



Pre-demolition Hazardous Building Materials Survey Report

607 Cliff Avenue
Enderby, BC



Prepared for:
City of Enderby
PO Box 400, 619 Cliff Avenue
Enderby, BC V0E 1V0

Attention: Mr. Tate Bengtson
Chief Administrative Officer

August 25, 2014

Pinchin West Project No. 35758A

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EXECUTIVE SUMMARY

Pinchin West Ltd. (PWL) was retained by the City of Enderby to conduct a pre-demolition hazardous building materials survey of the building located at 607 Cliff Avenue, Enderby, BC. The survey was performed by Darren Roper, *Project Coordinator* on August 13, 2014.

The objective of the survey was to identify specified hazardous building materials in preparation for building demolition. The results of this survey are intended to be used in conjunction with a properly developed specification.

Summary of Findings

Hazardous Material	Type / Location
Asbestos-containing building materials (ACMs)	Drywall joint compound on walls in locations 1 and 2. Vermiculite insulation in locations 1-3.
Lead in paints	White wood paint above ceiling in locations 1 and 2. Off white drywall wall paint in locations 5-9. Brown exterior wood trim paint in location 10. White exterior/exterior trim paint in location 10.
Lead products	Lead may be present in caulking in bell and spigot fittings on cast iron pipes; wiring connectors, grounding conductors or solder.
Crystalline Silica	Crystalline silica is present in brick and mortar in location 10.
Mercury	Mercury vapour is present in light tubes in locations 1, 2, and 6.
Polychlorinated biphenyls (PCBs)	Light ballasts in locations 1, 2, and 6 contain PCBs.
Halocarbons	Halocarbons were not observed.
Mould	Suspect visible mould was observed in locations 1, 2, 5, 6, 7, and 8.

Summary of Recommendations

1. Asbestos-containing materials (ACM) must be removed prior to building demolition.
2. Cutting, grinding, drilling, removing, stripping or demolition of materials containing or coated with lead should be completed only with proper safety precautions which may include respiratory protection. The requirements for engineering controls and personal protective equipment must be assessed on a project by project basis.

EXECUTIVE SUMMARY – CONTINUED

3. Lead-painted materials must be tested for leachable lead to determine if a hazardous waste prior to disposal.
4. Prior to demolition, remove mercury and PCBs.
5. Follow safe work procedures if cutting or grinding concrete and other items containing crystalline silica.
6. Follow safe work procedures if conducting hand demolition of mouldy materials.
7. Prepare specifications for hazardous material removal. The specifications should include and address the scope of work, safe work practices, risk assessments, personal protective equipment, respiratory protection, and disposal of waste materials.
8. Retain a qualified consultant to specify, inspect and verify the successful removal of hazardous materials.
9. Retain a qualified structural engineer to inspect the structural integrity of the building prior to beginning any work activities.

TABLE OF CONTENTS

1.0	INTRODUCTION AND SCOPE	1
2.0	GENERAL METHODOLOGY.....	1
3.0	BUILDING INFORMATION.....	2
4.0	FINDINGS - IDENTIFIED HAZARDOUS MATERIALS	2
	Table 1 Asbestos-containing Materials.....	3
	Table 2 Lead in Paint	3
	Table 3 Crystalline Silica	3
	Table 4 Mercury	4
	Table 5 Polychlorinated Biphenyls	4
	Table 6 Mould	4
5.0	DISCUSSION	4
6.0	RECOMMENDATIONS.....	4
7.0	STANDARD LIMITATIONS.....	6
8.0	CLOSURE	7

Appendices

Appendix I	References
Appendix II	Hazardous Materials Testing Results
	II-A: Summary of Presumed Non-asbestos Materials
	II-B: Asbestos Sampling Log
	II-C: Asbestos Laboratory Certificate
	II-D: Lead Laboratory Certificate
	II-E: PCB Laboratory Certificate
Appendix III	Drawings
Appendix IV	Photographs
Appendix V	Specific Methodologies

1.0 INTRODUCTION AND SCOPE

Pinchin West Ltd. (PWL) was retained by the City of Enderby to conduct a pre-demolition hazardous building materials survey of the building located at 607 Cliff Avenue, Enderby, BC.

This report fulfills the requirements of Section 119 of the Workers' Compensation Act and Section 20.112 of the Occupational Health and Safety Regulation. This requires that the Owner report the presence of hazardous materials to the Prime Contractor to eliminate or control hazards at the workplace.

The survey was performed by Darren Roper, *Project Coordinator* on August 13, 2014. The surveyor was not accompanied by anyone during the site work.

The hazardous materials included in this survey were;

- Asbestos-containing building materials (ACMs);
- Lead in paints and other lead products;
- Crystalline silica;
- Mercury;
- Polychlorinated biphenyls (PCBs);
- Halocarbons; and
- Mould.

The objective of the survey was to identify specified hazardous building materials in preparation for building demolition. The results of this survey are intended to be used in conjunction with a properly developed building demolition specification.

2.0 GENERAL METHODOLOGY

A room-by-room survey (rooms, corridors, service areas, exterior, etc) was conducted to identify the hazardous materials listed in the scope of work. This survey included an intrusive investigation to view concealed conditions behind solid walls, enclosures, shafts and chases.

Representative samples were collected and/or visual observation of the hazardous materials was conducted.

This survey excludes the following:

- owner or occupant articles (e.g., stored items, furniture, appliances, etc.),
- underground materials or equipment (e.g., vessels, drums, underground storage tanks, pipes, etc.),

A unique location number was assigned to each room or homogenous area to identify each part of the building. For further information on specific methodologies refer to Appendix V.

3.0 BUILDING INFORMATION

3.1 Description

Item	Details
Construction Date	Early 1900's, as reported by Tate Bengtson.
Use and Size of Building	Two stories, approximately 3,000 square feet, light commercial.
Structure	Wood, concrete.
Exterior Cladding	Brick, wood, vinyl.
HVAC	Interior HVAC, baseboard heaters.
Roof	Pitched metal roof.
Flooring	Wood, vinyl sheet flooring, vinyl floor tile, carpet, concrete.
Interior Walls	Drywall, glass, wood, cardboard, tiles.
Ceilings	Drywall, wood, ceiling tile, cardboard.
Other Observations	The building sustained a fire on January 28, 2011. As a result, it is suspected that the structural integrity of the building is compromised.

Inaccessible Areas

The following areas, locations or rooms were not accessible to the surveyor and were therefore not evaluated or tested as part of this survey.

Area or Room	Reason
No inaccessible areas or systems encountered	NA

4.0 FINDINGS - IDENTIFIED HAZARDOUS MATERIALS

The following tables describe the findings of this survey. For complete test results, refer to Appendix II.

Table 1 Asbestos-containing Materials

System / Material	Sample #(s); Asbestos Type (Content); Friability	Locations	Estimated Quantity
Wall: Drywall joint compound	S03A-C; Chrysotile (2%); Non-friable	Locations 1 and 2	500 ft ²
Other: Vermiculite insulation	S05A-C; Confirmed Libby Amphibole; Friable	Locations 1-3	1000 ft ²
Refer to Appendix II-A and II-B for materials determined to be non- asbestos.			

Table 2 Lead

Component or Substrate and Colour	Location (s)	Sample #(s)	Test Result (%)	Estimated Quantity
White wood paint above ceiling	Loc. 1, 2	L02	0.27	1000 ft ²
Off white drywall wall paint	Loc. 5-9	L03	0.34	2000 ft ²
Brown exterior wood trim paint	Loc. 10	L04	0.13	100 ft ²
White exterior/exterior trim paint	Loc. 10	L05	0.39	500 ft ²
Lead Products (Solid)	Lead may be present in caulking in bell and spigot fittings on cast iron pipes; wiring connectors, grounding conductors or solder.			

Table 3 Crystalline Silica

Component	Locations
Brick, mortar	Location 10

Table 4 Mercury

Component	Estimated Quantity	Locations
Fluorescent light tubes.	All	Location 1, 2, 6

Table 5 Polychlorinated Biphenyls

Type	Estimated Quantity	Locations/Sample #(s)	Conclusions
Ballasts within light fixtures.	All	Location 1, 2, 6	PCB ballasts are presumed to be present based on the date of construction.
Caulking	N/A	Location 10; Sample PCB01	The caulking on the windows or control joints was sampled and does not contain PCBs.

Table 6 Halocarbons

Component	Estimated Quantity	Locations
Refrigerants	N/A	Not observed

Table 7 Mould

Type	Estimated Quantity	Locations
Suspect Visible Mould.	1000 ft ²	Location 1, 2, 5-8.

5.0 DISCUSSION

A number of materials which might contain asbestos were not sampled during our assessment. If present, these materials must be presumed to be an asbestos material and are best sampled immediately prior to disturbance. Materials presumed to contain asbestos include;

- components or wiring within motor control centers, breakers, motors or lights

6.0 RECOMMENDATIONS

1. Asbestos-containing materials (ACM) must be removed prior to building demolition.
2. Cutting, grinding, drilling, removing, stripping or demolition of materials containing or coated with lead should be completed only with proper safety precautions which may

include respiratory protection. The requirements for engineering controls and personal protective equipment must be assessed on a project by project basis.

3. Lead-painted materials must be tested for leachable lead to determine if a hazardous waste prior to disposal.
4. Prior to demolition, remove mercury and PCBs.
5. Follow safe work procedures if cutting or grinding concrete and other items containing crystalline silica.
6. Follow safe work procedures if conducting hand demolition of mouldy materials.
7. Prepare specifications for hazardous material removal. The specifications should include and address the scope of work, safe work practices, risk assessments, personal protective equipment, respiratory protection, and disposal of waste materials.
8. Retain a qualified consultant to specify, inspect and verify the successful removal of hazardous materials.
9. Retain a qualified structural engineer to inspect the structural integrity of the building prior to beginning any work activities.

7.0 STANDARD LIMITATIONS

The work performed by PWL was conducted in accordance with generally accepted engineering or scientific practices current in this geographical area at the time the work was performed. No warranty is either expressed or implied by furnishing written reports or findings. The Client acknowledges that subsurface and concealed conditions may vary from those encountered or inspected. PWL can only comment on the environmental conditions observed on the date(s) the survey is performed. The work is limited to those materials or areas of concern identified by the Client or outlined in our proposal. Other areas of concern may exist but were not investigated within the scope of this assignment.

PWL makes no other representations whatsoever, including those concerning the legal significance of its findings, or as to other legal matters touched on in this report, including, but not limited to, ownership of any property, or the application of any law to the facts set forth herein. With respect to regulatory compliance issue, regulatory statutes are subject to interpretation and these interpretations may change over time. PWL accepts no responsibility for consequential financial effects on transactions or property values, or requirements for follow-up actions and costs.

The liability of PWL, or its staff, will be limited to the lesser of the fees paid or actual damages incurred by the Client. PWL will not be responsible for any consequential or indirect damages. PWL is only liable for damages resulting from negligence of PWL. All claims by the Client shall be deemed relinquished if not made within two years after last date of services provided.

Information provided by PWL is intended for Client use only. PWL will not provide results or information to any party unless disclosure by PWL is required by law. Any use by a third party of reports or documents authored by PWL or any reliance by a third party on or decisions made by a third party based on the findings described in said documents, is the sole responsibility of such third parties. PWL accepts no responsibility for damages suffered by any third party as a result of decisions made or actions conducted. No other warranties are implied or expressed.

8.0 CLOSURE

If you have any questions, please contact Jerry Botti at (250) 265-4232 or at jbotti@pinchinwest.com.

Authored by:

Pinchin West Ltd.

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35758Ar01

APPENDIX I
REFERENCES

1. Occupational Health and Safety Regulation (B.C. Reg. 296/97, as amended), under WorkSafe BC.
2. Safe Work Practices for Handling Asbestos, WorkSafe BC, 2012 Edition.
3. Hazardous Waste Regulation, BC Ministry of Environment. including amendments up to B.C. Reg. 261/2006, September 21, 2006.
4. Ozone Depleting Substances and Other Halocarbons Regulation, B.C. Reg. 220/2006, Environmental Management Act.
5. PCB Regulations, SOR/2008-273, Canadian Environmental Protection Act.
6. Lead-Containing Paint and Coatings, Preventing Exposure in the Construction Industry, Worksafe BC, June 2011.
7. Transportation of Dangerous Goods Regulations SOR/2008-34, Transportation of Dangerous Goods Act.
8. Federal Register, 40 CFR Part 745 Lead; Identification of Dangerous Levels of Lead; Final Rule, Environmental Protection Agency, January 5, 2001.
9. Mould Guidelines for the Canadian Construction Industry, Standard Construction Document CCA 82 – 2004, Canadian Construction Association

APPENDIX II
HAZARDOUS MATERIALS TESTING RESULTS

APPENDIX II-A
SUMMARY OF PRESUMED NON-ASBESTOS MATERIALS

Summary of Presumed Non-asbestos Materials

Material	Sample #(s)	Locations
Ceiling: Lay in ceiling tiles	Fibreglass, visually non-asbestos.	Location 1
Pipe/Duct: Insulation wrap	Visually non-asbestos (fibreglass or mineral fibre)	Throughout the building
Other: Insulation	Visually non-asbestos (wood chips)	Location 9
Other: Insulation	Visually non-asbestos (fibreglass or mineral fibre)	Throughout the building

APPENDIX II-B
ASBESTOS SAMPLING LOG

Asbestos Sampling Log / Homogeneous Materials

Homogeneous Material*	Sample No.	Locations
Floor: Brown vinyl floor tile	S01A-C	Location 1
Ceiling: Acoustic ceiling tile, texture (ACT01)	S02A,B	Location 1
Wall: Drywall joint compound	S03A-C	Location 1, 2
Floor: White/light pink vinyl sheet flooring	S04	Location 2
Other: Vermiculite insulation	S05A-C	Location 1, 2, 3
Other: Black mastic on roof	S06	Location 4
Floor: Beige/brown/black vinyl sheet flooring	S07	Location 5, 7, 8
Floor: Green vinyl floor tile	S08A-C	Location 6
Ceiling: Acoustic ceiling tile, 12x12, white (ACT02)	S09A,B	Location 5, 6, 7
Floor: Brown vinyl floor tile	S010A-C	Location 7
Structure: Brick mortar	S011	Location 10
Other: Clear window caulking	S012	Location 10

* A homogenous material is defined as material that is uniform in texture and appearance, was installed at one time, and is unlikely to consist of more than one type or formulation of material.

Positive sample results are highlighted in **yellow**.

APPENDIX II-C
ASBESTOS LABORATORY CERTIFICATE



Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 600/M4-82-020



NVLAP Lab Code: 200664-0

Customer: Pinchin West Ltd.
Suite 104, 1626 Richter Street
Kelowna BC V1Y 2M3

Attn: Jerry Botti
Darren Roper

Lab Order ID: 1415764

Analysis ID: 1415764_PLM

Date Received: 8/15/2014

Date Reported: 8/18/2014

Project: 607 Cliff Avenue, Enderby, BC

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S01A - A	Brown VFT, loc. 1	None Detected	10% Cellulose	90% Other	Tan Non Fibrous Heterogeneous
1415764PLM_1	tile				Dissolved
S01A - B	Brown VFT, loc. 1	None Detected	60% Cellulose	40% Other	Black, Brown Fibrous Heterogeneous
1415764PLM_22	felt/mastic				Teased, Dissolved
S01B - A	Brown VFT, loc. 1	None Detected	10% Cellulose	90% Other	Tan Non Fibrous Heterogeneous
1415764PLM_2	tile				Dissolved
S01B - B	Brown VFT, loc. 1	None Detected	60% Cellulose	40% Other	Black, Brown Fibrous Heterogeneous
1415764PLM_23	felt/mastic				Teased, Dissolved
S01C - A	Brown VFT, loc. 1	None Detected	10% Cellulose	90% Other	Tan Non Fibrous Heterogeneous
1415764PLM_3	tile; ashed				Dissolved
S01C - B	Brown VFT, loc. 1	None Detected	60% Cellulose	40% Other	Black, Brown Fibrous Heterogeneous
1415764PLM_24	felt/mastic				Teased, Dissolved
S02A	ACT01, textured, loc. 1	None Detected	85% Cellulose	15% Other	White, Orange Fibrous Heterogeneous
1415764PLM_4					Teased
S02B	ACT01, textured, loc. 1	None Detected	85% Cellulose	15% Other	White, Orange Fibrous Heterogeneous
1415764PLM_5					Teased

Disclaimer: Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommend that analysis of floor tiles, vermiculite, and/or heterogeneous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAL. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Estimated MDL is 0.1%.

Sharon Donald (31)

Analyst

Approved Signatory



Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 600/M4-82-020



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Date Received: 8/15/2014

Date Reported: 8/18/2014

Project: 607 Cliff Avenue, Enderby, BC

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S03A	DJC, wall, loc. 1	2% Chrysotile		98% Other	White Non Fibrous Homogeneous
1415764PLM_6					Crushed
S03B	DJC, wall, loc. 1	Not Analyzed			
1415764PLM_7					
S03C	DJC, wall, loc. 1	Not Analyzed			
1415764PLM_8					
S04 - A	White/light pink VSF, loc. 2	None Detected	70% Cellulose 10% Fiber Glass	20% Other	Tan, White Fibrous Heterogeneous
1415764PLM_9	vinyl backing				Teased
S04 - B	White/light pink VSF, loc. 2	None Detected	10% Cellulose	90% Other	Black Non Fibrous Homogeneous
1415764PLM_25	mastic				Dissolved
S06	Black mastic on roof, loc. 4	None Detected	15% Cellulose	85% Other	Black Non Fibrous Homogeneous
1415764PLM_10					Dissolved
S07	Beige/brown/black VSF, loc. 5	None Detected	70% Cellulose	30% Other	Gray, Black Fibrous Heterogeneous
1415764PLM_11	vinyl backing				Teased, Dissolved
S08A - A	Green VFT, loc. 6	None Detected	10% Cellulose	90% Other	Green Non Fibrous Heterogeneous
1415764PLM_12	tile				Dissolved

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By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 600/M4-82-020



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Lab Order ID: 1415764

Analysis ID: 1415764_PLM

Date Received: 8/15/2014

Date Reported: 8/18/2014

Project: 607 Cliff Avenue, Enderby, BC

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S08A - B	Green VFT, loc. 6	None Detected	70% Cellulose	30% Other	Black Fibrous Heterogeneous
1415764PLM_26	felt/mastic				Teased, Dissolved
S08B - A	Green VFT, loc. 6	None Detected	10% Cellulose	90% Other	Green Non Fibrous Heterogeneous
1415764PLM_13	tile				Dissolved
S08B - B	Green VFT, loc. 6	None Detected	70% Cellulose	30% Other	Black Fibrous Heterogeneous
1415764PLM_27	felt/mastic				Teased, Dissolved
S08C - A	Green VFT, loc. 6	None Detected		100% Other	Green Non Fibrous Heterogeneous
1415764PLM_14	tile - ashed				Ashed
S08C - B	Green VFT, loc. 6	None Detected	70% Cellulose	30% Other	Black Fibrous Heterogeneous
1415764PLM_28	felt/mastic				Teased, Dissolved
S09A	ACT02, 12x12, white, loc. 6	None Detected	85% Cellulose	15% Other	Tan, Black Fibrous Heterogeneous
1415764PLM_15					Teased
S09B	ACT02, 12x12, white, loc. 6	None Detected	85% Cellulose	15% Other	Tan, Black Fibrous Heterogeneous
1415764PLM_16					Teased
S010A - A	Brown VFT, loc. 7	None Detected	10% Cellulose	90% Other	Brown, Grayish Non Fibrous Heterogeneous
1415764PLM_17	tile				Dissolved

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Sharon Donald (31)

Analyst

Approved Signatory



Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 600/M4-82-020



NVLAP Lab Code: 200664-0

Customer: Pinchin West Ltd.
Suite 104, 1626 Richter Street
Kelowna BC V1Y 2M3

Attn: Jerry Botti
Darren Roper

Lab Order ID: 1415764

Analysis ID: 1415764_PLM

Date Received: 8/15/2014

Date Reported: 8/18/2014

Project: 607 Cliff Avenue, Enderby, BC

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
S010A - B	Brown VFT, loc. 7	None Detected	70% Cellulose	30% Other	Black Fibrous Heterogeneous
1415764PLM_29	felt/mastic				Teased, Dissolved
S010B - A	Brown VFT, loc. 7	None Detected	10% Cellulose	90% Other	Brown, Grayish Non Fibrous Heterogeneous
1415764PLM_18	tile				Dissolved
S010B - B	Brown VFT, loc. 7	None Detected	70% Cellulose	30% Other	Black Fibrous Heterogeneous
1415764PLM_30	felt/mastic				Teased, Dissolved
S010C - A	Brown VFT, loc. 7	None Detected	10% Cellulose	90% Other	Brown, Grayish Non Fibrous Heterogeneous
1415764PLM_19	tile; ashed				Ashed
S010C - B	Brown VFT, loc. 7	None Detected	70% Cellulose	30% Other	Black Fibrous Heterogeneous
1415764PLM_31	felt/mastic				Teased, Dissolved
S011	Brick mortar, loc. 10	None Detected		85% Other 15% Quartz	Gray Non Fibrous Heterogeneous
1415764PLM_20					Crushed
S012	Clear window caulking, loc. 10	None Detected		100% Other	Transparent Non Fibrous Homogeneous
1415764PLM_21					Ashed

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Sharon Donald (31)

Analyst

Approved Signatory



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

August 22, 2014

Pinchin West Ltd.
202-451 Adams Road
Kelowna BC V1X 7R9

Attention:	D. Roper
Lab Reference No.:	b111485
Client Project Name:	City of Enderby, 607 Cliff Avenue, Enderby, BC
Client Project No.:	35758A
Date Received:	August 15, 2014
Date Analyzed:	August 22, 2014
Analyst(s):	K. Bertuzzi
# Samples submitted:	3
# Phases analyzed:	1

Methods of Analysis:

EPA 600/R-93/116 - Method for the Determination of Asbestos in Bulk Building Materials dated July, 1993

Bulk samples are checked visually and scanned under a stereomicroscope. Slides are prepared with representative portions of material and observed under a Polarized Light Microscope (PLM) at magnifications of 40X, 100X or 400X as appropriate. Asbestos fibres are identified by a combination of morphology, colour, refractive index, extinction, sign of elongation, birefringence and dispersion staining colours. A visual estimate is made of the percentage of asbestos present. A reported concentration of less than (<) the regulatory threshold (see chart below) indicates the presence of confirmed asbestos in trace quantities, limited to only a few fibres or fibre bundles in an entire sample. This method complies with all provincial regulatory requirements (NIOSH 9002, I.R.S.S.T. 244-3). Multiple phases within a sample are analyzed and reported separately.

All bulk samples submitted to this laboratory for asbestos analysis are retained for a minimum of three months. Samples may be retrieved, upon request, for re-examination at any time during that period.

Pinchin Ltd. is accredited by the National Institute of Standards and Technology, National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101270-0) for the 'EPA-600/M4-82-020: Interim Method for the Determination of Asbestos in Bulk Insulation Samples' and meets all requirements of ISO/IEC 17025:2005.

This report relates only to the items tested. If you have any questions, please feel free to contact me.

Yours truly,

Digitally Signed by Kendra Bertuzzi
kbertuzzi@pinchin.com
Laboratory Manager, Environmental Asbestos Services
Pinchin Ltd.

NOTE: *This test report may not be reproduced, except in full, without the written approval of the laboratory. The client may not use this report to claim product endorsement by NVLAP or any agency of the U.S. Government. This report is valid only when signed in blue ink by the analyst and the laboratory manager. Vinyl asbestos floor tiles contain very fine fibres of asbestos and may be missed by some laboratories using the PLM method. Internal verification studies performed by Pinchin indicate that the chance of missing asbestos in floor tiles is no higher than about 2%. The vinyl tile study and laboratory documentation on measurement uncertainty are available upon request. The analysis of dust samples by PLM cannot be used as an indicator of past or present airborne asbestos fibre levels.*



Pinchin Ltd. Asbestos Laboratory Certificate of Analysis

Client Project Name: City of Enderby, 607 Cliff Avenue, Enderby, BC
Client Project No.: 35758A
Prepared For: D. Roper

Lab Reference No.: b111485
Date Analyzed: August 22, 2014

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
S0005A Vermiculite insulation, loc. 3	Homogeneous, grey, beige and brown, loose particulate, micaceous material.	Libby Amphibole Asbestos	Confirmed Vermiculite > 75%
Comments:	This sample originated from Libby Montana (a mine known to be contaminated with amphibole asbestos and is sold under the brand name Zonolite) and was confirmed in our laboratory to contain asbestos fibres. The laboratory does not report a percentage due to the variable asbestos content of the vermiculite from bag to bag or even between sampling locations in the same installation. The overall percentage of asbestos in Libby Vermiculite has been shown to range up to 6% (Atkinson et al. 1982; Amandus et al. 1987). Pinchin recommends that once the material is confirmed to be Libby Zonolite, it be treated as an asbestos containing material.		
S0005B Vermiculite insulation, loc. 3			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		
S0005C Vermiculite insulation, loc. 3			Not Analyzed
Comments:	Analysis was stopped due to a previous positive result.		

REVIEWED BY

ANALYST

APPENDIX II-D
LEAD LABORATORY CERTIFICATE



Analysis for Lead Concentration in Paint Chips

by Flame Atomic Absorption Spectroscopy
EPA SW-846 3rd Ed. Method No. 3050B/Method No. 7420



Customer: Pinchin West Ltd.
Suite 104, 1626 Richter Street
Kelowna BC V1Y 2M3

Attn: Darren Roper
Jerry Botti

Lab Order ID: 1415758

Analysis ID: 1415758_PBP

Date Received: 8/15/2014

Project: 607 Cliff Avenue Enderby, BC

Date Reported: 8/19/2014

Sample ID	Description	Mass (g)	Analytical Sensitivity (% by weight)	Concentration (% by weight)
Lab Sample ID	Lab Notes			
L01	Pink wall paint, loc 1	0.0646	0.002%	0.006%
1415758PBP_1				
L02	White wood paint above ceiling, loc. 1	0.0569	0.002%	0.27%
1415758PBP_2				
L03	Off white wall paint, loc. 6	0.0721	0.002%	0.34%
1415758PBP_3				
L04	Brown exterior trim paint, loc. 10	0.0590	0.002%	0.13%
1415758PBP_4				
L05	White exterior/exterior trim paint, loc. 10	0.0751	0.002%	0.39%
1415758PBP_5				

The quality control samples run with the samples in this report have passed all AIHA required specifications unless otherwise noted. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. This report may not be used by the client to claim product endorsement by AIHA or any other agency of the U.S. government. (R.L. = 0.01 wt.%)

Melissa Sharps (5)

Analyst

Scientific Analytical Institute, Inc. 4604 Dundas Dr. Greensboro, NC 27407 (336) 292-3888

Laboratory Director

APPENDIX II-E
PCB LABORATORY CERTIFICATE

Certificate of Analysis

Darren Roper

Pinchin West Ltd. (Kelowna, BC)
104 - 1626 Richter Street, Kelowna, BC, V1Y 2M3

Printed: Aug 22, 2014

Special Notes: Project Name: 607 Cliff Avenue, Enderby, BC - (Project No: 35758A)

1 solid sample was submitted for the following analysis from 607 Cliff Avenue, Enderby, BC

Date Sampled: Aug 14, 2014

Date Tested: Aug 21, 2014

Sampled by: Darren Roper

Report Number: 14-1280

Sample #	Analyte	Result	Units	MDL	Comments	Technique / Test Method
1	<u>Sample ID.:</u> PCB01 - Clear Window Caulking, Loc 10					
	PCBs in Solid	<0.5	mg/kg	0.5		LAB-M06 (EPA 3550C/8082A modified)
	Comment(s)	-	N/A	N/A	"mg/kg" is equivalent to "ppm"	N/A

Results relate only to the samples tested above, as received.

Approved By:

Son C.H. Le, B. Eng. (Chem.)
Lab Manager
Phone: (519) 740-1333 Ext.: 230
Fax: (519) 740-2320
Email: SonLe@aevitas.ca

The Analytical Chemistry Laboratory of Aevitas Inc. (Ayr) is accredited for specific tests in accordance with the recognised International Standard ISO/IEC 17025:2005 by the Canadian Association for Laboratory Accreditation (CALA) Inc. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009). The laboratory quality management system of Aevitas Inc. (Ayr) meets the principles of ISO 9001:2008.

All Analytical data is subject to uncertainty which, may vary with sample matrices, sample preparation techniques and instrumental parameters. As a general guideline, uncertainty may be expressed as approximately +/- 50% of the reported value at or near the Method Detection Limit (MDL) and +/-10% or less, of the reported result that is greater than 10 times the MDL. Method Detection Limits are defined as approximately 3 times the standard deviation value (at 99% confidence level), which is obtained from replicate analysis of a low-level standard as per the Ontario MOE - MISA Protocol for the Sampling and Analysis of Industrial / Municipal Wastewater (1999). MDL determination is based on undiluted samples with relatively low matrix interferences. Where dilutions are required, the reported MDL value will be scaled proportionally.

All testing procedures follow strict guidelines and quality assurance / quality control (QA/QC) protocols. QA/QC data is available for review at any time upon client's request.

APPENDIX III
DRAWINGS

PROJECT NORTH



LEGEND

- (XX) LOCATION NUMBER
- ASBESTOS BULK SAMPLE
- ⊙ LEAD PAINT SAMPLE
- PCB BULK SAMPLE

ASBESTOS CONTAINING MATERIALS

- DJC DRYWALL JOINT COMPOUND
- VERM VERMICULITE INSULATION

OTHER HAZARDOUS MATERIALS

- LBP LEAD BASED PAINT



CLIENT:

CITY OF ENDERBY
 PO BOX 400
 619 CLIFF AVENUE
 ENDERBY, BC

DRAWING NAME:

HAZARDOUS MATERIALS
 ASSESSMENT
 607 CLIFF AVENUE
 ENDERBY, BC

SCALE:
NTS

PROJECT NO:
35758A

DATE:
AUGUST 2014

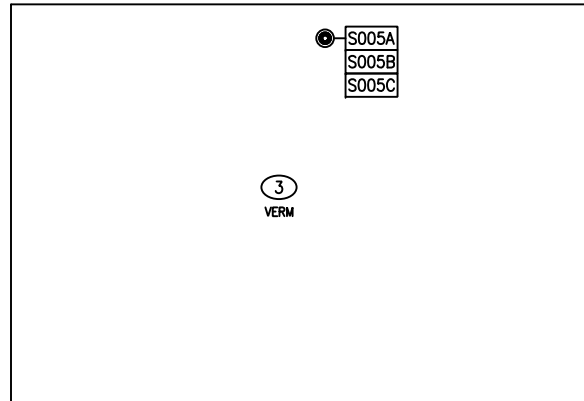
REVISION NO:

DRAWN BY:
PK

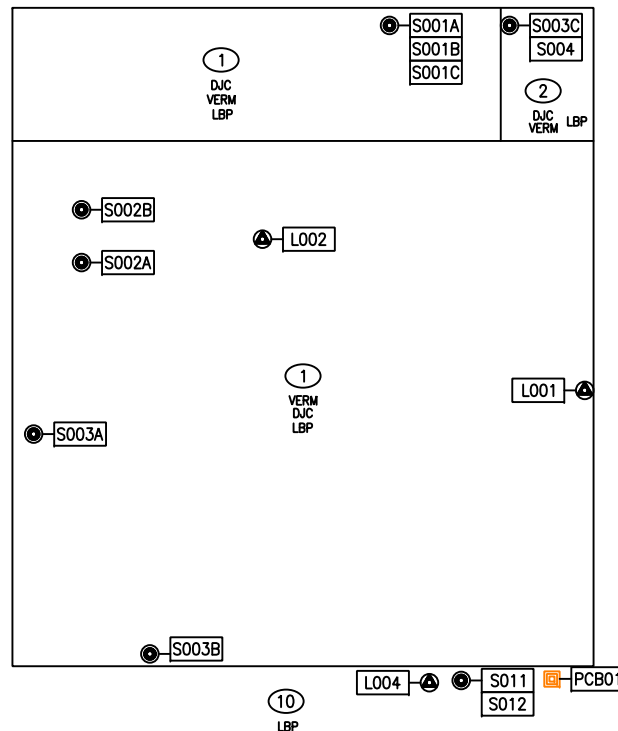
DRAWING NO:

CHECKED BY:
DS

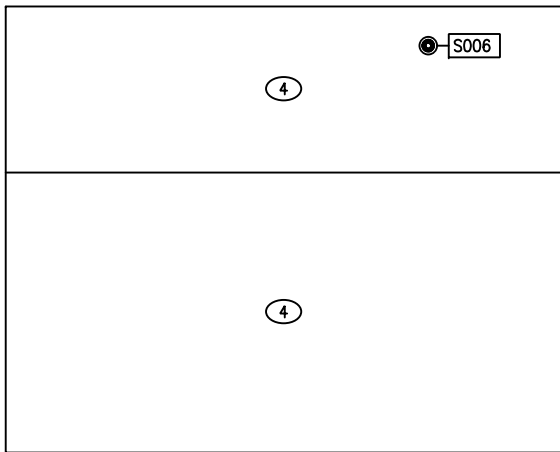
1 of 2



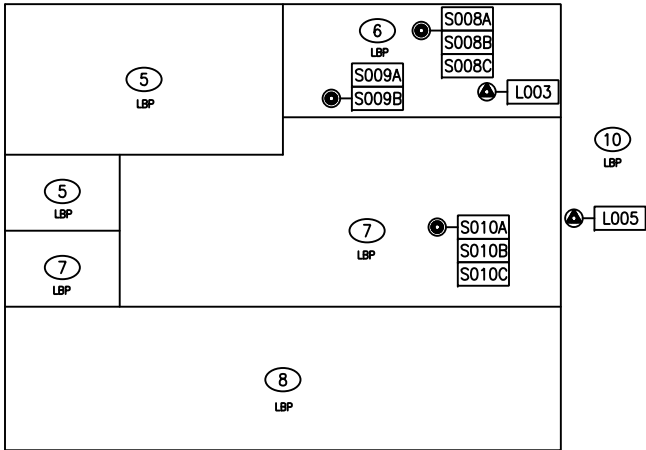
BACK ATTIC



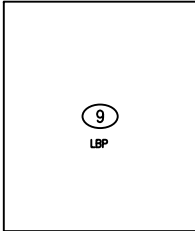
MAIN FLOOR/GROUND FLOOR



ROOF



SECOND FLOOR



FRONT ATTIC

PROJECT NORTH



LEGEND

- (XX) LOCATION NUMBER
- ASBESTOS BULK SAMPLE
- ⊙ LEAD PAINT SAMPLE
- PCB BULK SAMPLE

ASBESTOS CONTAINING MATERIALS

- DJC DRYWALL JOINT COMPOUND
- VERM VERMICULITE INSULATION

OTHER HAZARDOUS MATERIALS

- LBP LEAD BASED PAINT



CLIENT:
 CITY OF ENDERBY
 PO BOX 400
 619 CLIFF AVENUE
 ENDERBY, BC

DRAWING NAME:
 HAZARDOUS MATERIALS
 ASSESSMENT
 607 CLIFF AVENUE
 ENDERBY, BC

SCALE: NTS	PROJECT NO: 35758A
DATE: AUGUST 2014	REVISION NO:
DRAWN BY: PK	DRAWING NO: 2 of 2
CHECKED BY: DS	

APPENDIX IV
PHOTOGRAPHS



Photo 1: Drywall applied with asbestos-containing drywall joint compound.



Photo 2: Asbestos-containing vermiculite insulation.



Photo 3: Lead-based brown exterior trim paint.



Photo 4: Lead-based white exterior/trim paint.



Photo 5: Light tubes contain mercury vapour and light ballasts contains PCBs.



Photo 6: View of the main floor of the building.



Photo 7: View of the second floor of the building.



Photo 8: Visually non-asbestos fibreglass insulation.



Photo 9: Visually non-asbestos fibreglass ceiling tile.

APPENDIX V
SPECIFIC METHODOLOGIES

ASBESTOS-CONTAINING MATERIALS (ACMs)

Each room or area was categorized into system groups and was further sub-categorized into building materials suspected to contain asbestos as follows:

Systems and Materials	
Floor (e.g., floor tiles, vinyl sheet flooring)	Pipe (e.g., pipe insulation, insulating cement)
Ceiling (e.g., texture coat, ceiling tiles, drywall)	Duct (e.g., insulating cement)
Wall (e.g., drywall, plaster)	Mechanical (e.g., pre-formed insulation, insulating cement)
Structure (e.g., fireproofing, thermal insulation)	Miscellaneous (e.g., debris, cement board)

A separate set of samples was collected of each type of homogenous material suspected to contain asbestos. A homogenous material is defined as material that is uniform in texture and appearance, was installed at one time, and is unlikely to consist of more than one type or formulation of material. Samples were collected at a rate that was in compliance with the requirements of local regulations and guidelines. A sample log of homogeneous materials has been included in Appendix II-B.

The approximate quantity, location and sample locations of suspect ACMs were recorded. Available information on the phases of the construction/renovation and as-built drawings was utilized. Historical information on the use of asbestos in building materials and time frames for the likely presence of asbestos in these materials was taken into consideration.

All bulk samples were submitted to a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory for analysis. The asbestos analysis was completed using a stop positive approach. Stop positive means samples in a homogenous material sample set were analyzed consecutively and when a sample was identified as asbestos-containing, further sample analysis within that sample set was not completed.

Table A - Definitions of Asbestos

Jurisdiction	Percent of asbestos in material
British Columbia	0.5% or any amount if vermiculite
Alberta	Asbestos-containing materials are not defined as a percentage, but rather when there is a potential for asbestos release when a material is disturbed. The generally accepted threshold is 1%, however, materials that contain less than 1% asbestos would need to be assessed on a case-by-case basis.
Saskatchewan	1% for non-friable and 0.5% for friable or any amount if vermiculite.* *Non-friable materials may be left in place during building demolition as long as it is less than 1% of the overall construction waste.
North West Territories	1%
Federal	1%

LEAD IN PAINT

Paints were either tested with a direct reading X-ray Fluorescence Analyzer (XRF) or by bulk sampling and laboratory analysis. Health Canada's Surface Coating Regulation limits the amount of lead in paint to 90 mg/kg with the exception of exterior coatings used for anti-corrosion purposes.

LEAD PRODUCTS

Lead building products (e.g., batteries, lead sheeting, flashings, glazings, pointing mortars) are assumed to contain lead and sampling for laboratory analysis was not performed.

CRYSTALLINE SILICA

Building materials suspected of containing crystalline silica (e.g., concrete, cement, tile, brick, masonry, mortar) were identified by knowledge of current and historic applications and visual inspection only. Sampling of these materials for laboratory analysis of crystalline silica content was not performed.

MERCURY

Building materials/products/equipment (e.g., thermostats, barometers, pressure gauges, light tubes), suspected to contain mercury were identified by visually inspection only. Sampling of these materials for laboratory analysis of mercury content was not performed.

POLYCHLORINATED BIPHENYLS (PCBs)

Light ballast and wet transformers suspected to contain PCB's were determined based on the age of the building, a review of maintenance records and examination of labels on equipment where present and accessible. Light ballasts and wet transformers installed prior the manufacture end date (1980) of PCBs have been detailed in Section 4.0 of this report. Any light ballasts and wet transformers are presumed to be non-PCB if installed after the manufacture end date (1980). Dry transformers are presumed to be free of fluids and hence non-PCB. Any samples of caulking or paint collected were analyzed in accordance with EPA 8082. The criteria for PCB in solids is 50 ppm and for liquids is 2 ppm.

HALOCARBONS

Air conditioning units, chillers and fire suppression systems (fixed and portable) suspected of containing halocarbons was determined by visual inspection of manufactures labels and maintenance records only.

MOULD

Building materials suspected of mould growth were determined through visual observation only. Suspect visible mould was quantified.