg/g	µg/g	µg/g
26081	Ceiling Insulation	<0.02	<0.02	0.04	1.1

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**Notes**

<sup>1</sup> NIOSH 9111 - modified (LABTEC Test Method TM-0408), LC-MS  
<sup>2</sup> Default detection limit is 0.02µg/sample for wipe samples  
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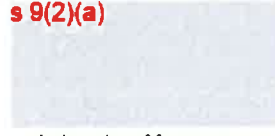
**LABTEC LTD - Scientific & Technical Services**

s 9(2)(a)



Chemist (Analytical)

s 9(2)(a)



Laboratory Manager



All tests reported herein have been performed in accordance with the laboratory's scope of accreditation

