

BA Bersch & Associates Ltd.

City of Saskatoon #3 – 450 Ontario Avenue Asbestos Survey Report



March 2016

**Prepared For: City of Saskatoon – Support Services
City Yards
222 3rd Avenue North, Saskatoon, SK. S7K 0J5
Attn: Lana Dodds**

**Prepared By: Bersch & Associates Ltd.
Project No: B67SRC31**

1.0 EXECUTIVE SUMMARY

The survey of the Yards Stores building located at #3 - 450 Ontario Avenue in Saskatoon, Saskatchewan entailed the inspection of all accessible suspect asbestos containing material (ACM) located throughout the facility. Materials inspected included: mechanical insulating material, transite cement board, clay block wall/mortar, insulation, drywall, vinyl sheet floor covering, floor tile, ceiling tile, ceiling/wall plaster and vermiculite insulation.

Bulk sample analysis results indicate the presence of “Chrysotile” asbestos within the Yard Stores Building located in Saskatoon, SK. Please refer to **Appendix I for Bulk Sample Analysis** results. Asbestos was detected in the following forms throughout the facility:

- **Vinyl Asbestos Floor Tile** is located in the landscaping office and the storage room to the west.
- **Lineal Pipe Insulation** is located above the ceiling tile in the storage room and landscaping office.
- **Pipe Fitting Mud Compound** is located above the ceiling tile in the storage room and landscaping office along the lineal pipeline in conjunction with the lineal asbestos containing pipeline insulation.
- **Transite Asbestos Cement Board** is located on the ceiling of Service Bay 2 – the bay immediately to the south of the stores area.

Throughout the survey of the building, the Asbestos Containing Materials were assessed and given a Priority Rating of One, Two or Three, with Priority One being the items requiring the most immediate attention.

The recommended action to be implemented in reference to the ACM identified is Management. **Please refer to section 5 Asbestos Abatement Discussion** for definitions. It should be noted that the recommendation of “Management” as part of the asbestos action plan is based upon the premise that renovations are not scheduled throughout the area that would impact the asbestos containing material present. *Prior to any renovation/demolition activity, a destructive investigation is recommended to identify any inaccessible ACM that is physically concealed or isolated in areas such as enclosed wall/ceiling/floor cavities and pipe chases.*

NOTE: all areas, which are inaccessible at this time shall be considered to contain asbestos material until bulk sampling determines otherwise. Destructive Sampling of all types of suspect materials was not performed during this Survey. Materials such as the following, may require more extensive destructive testing to determine the presence/absence of Asbestos:

- **Vermiculite Insulation** - Potential locations for this type of insulation are within Attics, Walls and Block Wall Cavities.
- **Drywall Mud Compound** - at joints and nail/screw holes on drywall
- **Vinyl Composite Floor Tile** – various layers may be present beneath the existing floor covering.

Bersch & Associates Ltd. implemented the use of doorjamb labels that are applied to all the doorjambs of the rooms containing asbestos within the facility. This permits anyone accessing the room to easily identify the ACM present without having to reference the written report. Legends providing explanation of the abbreviations used on doorjambs were placed on the backside of all maintenance/custodial doors within the facility. Employees and contractors will use the legend as a reference to identify ACM within the areas they are working. Refer to Appendix II to view the legend.

2.0 INTRODUCTION

Bersch & Associates Ltd. was retained by the City of Saskatoon to conduct an Asbestos Survey and Hazard Assessment of the Yards Stores Building located in Saskatoon, SK. The survey entailed the inspection of all accessible areas of the facility; including ceiling spaces and pipe chases. The purpose of the survey was to locate, identify and assess the condition of all Asbestos Containing Materials (ACM) located throughout the facility. This report gives a detailed account of the inspection results and our firm's recommendations on control options to be implemented to ensure the facility in compliance with the Province of Saskatchewan Occupational Health and Safety Act and Regulations. A review of this report shall be conducted with all trades that are entering the facility to perform maintenance or renovation activity. This will ensure they are familiar with the types and locations of asbestos-containing materials present and prevent any uncontrolled disturbance and/or possible exposure to asbestos.

3.0 METHODOLOGY

Bersch & Associates Ltd. conducted the survey of the Yards Stores Building located in Saskatoon, SK. The primary documents for guidance and criteria in this survey were the Province of Saskatchewan "Occupational Health and Safety Act and Regulations, 1996", Province of Saskatchewan "Managing Asbestos", and the U.S. Environmental Protection Agency "Guidance for Controlling Asbestos Containing Materials in Buildings". The USEPA document identifies factors associated with the "condition" and the "potential for disturbance or erosion" of asbestos containing materials (ACM). These factors help to determine potential for exposure to ACM and were used to make a qualitative evaluation of the material. It should be noted that the recommendation of "Management" Asbestos Abatement Action is based upon the premise that renovations are not scheduled in that area that will require disturbing or violating the asbestos containing material. In the event that renovations are scheduled that impact upon the areas of asbestos containing material then pre-removal of the asbestos containing materials may be necessary.

In total, nineteen (19) bulk samples of suspect asbestos-containing materials were collected throughout the facility. "Chrysotile" asbestos was identified within four (4) of the samples collected. Refer to Appendix I for a copy of the Bulk Sample Analysis Report. All bulk samples collected were analyzed by Bersch & Associates Ltd. laboratory in accordance with the current USEPA 600/R-93/116 Method for the analysis of asbestos in building materials using polarized

light microscopy and dispersion staining techniques. The detection limit of this method is listed as <1% by volume.

4.0 RECOMMENDATIONS:

Throughout the survey of the Yard Stores Building the Asbestos Containing Materials were assessed and given a Priority Rating of One, Two or Three, with Priority One being the items requiring the most immediate attention. As a result, Priority Two & Three Items were identified. Future planning should begin to address these asbestos containing materials as per the recommendations provided below.

A. LANDSCAPING OFFICE

1.) Vinyl Asbestos Floor Tile

1' X 1' Vinyl Asbestos Floor Tile was identified within the office. The office is located in the northeast corner of the building. The tile is off-white with dark gray streaks. Management of the floor tile is recommended.

PRIORITY:	THREE
CONDITION:	MODERATE / GOOD
POTENTIAL FOR DISTURBANCE:	LOW
ACTION:	MANAGE

2.) Lineal Pipeline Insulation and Pipeline Fitting Mud Compound

Asbestos containing Lineal Pipeline Insulation and Fitting Mud Compound was identified throughout the ceiling space. Management of the material is the planned activity, although, the pipeline is redundant therefore the owner may consider the removal of the pipeline and asbestos containing insulation at some future date.

PRIORITY:	THREE
CONDITION:	MODERATE
POTENTIAL FOR DISTURBANCE:	LOW TO MODERATE
ACTION:	MANAGE

B. STORAGE ROOM TO THE WEST OF THE LANDSCAPING OFFICE

1.) Vinyl Asbestos Floor Tile

1' X 1' Vinyl Asbestos Floor Tile was identified within the storage room. The room is located along the north side of the building. The tile is off-white with dark gray streaks. Management of the floor tile is recommended.

PRIORITY:	THREE
CONDITION:	MODERATE / GOOD
POTENTIAL FOR DISTURBANCE:	LOW
ACTION:	MANAGE

2.) Lineal Pipeline Insulation and Pipeline Fitting Mud Compound

Asbestos containing Lineal Pipeline Insulation and Fitting Mud Compound was identified throughout the ceiling space. Management of the material is the planned activity, although, the pipeline is redundant therefore the owner may consider the removal of the pipeline and asbestos containing insulation at some future date.

PRIORITY:	THREE
CONDITION:	MODERATE
POTENTIAL FOR DISTURBANCE:	LOW TO MODERATE
ACTION:	MANAGE

C. SERVICE BAY 2

1.) Transite Asbestos Cement Board

Transite Asbestos Cement Board is located on the ceiling of Service Bay 2 – the bay immediately to the south of the stores area. Management of the board is recommended.

PRIORITY:	THREE
CONDITION:	MODERATE / GOOD
POTENTIAL FOR DISTURBANCE:	LOW
ACTION:	MANAGE

5.0 ASBESTOS ABATEMENT DISCUSSION

Asbestos is a known carcinogen and is listed in the Province of Saskatchewan under the Occupational Health and Safety Appendix, Part V as a Hazardous Chemical Substance and any release of asbestos fibres into the atmosphere creates a potential health hazard. Although the mechanism and epidemiology of asbestos carcinogenesis is not yet well defined, accumulating evidence suggests the significance of exposure at even very low fibre concentrations and hence human exposure should be kept to a minimum. It should be noted however that asbestos is a natural mineral and a measurable background concentration can be detected in any location sampled (inside buildings, outside buildings, urban, rural, etc.). The recommendations of the report are therefore intended to keep the potential exposure to an absolute minimum with the knowledge that a zero exposure is not possible.

Asbestos containing materials have been used in a wide variety of applications. Of particular concern, is the group of so called friable products. A friable product is one that can be crumbled or reduced to powder or smaller fragments by hand pressure. Publications from the U.S.E.P.A. as early as 1977 have indicated the potential hazard of asbestos exposure in buildings containing these friable products. The two main uses of friable asbestos products are as spray insulation (thermal, acoustic or fireproofing) on deck and/or beams or as thermal insulation on piping or mechanical equipment. A large amount of non-friable asbestos-containing materials have also been used in building construction such as asbestos cement board and asbestos containing vinyl flooring.

The mere presence of a friable asbestos containing material does not imply that there is an actual presence of elevated airborne fibre. As numerous studies have indicated, elevated asbestos fibre levels are generally found when settled dust or the actual asbestos containing material itself is disturbed by maintenance, renovation, inadvertent contact or vibration. The factors considered in the Environmental Protection Agency (USEPA) exposure assessment (condition of material, water damage, activity, movement, exposed surface area, accessibility, friability and presence in an air stream) often give some indication of the likelihood of fibre release but are not in any way definitive in determining whether a hazard exists or not. That is, even if the most friable product exists in a building, elevated fibre levels will not likely occur unless there is some disturbance by physical contact, vibration or an air stream.

There are four possible approaches to control exposure to airborne asbestos once a friable material is identified in a building. These methods briefly are as follows:

- A) **Removal** - Asbestos material is removed and disposed of by burial and replaced by non-asbestos materials.
- B) **Encapsulation** - Asbestos material is coated with a bridging or penetrating sealant.
- C) **Enclosure** - Asbestos containing materials are separated from the building environment by barriers such as suspended ceilings or cladding materials.

D) Deferred Action or Management and Custodial Control - The Province of Saskatchewan Human Resources, Labor and Employment Branch under the Occupational Health and Safety Regulations publish a document outlining “The Management of Asbestos”. In the guide for compliance, an action plan is outlined for management of the asbestos materials identified and in summary is:

1. Identification, which has been accomplished by this report.
2. Development of Written Handling Procedures for maintenance personnel or often arrangements are made for a qualified contractor to conduct the necessary removal or spot maintenance prior to the regular staff conducting maintenance.
3. Asbestos Abatement Awareness and Process Training if the regular maintenance personnel are required to conduct asbestos related activities.
4. Inspection on regular basis is conducted to determine the ongoing condition of the material. Sask. Occupational Health & Safety Regulations require an “annual” inspection of all “friable” asbestos materials by a competent person.

In the event renovations or maintenance is performed within areas containing asbestos materials, written procedures must be developed to conduct the activity or prior removal if the situation warrants.

6.0 REFERENCES

- 1 Province of Saskatchewan “The Occupational Health and Safety Act and The Occupational Health and Safety Regulations” Office Consolidation, January 1996.
- 2 Province of Saskatchewan Human Resources, Labor, and Employment “The Management of Asbestos” January, 1991.
- 3 USEPA, 1985. U.S. Environmental Protection Agency, "Guidance for Controlling Asbestos-Containing Materials in Buildings". Washington, DC: Office of Toxic Substances, USEPA.
- 4 Midwest Centre for Occupational Health & Safety St. Paul’s, Minnesota – Asbestos Training for Inspectors & Management Planners
- 5 McCrone Research Institute Course Hayward California " Asbestos Identification"
- 6 Environment Management and Protection Act, Saskatchewan Environment, October 2002
- 7 Hazardous Substances and waste Dangerous Goods Regulations, Saskatchewan Environment, April 1989

APPENDIX I

BULK SAMPLE ANALYSIS REPORT

BERSCH & ASSOCIATES LTD.

August 6, 2015

City of Saskatoon – Support Services
222 3rd Avenue North
Saskatoon, Sk.
S7K 0J5

ATTENTION: Lana Dodds

SUBJECT: Bulk Sample Analysis Report

Please find attached the laboratory results for the bulk analysis of the samples collected throughout the Yard Stores Building located at #3 – 450 Ontario Avenue in Saskatoon, SK. The samples were analyzed in our laboratory for the identification of asbestos.

The results for the bulk samples were obtained by examination in accordance with the current USEPA 600/R-93/116 Method for the analysis of asbestos in building materials using polarized light microscopy and dispersion staining techniques. The detection limit of this method is listed as less than 1% by volume.

This test report relates only to the materials sent for examination and any use or extension of the information by the client of these results is the responsibility of the client. If any questions arise on the results of the attached information, please contact me at 306.222.7477. Thank you for this opportunity of service!

Sincerely,



Brad Berschiminsky
Bersch & Associates Ltd.
File: B67BLG23

Bersch & Associates Ltd.

B67BAF19

Box 3568

Humboldt, Sask. S0K 2A0

BULK SAMPLE ANALYSIS REPORT**Project No: B67.15****Client: City of Saskatoon - Support Services****Contact: Lana Dodds****Location: Yards Stores****#3 - 450 Ontario Avenue, Saskatoon, SK.**

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
1	19-Jun-15	Bay 2 - Clay Block Wall Mortar	No Asbestos Detected		WB
2	19-Jun-15	Bay 2 - Transite Board On Ceiling	Chrysotile	40%	WB
3	19-Jun-15	Bay 2 - Clay Block Wall	No Asbestos Detected		WB
4	19-Jun-15	Service Bay - Interior Wall Plaster	No Asbestos Detected		WB
5	19-Jun-15	Service Bay - Lineal Pipeline Insulation Along West Wall	No Asbestos Detected		WB
6	19-Jun-15	Service Bay - Exterior Wall Plaster	No Asbestos Detected		WB
7	19-Jun-15	Service Bay - Insulation Above Drywall	No Asbestos Detected		WB
8	19-Jun-15	Service Bay - Drywall	No Asbestos Detected		WB

Bersch & Associates Ltd.

B67BAF19

Box 3568

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NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
9	19-Jun-15	Yard Stores Bathroom - Sheet Flooring Yellow Square Pattern	No Asbestos Detected		WB
10	19-Jun-15	Yard Stores - Damaged Lineal Pipe Insulation Along Upper West Wall	Chrysotile	70%	WB
11	19-Jun-15	Yard Stores North Storage Office - 1' x 1' Floor Tile Off-White With Dark Gray Streak	Chrysotile	1-5%	WB
12	19-Jun-15	Yard Stores Back Storage - 2' x 4' Ceiling Tile 3-Pin Hole Pattern	No Asbestos Detected		WB
13	19-Jun-15	Yard Stores Back Storage - Plaster Above Suspended Ceiling	No Asbestos Detected		WB
14	23-Jul-15	Yard Stores Back Storage - Pipefitting Compound In Northwest Corner	Chrysotile	60%	WB
15	23-Jul-15	Yard Stores Back Storage - Plaster Skim Coat South Wall Adjacent Room Entry	No Asbestos Detected		WB

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B67BAF19

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BULK SAMPLE ANALYSIS REPORT**Project No: B67.15****Client: City of Saskatoon - Support Services****Contact: Lana Dodds****Location: Yards Stores****#3 - 450 Ontario Avenue, Saskatoon, SK.**

NO.	DATE	SAMPLE INFORMATION	ASBESTOS	%	ANALYST
16	23-Jul-15	Yard Stores Back Storage - Plaster Base Coat South Wall Adjacent Room Entry	No Asbestos Detected		WB
17	23-Jul-15	Yard Stores - Service Bays - Plaster Adjacent Furnaces	No Asbestos Detected		WB
18	23-Jul-15	Yard Stores - Bay 2 Storage - Vermiculite In Upper Northeast Corner	No Asbestos Detected		WB

APPENDIX II

Asbestos Building Materials Legend

Bersch & Associates Ltd.

Asbestos Identification Program

AT	Acoustical Ceiling Tile
CB	Cement Board
CP	Cement Pipe
CT	Counter Top
DC	Drywall Taping Compound
FH	Fume Hood
FS	Firestop
FD	Fire Damper
GT	Gasket
HD	Heat Deflector
MI	Mechanical Duct Insulation
PF	Pipeline Fittings
LP	Lineal Pipe Insulation
PL	Plaster
SF	Spray-Applied Fireproofing
TC	Textured Ceiling
TW	Thermal Wrap / Tape
VF	Vinyl Sheet Floor
VT	Vinyl Asbestos Floor Tile
VM	Vermiculite
VI	Vessel / Boiler / Tank Insulation

Bersch & Associates Ltd.
Asbestos ID Program



Other: _____