



Addendum No. 2

Date: May 28th 2022
Location: Lethbridge

Project #: 20-078
Project Name: CFIA Lethbridge re-roofing

Addendum No.

This addendum forms part of the tender documents and modifies them as here-in stated. The following sections of the drawings and specifications have been modified.

Clarifications:

- 1 For glazing type refer to specification section 08 80 00. 2.1.2.1.
- 2 Due to expected supply chain issues involving Aluminum extrusions project will use a phased approach. Phase 1 roofing commencing in 2022 Phase 2 skylights commencing in 2023. It acceptable to start on the skylight replacement before 2023 The GC should have the flexibility to schedule work according to resources and material availability within a reasonable weather tolerance. The GC may remove what can be re-installed from a weather seal perspective by end of shift on any given day. All activities are to be coordinated with CFIA for operational requirements.
- 3 Is there an asbestos report that can be provided? We are wondering about the skylight caulking as well as the drywall mud. If not, are we to include abatement in our price.
Refer to Attached “Asbestos Survey CFIA Facility: Lethbridge Alberta, Final”, dated March 2018, prepared by KGS Group.
- 4 Project completion period to be revised: **Substantial Completion on or before March 31st, 2024**

Specifications

- 1 Section 07 62 00 Sheet Metal Flashings and Trim
Delete 3.3 Eaves Troughs and Downspouts
Intent is to reuse existing gutters and downspouts

Attachment: Asbestos report

End of Addendum No.2 – May 31st 2022

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**ASBESTOS SURVEY
CFIA FACILITY: LETHBRIDGE
ALBERTA**

FINAL

KGS Group 17-0006-013
March 2018

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EXECUTIVE SUMMARY

Kontzamanis Graumann Smith MacMillan Inc.(KGS Group) was contracted by Public Services and Procurement Canada Environmental Services (PSPC) on behalf of the Canadian Food Inspection Agency (CFIA) to conduct an Asbestos Survey and prepare an Asbestos Management Plan, if required, for the CFIA Facility in Lethbridge, Alberta. The Asbestos Survey was completed on February 5 to 7, 2018.

The original scope of services included completing an Asbestos Survey at the following buildings at the CFIA Lethbridge Facility:

Building Number	Description	Floor Area (m ²)	Construction Date
014990	Main Laboratory	8759	1987
102829	General Services Building	1375	1996
102830	Residence AGR 277	227	1912
102831	Residence AGR 281	168	1954
102832	Student Residence	261	1963
102833	Residence AGR 280	177	1962
102834	Pumphouse #1	9	1951
102835	Powerhouse	15	1951
102836	Metal Shop	89	1951
102837	Large Barn	533	1951
102838	House AGR 282	178	1984
102839	House AGR 184	194	1954
102840	Irrigation Reservoir	15	1956
102841	Scale House	3	1958
102842	Isolation Sheep Barn	96	1961
102843	Feed & Machinery Storage	642	1962
102844	Cattle Shelter #2	89	1963
102845	Cattle Shelter #3	67	1965
102846	Pumphouse #2	5	1965
102849	Lower Pen #1	33	1974
102850	Lower Pen #2	33	1974
102851	Lower Pen #3	32	1974
102852	Lower Pen #4	32	1974
102853	Lower Pen #5	32	1974
102854	Lower Pen #6	32	1974
102855	Lower Pen #7	32	1974
102856	Lower Pen #8	32	1974
102857	Upper Pen #1	77	1976
102858	Upper Pen #2	77	1976
102859	Upper Pen #3	144	1976
102860	Upper Pen #4	44	1981
102861	Upper Pen #5	44	1981
102862	Upper Pen #6	44	1981
102863	Upper Pen #7	44	1981
102864	Upper Pen #8	206	1981
102865	Pump House #3	11	1994
102866	Isolation Sheep Shelter	31	1997
102867	Radio Repeater Shack	9	1995
137925	Dry Storage	89	1960

At the time of the February 2018 Asbestos Survey, on-site CFIA Representatives indicated that the following three buildings were no longer present at the CFIA Lethbridge Facility: Cattle Shelter #2 (Building 102844); Cattle Shelter #3 (Building 12845); and Irrigation Reservoir (Building 102840). Additionally, access to the Lower Pens #1 to #8 was restricted at the time of the 2018 Asbestos Survey due to the presence of infected animals. All other buildings were fully inspected.

Building material samples were collected from 12 of the assessed buildings. All building materials were observed to be in good to fair condition. No potential ACMs were observed within the following buildings and, as such, no building material samples were collected from these structures:

- Powerhouse (Building 102835);
- Metal Shop (Building 102836);
- Scale House (Building 102841);
- Feed and Machinery Storage (Building 102843);
- Pumphouse #2 (Building 102846);
- Lower Pens #1 to 8 (Buildings 102849 to 102856);
- Upper Pens #1 to 8 (Buildings 102857 to 102864);
- Pump House #3 (Building 102865);
- Isolation Sheep Shelter (Building 102866); and
- Radio Repeater Shack (Building 102867).

Based on the 2018 Asbestos Survey field and laboratory results, asbestos containing materials were identified at the following buildings and associated materials:

Building	Material	Approximate Quantity
Main Lab	Textured Ceiling Plaster	150 m ²
Residence AGR 277	Paper-wrap around Ducting	0.1 m ²
	Textured Ceiling Plaster	95 m ²
Residence AGR 281	Paper-wrap around Ducting	0.1 m ²
	Duct Insulation	0.9 m ²
Student Residence	Vinyl Sheet Flooring/Backing	11 m ²
Residence AGR 280	Paper-wrap around Ducting	0.1 m ²
Pumphouse #1	Exterior Wall Board	38 m ²
	Interior Transite/Cement Board	47 m ²
Large Barn	Cement Board (Mechanical Room)	30 m ²
	Cement Board	250 m ²
	Wall Plaster (Interior)	25 m ²
House AGR 282	Drywall mud joint compound	0.3 m ³
	Textured Ceiling Plaster	47 m ²
	Vinyl Floor and Tile/Backing	2 m ²
Residence AGR 284	Floor Tile	1.2 m ²
Isolation Sheep Barn	Interior Ceiling Board	45 m ²
Dry Storage	Vermiculite Wall Insulation	0.5 m ³

All other bulk materials were confirmed to be non-asbestos containing.

All confirmed asbestos containing materials in fair condition should be proactively removed or repaired following the appropriate asbestos processes outlined in the *Alberta Abatement Asbestos Manual (2012)*. All confirmed asbestos containing materials in good condition should be routinely assessed to ensure the condition is good. If renovation and/or demolition activities are to occur, all confirmed ACMs should be removed following the appropriate asbestos processes outlined in the *Alberta Abatement Asbestos Manual (2012)*. All asbestos waste must be disposed of at a designated landfill, in accordance with all applicable municipal regulations.

Should any building materials be discovered during any future renovation and/or demolition activities that were not identified and subsequently sampled during the 2018 Asbestos Survey, these materials should be submitted for laboratory analysis to confirm the presence/absence of asbestos.

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1.0 INTRODUCTION

Kontzamanis Graumann Smith MacMillan Inc. (KGS Group) was contracted by Public Services Procurement Canada (PSPC) Environmental Services on behalf of the Canadian Food Inspection Agency (CFIA) to conduct an Asbestos Survey and develop an Asbestos Management Plan, if required, for the CFIA Facility in Lethbridge, Alberta.

The original scope of services included completing an Asbestos Survey at the 39 buildings at the CFIA Lethbridge listed within with the PSPC Terms of Reference (TOR) dated October 2017. At the time of the 2018 Asbestos Survey, on-site CFIA Representatives indicated that the following three buildings were no longer present at the CFIA Lethbridge Facility: Cattle Shelter #2 (Building 102844); Cattle Shelter #3 (Building 12845); and Irrigation Reservoir (Building 102840).

The Asbestos Survey was completed in accordance with the terms and conditions of KGS Group's Standing Offer for Multidisciplinary Environmental Consultant Services Manitoba, Alberta, Saskatchewan (Western Region), No. EW699-170521/004/NCS and PSPC's TOR dated October 2017.

This report summarizes the results of the Asbestos Survey conducted by KGS Group on February 5 to 7, 2018, including estimated volumes of identified asbestos containing building materials and recommendations for the management of identified asbestos materials that may be affected during future renovation and/or building maintenance activities. Results of the Asbestos Survey are summarized in Tables 1 to 12 and sample locations and floor plans are illustrated in the attached figures (Figure 1 to 15). A site photographic log is included in Appendix A, the Laboratory Certificate of Analysis in Appendix B, and the Site Specific Health and Safety Plan in Appendix C.

1.1 OBJECTIVES

The main objectives, as outlined in PSPC's TOR dated October 2017, and KGS Group's proposal (File No. 17-000-1500 Rev. 3) dated November 24, 2017 included the following:

- Conduct an extensive asbestos inventory at each building listed for the CFIA Lethbridge Facility in Appendix A of the TOR;
- Produce an Asbestos Survey Report for the CFIA Lethbridge Facility, inclusive of all identified buildings at the facility; and
- Preparation of an Asbestos Management Plan for the CFIA Lethbridge Facility, if required.

1.2 SCOPE OF WORK

In order to meet the Project Objectives, KGS Group completed the following, as applicable:

- Attended all meetings, including the project start-up meeting and prepared all meeting minutes;
- Reviewed all available current site/building information (provided by PSPC and/or CFIA);
- Prepared a Site Specific Health and Safety Plan (SSHASP) prior to completing site work;
- Completed an Asbestos Survey at the CFIA Facility in Lethbridge, inclusive of the interior and exterior of the building. The survey included non-destructive sampling methods;
- Conducted sampling of bulk building materials in accordance with pertinent Acts, regulations, codes, guidelines and standard practices;
- Included all found 'debris' in the survey findings and tested debris for asbestos content;
- Identified all possible ACMs using laboratory analysis and/or visual comparison with other tested materials;
- Indicated on supplied drawings, the locations where all samples were taken. Clearly indicated, as per colour-coding and standard legend detailed in Section 2.1 of the TOR, materials containing asbestos vs. non-asbestos sample locations; presence of pipes and ductwork containing asbestos and any area that could not be accessed during the survey;
- Indicated the condition, accessibility, and requirement action of any identified ACM (including debris) identified;
- Reported all identified debris containing asbestos to the PSPC Project Manager immediately;
- Provided a description of suspect ACMs. Design elements were to be stated in Imperial measurements and all quantitative measurements in metric units;
- Colour digital pictures with sample coding in the background of the picture, including building exteriors and all sample locations showing sample material relative to the surroundings, were taken for inclusion in the Asbestos Survey Report;

- Input all survey results, pictures, drawings, condition, access and action requirements into the Asbestos Survey Report;
- Provided a copy of the Certified Laboratory Report, inclusive of all samples at the facility, required to inventory the ACMs in the report; and
- Provided certification for buildings free of ACMs.

2.0 BACKGROUND INFORMATION

KGS Group reviewed all available floor plans and drawings, as well as any other background site information applicable to the CFIA Lethbridge Facility buildings, provided by PSPC and/or CFIA prior to conducting the visual inspection.

Drawings of the overall site layout and floor plans for the Main Laboratory and General Services Building were made available by CFIA Lethbridge representatives. Floor plans and/or drawings of the other assessed buildings were not available.

At the time of the 2018 Asbestos Survey, on-site CFIA Representative, Mr. Darcy Quintin, Facility Manager, indicated that the following three buildings were no longer present at the CFIA Lethbridge Facility: Cattle Shelter #2 (Building 102844); Cattle Shelter #3 (Building 12845); and Irrigation Reservoir (Building 102840). Cattle Shelters #2 and 3 were destroyed in a wildfire approximately 5 years earlier. The Irrigation Reservoir (Building #102840) was demolished in the 1990s. Additionally, access to the Lower Pens #1 to #8 was restricted at the time of the 2018 Asbestos Survey due to the presence of infected animals. Photographs were taken from the road immediately adjacent to the Lower Pens; however, no sampling was conducted (Appendix A). Based on a visual inspection from the road adjacent to the buildings and known construction (three-sided wooden structures) and discussions with the CFIA Representative during the 2018 Asbestos Survey, there did not appear to be any potential asbestos-containing materials within the Lower Pens.

The following limited information was provided in the PSPC TOR (October 2017) and from discussions with the CFIA Representative during the 2018 Asbestos Survey for the assessed buildings at the CFIA Lethbridge Facility:

- Building 14990, Main Laboratory: Originally constructed in 1987, the two-storey facility is approximately 8,759 m² in area and is used as a laboratory/research facility. The 500 Wing was added in the late 1990s.
- Building 102829, General Services Building: Originally constructed in 1996, the two-storey facility is approximately 1,375 m² in area with a metal exterior. Used primarily as a maintenance building for the Facility's vehicles, the building was vacant for two years due sinking foundation. The floor was recently jacked up in late 2017 and the building has only recently been reoccupied. A new concrete floor was recently poured (January 2018); new vinyl flooring and interior paint were also part of the renovations.

- Building 102830, Residence AGR 277: Originally constructed in 1912, the two-storey residence is approximately 277 m² in area. Renovations over the years have included new interior drywall, ceiling, flooring and roof shingles (~ 2 years old).
- Building 102831, Residence AGR 281: Originally constructed in 1954, the 168 m² two-storey-residence has exterior wood siding and shingles. Renovations included new floors, interior paint and bathrooms in 2006 and new flooring in the entry ways (2013).
- Building 102832, Student Residence: Originally constructed in 1963, the 261 m² bungalow complete with a finished basement is currently unoccupied and slated for demolition.
- Building 102833, Residence AGR 280: Originally constructed in 1962, the 177 m² bungalow complete with a finished basement has vinyl siding on the exterior. New vinyl flooring and carpet (~ 10 years old) were present on the main floor.
- Building 102834, Pumphouse #1: Originally constructed in 1951, the 9m² structure is currently in use as a shed by an on-site resident.
- Building 102835, Powerhouse: Constructed in 1951, the 15 m² building consisted of a wood exterior, newer shingles (<5 years old), interior concrete floor and plywood walls and ceiling. The building is currently used as a storage shed for on-site resident(s).
- Building 102836, Metal Shop: Originally constructed in 1951, the 89m² single-storey building consisted of a metal exterior (roof and walls) and interior concrete flooring with plywood walls and ceiling. The building is in regular use and is known to flood regularly during the spring.
- Building 102837, Large Barn: Originally constructed in 1951, the two-storey building is approximately 533 m² in area with a hip/gambrel roof and concrete flooring.
- Building 102838, House AGR 282: According to the on-site CFIA Representative, the residence was originally constructed in approximately 1962 and not in 1984 as noted with the TOR. The 178 m² bungalow complete with a basement is currently unoccupied with no heat and is slated for future demolition. The exterior is comprised of vinyl siding with a new roof (~2-3 years old). New vinyl sheet flooring is present inside the residence. (note: CFIA was in the process of completing renovations in the bathroom that included removal of drywall at the time of the 2018 Asbestos Survey. A sign was erected on the bathroom door indicating the possibility of asbestos. Sign is visible in Photo 80, Appendix A).
- Building 102839, House AGR 184: Originally constructed in 1954, the 194 m² residence is a bungalow. The exterior is comprised of vinyl siding and the interior includes drywall (new and original); vinyl and wood flooring and concrete flooring in areas of the basement.
- Building 102841, Scale House: A 3 m² structure originally constructed in 1958, the block building is adjacent to the Large Barn and consists of a scale and a metal roof.
- Building 102842, Isolation Sheep Barn: Constructed in 1961, the 96 m² building has exterior metal cladding and is a single storey structure with a crawlspace.
- Building 102843, Feed and Machinery Shop: Constructed in 1962, the 642 m² building is a single storey structure with exterior metal siding and metal roof (plywood underneath). The heated building is in use for feed/machine storage.
- Building 102846, Pumphouse #2: Constructed in 1965, the 5m² building has a metal exterior and roof, and is situated by the Large Barn.
- Buildings 102849-102856, Lower Pens #1-8: Constructed in 1974, the three-sided structures were used to contain infectious animals. Comprised of a painted plywood/OSB exterior with a concrete block base and metal roof, the units could not be

accessed during the 2018 Asbestos Survey but were similar in construction to the Upper Pens.

- Buildings 102857-102864, Upper Pens #1-8: Constructed between 1976 and 1981, the three sided structures were similar in construction to the Lower Pens.
- Building 102865, Pump House #3: Constructed in 1994, the 11m² consisted of a metal exterior (siding and roof) and the interior included concrete floor and metal walls and ceiling.
- Building 102866, Isolation Sheep Shelter: Originally constructed in 1997, the 31 m² structure was similar to the Pens.
- Building 102867, Radio Repeater Shack: Constructed in 1995, the 9 m² building consisted of a plywood exterior, metal roof with interior plywood walls and floor.
- Building 137925, Dry Storage: Constructed in 1960, the 89 m² single-storey building was suspected by CFIA to contain vermiculite within the wall cavity (hole visible in wall). The building consisted of concrete block construction with plaster exterior finish, and wood framing interior, with a painted plywood interior ceiling.

3.0 REGULATORY GUIDELINES

All applicable codes, acts, standards and regulations, including the requirements of the identified potential Authorities Having Jurisdiction (AHU) on this project and the legislation and requirements unique to Federal Government buildings in Canada were thoroughly reviewed, including the following:

- New changes to Part II of the Canada Labour Code – Occupational Health and Safety, Occupational Health and Safety Regulations (COHSR) Part X – Hazardous Substances, subsection 10.19 Control of Hazards;
- National Joint Council Occupational Health and Safety Directive, Part XI – Hazardous Substances, and the PSPC Standard on Hazardous Substances;
- Municipal and provincial AHJs as applicable;
- Treasury Board of Canada;
- Amended PSPC Asbestos Management Standard dated June 5, 2017; and
- PSPC Department Policy 057 on Asbestos Management.

KGS Group collected bulk samples from all accessible potential asbestos containing materials within the identified buildings at the CFIA Lethbridge Facility, as required, following the sampling methods and procedures outlined in the *Alberta Asbestos Abatement Manual* (October 2012)⁽¹⁾, the Amended *PSPC Asbestos Management Standard* (June 5, 2017)⁽²⁾ and *PSPC Department Policy 057 on Asbestos Management*⁽³⁾.

The number of bulk samples of homogeneous materials was collected, as per the guidelines outlined in Table 3 of the October 2012 *Alberta Asbestos Abatement Manual*.

4.0 INVESTIGATIVE METHODOLOGY

The details of the tasks required to meet the project objectives and complete the scope of work are described in the following sections.

4.1 PROJECT START-UP MEETING

Following award of contract, KGS Group hosted a teleconference with PSPC and CFIA Representatives to discuss the overall work plan, work plan revisions/clarifications, the expectations of PSPC and CFIA, transmit additional information, health and safety requirements and to finalize the project schedule and deliverables. Representatives from CFIA Lethbridge Facility were not available during the Project Start-Up Meeting.

4.2 BACKGROUND REVIEW

KGS Group reviewed the available floors plans and drawings, as well as other pertinent background information provided by PSPC and/or CFIA to identify required sampling locations. A summary of the available background information is provided in Section 2.0.

4.3 HEALTH AND SAFETY PLAN

Prior to conducting any fieldwork, KGS Group prepared a site specific Health and Safety Plan (HASP) which was submitted to PSPC for review. The HASP conformed to the Alberta health and safety legislation, PSPC/CFIA health and safety policies and procedures, and KGS Group's Health and Safety Manual. More specifically, the HASP included the following items:

- General site information;
- Emergency Contingency Plan (emergency phone numbers, map of the route to the hospital, site resources , and emergency contacts);
- On-site muster location;
- Local regulatory reporting requirements in the event of personal injury;

- Name and phone numbers of the PSPC Project Manager, KGS Group Project Manager and alternate KGS Group contact (work, cell and home);
- Job Safety Analysis (JSA); and
- Standard Operating Procedures, including general physical hazards, asbestos, working from heights, confined spaces (crawlspaces), and tools and equipment.

The Job Safety Analysis (JSA) was completed at the start of the fieldwork and updated each day, as required. The JSA is used for identifying and controlling hazards before work begins, reducing or preventing the risk of accidents, promoting communication among participating staff and to provide this type of communication in a written format for daily communication. The JSA was signed by all KGS Group field staff.

Personal protective equipment included appropriate safety boots, reflective vests, gloves and eye protection, as well as appropriate half mask respirators and tyvek suits, where required, for sampling friable asbestos containing materials.

4.4 ASBESTOS SURVEY

Building materials in structures constructed prior to 1990 may contain asbestos containing materials. Asbestos was typically added to insulating materials due to its non-combustibility and flame-retardant properties and was also used as a reinforcing agent due to its strength and flexibility. Materials containing asbestos present a potential exposure risk if the asbestos fibres are released and inhaled.

Based on the ages of the identified buildings at the CFIA Lethbridge Facility (1912 to 1997), the potential exists for the presence of asbestos containing materials. Types, locations and quantities of all materials potentially containing asbestos that may be affected by future renovation activities of the various buildings were identified using available floor plans, field observations and professional judgement. CFIA facility staff was not in the work area when sampling was completed. Samples were collected from all accessible potential asbestos containing materials and/or surplus materials within the buildings, following the sampling methods and procedures outlined in the *Alberta Asbestos Abatement Manual* (October 2012), and in a manner that minimized disturbance to the materials. A minimum of three bulk samples

per material were collected, as required by Alberta guidelines. Sampling locations were repaired/sealed, as required, using adhesive material (duct tape).

All samples were stored in appropriately labeled sample bags and transported to Maxxam Analytics' Burnaby, British Columbia's laboratory for analysis of bulk asbestos content. All bulk samples were analyzed using polarized light microscopy (PLM) via the US Environmental Protection Agency (EPA) 600/R-93/116 by Polarized Light Microscopy methodology. The analytical methodologies for PLM are described in detail in the Laboratory Certificate of Analysis (Appendix B). Where samples contained more than one layer / material (i.e. vinyl flooring and mastic), the laboratory separated and analyzed each layer / material separately.

According to the *Alberta Asbestos Abatement Manual*, asbestos waste is defined as “a waste containing more than one percent asbestos by weight.” Laboratory analytical methods used sufficient detection limits to ensure compliance with this guideline. Asbestos waste in Alberta is not considered to be hazardous as long as asbestos waste is managed in accordance with the *Guidelines for the Disposal of Asbestos Waste*. Asbestos waste that is bagged and encapsulated can be disposed of in Class I or Class II landfills, pending landfill operator permission. Once at the landfill, asbestos waste should be immediately buried and covered.

4.5 REPORT PREPARATION

KGS Group prepared a comprehensive Asbestos Survey Report for the CFIA Lethbridge Facility, documenting the findings, including a separate Asbestos Inventory Table (in excel format) outlining the location, condition, asbestos type, and extent/quantity of ACMs, if present in the surveyed buildings. All identified ACMs from the 2018 Asbestos Survey completed at CFIA Lethbridge Facility buildings were classified in accordance to the action matrix illustrated in PSPC's Asbestos Management Standard (Amended; June 2017) and detailed in tabular format.

The report fulfilled the items listed in Sections 2.2.1 and 2.3.1 of the TOR and documented all sources of information examined, documented any areas of the buildings that could not be accessed during the on-site work, and an interpretation of the findings and conclusions.

The pertinent Act, Regulation, Code, Guideline, Standard or Practice, were referenced, as appropriate, for all recommendations and/or interpretation of findings. Analytical results were summarized in building specific Asbestos Inventory Tables with the appropriate guidelines and exceedances highlighted. References, laboratory analytical reports, chain-of-custody forms and photographs of all potential asbestos-containing materials (i.e. sample locations) were appended to the report to support the conclusions and recommendations. Site plans of the assessed buildings with all sample locations clearly identified and locations of confirmed ACMs were also included in the report. Building plans provided by CFIA were used as a base plan for the site plans and included plans of the Main Building and the overall site layout of CFIA Lethbridge. No other plans and/or drawings were available.

Estimated quantities of confirmed ACMs were determined based on measurements indicated on building plans provided by CFIA and direct observations and measurements taken in the field at the time of the 2018 Asbestos Survey.

5.0 INVESTIGATION RESULTS

Available details for the assessed buildings at the CFIA Lethbridge Facility are included in Section 2.0.

The field observations and laboratory results are described in the following sections. Figures 1 to 3 illustrate the overall site location of the CFIA Lethbridge Facility and building locations. Figures 4 to 15 illustrate the various surveyed buildings, with all sample locations of potential and confirmed ACMs. The Site Photographic Log is included in Appendix A, inclusive of all assessed buildings.

5.1 VISUAL INSPECTION

Prior to conducting the sampling component of the 2018 Asbestos Survey at the CFIA Lethbridge Facility, KGS Group completed a walk-through of all identified and existing buildings with on-site CFIA Representatives knowledgeable of the buildings. The walk-throughs were completed on February 5 to 7, 2018, and included an assessment of all areas and/or rooms within each building and identification of various building materials. Potential sampling locations/materials were identified during each walk-through to minimize disruption to the facility's occupants and/or to identify locations where sample collection would not damage any lab space (i.e. in service corridors, low traffic areas) and/or occupied residential dwelling.

All areas and/or rooms within each building were accessed during the 2018 Asbestos Survey with the exception of the following: Rooms 213, 248, 404, 410, 411 and 430 within the Main Laboratory and Room 201 within the General Services Building.

All building materials were observed to be in good to fair condition, including flooring, ceiling tiles, drywall and/or other materials from the 12 buildings from which samples were collected.

No potential ACMs were observed within the following buildings and, as such, no building material samples were collected from these structures:

- Powerhouse (Building 102835);
- Metal Shop (Building 102836);
- Scale House (Building 102841);

- Feed and Machinery Storage (Building 102843);
- Pumphouse #2 (Building 102846);
- Lower Pens #1 to 8 (Buildings 102849 to 102856);
- Upper Pens #1 to 8 (Buildings 102857 to 102864);
- Pump House #3 (Building 102865);
- Isolation Sheep Shelter (Building 102866); and
- Radio Repeater Shack (Building 102867).

At the time of the 2018 Asbestos Survey, on-site CFIA Representatives indicated the following buildings were no longer present at the facility and, as such, were not assessed:

- Cattle Shelter #2 (102844);
- Cattle Shelter #3 (102845); and
- Irrigation Reservoir (Building 102840).

Additionally, at the time of the 2018 Asbestos Survey, on-site CFIA Representatives indicated that access to the Lower Pens #1 to 8 was restricted due to the presence of infected animals; however, photographs were taken from the adjacent road access. The Upper Pens #1 to 8 were accessed during the 2018 on-site investigations, and appeared to be similar in construction to the Lower Pens #1 to 8, and no potential ACM samples were identified and/or collected from these structures.

5.2 LABORATORY RESULTS

Bulk samples were collected from 12 of the buildings identified at the CFIA Lethbridge Facility. A minimum of three samples of each material were collected and submitted for laboratory analysis of bulk asbestos. One quality assurance/quality control sample was also collected from each of the 12 buildings sampled. Details for each sampled building are provided below with respect to number of samples and material type.

Main Laboratory (Building 014990)

A total of 10 types of materials potentially containing asbestos were identified within the Main Laboratory and submitted for laboratory analysis, including one quality control/quality assurance (QA/QC) sample. Potential asbestos containing materials which may be affected by future renovation or demolition activities included the following materials:

- Floor tiles/mastic/sheeting – Two different types/colours of tiles/sheeting observed;
- Wall and Ceiling Plaster – Three different types were observed in select locations of the building interior (walls and ceiling);
- Drywall and drywall joint compound – Throughout building interior;
- Insulation compound on ducting - One type on ducting;
- Window caulking – One type on interior windows;
- Refractor (Fire Brick) material – One type observed within the incinerator; and
- Insulation (spray on) – One type observed on select mechanical equipment in the crawlspaces.

Laboratory results for the Main Laboratory are summarized in Table 1 and sample locations are shown on Figure 4.

Laboratory PLM analysis confirmed the presence of asbestos in the textured ceiling plaster in reception area. All textured ceiling plaster observed inside the Main Laboratory was in good condition at the time of the 2018 Asbestos Survey. Analytical results confirmed that the remainder of the building materials from the Main Laboratory sampled and analyzed for asbestos content were non-detectable.

General Services Building (Building 102829)

A total of four types of materials potentially containing asbestos were identified within the General Services Building including one quality control/quality assurance sample. Potential asbestos containing materials which may be affected by future renovation or demolition activities included the following materials:

- Floor tiles/mastic/sheeting – Two different types/colours of tiles/sheeting observed;
- Drywall and drywall joint compound – Building interior; and
- Ceiling Tile – One type observed.

Laboratory results for the General Services Building are summarized in Table 2 and sample locations are shown on Figure 5. Laboratory PLM analysis confirmed that all of the building materials sampled did not contain asbestos.

Residence AGR 277 (Building 102830)

A total of three types of materials potentially containing asbestos were identified within Residence AGR 277 including one quality control/quality assurance sample. Potential asbestos

containing materials which may be affected by future renovation or demolition activities included the following materials:

- Duct Wrap – One type of paper-wrap was observed around ducting;
- Textured Ceiling Plaster (Main Floor); and
- Wall Plaster – Exterior wall finishes.

Laboratory results for Residence AGR 277 are summarized in Table 3 and sample locations are shown on Figure 6.

Laboratory PLM analysis confirmed the presence of asbestos in the paper-wrap around ducting in sample LB-B3-ACM-01A (50% Chrysotile) and textured ceiling plaster in samples LB-B3-ACM-02A and LB-B3-ACM-02B (each 2% Chrysotile) inside Residence AGR 277. The paper-wrap around the ducting was observed to be in fair condition and the textured ceiling plaster in good condition at the time of the 2018 Asbestos Survey. Analytical results confirmed that the remainder of the building materials from Residence AGR 277 sampled and analyzed for asbestos content were non-detectable.

Residence AGR 281 (Building 102831)

A total of two types of materials potentially containing asbestos were identified within Residence AGR 281 and included the following materials:

- Insulation – One type was observed on ducting; and
- Duct Wrap – One type of paper-wrap was observed around ducting.

Laboratory results for Residence AGR 281 are summarized in Table 4 and sample locations are shown on Figure 7.

Laboratory PLM analysis confirmed the presence of asbestos in the duct insulation in samples LB-B4-ACM-01A and LB-B4-ACM-01B (50% Chrysotile each) and in the paper-wrap around ducting in sample LB-B4-ACM-02A (50% Chrysotile) inside Residence AGR 281. Both the duct insulation and the paper-wrap around the ducting were observed to be in fair condition at the time of the 2018 Asbestos Survey.

Student Residence (Building 102832)

A total of six types of materials potentially containing asbestos were identified within the Student Residence and included the following materials:

- Floor tiles/mastic/sheeting – Two different types/colours of tiles/sheeting observed;
- Wall and Exterior Plaster – Three different types were observed in selection locations of the building interior (two types) and exterior; and
- Drywall and drywall joint compound - Select locations of building interior.

Laboratory results for the Student Residence are summarized in Table 5 and sample locations are shown on Figure 8.

Laboratory PLM analysis confirmed the presence of asbestos in the brown vinyl sheet floor backing (mastic) in samples LB-B5-ACM-03A and LB-B5-ACM-03B (40% Chrysotile each) within the basement of the Student Residence. The flooring and associated backing was observed to be in fair condition at the time of the 2018 Asbestos Survey. Analytical results confirmed that the remainder of the building materials from the Student Residence sampled and analyzed for asbestos content were non-detectable and/or below the 1% guideline criteria (Alberta Asbestos Abatement Manual).

Residence AGR 280 (Building 102833)

A total of two types of materials potentially containing asbestos were identified within Residence AGR 280 and included the following materials:

- Floor tiles/mastic/sheeting – One different type/colour of tiles/sheeting observed; and
- Duct Wrap – One type of paper-wrap was observed around ducting.

Laboratory results for Residence AGR 280 are summarized in Table 6 and sample locations are shown on Figure 9.

Laboratory PLM analysis confirmed the presence of asbestos in the paper-wrap around ducting in sample LB-B8-ACM-02A (50% Chrysotile) inside Residence AGR 280. The paper-wrap was observed to be in fair condition at the time of the 2018 Asbestos Survey. Analytical results

confirmed that the remainder of the building materials from Residence AGR 280 sampled and analyzed for asbestos content were non-detectable.

Pumphouse #1 (Building 102834)

A total of three types of materials potentially containing asbestos were identified at Pumphouse #1 and included the following materials:

- Shingles – One different type/colour of roof shingles observed;
- Cement Board/Transite – One type of cement board observed inside the building; and
- Wall Board (Cement Siding) – One type of wall board (cement siding) was observed on the exterior of the building.

Laboratory results for Pumphouse #1 are summarized in Table 7 and sample locations are shown on Figure 10.

Laboratory PLM analysis confirmed the presence of asbestos in the exterior wall board/cement siding in samples LB-B11-ACM-02A and LB-B11-ACM-02B (25% Chrysotile each) and interior transite cement board in sample LB-B11-ACM-03A (25% Chrysotile) at Pumphouse #1. Both the exterior wall board and interior transite cement board were observed to be good condition at the time of the 2018 Asbestos Survey. Analytical results confirmed that the remainder of the building materials from Pumphouse #1 sampled and analyzed for asbestos content were non-detectable.

Large Barn (Building 102837)

A total of six types of materials potentially containing asbestos were identified within the Large Barn and included the following materials:

- Cement Board – Two different types were observed inside the building;
- Plaster – Two different types were observed (one interior and one exterior); and
- Shingles – Two different types/colours of roof shingles observed.

Laboratory results for the Large Barn are summarized in Table 8 and sample locations are shown on Figure 11.

Laboratory PLM analysis confirmed the presence of asbestos in the cement board in samples LB-LB-ACM-01A and LB-LB-ACM-01B (30% Chrysotile each – transite board), in the second type of cement board in sample LB-LB-ACM-02A (1% Chrysotile), and in the interior plaster in sample LB-LB-ACM-03A (2% Chrysotile) within the Large Barn. Both types of cement board and the interior plaster were observed to be in good condition at the time of the 2018 Asbestos Survey.

Analytical results confirmed that the remainder of the building materials from the Large Barn sampled and analyzed for asbestos content were non-detectable and/or below the 1% guideline criteria (Alberta Asbestos Abatement Manual).

House AGR 282 (Building 102838)

A total of seven types of materials potentially containing asbestos were identified within House AGR 282 and included the following materials:

- Drywall and drywall joint compound – Two different vintages/types were observed inside the residence;
- Ceiling Plaster - Two different types were observed in select interior locations;
- Floor tiles/mastic/sheeting – Two different types/colours of tiles/sheeting observed; and
- Insulation – One type of exposed wall insulation was observed.

Laboratory results for House AGR 282 are summarized in Table 9 and sample locations are shown on Figure 12.

Laboratory PLM analysis confirmed the presence of asbestos in the drywall mud/joint compound in sample LB-B18-ACM-01B (1% Chrysotile), textured ceiling plaster in sample LB-B18-ACM-3A (1% Chrysotile), pebble pattern vinyl floor tile in samples LB-B18-ACM-05A and LB-B18-ACM-05B (35% Chrysotile each), and floor tile in sample LB-B18-ACM-06B. The materials were observed to be in fair to good condition at the time of the 2018 Asbestos Survey. Analytical results confirmed that the remainder of the building materials from House AGR 282 sampled and analyzed for asbestos content were non-detectable.

House AGR 284 (Building 102839)

A total of two types of materials potentially containing asbestos were identified within House AGR 284 and included the following materials:

- Floor tile/mastic/sheeting – One different type/colour of tile/sheeting observed; and
- Drywall and drywall joint compound - Select locations of building interior.

Laboratory results for House AGR 284 are summarized in Table 10 and sample locations are shown on Figure 13.

Laboratory PLM analysis confirmed the presence of asbestos in the floor tile in samples LB-B20-ACM-01A and LB-B20-ACM-01B (4% Chrysotile each). The floor tile was observed to be in good condition at the time of the 2018 Asbestos Survey. Analytical results confirmed that the remainder of the building materials from House AGR 284 sampled and analyzed for asbestos content were non-detectable.

Isolation Sheep Barn (Building 102842)

A total of two types of materials potentially containing asbestos were identified at the Isolation Sheep Barn and included the following materials:

- Cement Board – One type was observed inside the building; and
- Plaster – One type was observed on the building exterior.

Laboratory results for the Isolation Sheep Barn are summarized in Table 11 and sample locations are shown on Figure 14.

Laboratory PLM analysis confirmed the presence of asbestos in the ceiling board in samples LB-CS3-ACM-01A and LB-CS3-ACM-01B (30% Chrysotile each). The ceiling board was observed to be in good condition at the time of the 2018 Asbestos Survey. Analytical results confirmed that the remainder of the building materials from the Isolation Sheep Barn sampled and analyzed for asbestos content were below the 1% guideline criteria (Alberta Asbestos Abatement Manual).

Dry Storage (Building 137925)

A total of two types of materials potentially containing asbestos were identified at the Dry Storage building and included the following materials:

- Insulation – One type of wall insulation already exposed inside the building; and
- Plaster – One type was observed on the building exterior.

Laboratory results for the Dry Storage are summarized in Table 12 and sample locations are shown on Figure 15.

Laboratory PLM analysis confirmed the presence of asbestos in the wall insulation in sample LB-ISB-ACM-01A (1% Actinolite; vermiculite). The vermiculite insulation was observed to be in fair condition at the time of the 2018 Asbestos Survey and was collected from a pre-existing exposed hole in the wall of the building. Analytical results confirmed that the remainder of the building materials from the Dry Storage sampled and analyzed for asbestos content were below the 1% guideline criteria (Alberta Asbestos Abatement Manual).

6.0 QUALITY ASSURANCE/QUALITY CONTROL

In accordance with the Alberta Asbestos Abatement Manual (October 2012), one quality assurance/quality control sample was collected as part of the 2018 Asbestos Survey completed at the CFIA Lethbridge Facility from each of the 12 buildings where bulk samples were collected.

The following samples were submitted as QA/QC samples from the sampled buildings. Each QA/QC sample was a duplicate of the corresponding sample ending in “A” (i.e. sample LB-B3-ACM-02B was a duplicate of sample LB-B3-ACM-02A). Results of the laboratory analysis for the QA/QC samples are detailed below (in brackets), and are also included in Tables 1 through 12:

- Main Laboratory: Sample LB-ADRI-ACM-02D, drywall/mud joint compound (Not Detected).
- General Services Building: Sample LB-GSB-ACM-04B, drywall/mud joint compound (Not Detected).
- Residence AGR 277: Sample LB-B3-ACM-02B, textured ceiling plaster (2% Chrysotile).
- Residence AGR 281: Sample LB-B4-ACM-01B, duct insulation (50% Chrysotile).
- Student Residence: Sample LB-B5-ACM-03B, yellow star floor tile/mastic (40% Chrysotile).
- Residence AGR 280: Sample LB-B8-ACM-01B, yellow brick pattern vinyl flooring (Not Detected).
- Pumphouse #1: Sample LB-B11-ACM-02B, exterior wall board (25% Chrysotile).
- Large Barn: Sample LB-LB-ACM-01B, cement board (30% Chrysotile; Transite).
- Residence AGR 282: Sample LB-B18-ACM-05B, pebble pattern vinyl floor tile (35 % Chrysotile).
- Residence AGR 284: Sample LB-B20-ACM-01B, floor tile (4% Chrysotile).
- Isolation Sheep Barn: Sample LB-CS3-ACM-01B, grey ceiling board (30% Chrysotile).
- Dry Storage: Sample LB-ISB-ACM-02B, exterior plaster (<1% Chrysotile).

All QA/QC sample results were the same as the resulting duplicate sample (i.e. no difference in the results for duplicate samples), and as such, the laboratory data is considered reliable.

Additionally, the laboratory conducted QA/QC on the submitted bulk samples as part of their standard protocol. General QA/QC practice followed by Maxxam Analytics Ltd. for bulk samples analysis includes duplicate analysis at 10% of the total samples analyzed, with the record of reanalysis data maintained by the laboratory. Under the laboratory's asbestos accreditation, laboratory duplicates (QA/QC samples) are not required to be included within the Laboratory Chain of Analysis Report.

7.0 DISCUSSION

All building materials within the assessed buildings were observed to be in good to fair condition including flooring, ceiling tiles, drywall, various insulations, plaster, caulking, wall and ceiling boards, shingles and/or other materials. Of the 12 buildings from which building material samples were collected, there were no visually observed areas in disrepair, disarray and/or requiring immediate actions (i.e. renovation) with the exception of a small pre-existing hole in the wall inside the Dry Storage (Building 137925). Asbestos containing wall insulation (vermiculite) was confirmed at this location. At the time of the 2018 Asbestos Survey, KGS Group on-site personnel covered the small hole with temporary adhesive. No debris was visible on the floor inside the Dry Storage at the time of the 2018 Asbestos Survey.

Based on the 2018 Asbestos Survey field and laboratory results, the ACMs were identified within the various assessed buildings at the CFIA Lethbridge Facility as outlined in Table 13.

TABLE 13
CONFIRMED ACMs AT THE CFIA LETHBRIDGE FACILITY

Building (DRFP Number)	Confirmed ACMs (2018)
Main Laboratory (014990)	Textured ceiling plaster (interior; main floor reception area): 2% asbestos content by weight; in good condition and in accessible areas.
Residence AGR 277 (102830)	Paper-wrap around ducting (basement): 50% asbestos content by weight; in fair condition and in accessible areas. Textured ceiling plaster (main floor - staircase, living room, dining room and bedroom): 2% asbestos content by weight; in good condition and in accessible areas.
Residence AGR 281 (102831)	Duct insulation and paper-wrap around ducting (basement): each 50% asbestos content by weight; both in fair condition and in accessible areas.
Student Residence (102832)	Vinyl sheet floor backing (basement porch area): 40% asbestos content by weight; in fair condition and in accessible areas.
Residence AGR 280 (102834)	Paper-wrap around ducting (basement): 50% asbestos content by weight; in fair condition and in accessible areas.
Pumphouse #1 (102834)	Exterior cement siding (all four exterior walls): 25% asbestos content by weight; in good condition and in accessible areas. Interior cement board/transite paneling (entire walls and ceiling): 25% asbestos content by weight; in good condition and in accessible areas.

Building (DRFP Number)	Confirmed ACMs (2018)
Large Barn (102837)	Two types of cement board (main floor interior walls and ceilings of mechanical room, furnace room and office area): 30% and 1% asbestos content by weight, respectively. Interior plaster (one interior wall): 2% asbestos content by weight. All materials in good condition and in accessible areas.
House AGR 282 (102838)	Drywall mud/joint compound (interior walls of main floor): 1% asbestos content by weight; in good condition and in accessible areas. Textured ceiling plaster (main floor living and dining rooms): 1% asbestos content by weight; in good condition and in accessible areas. Pebble pattern vinyl floor tile (main floor bathroom): 35% asbestos content by weight; in fair condition and encapsulated (second layer of flooring). Floor tile/fibrous mix (main floor bathroom): 30% asbestos content by weight; in fair condition and encapsulated (third layer of flooring).
Residence AGR 284 (102839)	Floor tile (basement bathroom): 4% asbestos content by weight; in good condition and in an accessible area.
Isolation Sheep Barn (102842)	Ceiling/Wall Board (interior walls and ceiling – north half): 30% asbestos content by weight; in good condition and in accessible areas.
Dry Storage (137925)	Insulation (vermiculite) within wall cavity (assumed in all four walls): 1% asbestos content by weight; in fair condition. Generally inaccessible (within wall cavity).

The confirmed ACMs listed in the above-noted table were all classified in accordance with the action matrix in Section 1.4.3 of the PSPC Asbestos Management Standard and are detailed in Table 14. The action matrix prioritizes the corrective actions in terms of potential health risk based on the condition of the asbestos-containing material, the accessibility of the asbestos-containing materials, and potential for future disturbance.

TABLE 14
ACTION MATRIX – CONFIRMED ACMs AT THE CFIA LETHBRIDGE FACILITY

Location: Main Laboratory (014990)	
Asbestos-Containing Materials: Textured Ceiling Plaster	
Access	Condition
	Good
(A) Areas within reach from floor level of all building users.	Action 7 – Routine Surveillance
(C) Exposed - Areas of the building above 8'0" where use of ladder is required to reach the ACM, without	Action 7 – Routine Surveillance

removing or opening other building components. Does not include infrequently-accessed service areas of the building.	
Location: Residence AGR 277 (102830)	
Asbestos-Containing Materials: Paper-wrap around Ducting	
Access	Condition
	Fair
(A) Areas within reach from floor level of all building users.	Action 5/6 – Removal or Repair
Asbestos-Containing Materials: Textured Ceiling Plaster	
Access	Condition
	Good
(A) Areas within reach from floor level of all building users.	Action 7 – Routine Surveillance
Location: Residence AGR 281 (102831)	
Asbestos-Containing Materials: Paper-wrap around Ducting & Duct Insulation	
Access	Condition
	Fair
(A) Areas within reach from floor level of all building users.	Action 5/6 – Removal or Repair
Location: Student Residence (102832)	
Asbestos-Containing Materials: Vinyl Sheet Floor/Backing	
Access	Condition
	Fair
(A) Areas within reach from floor level of all building users.	Action 5/6 – Removal / Repair
Location: Residence AGR 280 (102833)	
Asbestos-Containing Materials: Paper-wrap around Ducting	
Access	Condition
	Fair
(A) Areas within reach from floor level of all building users.	Action 5/6 – Removal or Repair
Location: Pumphouse #1 (102834)	
Asbestos-Containing Materials: Exterior Wall Board & Interior Transite/Cement Board	
Access	Condition
	Good
(A) Areas within reach from floor level of all building users.	Action 7 – Routine Surveillance
Location: Large Barn (102837)	
Asbestos-Containing Materials: Cement Board (Mechanical Room)	
Access	Condition
	Good
(A) Areas within reach from floor level of all building users.	Action 7 – Routine Surveillance
(C) Exposed - Areas of the building above 8'0" where use of ladder is required to reach the ACM, without removing or opening other building components. Does not include infrequently-accessed service areas of the building.	Action 7 – Routine Surveillance
Asbestos-Containing Materials: Cement Board (Interior Wall)	
Access	Condition
	Good
(A) Areas within reach from floor level of all building users.	Action 7 – Routine Surveillance
(C) Exposed - Areas of the building above 8'0" where use of ladder is required to reach the ACM, without removing or opening other building components. Does not include infrequently-accessed service areas of the building.	Action 7 – Routine Surveillance

Asbestos-Containing Materials: Wall Plaster	
Access	Condition
	Good
(A) Areas within reach from floor level of all building users.	Action 7 – Routine Surveillance
(C) Exposed - Areas of the building above 8'0" where use of ladder is required to reach the ACM, without removing or opening other building components. Does not include infrequently-accessed service areas of the building.	Action 7 – Routine Surveillance
Location: House AGR 282 (102838)	
Asbestos-Containing Materials: Drywall Mud/Joint Compound & Textured Ceiling Plaster	
Access	Condition
	Good
(A) Areas within reach from floor level of all building users.	Action 7 – Routine Surveillance
(C) Exposed - Areas of the building above 8'0" where use of ladder is required to reach the ACM, without removing or opening other building components. Does not include infrequently-accessed service areas of the building.	Action 7 - Routine Surveillance
Asbestos-Containing Materials: Vinyl Flooring and Tile/Backing	
Access	Condition
	Fair
(C) Concealed - Areas of the building which requires the removal of a building component; requires demolition of the top layer of flooring to reach access asbestos-containing materials.	Action 5/6 – Removal or Repair
Location: Residence AGR 284 (102839)	
Asbestos-Containing Materials: Floor Tile	
Access	Condition
	Good
(A) Areas within reach from floor level of all building users.	Action 7 – Routine Surveillance
Location: Isolation Sheep Barn (102842)	
Asbestos-Containing Materials: Ceiling Board (Interior)	
Access	Condition
	Good
(A) Areas within reach from floor level of all building users.	Action 7 – Routine Surveillance
(C) Exposed - Areas of the building above 8'0" where use of ladder is required to reach the ACM, without removing or opening other building components. Does not include infrequently-accessed service areas of the building.	Action 7 – Routine Surveillance
Location: Dry Storage (137925)	
Asbestos-Containing Materials: Vermiculite Wall Insulation	
Access	Condition
	Fair
(D) Areas of the building behind inaccessible solid ceiling systems, walls, or mechanical equipment, etc., where demolition of the ceiling, wall or equipment, etc. is required to reach the asbestos-containing material.	Action 5/6 – Removal or Repair

8.0 CONCLUSIONS AND RECOMMENDATIONS

Prior to the commencement of any future renovation and/or demolition activities at the CFIA Lethbridge Facility buildings, all confirmed ACMs must be managed according to applicable legislation and guidelines. Specifically, and in accordance with PSPC's Asbestos Management Standard, the following table provides a summary of classification of the ACMs confirmed at the CFIA Lethbridge Facility buildings during the 2018 Asbestos Survey, including approximate quantities:

TABLE 15
SUMMARY OF FINDINGS – CFIA LETHBRIDGE FACILITY

Floor	Location Observed	Material Description	Quantity	Condition	Accessibility	Action Level
MAIN LABORATORY (Building No. 014990)						
100 Level	By R.107 – Visible Throughout Front Reception Area.	Textured Ceiling Plaster	150 m ²	Good	A and C (exposed)	7
RESIDENCE AGR 277 (Building No. 102830)						
Basement	Around Ductwork	Paper-wrap around Ducting	0.1 m ²	Fair	A	5/6
Main Floor and Staircase to Second Floor	Ceiling - Staircase, Living Room, Dining Room and Bedroom	Textured Ceiling Plaster	95 m ²	Good	A	7
RESIDENCE AGR 281 (Building No. 102831)						
Basement	Around Ductwork	Paper-wrap around Ducting	0.1m ²	Fair	A	5/6
Basement	At Ductwork	Duct Insulation	0.9 m ²	Fair	A	5/6
STUDENT RESIDENCE (Building No. 102832)						
Basement	Porch Area	Vinyl Sheet Flooring/Backing	11 m ²	Fair	A	5/6
RESIDENCE AGR 280 (Building No. 102833)						
Basement	Around Ductwork	Paper-wrap around Ducting	0.1 m ²	Fair	A	5/6
PUMPHOUSE #1 (Building No. 102834)						
Exterior	Exterior walls	Exterior Wall Board	38 m ²	Good	A	7
Interior	Walls and Ceiling	Interior Transite/Cement Board	47 m ²	Good	A	7

Floor	Location Observed	Material Description	Quantity	Condition	Accessibility	Action Level
LARGE BARN (Building No. 102837)						
Main Floor	Mechanical Room – Ceiling and Walls	Cement Board (Mechanical Room)	30 m ²	Good	A and C (exposed)	7
Main Floor	Office Area and Furnace Room - Interior Walls and Ceiling	Cement Board	250 m ²	Good	A and C (exposed)	7
Main Floor	One Interior Wall Near Office	Wall Plaster (Interior)	25 m ²	Good	A and C (exposed)	7
HOUSE AGR 282 (Building No. 102838)						
Main Floor	Interior Walls	Drywall mud joint compound	0.3 m ³	Good	A and C (exposed)	7
Main Floor	Living and Dining Rooms	Textured Ceiling Plaster	47 m ²	Good	A and C (exposed)	7
Main Floor	Bathroom Floor (2 nd Layer)	Vinyl Floor and Tile/Backing	2 m ²	Fair	C (Concealed)	5/6
RESIDENCE AGR 284 (Building No. 102839)						
Basement	Bathroom Floor	Floor Tile	1.2 m ²	Good	A	7
ISOLATION SHEEP BARN (Building No. 102842)						
Single Floor	Interior Ceiling and Walls – North Half	Ceiling/Wall Board	45 m ²	Good	A and C (exposed)	7
DRY STORAGE (Building No. 137925)						
Single Floor	Wall Cavity (assumed inside all four walls)	Vermiculite Wall Insulation	1.5 m ³	Fair	(D)	5/6

Notes

Accessibility and Actions, as per PSPC Directive *Asbestos Management Standard* (June, 2017):

Access (A): Areas of the building within reach (from floor level) of all building users.

Access (C) – Exposed: Areas of the building above 8'0" (2.4 m) where use of a ladder is required to reach the asbestos-containing material.

Access (C) – Concealed: Areas of the building which require the removal of a building component.

Access (D): Areas of the building behind inaccessible solid systems, walls, or mechanical equipment, etc.

Action 5: Proactive asbestos-containing material removal.

Action 6: Asbestos-containing material repair.

Action 7: Routine Surveillance.

More specifically, KGS Group makes the following recommendations related to the management of asbestos containing materials at the various buildings at the CFIA Lethbridge Facility:

- All confirmed asbestos containing materials in fair condition should be proactively removed or repaired following the appropriate asbestos processes outlined in the Alberta Abatement Asbestos Manual (2012). All confirmed asbestos containing materials in good condition should be routinely assessed to ensure the condition is good. If renovation and/or demolition activities are to occur, confirmed ACMs should be removed following the appropriate risk asbestos processes outlined in the Alberta Asbestos Abatement Manual (October 2012). All asbestos waste must be disposed of at a designated landfill, in accordance with the municipal regulations.

An Asbestos Management Plan (AMP) for the CFIA Lethbridge Facility, as per the AMP template provided within PSPC's TOR has been submitted under separate cover.

9.0 STATEMENT OF LIMITATIONS

9.1 THIRD PARTY USE OF REPORT

This report has been prepared for Public Services and Procurement Canada and the Canadian Food Inspection Agency to whom this report has been addressed, and any use a third party makes of this report, or any reliance on or decisions made based on it, are the responsibility of such third parties. KGS Group accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions undertaken based on this report.

9.2 ENVIRONMENTAL STATEMENT OF LIMITATIONS

KGS Group prepared this report in a professional manner using the degree of skill and care exercised for similar projects under similar conditions by reputable and competent environmental consultants. The information contained in this report, including its conclusions, is based on the information that was made available to KGS Group during the investigation and upon the services described, which was performed within the time and budgetary requirements of Public Services and Procurement Canada and the Canadian Food Inspection Agency. As the report is based on available information, some of its conclusions could be different if the information upon which it is based is determined to be false, inaccurate or contradicted by additional information. KGS Group makes no representation concerning the legal significance of its findings or the value of the property investigated.

10.0 REFERENCES

1. Alberta Government. October 2010. *Alberta Asbestos Abatement Manual*.
2. Public Service and Procurement Canada. June 5, 2017. *Asbestos Management Standard*.
3. Public Service and Procurement Canada. June 5, 2017. *Policy 057 – Asbestos Management Directive*.

TABLES

**TABLE 1
ASBESTOS INVENTORY TABLE: MAIN LABORATORY (BUILDING #014990)
CFIA FACILITY: LETHBRIDGE, ALBERTA**

Sample ID ⁽¹⁾	Location	Sample Description	Condition of Sample Material/Comments	Bulk Asbestos Content ^(2,3)								
				Asbestos Type						Other Content		
				Actinolite	Amosite	Anthophyllite	Chrysotile	Crocidolite	Tremolite	Cellulose	Glass Fibres	Non-Fibrous Material
Main Laboratory/Animal Disease Research Insitute (Building # 014990)												
LB-ADRI-ACM-01A	R.171	12"x12" Beige/Grey Vinyl Floor Tile	Good	ND	ND	ND	ND	ND	ND	ND	ND	100
		Homogeneous Black Mastic	Good	ND	ND	ND	ND	ND	ND	1	ND	99
LB-ADRI-ACM-01B	R.171	12"x12" Beige/Grey Vinyl Floor Tile	Good	ND	ND	ND	ND	ND	ND	ND	ND	100
		Homogeneous Black Mastic	Good	ND	ND	ND	ND	ND	ND	1	ND	99
LB-ADRI-ACM-01C	R.171	12"x12" Beige/Grey Vinyl Floor Tile	Good	ND	ND	ND	ND	ND	ND	ND	ND	100
		Homogeneous Black Mastic	Good	ND	ND	ND	ND	ND	ND	1	ND	99
LB-ADRI-ACM-02A	R.167 (Stores)	Drywall mud/joint compound	Good	ND	ND	ND	ND	ND	ND	1	ND	99
LB-ADRI-ACM-02B	R.137 (Women's Washroom)	Drywall mud/joint compound	Good	ND	ND	ND	ND	ND	ND	1	ND	99
LB-ADRI-ACM-02C	Hallway by R.402	Drywall mud/joint compound	Good	ND	ND	ND	ND	ND	ND	1	ND	99
LB-ADRI-ACM-02D ⁽⁴⁾	R.427	Drywall mud/joint compound	Good	ND	ND	ND	ND	ND	ND	1	ND	99
LB-ADRI-ACM-02E	Hallway by R.170	Drywall mud/joint compound	Good	ND	ND	ND	ND	ND	ND	1	ND	99
LB-ADRI-ACM-02F	Hallway by R.107	Drywall mud/joint compound	Good	ND	ND	ND	ND	ND	ND	1	ND	99
LB-ADRI-ACM-02G	By Front Reception (Level 100)	Drywall mud/joint compound	Good	ND	ND	ND	ND	ND	ND	1	ND	99
LB-ADRI-ACM-03A	R.426	Plaster on Ceiling	Good	ND	ND	ND	ND	ND	ND	ND	ND	100
LB-ADRI-ACM-03B	R.426	Plaster on Ceiling	Good	ND	ND	ND	ND	ND	ND	ND	ND	100
LB-ADRI-ACM-03C	R.426	Plaster on Ceiling	Good	ND	ND	ND	ND	ND	ND	ND	ND	100
LB-ADRI-ACM-04A	R.418	Plaster Coat on Brick	Good	ND	ND	ND	ND	ND	ND	ND	ND	Wollastonite 0.5
LB-ADRI-ACM-04B	R.418	Plaster Coat on Brick	Good	ND	ND	ND	ND	ND	ND	ND	ND	Wollastonite 0.5
LB-ADRI-ACM-04C	R.418	Plaster Coat on Brick	Good	ND	ND	ND	ND	ND	ND	ND	ND	Wollastonite 0.5
LB-ADRI-ACM-05A	Hallway near R.418	Interior Window Caulking	Good	ND	ND	ND	ND	ND	ND	1	ND	99
LB-ADRI-ACM-05B	Hallway near R.418	Interior Window Caulking	Good	ND	ND	ND	ND	ND	ND	1	ND	99
LB-ADRI-ACM-05C	Hallway near R.418	Interior Window Caulking	Good	ND	ND	ND	ND	ND	ND	1	ND	99
LB-ADRI-ACM-06A	R.456	Fire Brick within Incinerator	Good	ND	ND	ND	ND	ND	ND	ND	ND	100 (Perlite)
LB-ADRI-ACM-06B	R.456	Fire Brick within Incinerator	Good	ND	ND	ND	ND	ND	ND	ND	ND	100 (Perlite)
LB-ADRI-ACM-06C	R.456	Fire Brick within Incinerator	Good	ND	ND	ND	ND	ND	ND	ND	ND	100 (Perlite)
LB-ADRI-ACM-07A	R.456	Duct insulation coating (brown mastic)	Good	ND	ND	ND	ND	ND	ND	ND	ND	100 (3% Wollastonite)
LB-ADRI-ACM-07B	R.456	Duct insulation coating (brown mastic)	Good	ND	ND	ND	ND	ND	ND	ND	ND	100 (3% Wollastonite)
LB-ADRI-ACM-07C	R.456	Duct insulation coating (brown mastic)	Good	ND	ND	ND	ND	ND	ND	ND	ND	100 (3% Wollastonite)

TABLE 1
ASBESTOS INVENTORY TABLE: MAIN LABORATORY (BUILDING #014990)
CFIA FACILITY: LETHBRIDGE, ALBERTA

Sample ID ⁽¹⁾	Location	Sample Description	Condition of Sample Material/Comments	Bulk Asbestos Content ^(2,3)									
				Asbestos Type						Other Content			
				Actinolite	Amosite	Anthophyllite	Chrysotile	Crocidolite	Tremolite	Cellulose	Glass Fibres	Non-Fibrous Material	
LB-ADRI-ACM-08A	Hallway outside Stair #5 door by R.449	Light Grey Vinyl Sheet Flooring	Good	ND	ND	ND	ND	ND	ND	ND	ND	ND	100
LB-ADRI-ACM-08B	Hallway outside Stair #5 door by R.449	Light Grey Vinyl Sheet Flooring	Good	ND	ND	ND	ND	ND	ND	ND	ND	ND	100
LB-ADRI-ACM-08C	Hallway outside Stair #5 door by R.449	Light Grey Vinyl Sheet Flooring	Good	ND	ND	ND	ND	ND	ND	ND	ND	ND	100
LB-ADRI-ACM-09A	400 Wing Crawlspace	Spray on foam insulation	Good	ND	ND	ND	ND	ND	ND	ND	ND	70	30
LB-ADRI-ACM-09B	400 Wing Crawlspace	Spray on foam insulation	Good	ND	ND	ND	ND	ND	ND	ND	ND	70	30
LB-ADRI-ACM-09C	400 Wing Crawlspace	Spray on foam insulation	Good	ND	ND	ND	ND	ND	ND	ND	ND	70	30
LB-ADRI-ACM-10A	100 Area - By R.107	Textured ceiling plaster	Good	ND	ND	ND	2%	ND	ND	ND	ND	ND	98
LB-ADRI-ACM-10B	100 Area - By R.107	Textured ceiling plaster	Good	-	-	-	-	-	-	-	-	-	-
LB-ADRI-ACM-10C	100 Area - By R.107	Textured ceiling plaster	Good	-	-	-	-	-	-	-	-	-	-

Notes:

"-" = Sample not analyzed due to stop-positive method.

ND = Not detected. Below reportable detection limit of 0.25 %.

1. Samples obtained on February 6, 2018 by Ganga Atmuri and Leah Poliszczak.

2. Bulk asbestos content expressed as a percentage (%) volume fibre found/submitted (%vol/vol).

3. Analyzed via Polarized Light Microscopy (PLM).

4. QA/QC sample.

BOLD

- Asbestos Containing Material (ACM)

**TABLE 2
ASBESTOS INVENTORY TABLE: GENERAL SERVICES BUILDING (BUILDING #102829)
CFIA FACILITY: LETHBRIDGE, ALBERTA**

Sample ID ⁽¹⁾	Location	Sample Description	Condition of Sample Material/Comments	Bulk Asbestos Content ^(2,3)								
				Asbestos Type						Other Content		
				Actinolite	Amosite	Anthophyllite	Chrysotile	Crocidolite	Tremolite	Cellulose	Glass Fibres	Non-Fibrous Material
General Services Building (Building # 102829)												
LB-GSB-ACM-01A	Stairwell	Tan 12"x12" Floor Tile	Good	ND	ND	ND	ND	ND	ND	ND	ND	100
LB-GSB-ACM-01B	Stairwell	Tan 12"x12" Floor Tile	Good	ND	ND	ND	ND	ND	ND	ND	ND	100
LB-GSB-ACM-01C	Stairwell	Tan 12"x12" Floor Tile	Good	ND	ND	ND	ND	ND	ND	ND	ND	100
LB-GSB-ACM-02A	R.103 (Surplus material)	Blue/Pink with Beige - Vinyl Sheet Flooring	Good	ND	ND	ND	ND	ND	ND	ND	ND	100
LB-GSB-ACM-02B	R.103 (Surplus material)	Blue/Pink with Beige - Vinyl Sheet Flooring	Good	ND	ND	ND	ND	ND	ND	ND	ND	100
LB-GSB-ACM-02C	R.103 (Surplus material)	Blue/Pink with Beige - Vinyl Sheet Flooring	Good	ND	ND	ND	ND	ND	ND	ND	ND	100
LB-GSB-ACM-03A	R.103 (Surplus material)	White with black specks - drop ceiling tile	Good	ND	ND	ND	ND	ND	ND	30	30	70
LB-GSB-ACM-03B	R.103 (Surplus material)	White with black specks - drop ceiling tile	Good	ND	ND	ND	ND	ND	ND	30	30	70
LB-GSB-ACM-03C	R.103 (Surplus material)	White with black specks - drop ceiling tile	Good	ND	ND	ND	ND	ND	ND	30	30	70
LB-GSB-ACM-04A	Carpenter Shop	Drywall mud/joint compound	Good	ND	ND	ND	ND	ND	ND	ND	ND	100
LB-GSB-ACM-04B ⁽⁴⁾	Carpenter Shop	Drywall mud/joint compound	Good	ND	ND	ND	ND	ND	ND	ND	ND	100
LB-GSB-ACM-04C	Carpenter Shop	Drywall mud/joint compound	Good	ND	ND	ND	ND	ND	ND	ND	ND	100

Notes:

ND = Not detected. Below reportable detection limit of 0.25 %.

1. Samples obtained on February 6, 2018 by Ganga Atmuri and Leah Poliszczak.
2. Bulk asbestos content expressed as a percentage (%) volume fibre found/submitted (%vol/vol).
3. Analyzed via Polarized Light Microscopy (PLM).
4. QA/QC sample.

BOLD - Asbestos Containing Material (ACM)

**TABLE 3
ASBESTOS INVENTORY TABLE: RESIDENCE AGR 277 (BUILDING #102830)
CFIA FACILITY: LETHBRIDGE, ALBERTA**

Sample ID ⁽¹⁾	Location	Sample Description	Condition of Sample Material/Comments	Bulk Asbestos Content ^(2, 3)								
				Asbestos Type						Other Content		
				Actinolite	Amosite	Anthophyllite	Chrysotile	Crocidolite	Tremolite	Cellulose	Glass Fibres	Non-Fibrous Material
Residence AGR 277 (Building #102830)												
LB-B3-ACM-01A	Basement Duct	Paperwrap Around Duct	Fair	ND	ND	ND	50%	ND	ND	5%	ND	100
LB-B3-ACM-01B	Basement Duct	Paperwrap Around Duct	Fair	-	-	-	-	-	-	-	-	-
LB-B3-ACM-01C	Basement Duct	Paperwrap Around Duct	Fair	-	-	-	-	-	-	-	-	-
LB-B3-ACM-02A	At Staircase - main floor	Textured ceiling plaster	Good	ND	ND	ND	2%	ND	ND	ND	ND	98
LB-B3-ACM-02B ⁽⁴⁾	At Staircase - main floor	Textured ceiling plaster	Good	ND	ND	ND	2%	ND	ND	ND	ND	98
LB-B3-ACM-02C	At Staircase - main floor	Textured ceiling plaster	Good	-	-	-	-	-	-	-	-	-
LB-B3-ACM-03A	Exterior	Exterior plaster (white, yellow and layers)	Good	ND	ND	ND	ND	ND	ND	ND	ND	100
LB-B3-ACM-03B	Exterior	Exterior plaster (white, yellow and layers)	Good	ND	ND	ND	ND	ND	ND	ND	ND	100
LB-B3-ACM-03C	Exterior	Exterior plaster (white, yellow and layers)	Good	ND	ND	ND	ND	ND	ND	ND	ND	100
LB-B3-ACM-03D	Exterior	Exterior plaster (white, yellow and layers)	Good	ND	ND	ND	ND	ND	ND	ND	ND	100
LB-B5-ACM-03E	Exterior	Exterior plaster (white, yellow and layers)	Good	ND	ND	ND	ND	ND	ND	ND	ND	100

Notes:

"-" = Sample not analyzed due to stop-positive method.

ND = Not detected. Below reportable detection limit of 0.25 %.

1. Samples obtained on February 7, 2018 by Ganga Atmuri and Leah Poliszczak.
2. Bulk asbestos content expressed as a percentage (%) volume fibre found/submitted (%vol/vol).
3. Analyzed via Polarized Light Microscopy (PLM).
4. QA/QC sample.

BOLD - Asbestos Containing Material (ACM)

**TABLE 4
 ASBESTOS INVENTORY TABLE: RESIDENCE AGR 281 (BUILDING #102831)
 CFIA FACILITY: LETHBRIDGE, ALBERTA**

Sample ID ⁽¹⁾	Location	Sample Description	Condition of Sample Material/Comments	Bulk Asbestos Content ^(2, 3)								
				Asbestos Type						Other Content		
				Actinolite	Amosite	Anthophyllite	Chrysotile	Crocidolite	Tremolite	Cellulose	Glass Fibres	Non-Fibrous Material
Residence AGR 281 (Building #102831)												
LB-B4-ACM-01A	Basement	Duct insulation	Fair	ND	ND	ND	50%	ND	ND	5%	ND	100
LB-B4-ACM-01B ⁽⁴⁾	Basement	Duct insulation	Fair	ND	ND	ND	50%	ND	ND	5%	ND	100
LB-B4-ACM-01C	Basement	Duct insulation	Fair	-	-	-	-	-	-	-	-	-
LB-B4-ACM-02A	Basement	Paperwrap Around Duct	Fair	ND	ND	ND	50%	ND	ND	5%	ND	100
LB-B4-ACM-02B	Basement	Paperwrap Around Duct	Fair	-	-	-	-	-	-	-	-	-
LB-B4-ACM-02C	Basement	Paperwrap Around Duct	Fair	-	-	-	-	-	-	-	-	-

Notes:

"-" = Sample not analyzed due to stop-positive method.

ND = Not detected. Below reportable detection limit of 0.25 %.

1. Samples obtained on February 7, 2018 by Ganga Atmuri and Leah Poliszczak.

2. Bulk asbestos content expressed as a percentage (%) volume fibre found/submitted (%vol/vol).

3. Analyzed via Polarized Light Microscopy (PLM).

4. QA/QC sample.

BOLD - Asbestos Containing Material (ACM)

**TABLE 5
ASBESTOS INVENTORY TABLE: STUDENT RESIDENCE (BUILDING #102832)
CFIA FACILITY: LETHBRIDGE, ALBERTA**

Sample ID ⁽¹⁾	Location	Sample Description	Condition of Sample Material/Comments	Bulk Asbestos Content ^(2, 3)								
				Asbestos Type						Other Content		
				Actinolite	Amosite	Anthophyllite	Chrysotile	Crocidolite	Tremolite	Cellulose	Glass Fibres	Non-Fibrous Material
Student Residence (Building #102832)												
LB-B5-ACM-01A	Front Entry	Brown-beige hexagonal vinyl sheet flooring	Good	ND	ND	ND	ND	ND	ND	25%	5%	100
LB-B5-ACM-01B	Front Entry	Brown-beige hexagonal vinyl sheet flooring	Good	ND	ND	ND	ND	ND	ND	25%	5%	100
LB-B5-ACM-01C	Front Entry	Brown-beige hexagonal vinyl sheet flooring	Good	ND	ND	ND	ND	ND	ND	25%	5%	100
LB-B5-ACM-02A	Front Entry - Closet Corner	Drywall mud/joint compound	Good	ND	ND	ND	ND	ND	ND	ND	ND	100
LB-B5-ACM-02B	Front Entry - Closet Corner	Drywall mud/joint compound	Good	ND	ND	ND	ND	ND	ND	ND	ND	100
LB-B5-ACM-02C	Front Entry - Closet Corner	Drywall mud/joint compound	Good	ND	ND	ND	ND	ND	ND	ND	ND	100
LB-B5-ACM-03A	Basement	Brown VSF backing	Fair	ND	ND	ND	40%	ND	ND	ND	ND	70
		Grey levelling compound		ND	ND	ND	ND	ND	ND	ND	ND	10
		Light Yellow Star - Floor Tile		ND	ND	ND	ND	ND	ND	ND	ND	20
LB-B5-ACM-03B ⁽⁴⁾	Basement	Brown VSF backing	Fair	ND	ND	ND	40%	ND	ND	ND	ND	70
		Grey levelling compound		ND	ND	ND	ND	ND	ND	ND	ND	10
		Light Yellow Star - Floor Tile		ND	ND	ND	ND	ND	ND	ND	ND	20
LB-B5-ACM-03C	Basement	Light Yellow Star - Floor Tile	Fair	-	-	-	-	-	-	-	-	
LB-B5-ACM-04A	Basement - Porch	Wall plaster	Fair	ND	ND	ND	<1%	ND	ND	ND	ND	99
LB-B5-ACM-04B	Basement - Porch	Wall plaster	Fair	ND	ND	ND	<1%	ND	ND	ND	ND	99
LB-B5-ACM-04C	Basement - Porch	Wall plaster	Fair	ND	ND	ND	<1%	ND	ND	ND	ND	99
LB-B5-ACM-05A	Basement - Porch	Wall plaster (second type)	Fair	ND	ND	ND	ND	ND	ND	ND	ND	100
LB-B5-ACM-05B	Basement - Porch	Wall plaster (second type)	Fair	ND	ND	ND	ND	ND	ND	ND	ND	100
LB-B5-ACM-05C	Basement - Porch	Wall plaster (second type)	Fair	ND	ND	ND	ND	ND	ND	ND	ND	100
LB-B5-ACM-06A	Exterior	Exterior plaster	Fair	ND	ND	ND	ND	ND	ND	ND	ND	100
LB-B5-ACM-06B	Exterior	Exterior plaster	Fair	ND	ND	ND	<1%	ND	ND	ND	ND	99
LB-B5-ACM-06C	Exterior	Exterior plaster	Fair	ND	ND	ND	<1%	ND	ND	ND	ND	99
LB-B5-ACM-06D	Exterior	Exterior plaster	Fair	ND	ND	ND	<1%	ND	ND	ND	ND	99
LB-B5-ACM-06E	Exterior	Exterior plaster	Fair	ND	ND	ND	<1%	ND	ND	ND	ND	99

Notes:

"-" = Sample not analyzed due to stop-positive method.

ND = Not detected. Below reportable detection limit of 0.25 %.

1. Samples obtained on February 6, 2018 by Ganga Atmuri and Leah Poliszczak.
2. Bulk asbestos content expressed as a percentage (%) volume fibre found/submitted (%vol/vol).
3. Analyzed via Polarized Light Microscopy (PLM).
4. QA/QC sample.

BOLD - Asbestos Containing Material (ACM)

**TABLE 6
ASBESTOS INVENTORY TABLE: RESIDENCE AGR 280 (BUILDING #102834)
CFIA FACILITY: LETHBRIDGE, ALBERTA**

Sample ID ⁽¹⁾	Location	Sample Description	Condition of Sample Material/Comments	Bulk Asbestos Content ^(2, 3)								
				Asbestos Type						Other Content		
				Actinolite	Amosite	Anthophyllite	Chrysotile	Crocidolite	Tremolite	Cellulose	Glass Fibres	Non-Fibrous Material
Residence AGR 280 (Building #102833)												
LB-B8-ACM-01A	Basement	Yellow brick pattern vinyl flooring	Fair	ND	ND	ND	ND	ND	ND	20	5	100
LB-B8-ACM-01B ⁽⁴⁾	Basement	Yellow brick pattern vinyl flooring	Fair	ND	ND	ND	ND	ND	ND	20	5	100
LB-B8-ACM-01C	Basement	Yellow brick pattern vinyl flooring	Fair	ND	ND	ND	ND	ND	ND	20	5	100
LB-B8-ACM-02A	Basement	Paperwrap Around Duct	Fair	ND	ND	ND	50%	ND	ND	5%	ND	100
LB-B8-ACM-02B	Basement	Paperwrap Around Duct	Fair	-	-	-	-	-	-	-	-	-
LB-B8-ACM-02C	Basement	Paperwrap Around Duct	Fair	-	-	-	-	-	-	-	-	-

Notes:

"-" = Sample not analyzed due to stop-positive method.

ND = Not detected. Below reportable detection limit of 0.25 %.

1. Samples obtained on February 7, 2018 by Ganga Atmuri and Leah Poliszczak.

2. Bulk asbestos content expressed as a percentage (%) volume fibre found/submitted (%vol/vol).

3. Analyzed via Polarized Light Microscopy (PLM).

4. QA/QC sample.

BOLD - Asbestos Containing Material (ACM)

**TABLE 7
ASBESTOS INVENTORY TABLE: PUMPHOUSE #1 (BUILDING #102834)
CFIA FACILITY: LETHBRIDGE, ALBERTA**

Sample ID ⁽¹⁾	Location	Sample Description	Condition of Sample Material/Comments	Bulk Asbestos Content ^(2, 3)								
				Asbestos Type						Other Content		
				Actinolite	Amosite	Anthophyllite	Chrysotile	Crocidolite	Tremolite	Cellulose	Glass Fibres	Non-Fibrous Material
Pumphouse #1 (Building #102834)												
LB-B11-ACM-01A	Exterior - Roof	Shingles - Green	Good	ND	ND	ND	ND	ND	ND	20	ND	100
LB-B11-ACM-01B	Exterior - Roof	Shingles - Green	Good	ND	ND	ND	ND	ND	ND	20	ND	100
LB-B11-ACM-01C	Exterior - Roof	Shingles - Green	Good	ND	ND	ND	ND	ND	ND	20	ND	100
LB-B11-ACM-02A	Exterior - Wall Board	Cement Siding - Grey	Good	ND	ND	ND	25%	ND	ND	ND	ND	100
LB-B11-ACM-02B ⁽⁴⁾	Exterior - Wall Board	Cement Siding - Grey	Good	ND	ND	ND	25%	ND	ND	ND	ND	100
LB-B11-ACM-02C	Exterior - Wall Board	Cement Siding - Grey	Good	-	-	-	-	-	-	-	-	-
LB-B11-ACM-03A	Interior - Cement Board (Transite)	Interior Cement Board/Transite - Walls and Ceiling	Good	ND	ND	ND	25%	ND	ND	ND	ND	100
LB-B11-ACM-03B	Interior - Cement Board (Transite)	Interior Cement Board/Transite - Walls and Ceiling	Good	-	-	-	-	-	-	-	-	-
LB-B11-ACM-03C	Interior - Cement Board (Transite)	Interior Cement Board/Transite - Walls and Ceiling	Good	-	-	-	-	-	-	-	-	-

Notes:

- "-" = Sample not analyzed due to stop-positive method.
- ND = Not detected. Below reportable detection limit of 0.25 %.
- 1. Samples obtained on February 7, 2018 by Ganga Atmuri and Leah Poliszczak.
- 2. Bulk asbestos content expressed as a percentage (%) volume fibre found/submitted (%vol/vol).
- 3. Analyzed via Polarized Light Microscopy (PLM).
- 4. QA/QC sample.

BOLD - Asbestos Containing Material (ACM)

**TABLE 8
ASBESTOS INVENTORY TABLE: LARGE BARN (BUILDING #102837)
CFIA FACILITY: LETHBRIDGE, ALBERTA**

Sample ID ⁽¹⁾	Location	Sample Description	Condition of Sample Material/Comments	Bulk Asbestos Content ^(2, 3)								
				Asbestos Type						Other Content		
				Actinolite	Amosite	Anthophyllite	Chrysotile	Crocidolite	Tremolite	Cellulose	Glass Fibres	Non-Fibrous Material
Large Barn (Building #102837)												
LB-LB-ACM-01A	Mechanical Room	Cement Board - Wall & Ceiling	Good	ND	ND	ND	30% (Transite)	ND	ND	ND	ND	70
LB-LB-ACM-01B ⁽⁴⁾	Mechanical Room	Cement Board - Wall & Ceiling	Good	ND	ND	ND	30% (Transite)	ND	ND	ND	ND	70
LB-LB-ACM-01C	Mechanical Room	Cement Board - Wall & Ceiling	Good	-	-	-	-	-	-	-	-	-
LB-LB-ACM-02A	Interior wall - Office Area	Cement Board - Wall & Ceiling	Good	ND	ND	ND	1%	ND	ND	ND	ND	99
LB-LB-ACM-02B	Interior wall - Office Area	Cement Board - Wall & Ceiling	Good	-	-	-	-	-	-	-	-	-
LB-LB-ACM-02C	Interior wall - Office Area	Cement Board - Wall & Ceiling	Good	-	-	-	-	-	-	-	-	-
LB-LB-ACM-03A	Interior wall	Plaster	Good	ND	ND	ND	2%	ND	ND	ND	ND	98
LB-LB-ACM-03B	Interior wall	Plaster	Good	-	-	-	-	-	-	-	-	-
LB-LB-ACM-03C	Interior wall	Plaster	Good	-	-	-	-	-	-	-	-	-
LB-LB-ACM-04A	Exterior	Exterior plaster	Good		ND	ND	<1%	ND	ND	ND	ND	99
LB-LB-ACM-04B	Exterior	Exterior plaster	Good		ND	ND	<1%	ND	ND	ND	ND	99
LB-LB-ACM-04C	Exterior	Exterior plaster	Good	ND	ND	ND	<1%	ND	ND	ND	ND	99
LB-LB-ACM-05A	Roof	Shingles (top layer- green)	Good	ND	ND	ND	ND	ND	ND	20	ND	80
LB-LB-ACM-05B	Roof	Shingles (top layer - green)	Good	ND	ND	ND	ND	ND	ND	20	ND	80
LB-LB-ACM-05C	Roof	Shingles (top layer- green)	Good	ND	ND	ND	ND	ND	ND	20	ND	80
LB-LB-ACM-06A	Roof	Shingles (bottom layer - multicolour)	Fair	ND	ND	ND	ND	ND	ND	20	ND	80
LB-LB-ACM-06B	Roof	Shingles (bottom layer - multicolour)	Fair	ND	ND	ND	ND	ND	ND	20	ND	80
LB-LB-ACM-06C	Roof	Shingler (bottom layer - multicolour)	Fair	ND	ND	ND	ND	ND	ND	20	ND	80

Notes:

- "-" = Sample not analyzed due to stop-positive method.
- ND = Not detected. Below reportable detection limit of 0.25 %.
- 1. Samples obtained on February 6, 2018 by Ganga Atmuri and Leah Poliszczak.
- 2. Bulk asbestos content expressed as a percentage (%) volume fibre found/submitted (%vol/vol).
- 3. Analyzed via Polarized Light Microscopy (PLM).
- 4. QA/QC sample.

BOLD - Asbestos Containing Material (ACM)

TABLE 9
ASBESTOS INVENTORY TABLE: HOUSE AGR 282 (BUILDING #102838)
CFIA FACILITY: LETHBRIDGE, ALBERTA

Sample ID ⁽¹⁾	Location	Sample Description	Condition of Sample Material/Comments	Bulk Asbestos Content ^(2, 3)								
				Asbestos Type						Other Content		
				Actinolite	Amosite	Anthophyllite	Chrysotile	Crocidolite	Tremolite	Cellulose	Glass Fibres	Non-Fibrous Material
House AGR 282 (Building #102838)												
LB-B18-ACM-01A	Upstairs wall	Drywall mud/joint compound	Good	ND	ND	ND	ND	ND	ND	1%	ND	99
LB-B18-ACM-01B	Upstairs wall	Drywall mud/joint compound	Good	ND	ND	ND	1%	ND	ND	ND	ND	99
LB-B18-ACM-01C	Upstairs wall	Drywall mud/joint compound	Good	-	-	-	-	-	-	-	-	-
LB-B18-ACM-02A	Rear Entry Ceiling	Textured ceiling plaster	Good	ND	ND	ND	ND	ND	ND	ND	ND	100
LB-B18-ACM-02B	Front Bedroom Ceiling	Textured ceiling plaster	Good	ND	ND	ND	ND	ND	ND	ND	ND	100
LB-B18-ACM-02C	Rear Bedroom Ceiling	Textured ceiling plaster	Good	ND	ND	ND	ND	ND	ND	ND	ND	100
LB-B18-ACM-03A	Living Room	Textured ceiling plaster	Good	ND	ND	ND	1%	ND	ND	ND	ND	99
LB-B18-ACM-03B	Living Room	Textured ceiling plaster	Good	-	-	-	-	-	-	-	-	-
LB-B18-ACM-03C	Dining Room	Textured ceiling plaster	Good	-	-	-	-	-	-	-	-	-
LB-B18-ACM-04A	Bathroom	Wall insulation (exposed)	Fair	ND	ND	ND	ND	ND	ND	95%	ND	100
LB-B18-ACM-04B	Bathroom	Wall insulation (exposed)	Fair	ND	ND	ND	ND	ND	ND	95%	ND	100
LB-B18-ACM-04C	Bathroom	Wall insulation (exposed)	Fair	ND	ND	ND	ND	ND	ND	95%	ND	100
LB-B18-ACM-05A	Bathroom	Pebble pattern vinyl floor tile (second layer)	Fair	ND	ND	ND	35%	ND	ND	5%	ND	100
		Brown mastic	Fair	ND	ND	ND	ND	ND	ND	ND	ND	100
LB-B18-ACM-05B ⁽⁴⁾	Bathroom	Pebble pattern vinyl floor tile (second layer)	Fair	ND	ND	ND	35%	ND	ND	5%	ND	100
		Brown mastic	Fair	ND	ND	ND	ND	ND	ND	ND	ND	100
LB-B18-ACM-05C	Bathroom	Pebble pattern vinyl floor tile (second layer)	Fair	-	-	-	-	-	-	-	-	-
LB-B18-ACM-06A	Bathroom	Grey-Red Floor Tile (third layer)	Fair	ND	ND	ND	ND	ND	ND	ND	ND	80
		Black fibrous mix		ND	ND	ND	ND	ND	ND	40%	ND	20
LB-B18-ACM-06B	Bathroom	Grey-Red Floor Tile (third layer)	Fair	ND	ND	ND	ND	ND	ND	ND	ND	75
		Black fibrous mix		ND	ND	ND	ND	ND	ND	40%	ND	15
		White fibrous mix		ND	ND	ND	30%	ND	ND	ND	ND	10
LB-B18-ACM-06C	Bathroom	Grey-Red Floor Tile (third layer)	Fair	-	-	-	-	-	-	-	-	
LB-B18-ACM-07A	Basement Bedroom	Drywall mud/joint compound	Good	ND	ND	ND	ND	ND	ND	ND	ND	100
LB-B18-ACM-07B	Basement Bedroom (Rear)	Drywall mud/joint compound	Good	ND	ND	ND	ND	ND	ND	ND	ND	100
LB-B18-ACM-07C	Basement Bedroom (Rear)	Drywall mud/joint compound	Good	ND	ND	ND	ND	ND	ND	ND	ND	100

Notes:

"-" = Sample not analyzed due to stop-positive method.

ND = Not detected. Below reportable detection limit of 0.25 %.

1. Samples obtained on February 6, 2018 by Ganga Atmuri and Leah Poliszczak.
2. Bulk asbestos content expressed as a percentage (%) volume fibre found/submitted (%vol/vol).
3. Analyzed via Polarized Light Microscopy (PLM).
4. QA/QC sample.

BOLD - Asbestos Containing Material (ACM)

**TABLE 10
ASBESTOS INVENTORY TABLE: RESIDENCE AGR 284 (BUILDING #102839)
CFIA FACILITY: LETHBRIDGE, ALBERTA**

Sample ID ⁽¹⁾	Location	Sample Description	Condition of Sample Material/Comments	Bulk Asbestos Content ^(2, 3)								
				Asbestos Type						Other Content		
				Actinolite	Amosite	Anthophyllite	Chrysotile	Crocidolite	Tremolite	Cellulose	Glass Fibres	Non-Fibrous Material
Residence AGR 284 (Building #102839)												
LB-B20-ACM-01A	Basement Bathroom	Tan 12"x12" Floor Tile	Good	ND	ND	ND	4%	ND	ND	ND	ND	95
		Brown mastic		ND	ND	ND	ND	ND	ND	ND	5	
LB-B20-ACM-01B ⁽⁴⁾	Basement Bathroom	Tan 12"x12" Floor Tile	Good	ND	ND	ND	4%	ND	ND	ND	ND	95
		Brown mastic		ND	ND	ND	ND	ND	ND	ND	5	
LB-B20-ACM-01C	Basement Bathroom	Tan 12"x12" Floor Tile	Good	-	-	-	-	-	-	-	-	-
LB-B20-ACM-02A	Basement by Bathroom	Drywall mud/joint compound	Good	ND	ND	ND	ND	ND	ND	ND	ND	100
LB-B20-ACM-02B	Basement by Bathroom	Drywall mud/joint compound	Good	ND	ND	ND	ND	ND	ND	ND	ND	100
LB-B20-ACM-02C	Basement - Bedroom Closet	Drywall mud/joint compound	Good	ND	ND	ND	ND	ND	ND	ND	ND	100

Notes:

"-" = Sample not analyzed due to stop-positive method.

ND = Not detected. Below reportable detection limit of 0.25 %.

1. Samples obtained on February 7, 2018 by Ganga Atmuri and Leah Poliszczak.
2. Bulk asbestos content expressed as a percentage (%) volume fibre found/submitted (%vol/vol).
3. Analyzed via Polarized Light Microscopy (PLM).
4. QA/QC sample.

BOLD - Asbestos Containing Material (ACM)

**TABLE 11
ASBESTOS INVENTORY TABLE: ISOLATION SHEEP BARN (BUILDING #102842)
CFIA FACILITY: LETHBRIDGE, ALBERTA**

Sample ID ⁽¹⁾	Location	Sample Description	Condition of Sample Material/Comments	Bulk Asbestos Content ^(2,3)								
				Asbestos Type						Other Content		
				Actinolite	Amosite	Anthophyllite	Chrysotile	Crocidolite	Tremolite	Cellulose	Glass Fibres	Non-Fibrous Material
Isolation Sheep Barn (Building # 102842) - BUILDING 29												
LB-CS3-ACM-01A	Ceiling	Wall / Ceiling board - grey	Good	ND	ND	ND	30	ND	ND	ND	ND	70
LB-CS3-ACM-01B ⁽⁴⁾	Ceiling	Wall / Ceiling board - grey	Good	ND	ND	ND	30	ND	ND	ND	ND	70
LB-CS3-ACM-01C	Ceiling	Wall / Ceiling board - grey	Good	-	-	-	-	-	-	-	-	-
LB-CS3-ACM-02A	Exterior	Plaster - multiple layers (white, yellow)	Fair	ND	ND	ND	<1%	ND	ND	ND	ND	99
LB-CS3-ACM-02B	Exterior	Plaster - multiple layers (white, yellow)	Fair	ND	ND	ND	<1%	ND	ND	ND	ND	99
LB-CS3-ACM-02C	Exterior	Plaster - multiple layers (white, yellow)	Fair	ND	ND	ND	<1%	ND	ND	ND	ND	99

Notes:

- "-" = Sample not analyzed due to stop-positive method.
- ND = Not detected. Below reportable detection limit of 0.25 %.
- = Sample Not Analyzed
- 1. Samples obtained on February 6, 2018 by Ganga Atmuri and Leah Poliszczak.
- 2. Bulk asbestos content expressed as a percentage (%) volume fibre found/submitted (%vol/vol).
- 3. Analyzed via Polarized Light Microscopy (PLM).
- 4. QA/QC sample.

BOLD - Asbestos Containing Material (ACM)

**TABLE 12
ASBESTOS INVENTORY TABLE: DRY STORAGE (BUILDING #137925)
CFIA FACILITY: LETHBRIDGE, ALBERTA**

Sample ID ⁽¹⁾	Location	Sample Description	Condition of Sample Material/Comments	Bulk Asbestos Content ^(2, 3)								
				Asbestos Type						Other Content		
				Actinolite	Amosite	Anthophyllite	Chrysotile	Crocidolite	Tremolite	Cellulose	Glass Fibres	Non-Fibrous Material
Isolation Sheep Barn (Internal Building No. 34)(Building # 102842)												
LB-ISB-ACM-01A	Wall Cavity	Insulation - silver/grey/pebbly	Fair	1% (Vermiculite)	ND	ND	ND	ND	ND	ND	ND	100
LB-ISB-ACM-01B	Wall Cavity	Insulation - silver/grey/pebbly	Fair	-	-	-	-	-	-	-	-	-
LB-ISB-ACM-01C	Wall Cavity	Insulation - silver/grey/pebbly	Fair	-	-	-	-	-	-	-	-	-
LB-ISB-ACM-02A	Exterior	Exterior plaster	Fair	ND	ND	ND	<1%	ND	ND	ND	ND	99
LB-ISB-ACM-02B ⁽⁴⁾	Exterior	Exterior plaster	Fair	ND	ND	ND	<1%	ND	ND	ND	ND	99
LB-ISB-ACM-02C	Exterior	Exterior plaster	Fair	ND	ND	ND	<1%	ND	ND	ND	ND	99

Notes:

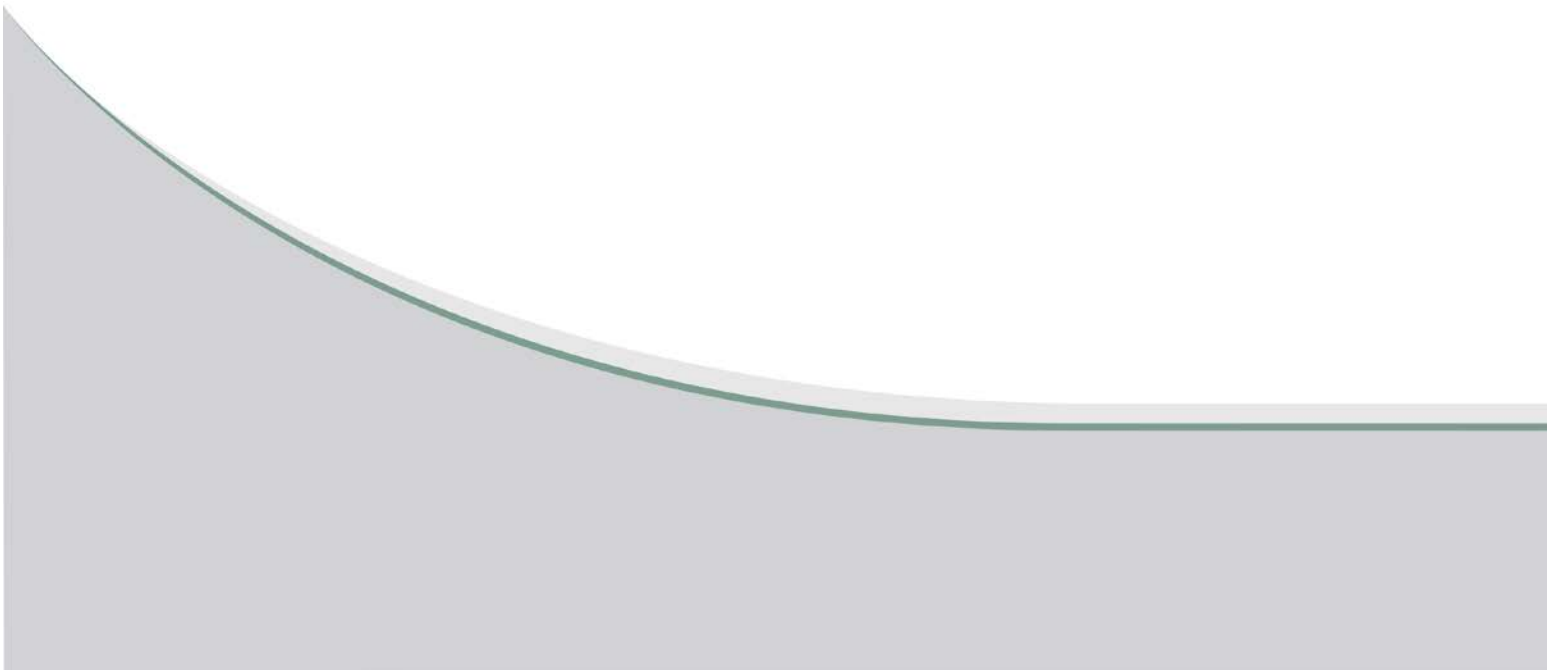
"-" = Sample not analyzed due to stop-positive method.

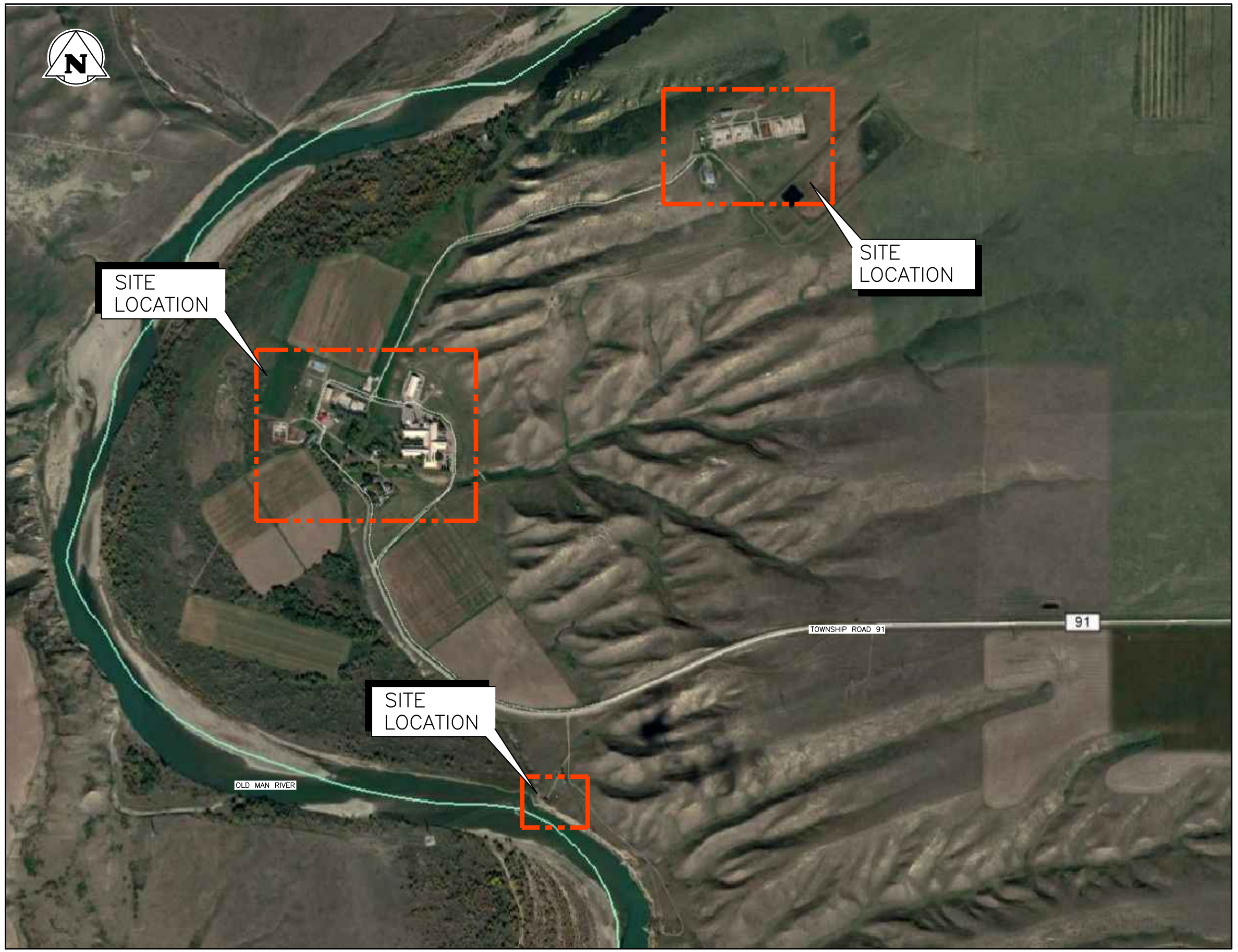
ND = Not detected. Below reportable detection limit of 0.25 %.

1. Samples obtained on February 6, 2018 by Ganga Atmuri and Leah Poliszczak.
2. Bulk asbestos content expressed as a percentage (%) volume fibre found/submitted (%vol/vol).
3. Analyzed via Polarized Light Microscopy (PLM).
4. QA/QC sample.

BOLD - Asbestos Containing Material (ACM)

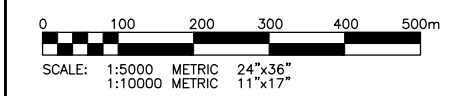
FIGURES





- REFERENCE:**
- KEY MAP IMAGE TAKEN FROM AUX QUATRE POINTS CARDINAUX, GEOMATICS CANADA DEPARTMENT OF NATURAL RESOURCES.
 - SITE PLAN IMAGE TAKEN FROM GOOGLE EARTH IMAGE, 2018 DIGITAL GLOBE.

- LEGEND:**
- CFIA FACILITY - LETHBRIDGE ASSESSED LOCATIONS



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	YY/MM/DD	DESCRIPTION	ISSUED BY	CHECK BY
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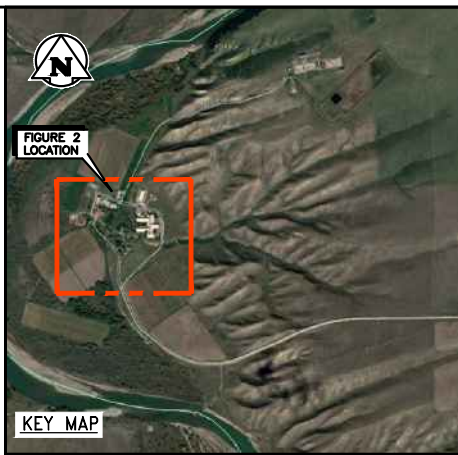


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LETHBRIDGE, AB

OVERALL LOCATION PLAN

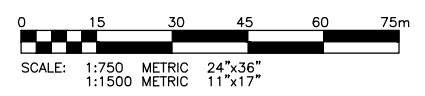
MARCH 2018	FIGURE 01	REV: 0
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File name: R:\Projects\2017\17-0006-013\Dwg\Env\17-0006-013_FIG 02 - Tab\FIG02 Plotted By: pdefiner 18/03/26 [Mon 3:36pm]
 11"x17" PLOT SCALE: 1"=2"



REFERENCE:

- DIGITAL IMAGERY TAKEN FROM GOOGLE EARTH IMAGE, 2018 DIGITAL GLOBE.



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Canada

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LETHBRIDGE, AB

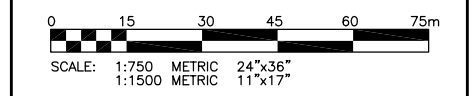
SITE PLAN #1

MARCH 2018	FIGURE 02	REV: 0
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REFERENCE:

- DIGITAL IMAGERY TAKEN FROM GOOGLE EARTH IMAGE, 2018 DIGITAL GLOBE.



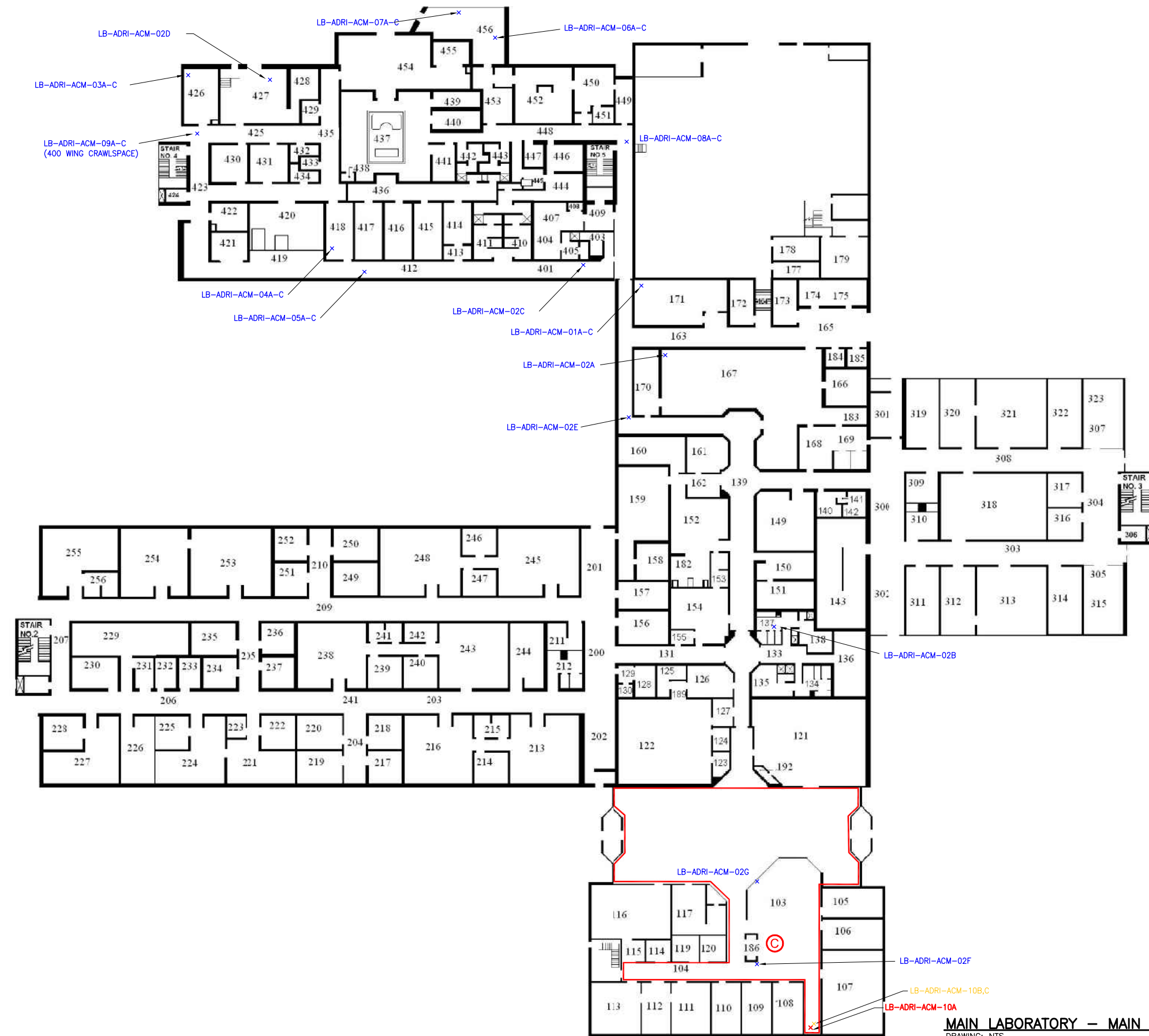
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LETHBRIDGE, AB

SITE PLAN #2	
MARCH 2018	FIGURE 03
REV: 0	

File name: U:\A\FMS\17-0006-013\17-0006-013_FIG 04 - Tab\FIG04 Plotted By: Ipoliszczak 18/03/28 [Wed 4:45pm] 11x17" PLOT SCALE: 1"=2'



- LEGEND:**
- x NON-ASBESTOS-CONTAINING MATERIAL SAMPLE LOCATION
 - x SAMPLE NOT ANALYZED - 1ST/2ND SAMPLE OF SAME MATERIAL CONTAINS ASBESTOS
 - x ASBESTOS-CONTAINING MATERIAL SAMPLE LOCATION
 - (C) ASBESTOS-CONTAINING MATERIAL IDENTIFIED IN CEILING

MAIN LABORATORY - MAIN FLOOR PLAN
DRAWING: NTS

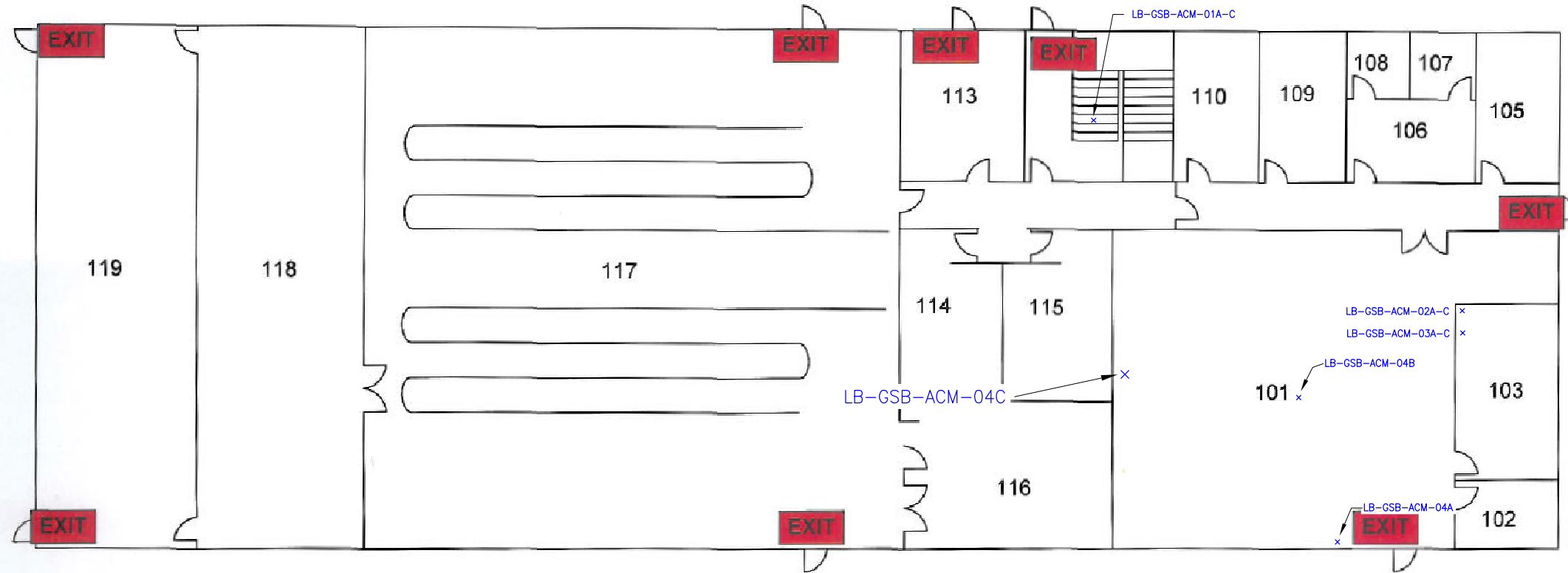
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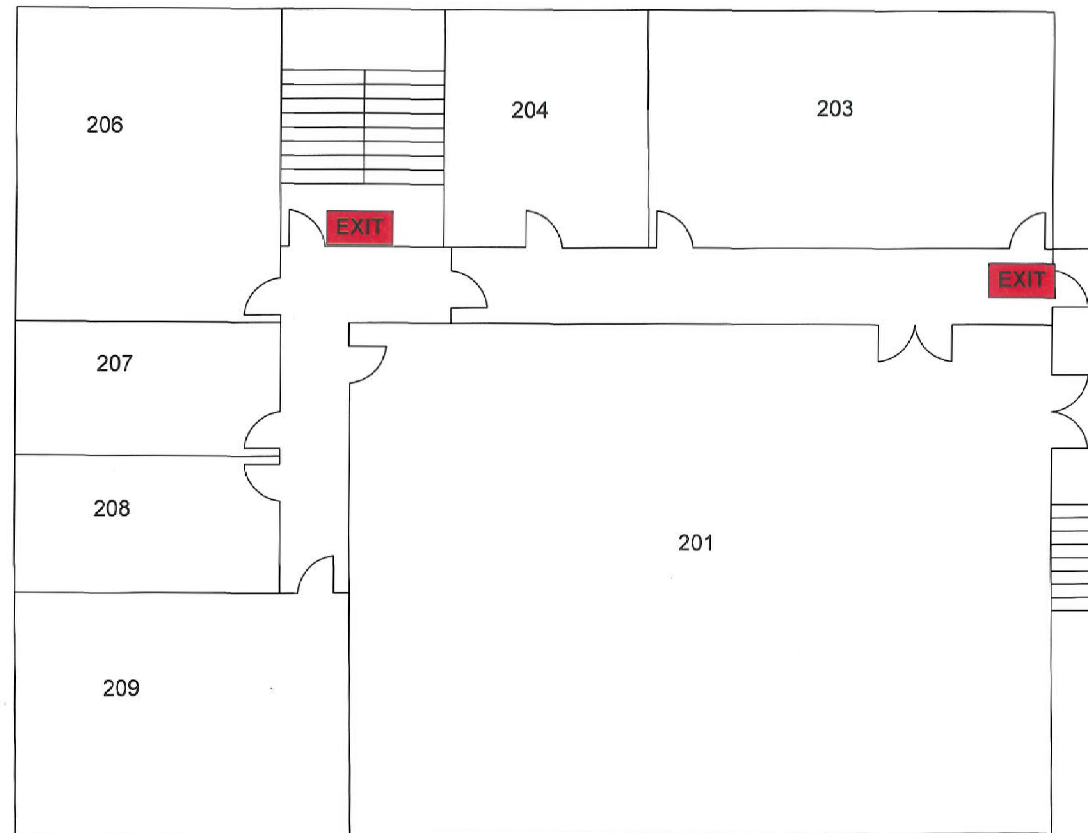
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LETHBRIDGE, AB

MAIN LABORATORY
(BUILDING # 102829)
MAIN FLOOR PLAN

MARCH 2018	FIGURE 04	REV: 0
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GENERAL SERVICES BUILDING – MAIN FLOOR PLAN
DRAWING: NTS



GENERAL SERVICES BUILDING – SECOND FLOOR PLAN
DRAWING: NTS

LEGEND:
x NON-ASBESTOS-CONTAINING MATERIAL SAMPLE LOCATION

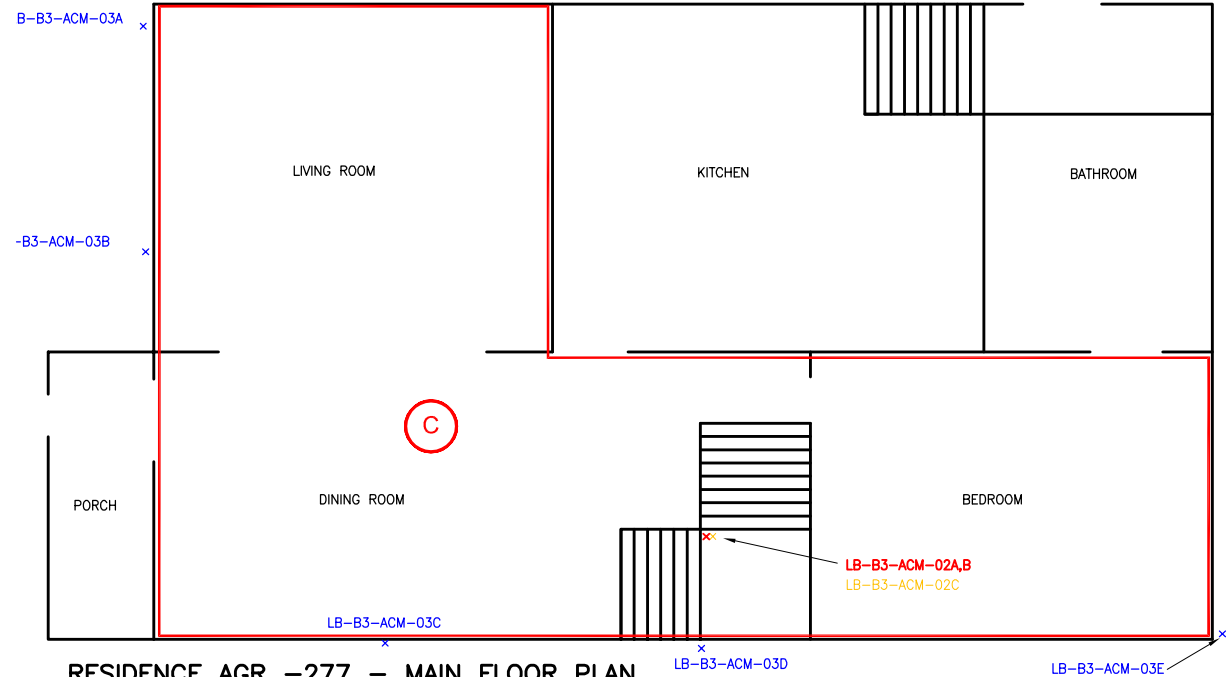
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NO.	YY/MM/DD	DESCRIPTION	ISSUED BY	CHECK BY
REVISIONS / ISSUE				



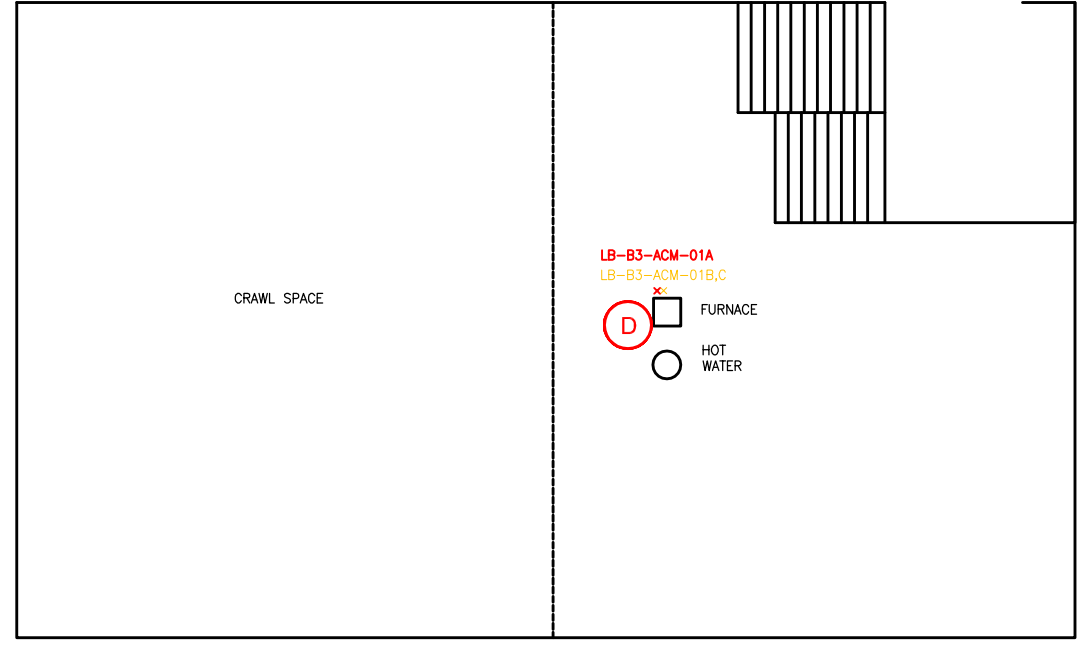
ASBESTOS SURVEY – CFIA FACILITY
LETHBRIDGE, AB

GENERAL SERVICES BUILDING
(BUILDING # 102829)
MAIN AND SECOND FLOOR PLAN

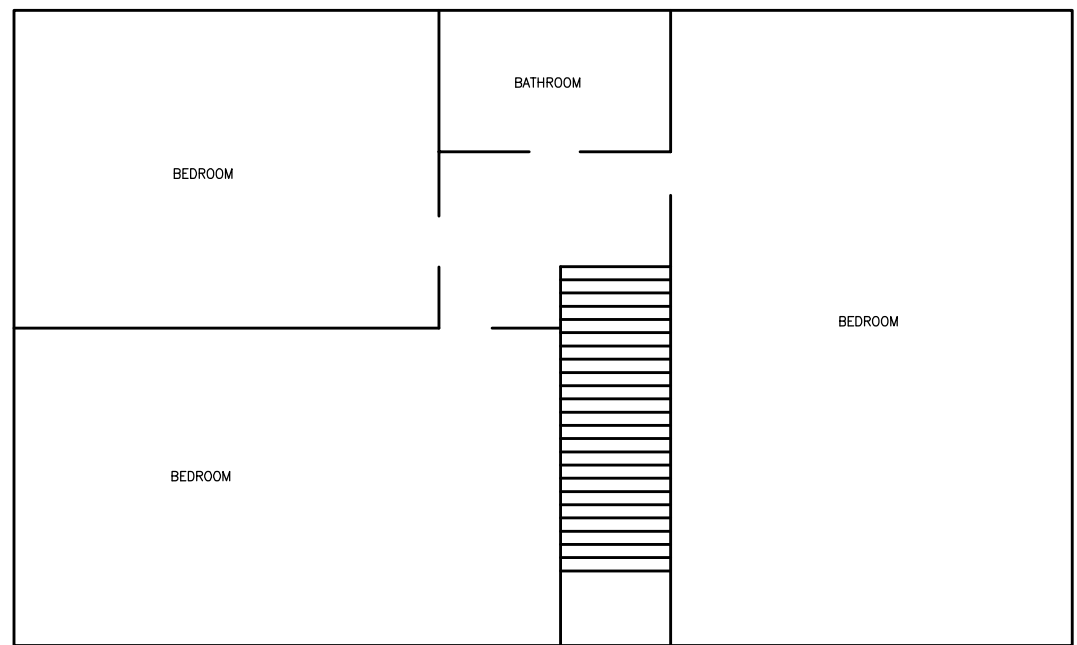
MARCH 2018	FIGURE 05	REV: 0
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RESIDENCE AGR -277 – MAIN FLOOR PLAN
DRAWING: NTS



RESIDENCE AGR -277 – BASEMENT FLOOR PLAN
DRAWING: NTS



RESIDENCE AGR -277 – SECOND FLOOR PLAN
DRAWING: NTS

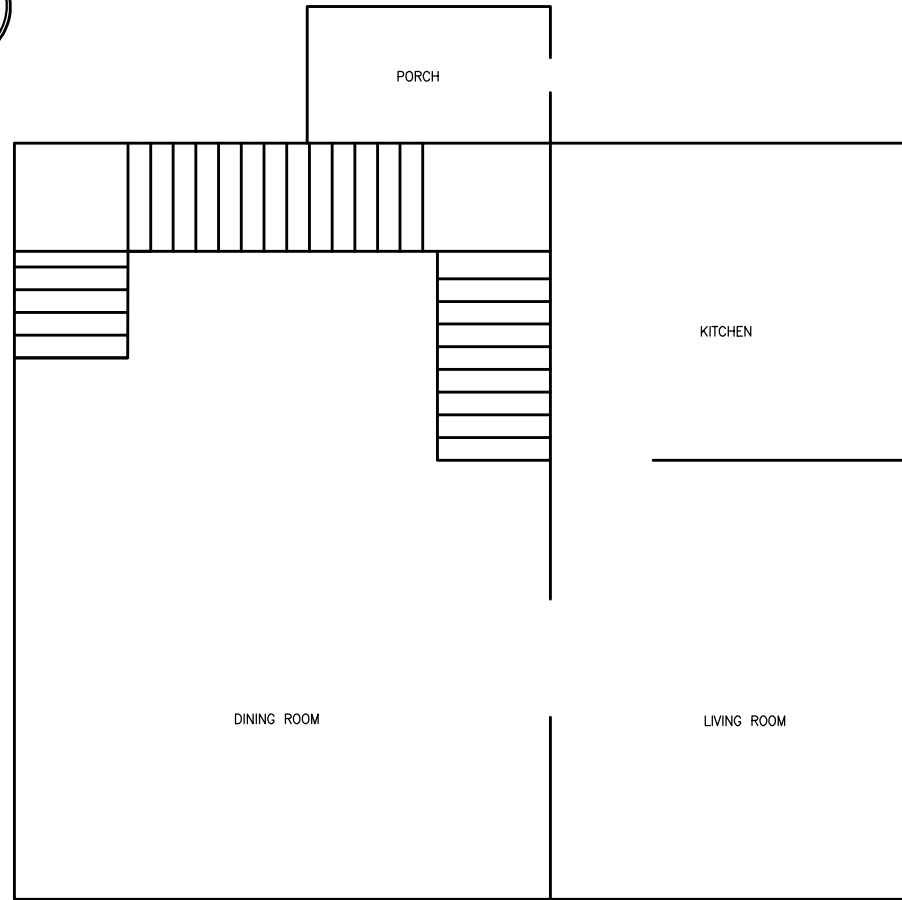
- LEGEND:**
- x NON-ASBESTOS-CONTAINING MATERIAL SAMPLE LOCATION
 - x SAMPLE NOT ANALYZED – 1ST/2ND SAMPLE OF SAME MATERIAL CONTAINS ASBESTOS
 - x ASBESTOS-CONTAINING MATERIAL SAMPLE LOCATION
 - Ⓢ ASBESTOS-CONTAINING MATERIAL IDENTIFIED IN CEILING
 - Ⓣ ASBESTOS-CONTAINING MATERIAL IDENTIFIED ON DUCTWORK

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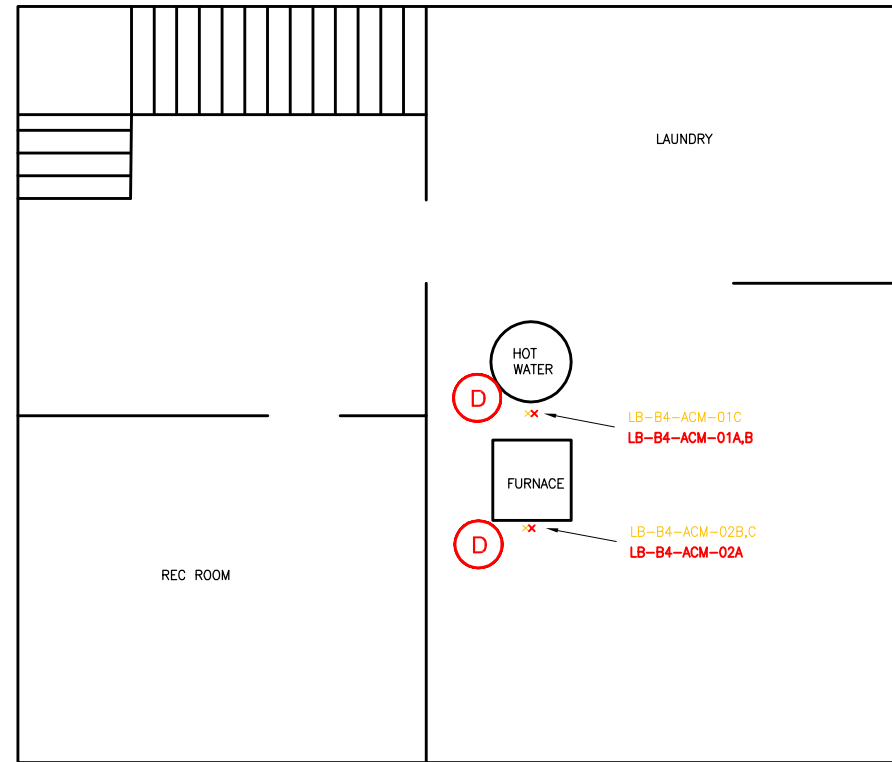
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LETHBRIDGE, AB

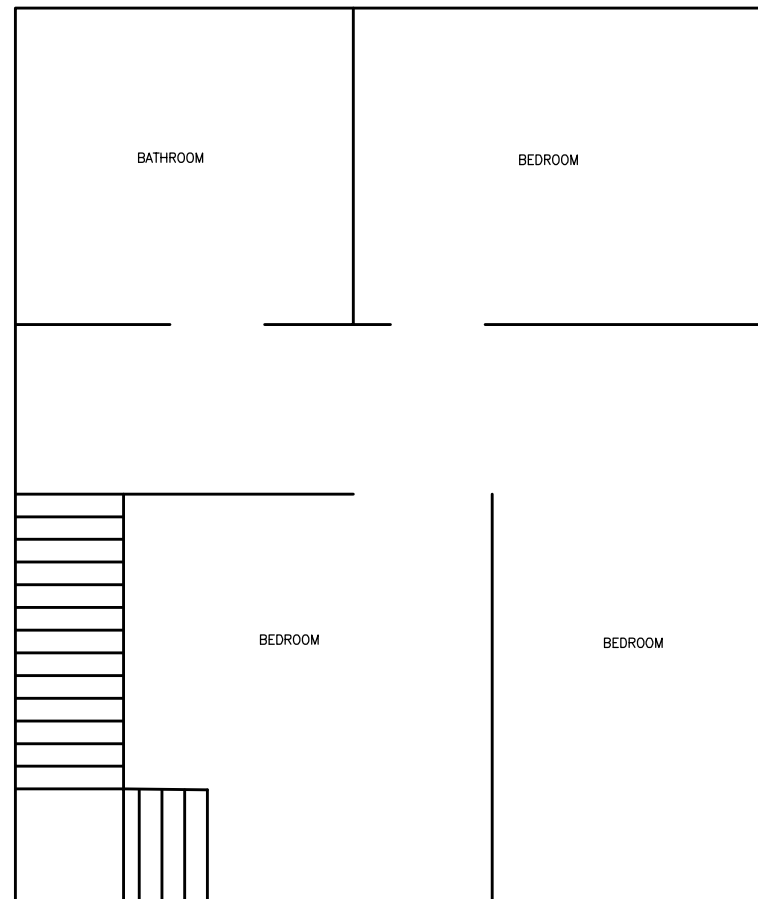
RESIDENCE AGR 277
(BUILDING # 102830) – MAIN,
SECOND FLOOR AND BASEMENT PLAN



RESIDENCE AGR -281 - MAIN FLOOR PLAN
DRAWING: NTS



RESIDENCE AGR -281 - BASEMENT FLOOR PLAN
DRAWING: NTS



RESIDENCE AGR -281 - SECOND FLOOR PLAN
DRAWING: NTS

LEGEND:

- x NON-ASBESTOS-CONTAINING MATERIAL SAMPLE LOCATION
- x SAMPLE NOT ANALYZED - 1ST/2ND SAMPLE OF SAME MATERIAL CONTAINS ASBESTOS
- x ASBESTOS-CONTAINING MATERIAL SAMPLE LOCATION
- (D) ASBESTOS-CONTAINING MATERIAL IDENTIFIED ON DUCTWORK

NO.	YY/MM/DD	DESCRIPTION	ISSUED BY	CHECK BY
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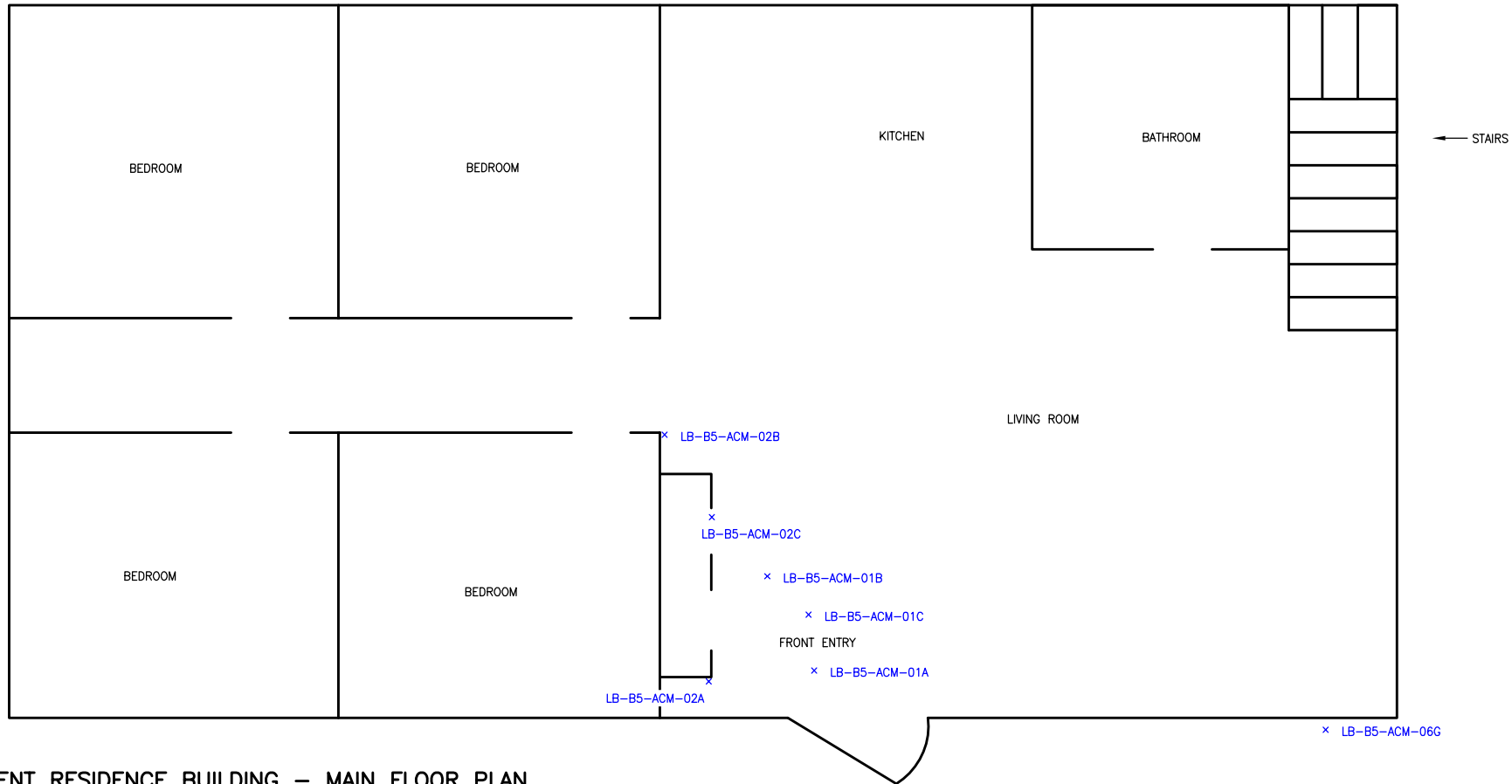
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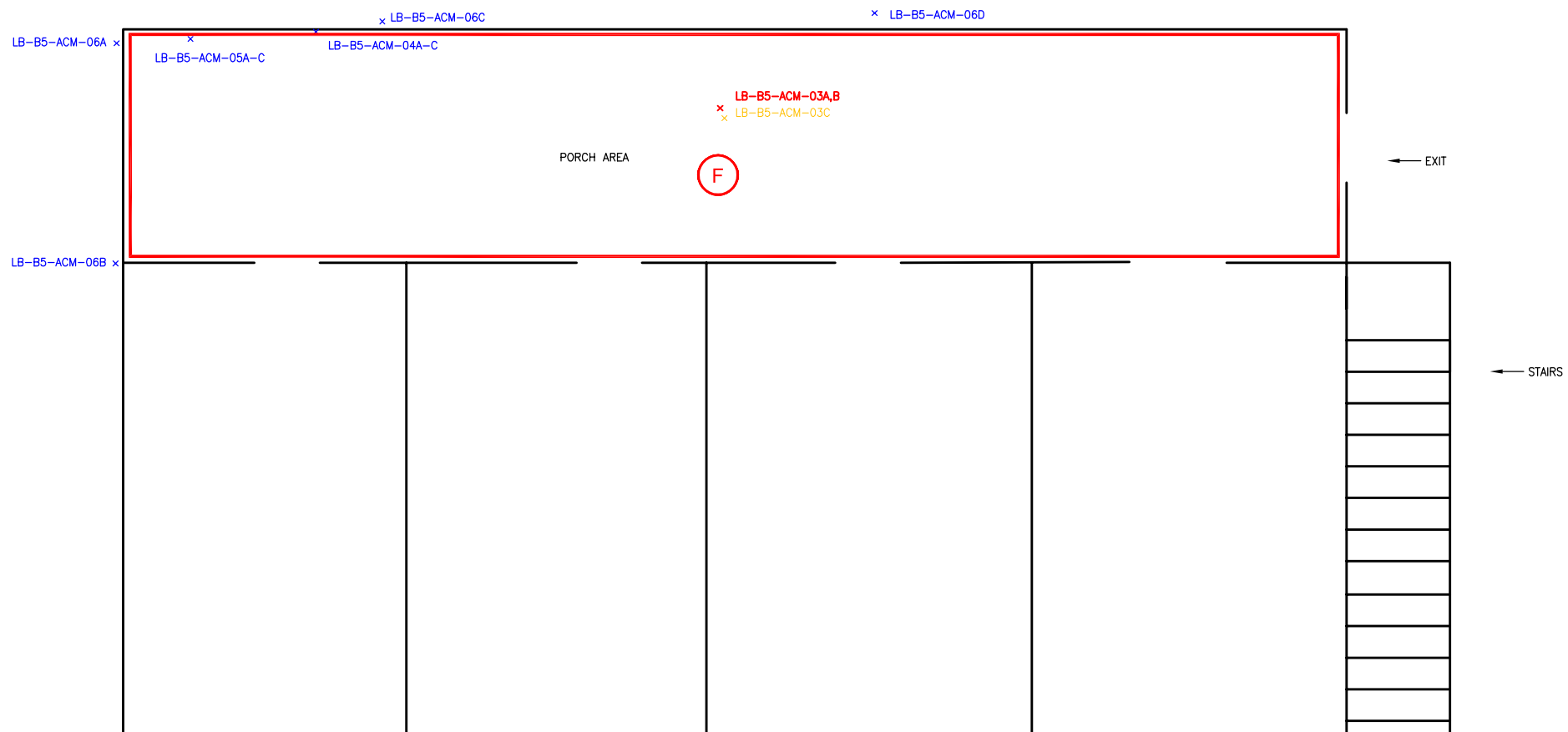
RESIDENCE AGR 281 (BUILDING # 102831) - MAIN, SECOND FLOOR AND BASEMENT PLAN

MARCH 2018	FIGURE 07	REV. 0
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STUDENT RESIDENCE BUILDING – MAIN FLOOR PLAN

DRAWING: NTS



STUDENT RESIDENCE BUILDING – BASEMENT FLOOR PLAN

DRAWING: NTS

- LEGEND:**
- × NON-ASBESTOS-CONTAINING MATERIAL SAMPLE LOCATION
 - × SAMPLE NOT ANALYZED – 1ST/2ND SAMPLE OF SAME MATERIALS CONTAINS ASBESTOS
 - × ASBESTOS-CONTAINING MATERIAL SAMPLE LOCATION
 - Ⓡ ASBESTOS-CONTAINING MATERIAL IDENTIFIED IN FLOORING

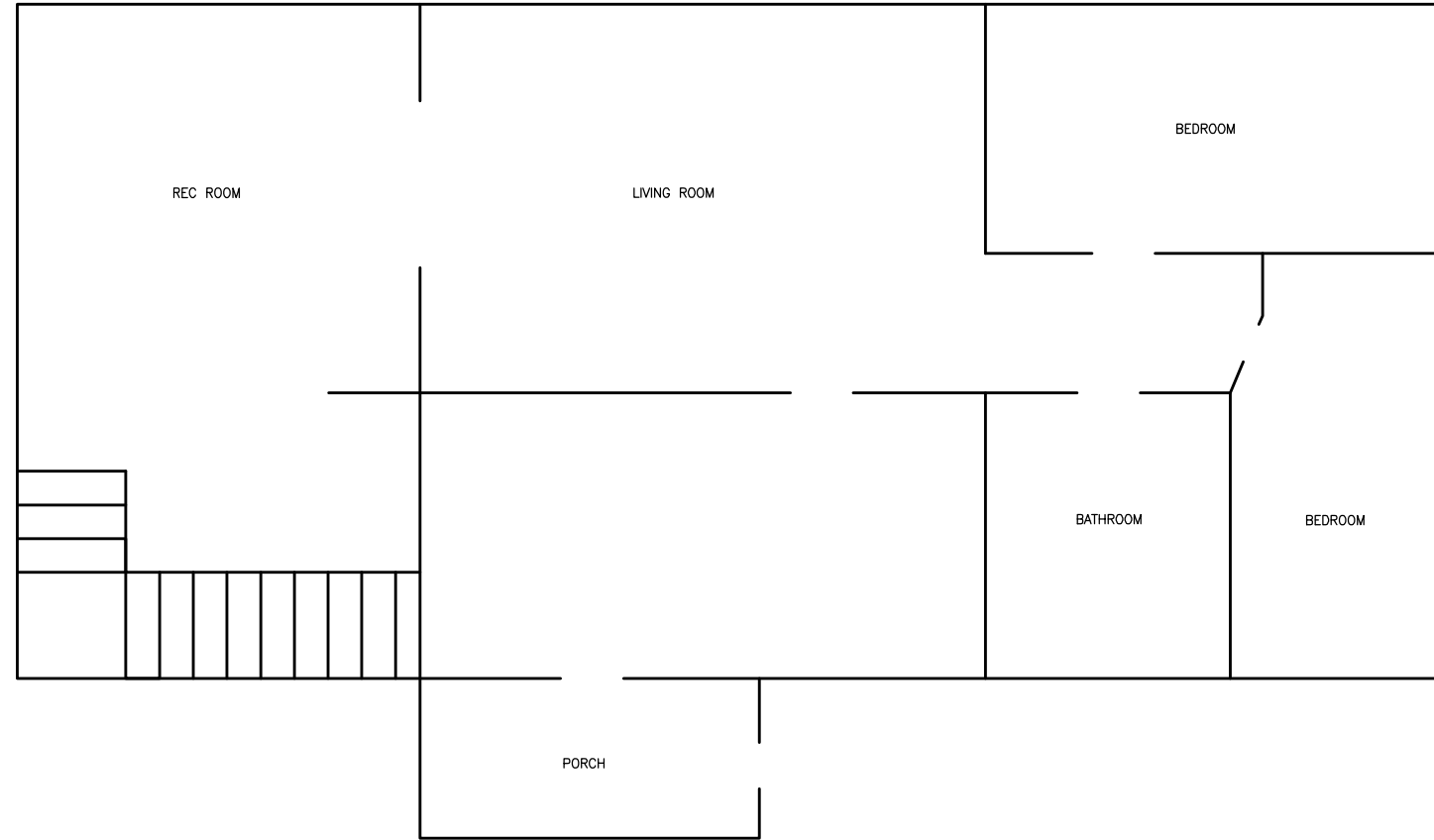
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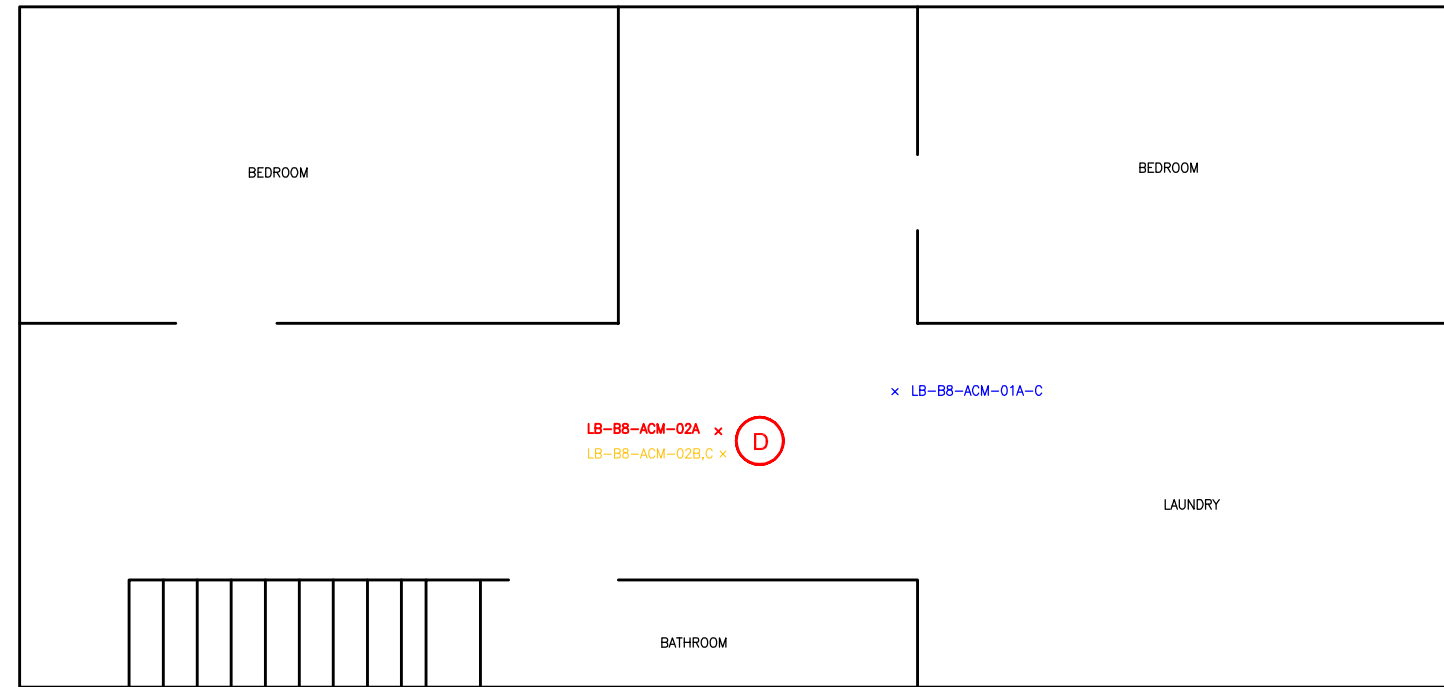
STUDENT RESIDENCE (BUILDING # 102832) MAIN FLOOR AND BASEMENT PLAN

MARCH 2018	FIGURE 08	REV: 0
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RESIDENCE BUILDING AGR 280 – MAIN FLOOR PLAN

DRAWING: NTS



RESIDENCE BUILDING AGR 280 – BASEMENT FLOOR PLAN

DRAWING: NTS

LEGEND:

- x NON-ASBESTOS-CONTAINING MATERIAL SAMPLE LOCATION
- x SAMPLE NOT ANALYZED – 1ST/2ND SAMPLE OF SAME MATERIAL CONTAINS ASBESTOS
- x ASBESTOS-CONTAINING MATERIAL SAMPLE LOCATION
- ⓓ ASBESTOS-CONTAINING MATERIAL IDENTIFIED ON DUCTWORK

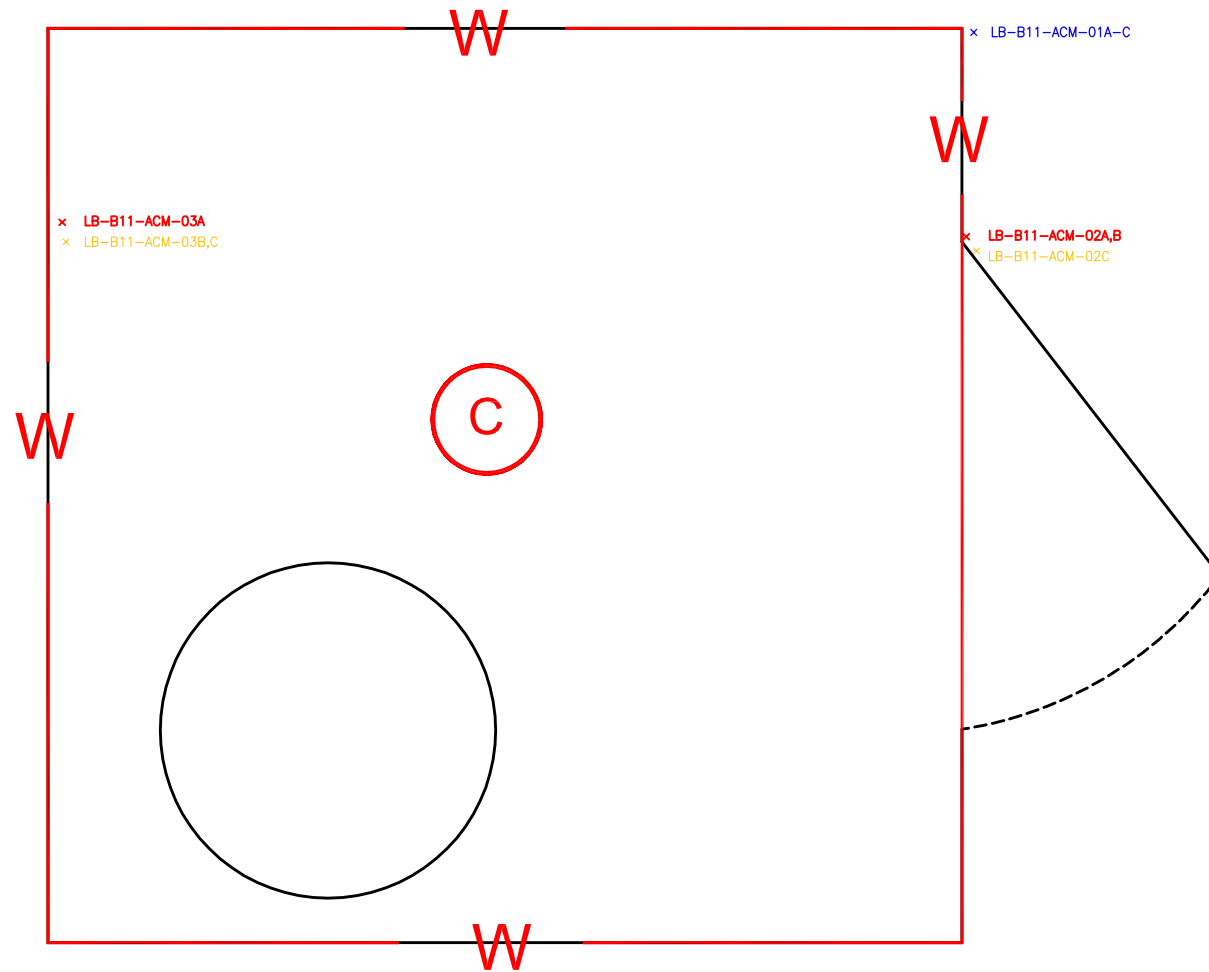
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LETHBRIDGE, ALBERTA

RESIDENCE AGR 280
(BUILDING # 102833)
MAIN FLOOR AND BASEMENT PLAN

MARCH 2018	FIGURE 09	REV: 0
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PUMPHOUSE #1 - FLOOR PLAN
DRAWING: NTS

- LEGEND:**
- x NON-ASBESTOS-CONTAINING MATERIAL SAMPLE LOCATION
 - x SAMPLE NOT ANALYZED -- 1ST/2ND SAMPLE OF SAME MATERIAL CONTAINS ASBESTOS
 - x ASBESTOS-CONTAINING MATERIAL SAMPLE LOCATION
 - ⊙ ASBESTOS-CONTAINING MATERIAL IDENTIFIED IN CEILING
 - W— ASBESTOS-CONTAINING MATERIAL IDENTIFIED ON WALL(S)

NO.	YY/MM/DD	DESCRIPTION	ISSUED BY	CHECK BY
0	18/03/26	ISSUED WITH FINAL REPORT	GRA	BMH

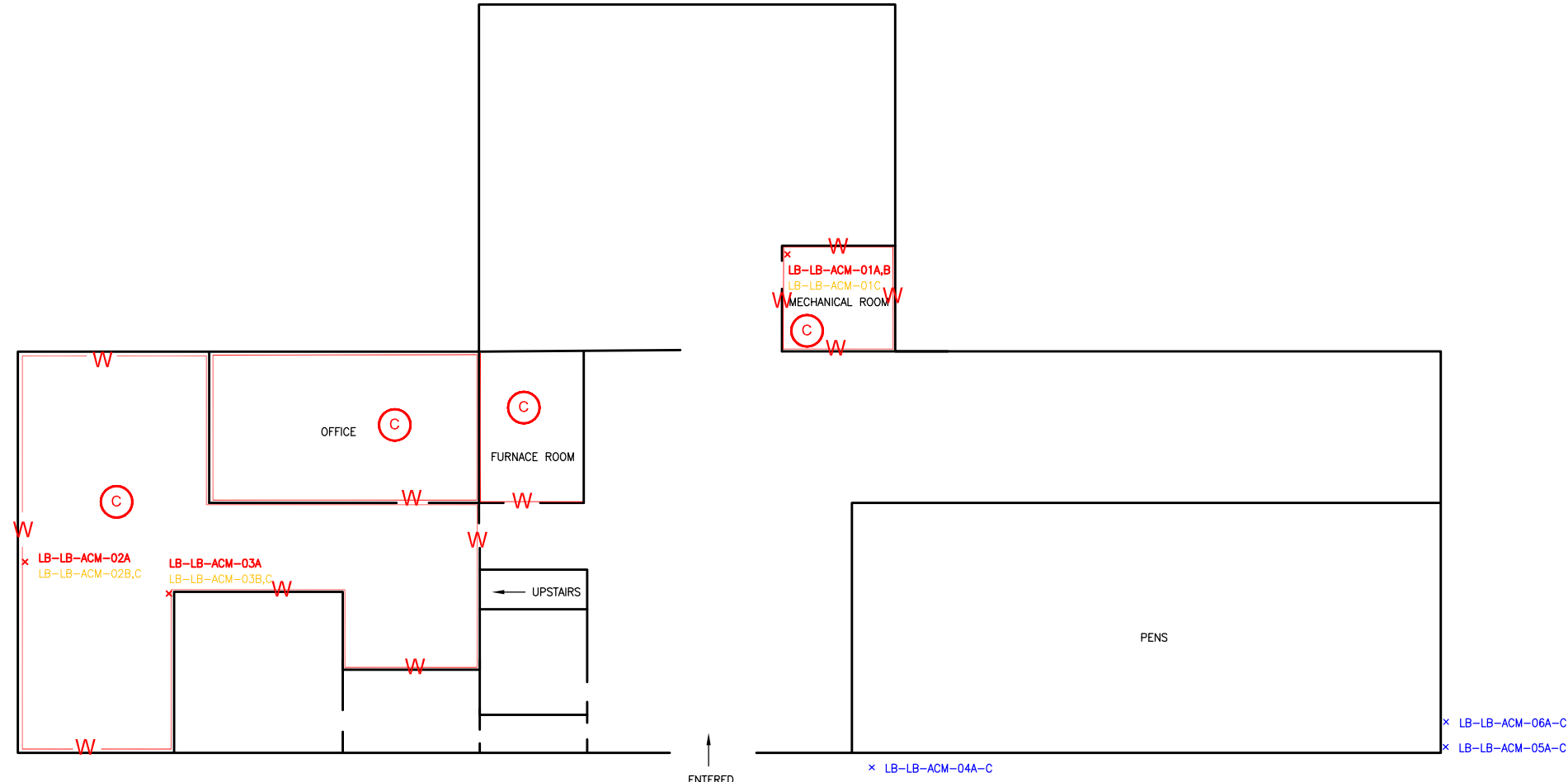
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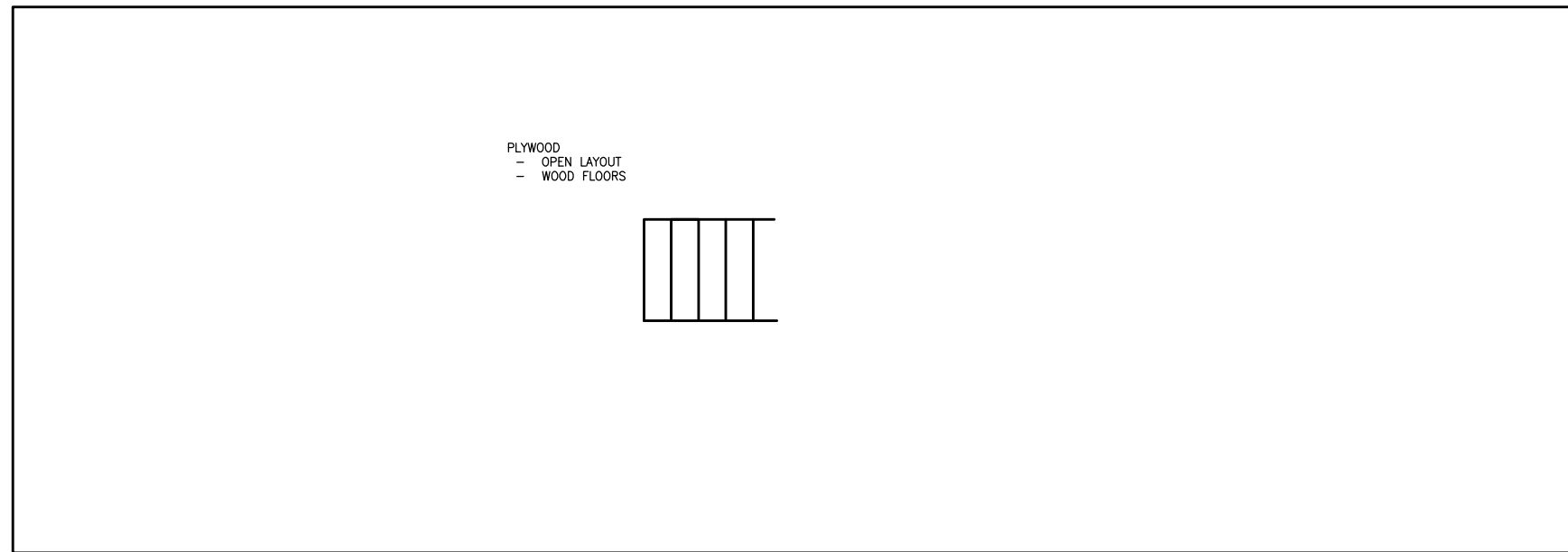

ASBESTOS SURVEY - CFIA FACILITY
LETHBRIDGE, AB

PUMPHOUSE #1
(BUILDING # 102834)
FLOOR PLAN

MARCH 2018	FIGURE 10	REV: 0
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LARGE BARN – MAIN FLOOR PLAN
DRAWING: NTS



LARGE BARN – SECOND FLOOR PLAN
DRAWING: NTS

LEGEND:

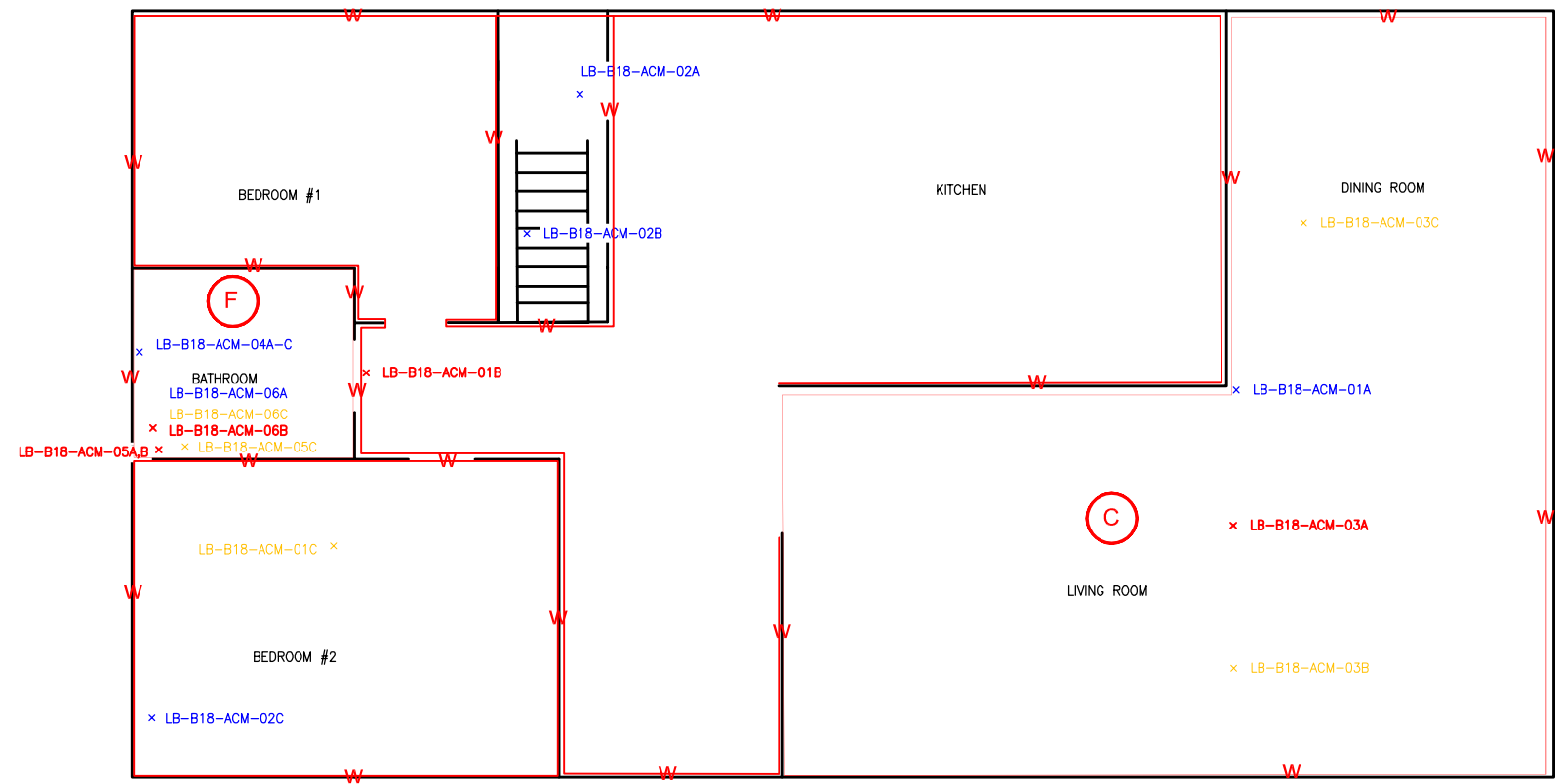
- x NON-ASBESTOS-CONTAINING MATERIAL SAMPLE LOCATION
- x SAMPLE NOT ANALYZED – 1ST/2ND SAMPLE OF SAME MATERIAL CONTAINS ASBESTOS
- x ASBESTOS-CONTAINING MATERIAL SAMPLE LOCATION
- ⊙ ASBESTOS-CONTAINING MATERIAL IDENTIFIED ON CEILING
- W— ASBESTOS-CONTAINING MATERIAL IDENTIFIED ON WALL(S)

NO.	YY/MM/DD	DESCRIPTION	ISSUED BY	CHECK BY
0	18/03/26	ISSUED WITH FINAL REPORT	GRA	BMH

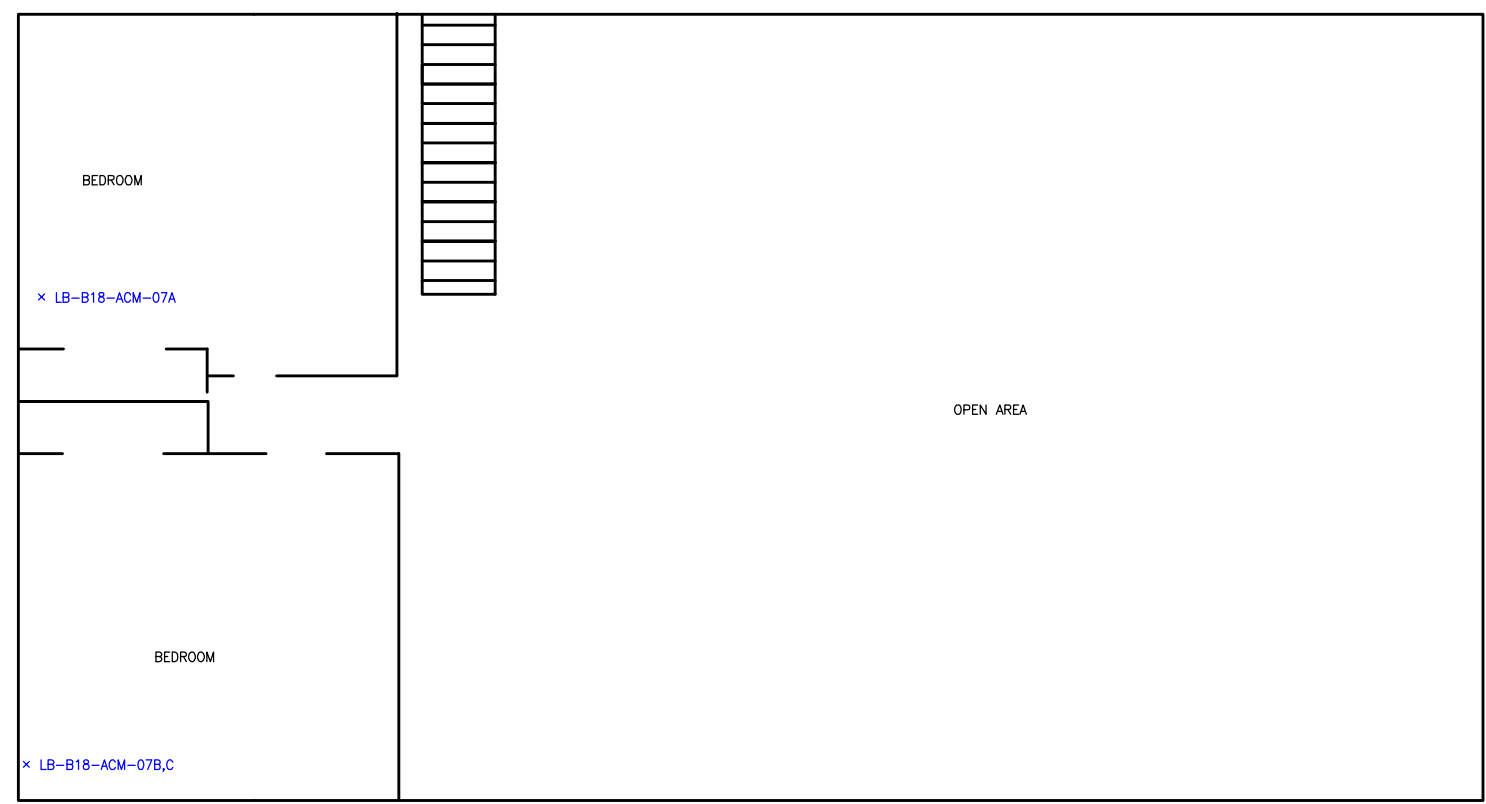
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LETHBRIDGE, AB

LARGE BARN
(BUILDING # 102837)
MAIN AND SECOND FLOOR PLAN



HOUSE AGR 282 – MAIN FLOOR PLAN
DRAWING: NTS



HOUSE AGR 282 – BASEMENT FLOOR PLAN
DRAWING: NTS

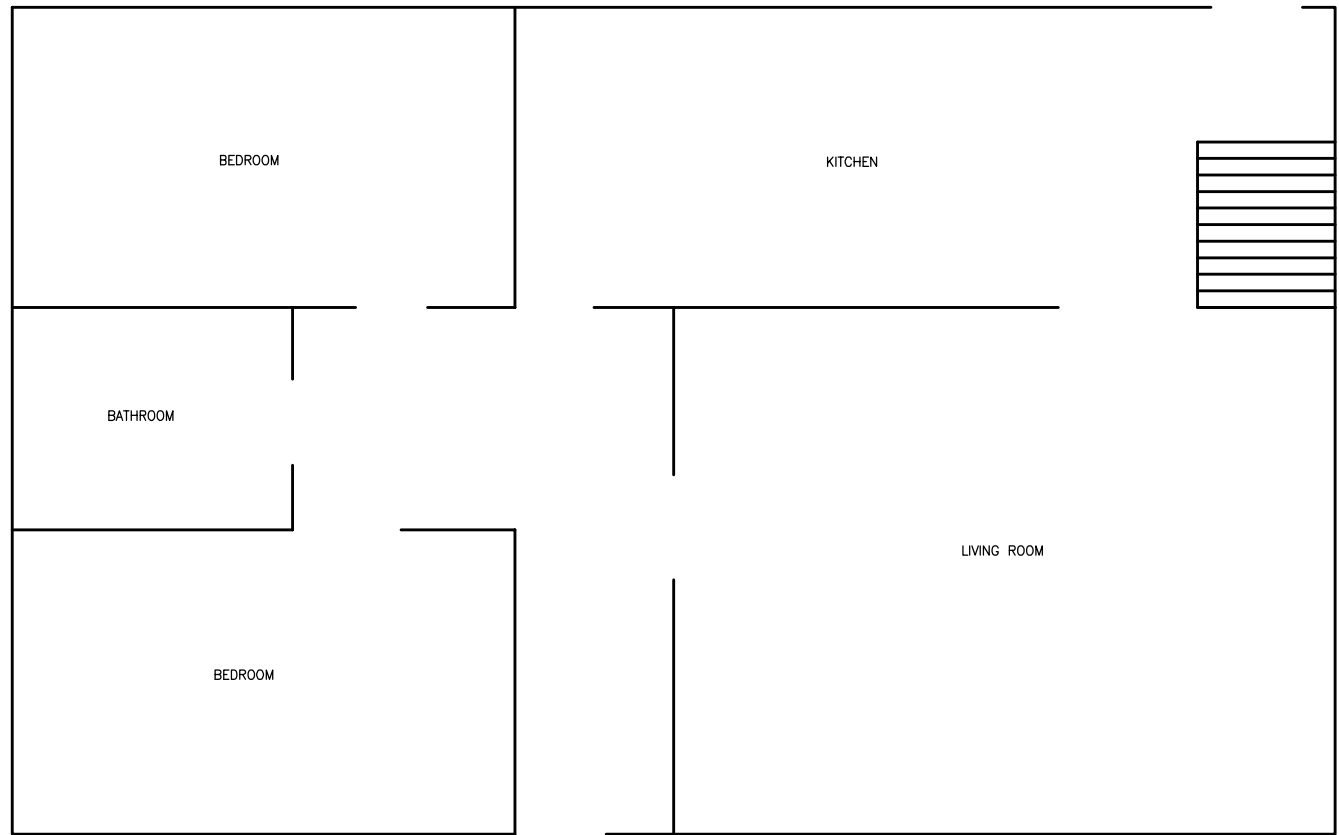
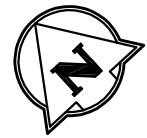
- LEGEND:**
- x NON-ASBESTOS-CONTAINING MATERIAL SAMPLE LOCATION
 - x SAMPLE NOT ANALYZED – ACMs DETECTED IN 1ST/2ND SAMPLE OF SAME MATERIAL
 - x ASBESTOS-CONTAINING MATERIAL SAMPLE LOCATION
 - (C) ASBESTOS-CONTAINING MATERIAL IDENTIFIED IN CEILING
 - (F) ASBESTOS-CONTAINING MATERIAL IDENTIFIED IN FLOORING
 - W ASBESTOS-CONTAINING MATERIAL IDENTIFIED IN WALLS

0	18/03/26	ISSUED WITH FINAL REPORT	GRA	BMH
NO.	YY/MM/DD	DESCRIPTION	ISSUED BY	CHECK BY

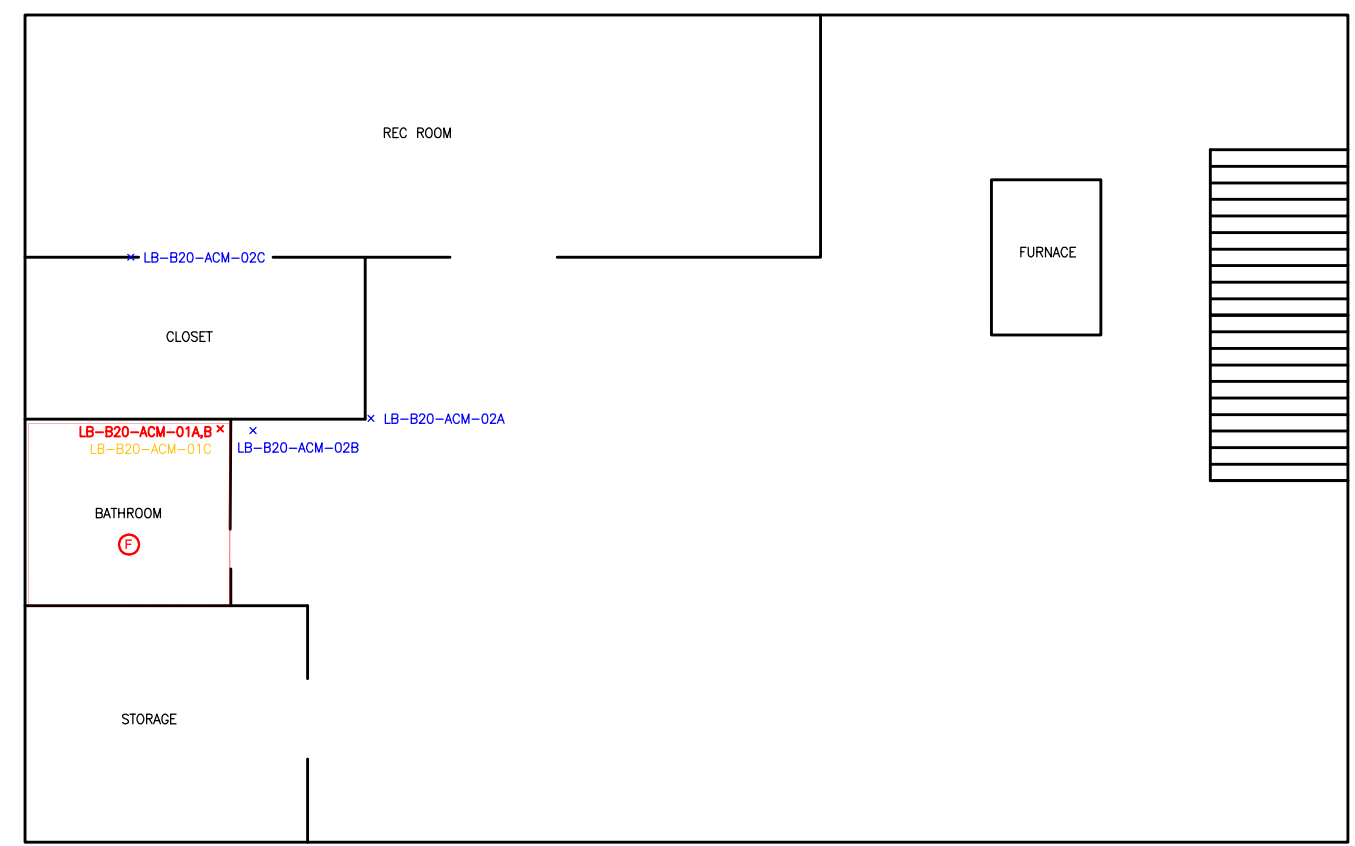
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ASBESTOS SURVEY – CFIA FACILITY
LETHBRIDGE, AB

HOUSE AGR 282
(BUILDING # 102838)
MAIN AND BASEMENT FLOOR PLAN



HOUSE AGR 284 – MAIN FLOOR PLAN
DRAWING: NTS



HOUSE AGR 284 – BASEMENT PLAN
DRAWING: NTS

- LEGEND:**
- x NON-ASBESTOS-CONTAINING MATERIAL SAMPLE LOCATION
 - x SAMPLE NOT ANALYZED – 1ST/2ND SAMPLE OF SAME MATERIALS CONTAINS ASBESTOS
 - x ASBESTOS-CONTAINING MATERIAL SAMPLE LOCATION
 - F ASBESTOS-CONTAINING MATERIAL IDENTIFIED IN FLOORING

NO.	YY/MM/DD	DESCRIPTION	ISSUED BY	CHECK BY
0	18/03/26	ISSUED WITH FINAL REPORT	GRA	BMH

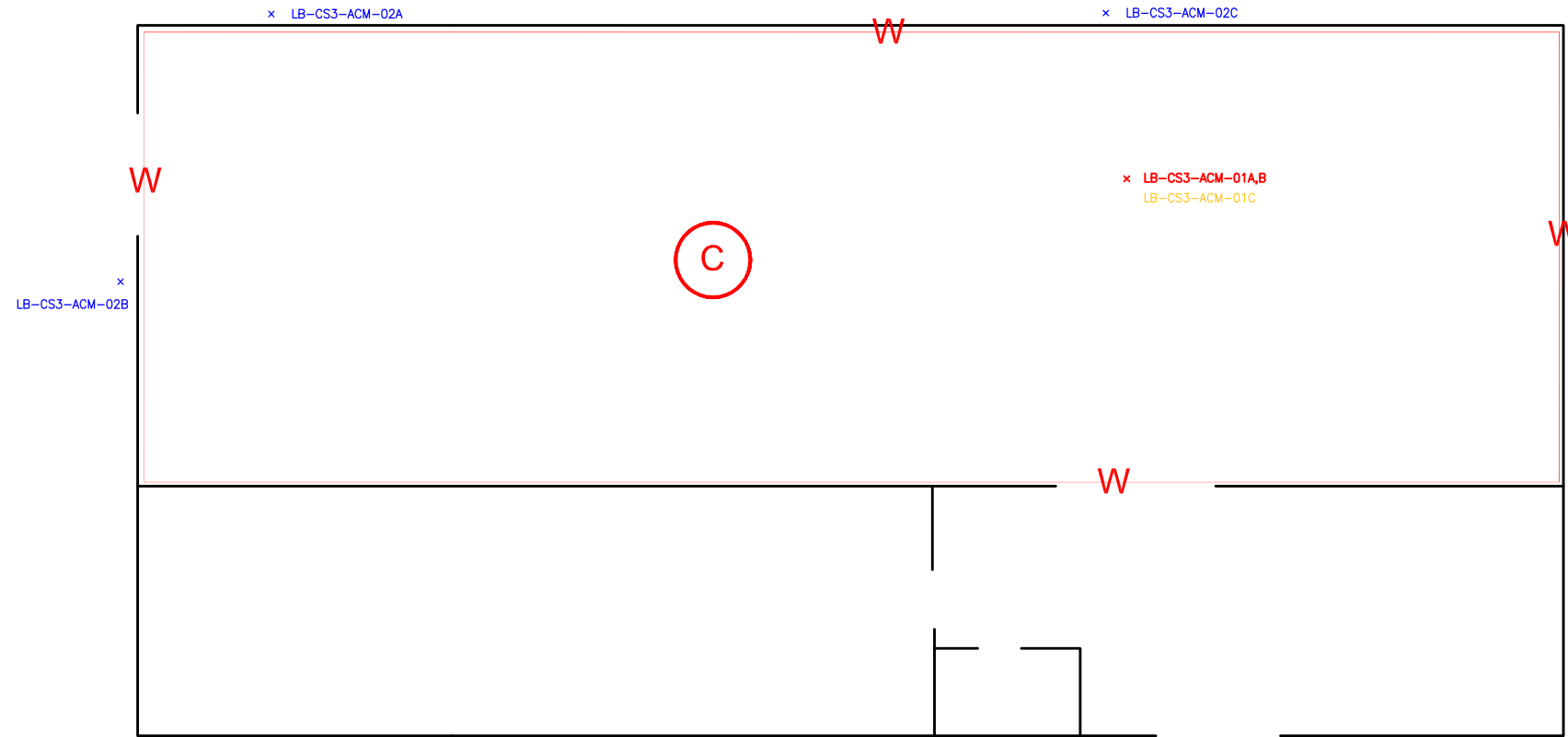
REVISIONS / ISSUE




ASBESTOS SURVEY – CFIA FACILITY
LETHBRIDGE, AB

HOUSE AGR 284
(BUILDING # 102839) – MAIN FLOOR
AND BASEMENT PLAN

MARCH 2018	FIGURE 13	REV: 0
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ISOLATION SHEEP BARN – FLOOR PLAN
DRAWING: NTS

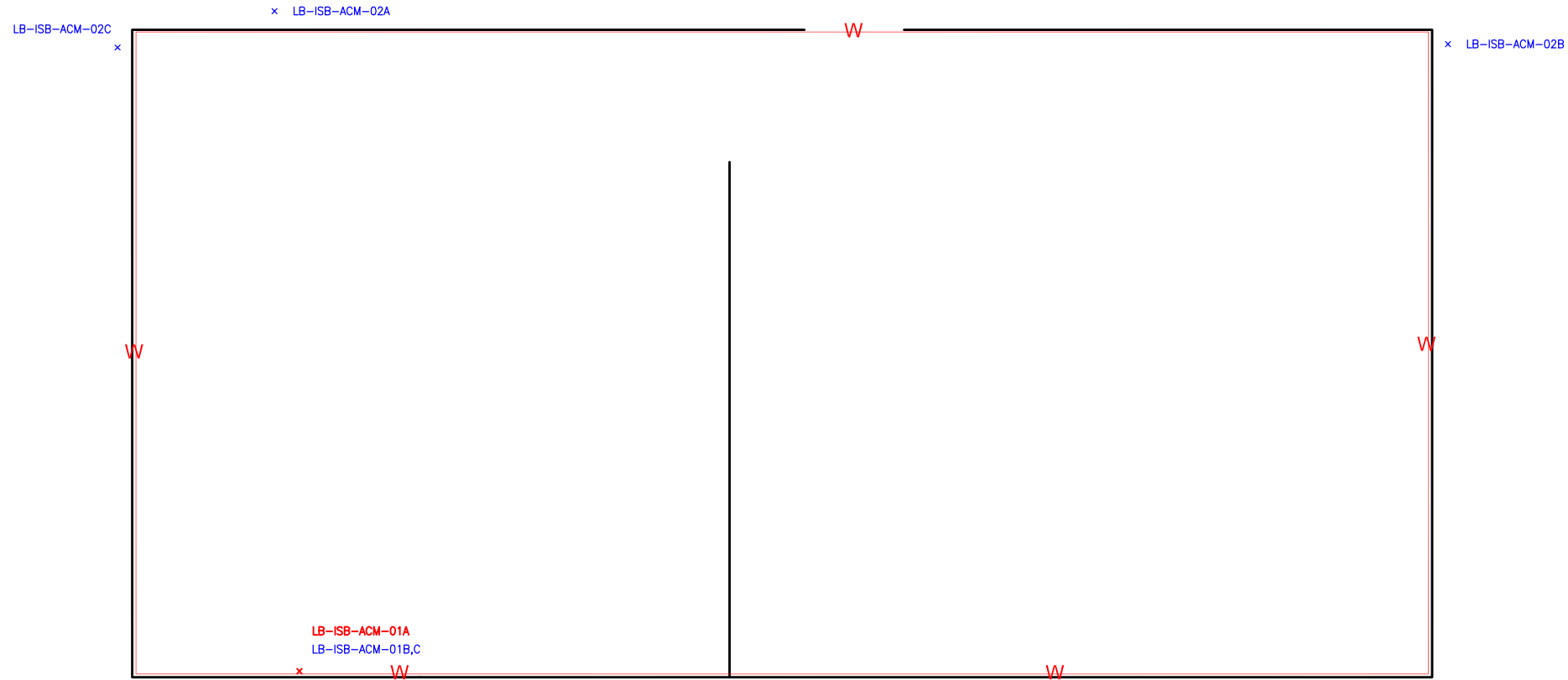
- LEGEND:**
- x NON-ASBESTOS-CONTAINING MATERIAL SAMPLE LOCATION
 - x SAMPLE NOT ANALYZED – 1ST/2ND SAMPLE OF SAME MATERIALS CONTAINS ASBESTOS
 - x ASBESTOS-CONTAINING MATERIAL SAMPLE LOCATION
 - Ⓢ ASBESTOS-CONTAINING MATERIAL IDENTIFIED IN CEILING
 - W— ASBESTOS-CONTAINING MATERIAL IDENTIFIED ON WALL(S)

NO.	YY/MM/DD	DESCRIPTION	ISSUED BY	CHECK BY
0	18/03/26	ISSUED WITH FINAL REPORT	GRA	BMH

REVISIONS / ISSUE

ASBESTOS SURVEY – CFIA FACILITY
LETHBRIDGE, AB

ISOLATION SHEEP BARN
(BUILDING # 102842)



DRY STORAGE – FLOOR PLAN
DRAWING: NTS

- LEGEND:**
- x NON-ASBESTOS-CONTAINING MATERIAL SAMPLE LOCATION
 - x ASBESTOS-CONTAINING MATERIAL SAMPLE LOCATION
 - W ASBESTOS-CONTAINING MATERIAL IDENTIFIED WITHIN WALL CAVITY

NO.	YY/MM/DD	DESCRIPTION	ISSUED BY	CHECK BY
0	18/03/26	ISSUED WITH FINAL REPORT	GRA	BMH

REVISIONS / ISSUE

ASBESTOS SURVEY – CFIA FACILITY
LETHBRIDGE, AB

DRY STORAGE
(BUILDING # 137925)

MARCH 2018	FIGURE 15	REV: 0
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APPENDIX A
SITE PHOTOGRAPHIC LOG

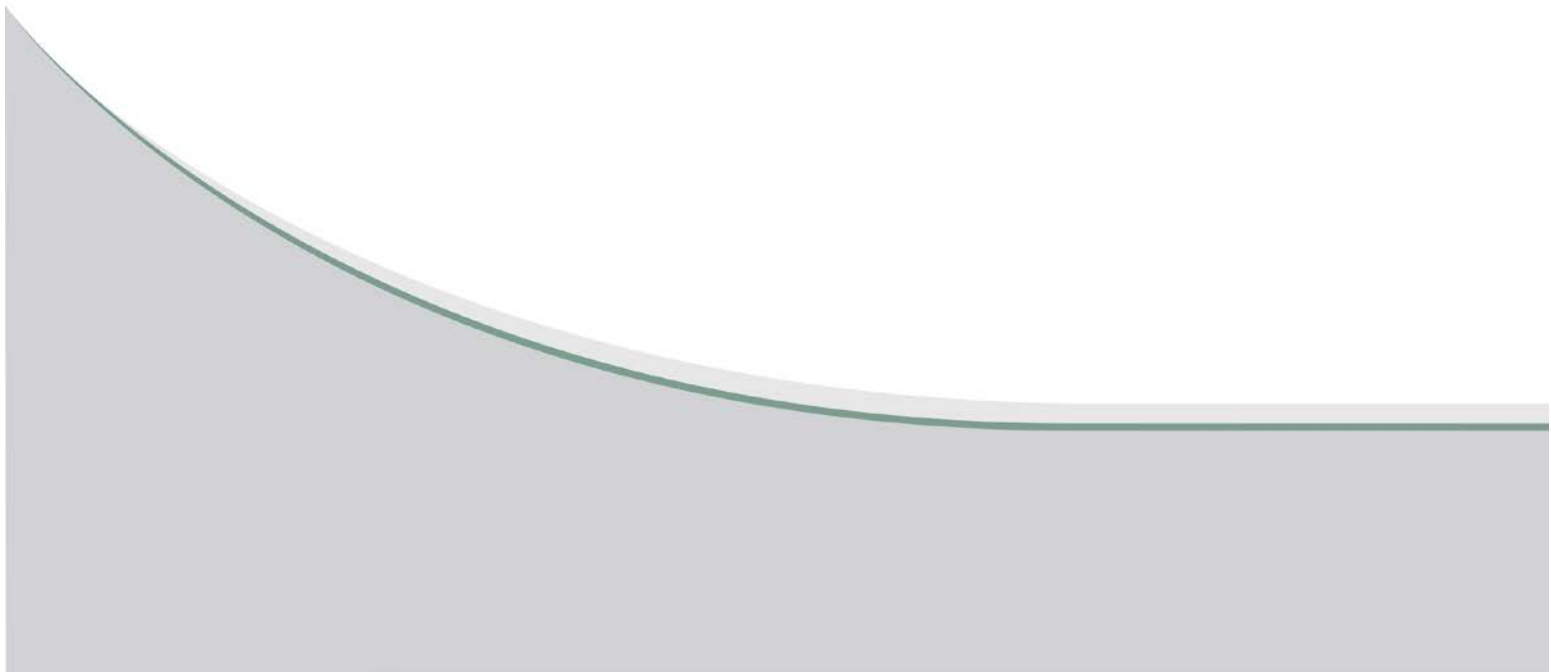




Photo 1. Overview of Main Lab (Building 014990).



Photo 2. Sample locations LB-ADRI- ACM-01A to C; 12"12" beige/grey vinyl floor tile.

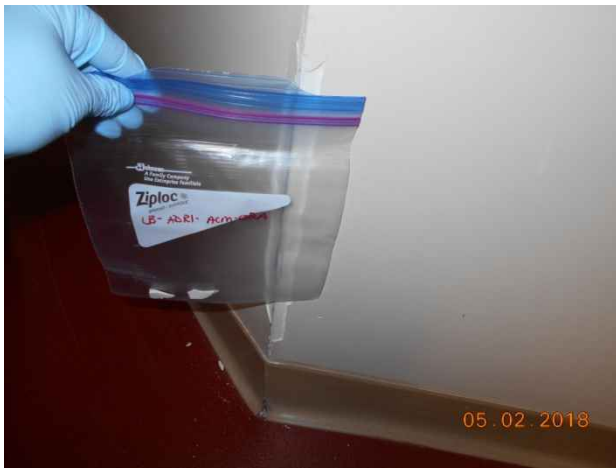


Photo 3. Sample location LB-ADRI-ACM-02A; drywall mud joint compound in R.167 (Stores).



Photo 4. Sample location LB-ADRI-ACM-02B; drywall mud joint compound in R.137 (Woman's Washroom).



Photo 5. Sample location LB-ADRI-ACM-02C; drywall mud joint compound in hallway near R.402.



Photo 6. Sample location LB-ADRI-ACM-02D; drywall mud joint compound in R.427.



Photo 7. Sample location LB-ADRI-ACM-02E; drywall mud joint compound in hallway near R.170.



Photo 8. Sample location LB-ADRI-ACM-02F; drywall mud joint compound in hallway near R.107.



Photo 9. Sample location LB-ADRI-ACM-02G; drywall mud joint compound by front reception (Level 100).

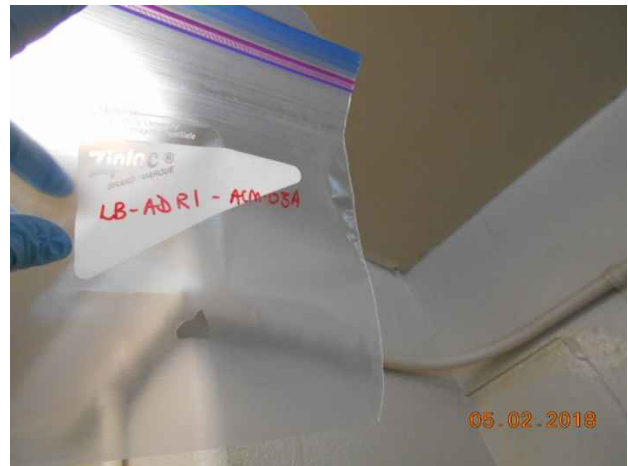


Photo 10. Sample locations LB-ADRI-ACM-03A to C; ceiling plaster in R.426.



Photo 11. Sample locations LB-ADRI-ACM-04A to C; plaster coat on brick in R.418.



Photo 12. Sample locations LB-ADRI-ACM-05A to C; interior window caulking in hallway near R.418.



Photo 13. Sample locations LB-ADRI-ACM-06A to C; fire brick material within incinerator in R.456.

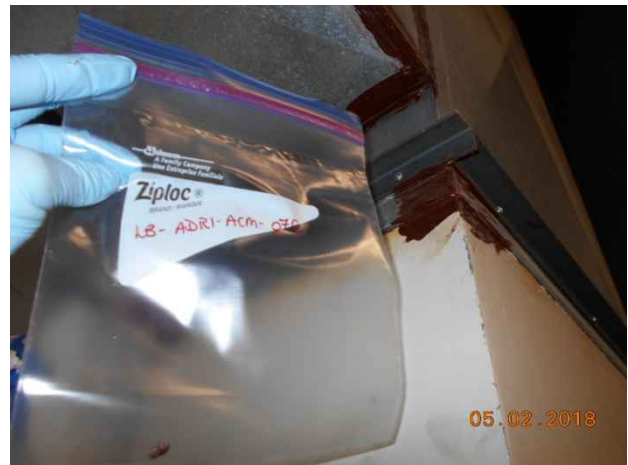


Photo 14. Sample locations LB-ADRI-ACM-07A to C; duct insulation coating (brown mastic) in R.456.



Photo 15. Sample locations LB-ADRI-ACM-08A to C; light grey vinyl sheet flooring by R.449.



Photo 16. Sample location LB-ADRI-ACM-09A; spray on foam insulation in 400 Wing Crawlpace.

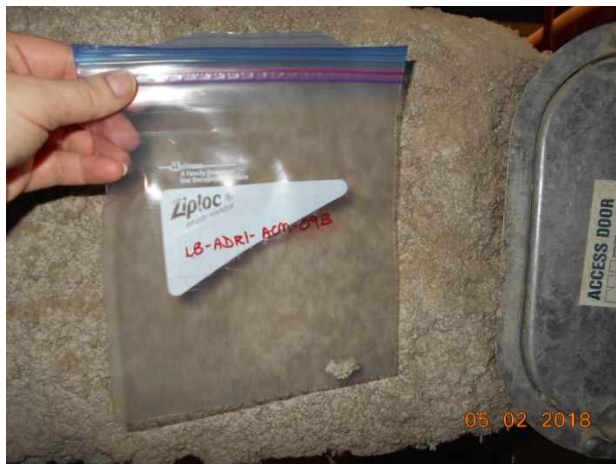


Photo 17. Sample location LB-ADRI-ACM-09B; spray on foam insulation in 400 Wing Crawlpace.



Photo 18. Sample location LB-ADRI-ACM-09C; spray on foam insulation in 400 Wing Crawlpace.

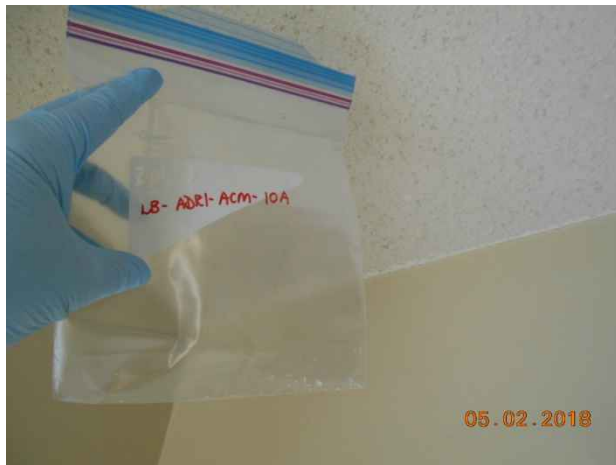


Photo 19. Sample locations LB-ADRI-ACM-10A to C; textured ceiling plaster in R.107. **Confirmed asbestos-containing material (2% Chrysotile).**



Photo 20. View of General Services Building (102829), looking northwest.



Photo 21. View of overall interior (newly renovated).



Photo 22. Samples LB-GSB-ACM-01A -C; tan 12"x12" floor tile at staircase.

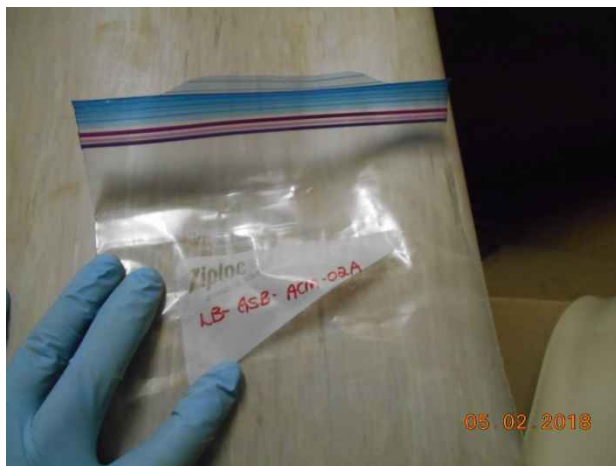


Photo 23. Sample location LB-GSB-ACM-02A to C; vinyl sheet flooring (surplus in R.103).

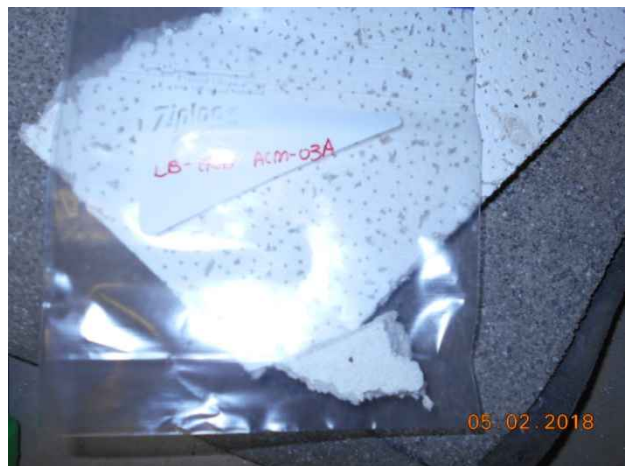


Photo 24. Sample location LB-GSB-ACM-03A to C; surplus drop ceiling tile in R.103.



Photo 25. Sample location LB-GSB-ACM-04A; drywall mud/joint compound within Carpenter Shop.



Photo 26. Sample location LB-GSB-ACM-04B; drywall mud/joint compound within the Carpenter Shop.



Photo 27. Sample location LB-GSB-ACM-04C; drywall mud/joint compound within the Carpenter Shop.



Photo 28. Exterior view of Residence AGR 277, looking northwest.



Photo 29. Sample location LB-B3-ACM-01A; paper-wrap around ducting. **Confirmed asbestos-containing material (50% Chrysotile).**

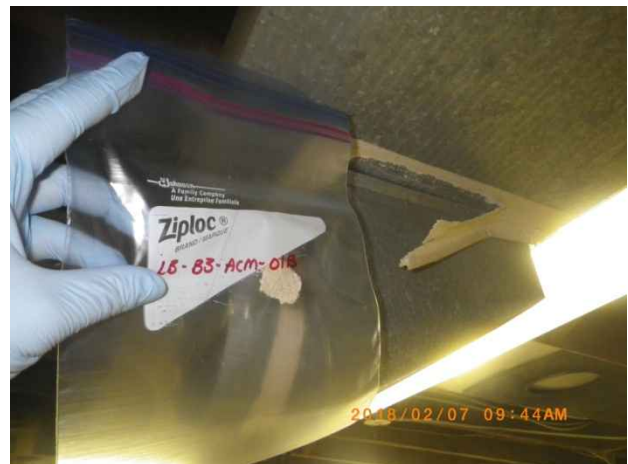


Photo 30. Sample location LB-B3-ACM-01B; paper-wrap around ducting (sample not analyzed based on confirmed asbestos in sample LB B3-ACM-01A).



Photo 31. Sample location LB-B3-ACM-01C; paper-wrap around ducting (sample not analyzed based on confirmed asbestos in sample LB B3-ACM-01A).

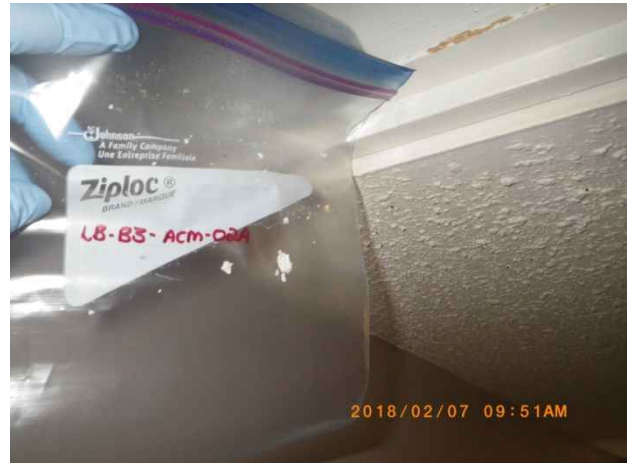


Photo 32. Sample location LB-B3-ACM-02A; textured ceiling plaster at second floor staircase. **Confirmed asbestos-containing material (2% Chrysotile).**



Photo 33. Sample location LB-B3-ACM-02B; textured ceiling plaster at second floor staircase. **Confirmed asbestos-containing material (2% Chrysotile).**

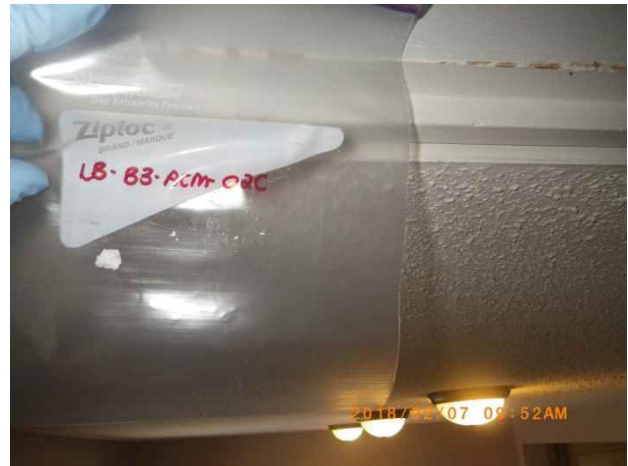


Photo 34. Sample location LB-B3-ACM-02C; textured ceiling plaster at second floor staircase ducting (sample not analyzed based on confirmed asbestos in samples LB B3-ACM-02A,B).



Photo 35. Sample location LB-B3-ACM-03A; exterior plaster (multi layers).



Photo 36. Sample location LB-B3-ACM-03B; exterior plaster (multi layers).



Photo 37. Sample location LB-B3-ACM-03C; exterior plaster (multi layers).



Photo 38. Sample location LB-B3-ACM-03D; exterior plaster (multi layers).



Photo 39. Sample location LB-B3-ACM-03E; exterior plaster (multi layers).



Photo 40. Exterior view of Residence AGR 281, looking south-southeast.



Photo 41. View of ducting in the basement.



Photo 42. Sample locations LB-B4-ACM-01A-C; duct insulation. Confirmed asbestos-containing material (50% Chrysotile).



Photo 43. Sample location LB-B4-ACM-02A; paper-wrap around ducting. **Confirmed asbestos-containing material (50% Chrysotile).**



Photo 44. Sample location LB-B4-ACM-02B; paper-wrap around ducting (sample not analyzed based on confirmed asbestos in sample LB B4-ACM-02A).



Photo 45. Sample location LB-B4-ACM-02C; paper-wrap around ducting (sample not analyzed based on confirmed asbestos in sample LB B4-ACM-02A).



Photo 46. Exterior view of Student Residence (Building #102832), looking northwest.



Photo 47. View of brown-beige hexagonal vinyl sheeting flooring.



Photo 48. Sample locations LB-B5-ACM-01A to C; brown-beige hexagonal vinyl sheeting flooring.



Photo 49. Sample location LB-B5-ACM-02A; dry wall/mud joint compound in front entry closet.



Photo 50. Sample location LB-B5-ACM-02B; dry wall/mud joint compound in front entry closet.

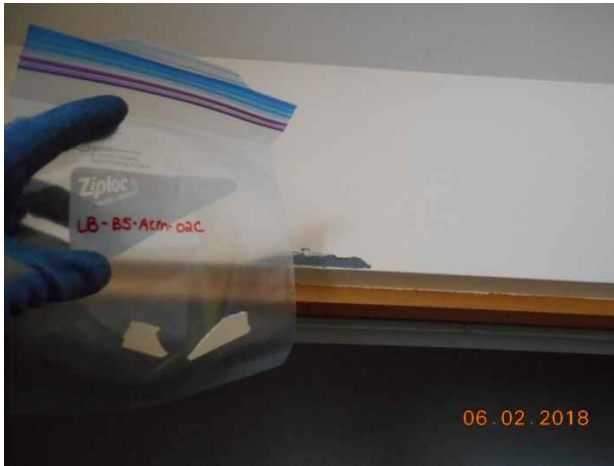


Photo 51. Sample location LB-B5-ACM-02C; dry wall/mud joint compound in front entry closet.



Photo 52. Sample locations LB-B5-ACM-03A to C; light yellow star patterned floor tile and backing. **Confirmed asbestos-containing material (40% Chrysotile).**



Photo 53. Sample locations LB-B5-ACM-04A to C; wall plaster on basement wall.



Photo 54. Sample locations LB-B5-ACM-05A to C; second type of wall plaster on basement wall.



Photo 55. Sample location LB-B5-ACM-06A; exterior wall plaster.



Photo 56. Sample location LB-B5-ACM-06B; exterior wall plaster.



Photo 57. Sample location LB-B5-ACM-06C; exterior wall plaster.



Photo 58. Sample location LB-B5-ACM-06D; exterior wall plaster.



Photo 59. Sample location LB-B5-ACM-06E; exterior wall plaster.



Photo 60. Exterior view of House AGR 280 (Building #102834), looking southwest.



Photo 61. View of yellow brick pattern vinyl flooring in the basement.



Photo 62. Sample location LB-B8-ACM-01A; yellow brick pattern vinyl flooring.



Photo 63. Sample location LB-B8-ACM-01B; yellow brick pattern vinyl flooring.



Photo 64. Sample location LB-B8-ACM-01C; yellow brick pattern vinyl flooring.



Photo 65. Sample location LB-B8-ACM-02A; paper-wrap around ducting. **Confirmed asbestos-containing material (50% Chrysotile).**



Photo 66. Sample location LB-B8-ACM-02B; paper-wrap around ducting (not sampled based on confirmed asbestos in sample LB-B8-ACM-02A).



Photo 67. Sample location LB-B8-ACM-02C; paper-wrap around ducting (sampled not analyzed base on confirmed asbestos in sample LB-B8-ACM-02A).



Photo 68. Exterior view of Pumphouse #1 (Building #102834), looking northeast.



Photo 69. Sample locations LB-B11-ACM-01A to C; roof shingles.



Photo 70. Sample locations LB-B11-ACM-02A to C; exterior wall board. **Confirmed asbestos-containing material (25% Chrysotile).**



Photo 71. Sample locations LB-B11-ACM-03A to C; interior cement/transite board. **Confirmed asbestos-containing materials (25% Chrysotile).**



Photo 72. Exterior view of Large Barn (Building #102837), looking southeast-east.



Photo 73. Sample locations LB-LB-ACM-01A to C; cement board in mechanical room. **Confirmed asbestos-containing material (30% Chrysotile – Transite).**



Photo 74. Sample locations LB-LB-ACM-02A to C; cement board on interior wall. **Confirmed asbestos-containing material (1% Chrysotile).**



Photo 75. Sample locations LB-LB-ACM-03A to C; interior wall plaster. **Confirmed asbestos-containing material (2% Chrysotile).**



Photo 76. Sample locations LB-LB-ACM-04A to C; exterior wall plaster.



Photo 77. Sample locations LB-LB-ACM-05A to C; green roof shingles (top layer).



Photo 78. Sample locations LB-LB-ACM-06A to C; multicolour roof shingles (bottom layer).



Photo 79. Exterior view of House AGR 282 (Building #102838), looking northeast.



Photo 80. Sign on bathroom door that was erected during bathroom renovations as the wall insulation was suspected to be ACMs. Laboratory results confirmed it was non-ACM.



Photo 81. Damaged wall with visible mould on insulation inside bathroom.



Photo 82. Sample location LB-B18-ACM-01A; drywall mud joint compound from upstairs wall.



Photo 83. Sample location LB-B18-ACM-01B; drywall mud joint compound from upstairs wall. **Confirmed asbestos-containing material (1% Chrysotile).**

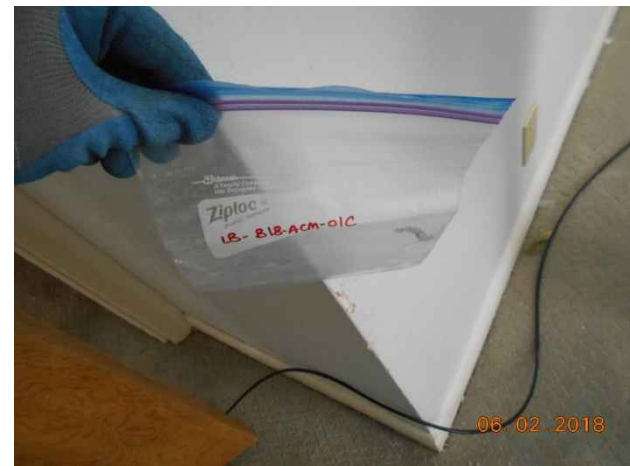


Photo 84. Sample location LB-B18-ACM-01C; drywall mud joint compound from upstairs wall.

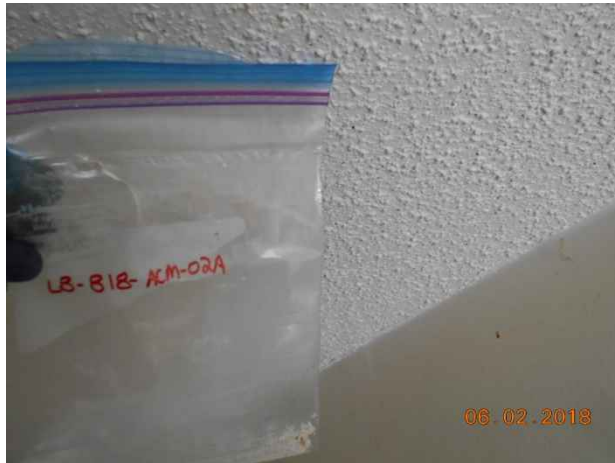


Photo 85. Sample location LB-B18-ACM-02A; textured ceiling plaster from rear entry.

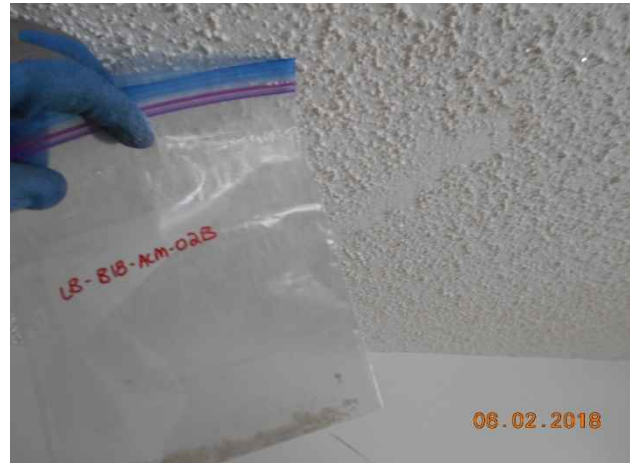


Photo 86. Sample location LB-B18-ACM-02B; textured ceiling plaster from front bedroom ceiling.

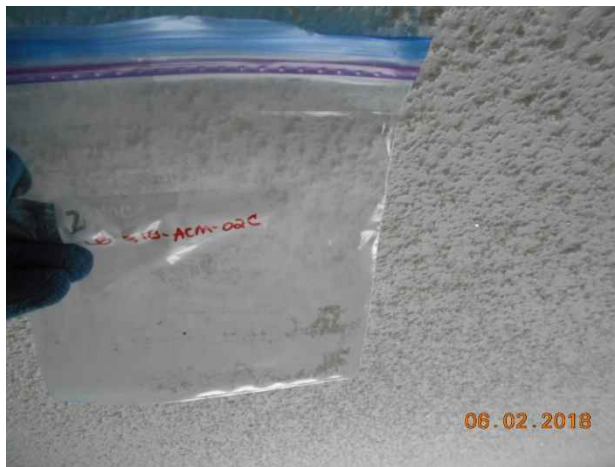


Photo 87. Sample location LB-B18-ACM-02C; textured ceiling plaster from rear bedroom ceiling.



Photo 88. Sample location LB-B18-ACM-03A; textured ceiling plaster from living room. **Confirmed asbestos-containing material (1% Chrysotile).**



Photo 89. Sample location LB-B18-ACM-03B; textured ceiling plaster from living room (sample not analyzed based on confirmed asbestos in sample LB-B18-ACM-03A).

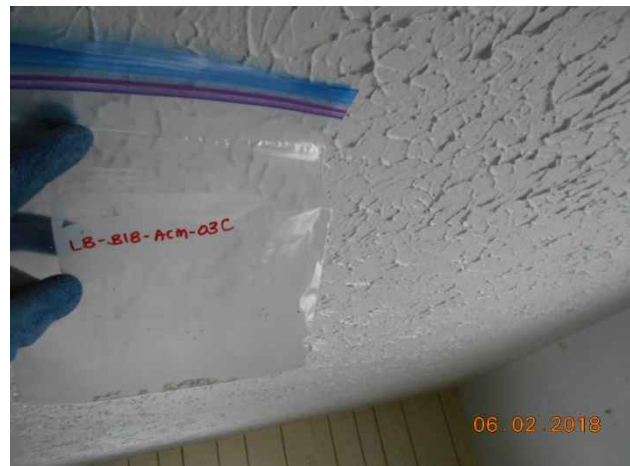


Photo 90. Sample location LB-B18-ACM-03C; textured ceiling plaster from living room (sample not analyzed based on confirmed asbestos in sample LB-B18-ACM-03A).



Photo 91. Sample locations LB-B18-ACM-04A to C; wall insulation from bathroom.



Photo 92. Sample locations LB-B18-ACM-05A to C; pebble pattern vinyl floor tile (second layer) in bathroom. **Confirmed asbestos-containing material (35% Chrysotile).**



Photo 93. Sample locations LB-B18-ACM-06A to C; grey-red floor tile and fibrous mix in bathroom (third layer). **Confirmed asbestos-containing material (30% Chrysotile).**

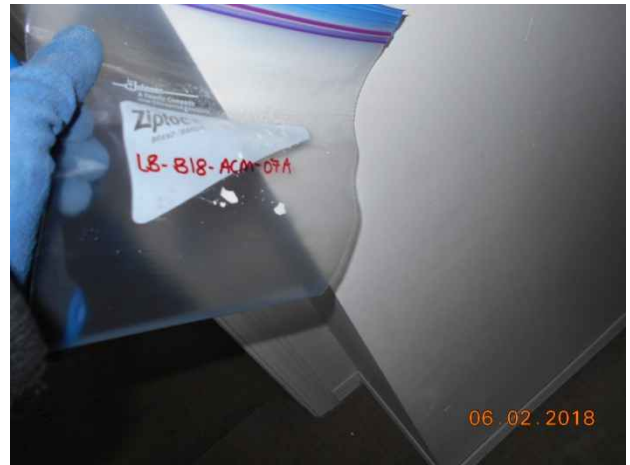


Photo 94. Sample location LB-B18-ACM-07A; drywall mud joint compound in basement bedroom.



Photo 95. Sample location LB-B18-ACM-07B; drywall mud joint compound in basement rear bedroom.

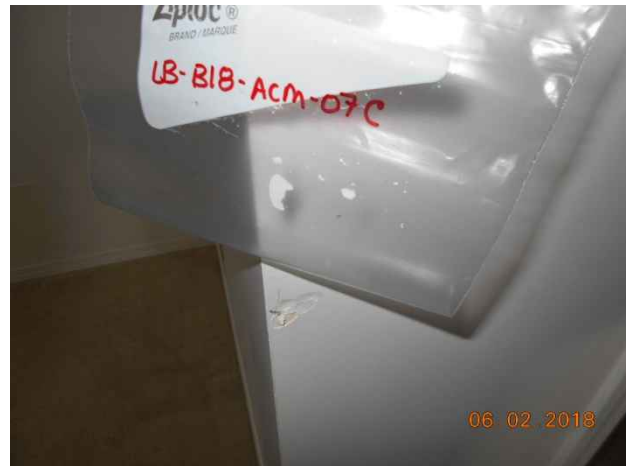


Photo 96. Sample location LB-B18-ACM-07C; drywall mud joint compound in basement rear bedroom.



Photo 97. Exterior view of House AGR 284 (Building #102839), looking northwest.



Photo 98. Exterior side view of House AGR 284.



Photo 99. Tan 12"x12" floor tile in basement bathroom.



Photo 100. Sample locations LB-B20-ACM-01A to C; tan 12"x12" floor tile in basement. **Confirmed asbestos-containing material (4% Chrysotile).**



Photo 101. Sample location LB-B20-ACM-02A; drywall mud joint compound by basement bathroom.



Photo 102. Sample location LB-B20-ACM-02B; drywall mud joint compound by basement bathroom.



Photo 103. Sample location LB-B20-ACM-02C; drywall mud joint compound in basement bedroom closet.



Photo 104. Exterior view of Isolation Sheep Barn (Building #102842), looking south.



Photo 105. Sample locations LB-CS3-ACM-01A to C; grey ceiling board. **Confirmed asbestos-containing material (30% Chrysotile).**



Photo 106. Sample location LB-CS3-ACM-02A; exterior plaster (multiple layers).



Photo 107. Sample location LB-CS3-ACM-02B; exterior plaster (multiple layers).



Photo 108. Sample location LB-CS3-ACM-02C (mis-labeled in image); exterior plaster (multiple layers).



Photo 109. Exterior view of Dry Storage (Building #137925), looking northwest.



Photo 110. Pre-existing hole in cinder block wall inside the Dry Storage.



Photo 111. Sample locations LB-ISB-ACM-01A to C; wall insulation. **Confirmed asbestos-containing material (1% Actinolite – Vermiculite).**



Photo 112. Sample locations LB-ISB-ACM-02A to C; exterior wall plaster.



Photo 113. View of Powerhouse (Building #102835), looking southwest.



Photo 114. View of Metal Shop (Building #102836), looking northeast.



Photo 115. View of Scale House (Building #102841), looking southeast.



Photo 116. View of Feed and Machinery Shop (Building #102843), looking northwest.



Photo 117. View of Pumphouse #2 (Building #102846), looking east-southeast.



Photo 118. View of Lower Pens #1-8 (Buildings 102850-102856), looking southeast.



Photo 119. View of Lower Pens #1-8 (Buildings 102850-102856), looking southeast.



Photo 120. View of Upper Pens #1-8 (Buildings 102857-102864), looking northeast.



Photo 121. View of Upper Pens #1-8 (Buildings 102857-102864), looking northeast.



Photo 122. View of Pump House #3 (Building #102865), looking northeast.

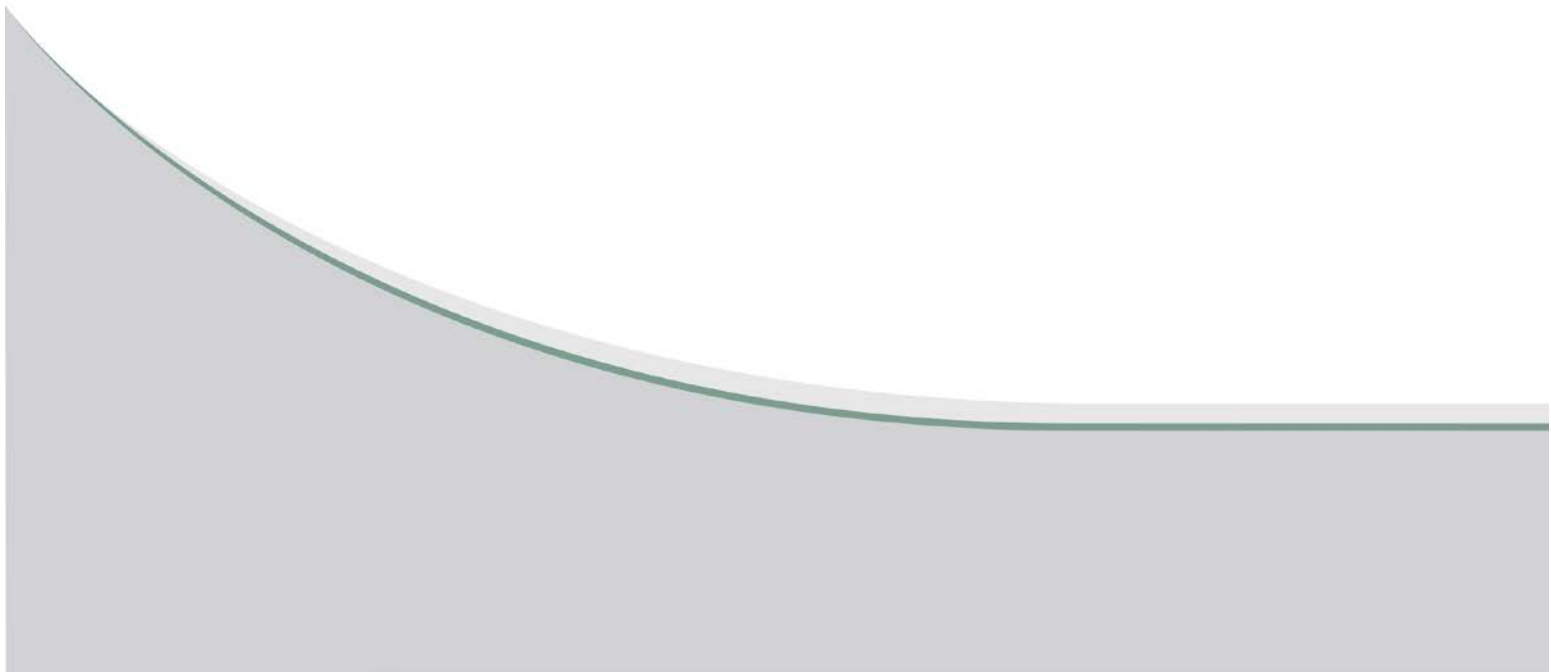


Photo 123. View of Isolation Sheep Shelter (Building #102866), looking northeast.



Photo 124. View of Radio Repeater Shack (Building #102867), looking southeast.

APPENDIX B
LABORATORY CERTIFICATE OF ANALYSIS



Your Project #: 17-0006-013
Site Location: CFIA LETHBRIDGE

Attention: Ganga Atmuri

KGS Group
3rd Floor
865 Waverly St
Winnipeg, MB
Canada R3T 5T4

Your C.O.C. #: N011700, N011708, N011709, N011710, N011711,
N011712, N011713, N011714, N011715, N011716, N011699, N011704,
N011705, N011703

Report Date: 2018/02/26
Report #: R2519932
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B809725

Received: 2018/02/08, 08:44

Sample Matrix: Bulk
Samples Received: 155

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Asbestos by PLM - 1.0 RDL (1, 2)	22	N/A	2018/02/19	BBY5SOP-00020	EPA 600R-93/116
Asbestos by PLM - 1.0 RDL (1, 2)	30	N/A	2018/02/20	BBY5SOP-00020	EPA 600R-93/116
Asbestos by PLM - 1.0 RDL (1, 2)	15	N/A	2018/02/21	BBY5SOP-00020	EPA 600R-93/116
Asbestos by PLM - 1.0 RDL (1, 2)	88	N/A	2018/02/22	BBY5SOP-00020	EPA 600R-93/116

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Maxxam Analytics' Asbestos Laboratory is accredited by NVLAP for bulk asbestos analysis by polarized light microscopy, NVLAP Code 600163-0.

This report may not be reproduced, except in full, without the written approval of Maxxam Analytics. This report may not be used by the client to claim product endorsement by NVLAP, NIST or any other agency of the U.S. Government.

Your Project #: 17-0006-013
Site Location: CFIA LETHBRIDGE

Attention: Ganga Atmuri

KGS Group
3rd Floor
865 Waverly St
Winnipeg, MB
Canada R3T 5T4

Your C.O.C. #: N011700, N011708, N011709, N011710, N011711,
N011712, N011713, N011714, N011715, N011716, N011699, N011704,
N011705, N011703

Report Date: 2018/02/26
Report #: R2519932
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B809725

Received: 2018/02/08, 08:44

Maxxam Analytics' scope of accreditation includes EPA-600/M4-82-020: "Interim Method for the Determination of Asbestos in Bulk Insulation Samples" and EPA-600/R-93/116: "Method for the Determination of Asbestos in Bulk Building Materials".

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

- (1) This test was performed by Maxxam Vancouver
- (2) P.O.B. - Percent of Bulk

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Amanda Hung, B.Sc., Project Manager

Email: AHung@maxxam.ca

Phone# (204)772-7276 Ext:2215

=====
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B809725
Report Date: 2018/02/26

KGS Group
Client Project #: 17-0006-013
Site Location: CFIA LETHBRIDGE
Sampler Initials: GRA

BULK ASBESTOS ANALYSIS (BULK)

Maxxam ID		SX9491	SX9492	SX9493	SX9494	SX9495	
Sampling Date		2018/02/06	2018/02/06	2018/02/06	2018/02/06	2018/02/06	
COC Number		N011700	N011700	N011700	N011700	N011700	
	UNITS	LB-ADR1-ACM-01A	LB-ADR1-ACM-01B	LB-ADR1-ACM-01C	LB-ADR1-ACM-02A	LB-ADR1-ACM-02B	QC Batch

Polarized Light Microscop							
Asbestos PLM	%	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	8913921

Maxxam ID		SX9496	SX9497	SX9498	SX9499	SX9499	
Sampling Date		2018/02/06	2018/02/06	2018/02/06	2018/02/06	2018/02/06	
COC Number		N011700	N011700	N011700	N011700	N011700	
	UNITS	LB-ADR1-ACM-02C	LB-ADR1-ACM-02D	LB-ADR1-ACM-02E	LB-ADR1-ACM-02F	LB-ADR1-ACM-02F Lab-Dup	QC Batch

Polarized Light Microscop							
Asbestos PLM	%	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	8913921
Lab-Dup = Laboratory Initiated Duplicate							

Maxxam ID		SX9500	SX9501	SX9502	SX9504	SX9505	
Sampling Date		2018/02/06	2018/02/06	2018/02/06	2018/02/06	2018/02/06	
COC Number		N011700	N011700	N011700	N011708	N011708	
	UNITS	LB-ADR1-ACM-02G	LB-ADR1-ACM-03A	LB-ADR1-ACM-03B	LB-ADR1-ACM-03C	LB-ADR1-ACM-04A	QC Batch

Polarized Light Microscop							
Asbestos PLM	%	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	8913921

Maxxam ID		SX9506	SX9507	SX9508	SX9509	SX9510	
Sampling Date		2018/02/06	2018/02/06	2018/02/06	2018/02/06	2018/02/06	
COC Number		N011708	N011708	N011708	N011708	N011708	
	UNITS	LB-ADR1-ACM-04B	LB-ADR1-ACM-04C	LB-ADR1-ACM-05A	LB-ADR1-ACM-05B	LB-ADR1-ACM-05C	QC Batch

Polarized Light Microscop							
Asbestos PLM	%	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	8913921

Maxxam ID		SX9510	SX9511	SX9512	SX9513	
Sampling Date		2018/02/06	2018/02/06	2018/02/06	2018/02/06	
COC Number		N011708	N011708	N011708	N011708	
	UNITS	LB-ADR1-ACM-05C Lab-Dup	LB-ADR1-ACM-06A	LB-ADR1-ACM-06B	LB-ADR1-ACM-06C	QC Batch

Polarized Light Microscop							
Asbestos PLM	%	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	8913921
Lab-Dup = Laboratory Initiated Duplicate							

Maxxam Job #: B809725
Report Date: 2018/02/26

KGS Group
Client Project #: 17-0006-013
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Sampler Initials: GRA

BULK ASBESTOS ANALYSIS (BULK)

Maxxam ID		SX9514	SX9515	SX9523	SX9524	SX9524	
Sampling Date		2018/02/06	2018/02/06	2018/02/06	2018/02/06	2018/02/06	
COC Number		N011708	N011708	N011709	N011709	N011709	
	UNITS	LB-ADR1-ACM-07A	LB-ADR1-ACM-07B	LB-ADR1-ACM-07C	LB-ADR1-ACM-08A	LB-ADR1-ACM-08A Lab-Dup	QC Batch

Polarized Light Microscop							
Asbestos PLM	%	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	8914429

Lab-Dup = Laboratory Initiated Duplicate

Maxxam Job #: B809725
Report Date: 2018/02/26

KGS Group
Client Project #: 17-0006-013
Site Location: CFIA LETHBRIDGE
Sampler Initials: GRA

BULK ASBESTOS ANALYSIS (BULK)

Maxxam ID		SX9525	SX9526	SX9527	SX9528	SX9529	
Sampling Date		2018/02/06	2018/02/06	2018/02/06	2018/02/06	2018/02/06	
COC Number		N011709	N011709	N011709	N011709	N011709	
	UNITS	LB-ADR1-ACM-08B	LB-ADR1-ACM-08C	LB-ADR1-ACM-09A	LB-ADR1-ACM-09B	LB-ADR1-ACM-09C	QC Batch

Polarized Light Microscop							
Asbestos PLM	%	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	8914429

Maxxam ID		SX9530	SX9531	SX9532	SX9533	SX9534	
Sampling Date		2018/02/06	2018/02/06	2018/02/06	2018/02/06	2018/02/06	
COC Number		N011709	N011709	N011709	N011710	N011710	
	UNITS	LB-ADR1-ACM-10A	LB-ADR1-ACM-10B	LB-ADR1-ACM-10C	LB-GSB-ACM-01A	LB-GSB-ACM-01B	QC Batch

Polarized Light Microscop							
Asbestos PLM	%	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	8914429

Maxxam ID		SX9534	SX9535	SX9536	SX9537	SX9538	
Sampling Date		2018/02/06	2018/02/06	2018/02/06	2018/02/06	2018/02/06	
COC Number		N011710	N011710	N011710	N011710	N011710	
	UNITS	LB-GSB-ACM-01B Lab-Dup	LB-GSB-ACM-01C	LB-GSB-ACM-02A	LB-GSB-ACM-02B	LB-GSB-ACM-02C	QC Batch

Polarized Light Microscop							
Asbestos PLM	%	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	8914429
Lab-Dup = Laboratory Initiated Duplicate							

Maxxam ID		SX9539	SX9540	SX9541	SX9542	SX9543	
Sampling Date		2018/02/06	2018/02/06	2018/02/06	2018/02/06	2018/02/06	
COC Number		N011710	N011710	N011710	N011710	N011710	
	UNITS	LB-GSB-ACM-03A	LB-GSB-ACM-03B	LB-GSB-ACM-03C	LB-GSB-ACM-04A	LB-GSB-ACM-04B	QC Batch

Polarized Light Microscop							
Asbestos PLM	%	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	8914429

Maxxam ID		SX9544	SX9544	SX9545	SX9546	SX9547	
Sampling Date		2018/02/06	2018/02/06	2018/02/06	2018/02/06	2018/02/06	
COC Number		N011710	N011710	N011711	N011711	N011711	
	UNITS	LB-GSB-ACM-04C	LB-GSB-ACM-04C Lab-Dup	LB-CS3-ACM-01A	LB-CS3-ACM-01B	LB-CS3-ACM-01C	QC Batch

Polarized Light Microscop							
Asbestos PLM	%	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	8914429
Lab-Dup = Laboratory Initiated Duplicate							

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KGS Group
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BULK ASBESTOS ANALYSIS (BULK)

Maxxam ID		SX9548	SX9549	SX9550	SX9551	SX9552	
Sampling Date		2018/02/06	2018/02/06	2018/02/06	2018/02/06	2018/02/06	
COC Number		N011711	N011711	N011711	N011711	N011711	
	UNITS	LB-CS3-ACM-02A	LB-CS3-ACM-02B	LB-CS3-ACM-02C	LB-1SB-ACM-01A	LB-1SB-ACM-01B	QC Batch
Polarized Light Microscop							
Asbestos PLM	%	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	8914429

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KGS Group
Client Project #: 17-0006-013
Site Location: CFIA LETHBRIDGE
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BULK ASBESTOS ANALYSIS (BULK)

Maxxam ID		SX9553	SX9554	SX9555	SX9556	SX9557	
Sampling Date		2018/02/06	2018/02/06	2018/02/06	2018/02/06	2018/02/06	
COC Number		N011711	N011711	N011711	N011711	N011712	
	UNITS	LB-1SB-ACM-01C	LB-1SB-ACM-02A	LB-1SB-ACM-02B	LB-1SB-ACM-02C	LB-LB-ACM-01A	QC Batch
Polarized Light Microscop							
Asbestos PLM	%	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	8914429

Maxxam ID		SX9558	SX9558	SX9559	SX9559	SX9560	SX9561	
Sampling Date		2018/02/06	2018/02/06	2018/02/06	2018/02/06	2018/02/06	2018/02/06	
COC Number		N011712	N011712	N011712	N011712	N011712	N011712	
	UNITS	LB-LB-ACM-01B	LB-LB-ACM-01B Lab-Dup	LB-LB-ACM-01C	LB-LB-ACM-01C Lab-Dup	LB-LB-ACM-02A	LB-LB-ACM-02B	QC Batch
Polarized Light Microscop								
Asbestos PLM	%	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	8914429
Lab-Dup = Laboratory Initiated Duplicate								

Maxxam ID		SX9562	SX9563	SX9564	SX9565		SX9566	
Sampling Date		2018/02/06	2018/02/06	2018/02/06	2018/02/06		2018/02/06	
COC Number		N011712	N011712	N011712	N011712		N011712	
	UNITS	LB-LB-ACM-02C	LB-LB-ACM-03A	LB-LB-ACM-03B	LB-LB-ACM-03C	QC Batch	LB-LB-ACM-04A	QC Batch
Polarized Light Microscop								
Asbestos PLM	%	ASB RPT	ASB RPT	ASB RPT	ASB RPT	8914429	ASB RPT	8917105

Maxxam ID		SX9567	SX9568	SX9575	SX9576	SX9577	SX9578	
Sampling Date		2018/02/06	2018/02/06	2018/02/06	2018/02/06	2018/02/06	2018/02/06	
COC Number		N011712	N011712	N011713	N011713	N011713	N011713	
	UNITS	LB-LB-ACM-04B	LB-LB-ACM-04C	LB-LB-ACM-05A	LB-LB-ACM-05B	LB-LB-ACM-05C	LB-LB-ACM-06A	QC Batch
Polarized Light Microscop								
Asbestos PLM	%	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	8917105

Maxxam ID		SX9579	SX9579	SX9580	SX9581	SX9582	
Sampling Date		2018/02/06	2018/02/06	2018/02/06	2018/02/06	2018/02/06	
COC Number		N011713	N011713	N011713	N011713	N011713	
	UNITS	LB-LB-ACM-06B	LB-LB-ACM-06B Lab-Dup	LB-LB-ACM-06C	LB-B18-ACM-01A	LB-B18-ACM-01B	QC Batch
Polarized Light Microscop							
Asbestos PLM	%	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	8917105
Lab-Dup = Laboratory Initiated Duplicate							

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BULK ASBESTOS ANALYSIS (BULK)

Maxxam ID		SX9583	SX9584	SX9585	SX9586	SX9587	
Sampling Date		2018/02/06	2018/02/06	2018/02/06	2018/02/06	2018/02/06	
COC Number		N011713	N011713	N011713	N011713	N011714	
	UNITS	LB-B18-ACM-01C	LB-B18-ACM-02A	LB-B18-ACM-02B	LB-B18-ACM-02C	LB-B18-ACM-03A	QC Batch
Polarized Light Microscop							
Asbestos PLM	%	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	8917105

Maxxam Job #: B809725
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KGS Group
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Site Location: CFIA LETHBRIDGE
Sampler Initials: GRA

BULK ASBESTOS ANALYSIS (BULK)

Maxxam ID		SX9587	SX9588	SX9589	SX9589	SX9590	
Sampling Date		2018/02/06	2018/02/06	2018/02/06	2018/02/06	2018/02/06	
COC Number		N011714	N011714	N011714	N011714	N011714	
	UNITS	LB-B18-ACM-03A Lab-Dup	LB-B18-ACM-03B	LB-B18-ACM-03C	LB-B18-ACM-03C Lab-Dup	LB-B18-ACM-04A	QC Batch

Polarized Light Microscop							
Asbestos PLM	%	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	8917105
Lab-Dup = Laboratory Initiated Duplicate							

Maxxam ID		SX9591	SX9592	SX9593	SX9594	SX9595	
Sampling Date		2018/02/06	2018/02/06	2018/02/06	2018/02/06	2018/02/06	
COC Number		N011714	N011714	N011714	N011714	N011714	
	UNITS	LB-B18-ACM-04B	LB-B18-ACM-04C	LB-B18-ACM-05A	LB-B18-ACM-05B	LB-B18-ACM-05C	QC Batch

Polarized Light Microscop							
Asbestos PLM	%	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	8917105

Maxxam ID		SX9596	SX9597	SX9598	SX9605	SX9605	
Sampling Date		2018/02/06	2018/02/06	2018/02/06	2018/02/06	2018/02/06	
COC Number		N011714	N011714	N011714	N011715	N011715	
	UNITS	LB-B18-ACM-06A	LB-B18-ACM-06B	LB-B18-ACM-06C	LB-B18-ACM-07A	LB-B18-ACM-07A Lab-Dup	QC Batch

Polarized Light Microscop							
Asbestos PLM	%	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	8917105
Lab-Dup = Laboratory Initiated Duplicate							

Maxxam ID		SX9606	SX9607	SX9608	SX9609	SX9610	
Sampling Date		2018/02/06	2018/02/06	2018/02/06	2018/02/06	2018/02/06	
COC Number		N011715	N011715	N011715	N011715	N011715	
	UNITS	LB-B18-ACM-07B	LB-B18-ACM-07C	LB-B5-ACM-01A	LB-B5-ACM-01B	LB-B5-ACM-01C	QC Batch

Polarized Light Microscop							
Asbestos PLM	%	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	8917105

Maxxam ID		SX9611	SX9612	SX9613	SX9614	SX9615	SX9615	
Sampling Date		2018/02/06	2018/02/06	2018/02/06	2018/02/06	2018/02/06	2018/02/06	
COC Number		N011715	N011715	N011715	N011715	N011715	N011715	
	UNITS	LB-B5-ACM-02A	LB-B5-ACM-02B	LB-B5-ACM-02C	LB-B5-ACM-03A	LB-B5-ACM-03B	LB-B5-ACM-03B Lab-Dup	QC Batch

Polarized Light Microscop								
Asbestos PLM	%	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	8917105
Lab-Dup = Laboratory Initiated Duplicate								

Maxxam Job #: B809725
Report Date: 2018/02/26

KGS Group
Client Project #: 17-0006-013
Site Location: CFIA LETHBRIDGE
Sampler Initials: GRA

BULK ASBESTOS ANALYSIS (BULK)

Maxxam ID		SX9616	SX9619	SX9620	SX9621	SX9622	SX9623	
Sampling Date		2018/02/06	2018/02/06	2018/02/06	2018/02/06	2018/02/06	2018/02/06	
COC Number		N011715	N011716	N011716	N011716	N011716	N011716	
	UNITS	LB-B5-ACM-03C	LB-B5-ACM-04A	LB-B5-ACM-04B	LB-B5-ACM-04C	LB-B5-ACM-05A	LB-B5-ACM-05B	QC Batch
Polarized Light Microscop								
Asbestos PLM	%	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	8917105

Maxxam Job #: B809725
Report Date: 2018/02/26

KGS Group
Client Project #: 17-0006-013
Site Location: CFIA LETHBRIDGE
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BULK ASBESTOS ANALYSIS (BULK)

Maxxam ID		SX9624	SX9625	SX9626	SX9627	SX9627	SX9628	
Sampling Date		2018/02/06	2018/02/06	2018/02/06	2018/02/06	2018/02/06	2018/02/06	
COC Number		N011716	N011716	N011716	N011716	N011716	N011716	
	UNITS	LB-B5-ACM-05C	LB-B5-ACM-06A	LB-B5-ACM-06B	LB-B5-ACM-06C	LB-B5-ACM-06C Lab-Dup	LB-B5-ACM-06D	QC Batch

Polarized Light Microscop								
Asbestos PLM	%	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	8917105

Lab-Dup = Laboratory Initiated Duplicate

Maxxam ID		SX9629		SX9630	SX9631	SX9632	SX9633	
Sampling Date		2018/02/06		2018/02/07	2018/02/07	2018/02/07	2018/02/07	
COC Number		N011716		N011699	N011699	N011699	N011699	
	UNITS	LB-B5-ACM-06E	QC Batch	LB-B3-ACM-01A	LB-B3-ACM-01B	LB-B3-ACM-01C	LB-B3-ACM-02A	QC Batch

Polarized Light Microscop								
Asbestos PLM	%	ASB RPT	8917105	ASB RPT	ASB RPT	ASB RPT	ASB RPT	8917421

Maxxam ID		SX9634	SX9635	SX9636	SX9637	SX9637	SX9638	
Sampling Date		2018/02/07	2018/02/07	2018/02/07	2018/02/07	2018/02/07	2018/02/07	
COC Number		N011699	N011699	N011699	N011699	N011699	N011699	
	UNITS	LB-B3-ACM-02B	LB-B3-ACM-02C	LB-B3-ACM-03A	LB-B3-ACM-03B	LB-B3-ACM-03B Lab-Dup	LB-B3-ACM-03C	QC Batch

Polarized Light Microscop								
Asbestos PLM	%	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	8917421

Lab-Dup = Laboratory Initiated Duplicate

Maxxam ID		SX9639	SX9640	SX9641	SX9642	SX9643	SX9644	
Sampling Date		2018/02/07	2018/02/07	2018/02/07	2018/02/07	2018/02/07	2018/02/07	
COC Number		N011699	N011699	N011704	N011704	N011704	N011704	
	UNITS	LB-B3-ACM-03D	LB-B3-ACM-03E	LB-B4-ACM-01A	LB-B4-ACM-01B	LB-B4-ACM-01C	LB-B4-ACM-02A	QC Batch

Polarized Light Microscop								
Asbestos PLM	%	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	8917421

Maxxam ID		SX9645	SX9646	SX9647	SX9647	SX9648	SX9649	
Sampling Date		2018/02/07	2018/02/07	2018/02/07	2018/02/07	2018/02/07	2018/02/07	
COC Number		N011704	N011704	N011704	N011704	N011704	N011704	
	UNITS	LB-B4-ACM-02B	LB-B4-ACM-02C	LB-B8-ACM-01A	LB-B8-ACM-01A Lab-Dup	LB-B8-ACM-01B	LB-B8-ACM-01C	QC Batch

Polarized Light Microscop								
Asbestos PLM	%	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	8917421

Lab-Dup = Laboratory Initiated Duplicate

Maxxam Job #: B809725
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KGS Group
Client Project #: 17-0006-013
Site Location: CFIA LETHBRIDGE
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BULK ASBESTOS ANALYSIS (BULK)

Maxxam ID		SX9650	SX9651	SX9652	SX9653	SX9654	
Sampling Date		2018/02/07	2018/02/07	2018/02/07	2018/02/07	2018/02/07	
COC Number		N011704	N011704	N011704	N011705	N011705	
	UNITS	LB-B8-ACM-02A	LB-B8-ACM-02B	LB-B8-ACM-02C	LB-B20-ACM-01A	LB-B20-ACM-01B	QC Batch
Polarized Light Microscop							
Asbestos PLM	%	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	8917505

Maxxam Job #: B809725
Report Date: 2018/02/26

KGS Group
Client Project #: 17-0006-013
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Sampler Initials: GRA

BULK ASBESTOS ANALYSIS (BULK)

Maxxam ID		SX9655	SX9656	SX9657	SX9657	SX9658	
Sampling Date		2018/02/07	2018/02/07	2018/02/07	2018/02/07	2018/02/07	
COC Number		N011705	N011705	N011705	N011705	N011705	
	UNITS	LB-B20-ACM-01C	LB-B20-ACM-02A	LB-B20-ACM-02B	LB-B20-ACM-02B Lab-Dup	LB-B20-ACM-02C	QC Batch

Polarized Light Microscop							
Asbestos PLM	%	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	8917505
Lab-Dup = Laboratory Initiated Duplicate							

Maxxam ID		SX9659	SX9660	SX9661	SX9662	SX9663	
Sampling Date		2018/02/07	2018/02/07	2018/02/07	2018/02/07	2018/02/07	
COC Number		N011705	N011705	N011705	N011705	N011705	
	UNITS	LB-B11-ACM-01A	LB-B11-ACM-01B	LB-B11-ACM-01C	LB-B11-ACM-02A	LB-B11-ACM-02B	QC Batch

Polarized Light Microscop							
Asbestos PLM	%	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	8917505

Maxxam ID		SX9664	SX9665	SX9665	SX9666	SX9667	
Sampling Date		2018/02/07	2018/02/07	2018/02/07	2018/02/07	2018/02/07	
COC Number		N011705	N011703	N011703	N011703	N011703	
	UNITS	LB-B11-ACM-02C	LB-B11-ACM-03A	LB-B11-ACM-03A Lab-Dup	LB-B11-ACM-03B	LB-B11-ACM-03C	QC Batch

Polarized Light Microscop							
Asbestos PLM	%	ASB RPT	ASB RPT	ASB RPT	ASB RPT	ASB RPT	8917505
Lab-Dup = Laboratory Initiated Duplicate							

Maxxam ID		SX9667	
Sampling Date		2018/02/07	
COC Number		N011703	
	UNITS	LB-B11-ACM-03C Lab-Dup	QC Batch
Polarized Light Microscop			
Asbestos PLM	%	ASB RPT	8917505
Lab-Dup = Laboratory Initiated Duplicate			

Maxxam Job #: B809725
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Asbestos Analytical Results

EPA/600R-93/116 by Polarized Light Microscopy

LB-ADR1-ACM-01A						
Maxxam ID: SX9491		Date Analyzed: 2018/02/19				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	95	Homogeneous off-white VFT	Not Detected			Non-Fibrous
	Comment:	Vinyl floor tile can contain very fine asbestos fibres that are below the resolution limits of the PLM. Maxxam recommends analysis by Transmission Electron Microscopy (TEM) for confirmation of None Detected results				
Layer 2	5	Homogeneous black mastic	Not Detected	Cellulose	1.0%	Non-Fibrous Tar

LB-ADR1-ACM-01B						
Maxxam ID: SX9492		Date Analyzed: 2018/02/19				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	95	Homogeneous off-white VFT	Not Detected			Non-Fibrous
	Comment:	Vinyl floor tile can contain very fine asbestos fibres that are below the resolution limits of the PLM. Maxxam recommends analysis by Transmission Electron Microscopy (TEM) for confirmation of None Detected results				
Layer 2	5	Homogeneous black mastic	Not Detected	Cellulose	1.0%	Non-Fibrous Tar

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

Maxxam Job #: B809725
Report Date: 2018/02/26

KGS Group
Client Project #: 17-0006-013
Site Location: CFIA LETHBRIDGE
Sampler Initials: GRA

Asbestos Analytical Results

EPA/600R-93/116 by Polarized Light Microscopy

LB-ADR1-ACM-01C						
Maxxam ID: SX9493		Date Analyzed: 2018/02/19				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	95	Homogeneous off-white VFT	Not Detected			Non-Fibrous
Comment: Vinyl floor tile can contain very fine asbestos fibres that are below the resolution limits of the PLM. Maxxam recommends analysis by Transmission Electron Microscopy (TEM) for confirmation of None Detected results						
Layer 2	5	Homogeneous black mastic	Not Detected	Cellulose	1.0%	Non-Fibrous Tar

LB-ADR1-ACM-02A						
Maxxam ID: SX9494		Date Analyzed: 2018/02/19				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous white mud	Not Detected	Cellulose	1%	Non-Fibrous

LB-ADR1-ACM-02B						
Maxxam ID: SX9495		Date Analyzed: 2018/02/19				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous white mud	Not Detected	Cellulose	1%	Non-Fibrous

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

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Asbestos Analytical Results

EPA/600R-93/116 by Polarized Light Microscopy

LB-ADR1-ACM-02C						
Maxxam ID: SX9496		Date Analyzed: 2018/02/19				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous white mud	Not Detected	Cellulose	1%	Non-Fibrous

LB-ADR1-ACM-02D						
Maxxam ID: SX9497		Date Analyzed: 2018/02/19				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous white mud	Not Detected	Cellulose	1%	Non-Fibrous

LB-ADR1-ACM-02E						
Maxxam ID: SX9498		Date Analyzed: 2018/02/19				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous white mud	Not Detected	Cellulose	1%	Non-Fibrous

LB-ADR1-ACM-02F						
Maxxam ID: SX9499		Date Analyzed: 2018/02/19				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous white mud	Not Detected	Cellulose	1%	Non-Fibrous

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

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Report Date: 2018/02/26

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Asbestos Analytical Results

EPA/600R-93/116 by Polarized Light Microscopy

LB-ADR1-ACM-02G						
Maxxam ID: SX9500			Date Analyzed: 2018/02/19			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous white mud	Not Detected	Cellulose	1%	Non-Fibrous

LB-ADR1-ACM-03A						
Maxxam ID: SX9501			Date Analyzed: 2018/02/19			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous white mud	Not Detected			Non-Fibrous

LB-ADR1-ACM-03B						
Maxxam ID: SX9502			Date Analyzed: 2018/02/19			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous white mud	Not Detected			Non-Fibrous

LB-ADR1-ACM-03C						
Maxxam ID: SX9504			Date Analyzed: 2018/02/19			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous white mud	Not Detected			Non-Fibrous

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

Maxxam Job #: B809725
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KGS Group
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Asbestos Analytical Results

EPA/600R-93/116 by Polarized Light Microscopy

LB-ADR1-ACM-04A						
Maxxam ID: SX9505		Date Analyzed: 2018/02/19				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous white mix	Not Detected	Wollastonite	0.5%	Non-Fibrous

LB-ADR1-ACM-04B						
Maxxam ID: SX9506		Date Analyzed: 2018/02/19				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous white mix	Not Detected	Wollastonite	0.5%	Non-Fibrous

LB-ADR1-ACM-04C						
Maxxam ID: SX9507		Date Analyzed: 2018/02/19				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous white mix	Not Detected	Wollastonite	0.5%	Non-Fibrous

LB-ADR1-ACM-05A						
Maxxam ID: SX9508		Date Analyzed: 2018/02/19				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous black mastic	Not Detected	Cellulose	1%	Tar Non-Fibrous

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

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Asbestos Analytical Results

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LB-ADR1-ACM-05B						
Maxxam ID: SX9509		Date Analyzed: 2018/02/19				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous black mastic	Not Detected	Cellulose	1%	Tar Non-Fibrous

LB-ADR1-ACM-05C						
Maxxam ID: SX9510		Date Analyzed: 2018/02/19				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous black mastic	Not Detected	Cellulose	1%	Tar Non-Fibrous

LB-ADR1-ACM-06A						
Maxxam ID: SX9511		Date Analyzed: 2018/02/19				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous red granular mix	Not Detected			Non-Fibrous Perlite

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

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Asbestos Analytical Results

EPA/600R-93/116 by Polarized Light Microscopy

LB-ADR1-ACM-06B						
Maxxam ID: SX9512		Date Analyzed: 2018/02/19				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>	
Layer 1	100	Homogeneous red granular mix	Not Detected		Non-Fibrous Perlite	

LB-ADR1-ACM-06C						
Maxxam ID: SX9513		Date Analyzed: 2018/02/19				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>	
Layer 1	100	Homogeneous red granular mix	Not Detected		Non-Fibrous Perlite	

LB-ADR1-ACM-07A						
Maxxam ID: SX9514		Date Analyzed: 2018/02/21				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>	
Layer 1	100	Homogeneous brown mastic	Not Detected	Wollastonite 3%	Non-Fibrous	

LB-ADR1-ACM-07B						
Maxxam ID: SX9515		Date Analyzed: 2018/02/21				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>	
Layer 1	100	Homogeneous brown mastic	Not Detected	Wollastonite 3%	Non-Fibrous	

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

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Asbestos Analytical Results

EPA/600R-93/116 by Polarized Light Microscopy

LB-ADR1-ACM-07C						
Maxxam ID: SX9523			Date Analyzed: 2018/02/21			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous brown mastic	Not Detected	Wollastonite	3%	Non-Fibrous

LB-ADR1-ACM-08A						
Maxxam ID: SX9524			Date Analyzed: 2018/02/21			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous grey sheet flooring	Not Detected			Non-Fibrous

LB-ADR1-ACM-08B						
Maxxam ID: SX9525			Date Analyzed: 2018/02/21			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous grey sheet flooring	Not Detected			Non-Fibrous

LB-ADR1-ACM-08C						
Maxxam ID: SX9526			Date Analyzed: 2018/02/21			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous grey sheet flooring	Not Detected			Non-Fibrous

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

Maxxam Job #: B809725
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Asbestos Analytical Results

EPA/600R-93/116 by Polarized Light Microscopy

LB-ADR1-ACM-09A						
Maxxam ID: SX9527		Date Analyzed: 2018/02/21				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous grey Fibrous insulation	Not Detected	Glass Fibres	70%	Non-Fibrous

LB-ADR1-ACM-09B						
Maxxam ID: SX9528		Date Analyzed: 2018/02/21				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous grey Fibrous insulation	Not Detected	Glass Fibres	70%	Non-Fibrous

LB-ADR1-ACM-09C						
Maxxam ID: SX9529		Date Analyzed: 2018/02/21				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous grey Fibrous insulation	Not Detected	Glass Fibres	70%	Non-Fibrous

LB-ADR1-ACM-10A						
Maxxam ID: SX9530		Date Analyzed: 2018/02/21				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous white mica mix	Chrysotile 2%			Non-Fibrous Mica

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

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Report Date: 2018/02/26

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Asbestos Analytical Results

EPA/600R-93/116 by Polarized Light Microscopy

LB-ADR1-ACM-10B					
Maxxam ID: SX9531		Date Analyzed: 2018/02/21			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1			N/A		
Comment: Stop at Positive					

LB-ADR1-ACM-10C					
Maxxam ID: SX9532		Date Analyzed: 2018/02/21			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1			N/A		
Comment: Stop at Positive					

LB-GSB-ACM-01A					
Maxxam ID: SX9533		Date Analyzed: 2018/02/21			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous beige sheet flooring	Not Detected		Non-Fibrous

LB-GSB-ACM-01B					
Maxxam ID: SX9534		Date Analyzed: 2018/02/21			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous beige sheet flooring	Not Detected		Non-Fibrous

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

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Report Date: 2018/02/26

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Asbestos Analytical Results

EPA/600R-93/116 by Polarized Light Microscopy

LB-GSB-ACM-01C					
Maxxam ID: SX9535		Date Analyzed: 2018/02/21			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous beige sheet flooring	Not Detected		Non-Fibrous

LB-GSB-ACM-02A					
Maxxam ID: SX9536		Date Analyzed: 2018/02/21			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous off-white sheet flooring	Not Detected		Non-Fibrous

LB-GSB-ACM-02B					
Maxxam ID: SX9537		Date Analyzed: 2018/02/21			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous off-white sheet flooring	Not Detected		Non-Fibrous

LB-GSB-ACM-02C					
Maxxam ID: SX9538		Date Analyzed: 2018/02/21			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous off-white sheet flooring	Not Detected		Non-Fibrous

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

Maxxam Job #: B809725
Report Date: 2018/02/26

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Asbestos Analytical Results

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LB-GSB-ACM-03A						
Maxxam ID: SX9539		Date Analyzed: 2018/02/21				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous white ceiling tile	Not Detected	Cellulose	30%	Perlite
				Glass Fibres	30%	Non-Fibrous

LB-GSB-ACM-03B						
Maxxam ID: SX9540		Date Analyzed: 2018/02/21				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous white ceiling tile	Not Detected	Cellulose	30%	Perlite
				Glass Fibres	30%	Non-Fibrous

LB-GSB-ACM-03C						
Maxxam ID: SX9541		Date Analyzed: 2018/02/21				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous white ceiling tile	Not Detected	Cellulose	30%	Perlite
				Glass Fibres	30%	Non-Fibrous

LB-GSB-ACM-04A						
Maxxam ID: SX9542		Date Analyzed: 2018/02/21				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous white mud	Not Detected			Non-Fibrous

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

Maxxam Job #: B809725
Report Date: 2018/02/26

KGS Group
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Asbestos Analytical Results

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LB-GSB-ACM-04B					
Maxxam ID: SX9543		Date Analyzed: 2018/02/21			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous white mud	Not Detected		Non-Fibrous

LB-GSB-ACM-04C					
Maxxam ID: SX9544		Date Analyzed: 2018/02/21			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous white mud	Not Detected		Non-Fibrous

LB-CS3-ACM-01A					
Maxxam ID: SX9545		Date Analyzed: 2018/02/21			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous grey transite	Chrysotile 30%		Non-Fibrous

LB-CS3-ACM-01B					
Maxxam ID: SX9546		Date Analyzed: 2018/02/21			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous grey transite	Chrysotile 30%		Non-Fibrous

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

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LB-CS3-ACM-01C					
Maxxam ID: SX9547		Date Analyzed: 2018/02/21			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1			N/A		
Comment: Stop at Positive					

LB-CS3-ACM-02A					
Maxxam ID: SX9548		Date Analyzed: 2018/02/21			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Non-homogeneous grey-yellow cement	Chrysotile <1%		Non-Fibrous

LB-CS3-ACM-02B					
Maxxam ID: SX9549		Date Analyzed: 2018/02/21			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Non-homogeneous grey-yellow cement	Chrysotile <1%		Non-Fibrous

LB-CS3-ACM-02C					
Maxxam ID: SX9550		Date Analyzed: 2018/02/21			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Non-homogeneous grey-yellow cement	Chrysotile <1%		Non-Fibrous

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

Maxxam Job #: B809725
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KGS Group
Client Project #: 17-0006-013
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Sampler Initials: GRA

Asbestos Analytical Results

EPA/600R-93/116 by Polarized Light Microscopy

LB-1SB-ACM-01A						
Maxxam ID: SX9551						Date Analyzed: 2018/02/21
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous grey vermiculite	Actinolite	1%		Vermiculite

LB-1SB-ACM-01B						
Maxxam ID: SX9552						Date Analyzed: 2018/02/21
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Other Fibres</u>	<u>Particulate</u>
Layer 1			N/A			
	Comment: Stop at Positive					

LB-1SB-ACM-01C						
Maxxam ID: SX9553						Date Analyzed: 2018/02/21
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Other Fibres</u>	<u>Particulate</u>
Layer 1			N/A			
	Comment: Stop at Positive					

LB-1SB-ACM-02A						
Maxxam ID: SX9554						Date Analyzed: 2018/02/21
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Non-homogeneous grey-white cement	Chrysotile	<1%		Non-Fibrous

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

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Asbestos Analytical Results

EPA/600R-93/116 by Polarized Light Microscopy

LB-1SB-ACM-02B						
Maxxam ID: SX9555			Date Analyzed: 2018/02/21			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Non-homogeneous grey-white cement	Chrysotile	<1%		Non-Fibrous

LB-1SB-ACM-02C						
Maxxam ID: SX9556			Date Analyzed: 2018/02/21			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Non-homogeneous grey-white cement	Chrysotile	<1%		Non-Fibrous

LB-LB-ACM-01A						
Maxxam ID: SX9557			Date Analyzed: 2018/02/21			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous grey transite	Chrysotile	30%		Non-Fibrous

LB-LB-ACM-01B						
Maxxam ID: SX9558			Date Analyzed: 2018/02/21			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous grey transite	Chrysotile	30%		Non-Fibrous

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

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Asbestos Analytical Results

EPA/600R-93/116 by Polarized Light Microscopy

LB-LB-ACM-01C					
Maxxam ID: SX9559		Date Analyzed: 2018/02/21			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1			N/A		
Comment: Stop at Positive					

LB-LB-ACM-02A					
Maxxam ID: SX9560		Date Analyzed: 2018/02/21			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous grey plaster	Chrysotile 1%		Non-Fibrous

LB-LB-ACM-02B					
Maxxam ID: SX9561		Date Analyzed: 2018/02/21			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1			N/A		
Comment: Stop at Positive					

LB-LB-ACM-02C					
Maxxam ID: SX9562		Date Analyzed: 2018/02/21			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1			N/A		
Comment: Stop at Positive					

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

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Asbestos Analytical Results

EPA/600R-93/116 by Polarized Light Microscopy

LB-LB-ACM-03A						
Maxxam ID: SX9563						Date Analyzed: 2018/02/21
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous white plaster	Chrysotile	2%		Non-Fibrous

LB-LB-ACM-03B						
Maxxam ID: SX9564						Date Analyzed: 2018/02/21
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Other Fibres</u>	<u>Particulate</u>
Layer 1			N/A			
	Comment: Stop at Positive					

LB-LB-ACM-03C						
Maxxam ID: SX9565						Date Analyzed: 2018/02/21
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Other Fibres</u>	<u>Particulate</u>
Layer 1			N/A			
	Comment: Stop at Positive					

LB-LB-ACM-04A						
Maxxam ID: SX9566						Date Analyzed: 2018/02/22
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Non-homogeneous grey-brown-white cement	Chrysotile	<1%		Non-Fibrous

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

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Asbestos Analytical Results

EPA/600R-93/116 by Polarized Light Microscopy

LB-LB-ACM-04B						
Maxxam ID: SX9567		Date Analyzed: 2018/02/22				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Non-homogeneous grey-brown-white cement	Chrysotile	<1%		Non-Fibrous

LB-LB-ACM-04C						
Maxxam ID: SX9568		Date Analyzed: 2018/02/22				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Non-homogeneous grey-brown-white cement	Chrysotile	<1%		Non-Fibrous

LB-LB-ACM-05A						
Maxxam ID: SX9575		Date Analyzed: 2018/02/22				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous black roofing mix	Not Detected		Cellulose 20%	Non-Fibrous Tar

LB-LB-ACM-05B						
Maxxam ID: SX9576		Date Analyzed: 2018/02/22				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous black roofing mix	Not Detected		Cellulose 20%	Non-Fibrous Tar

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

Maxxam Job #: B809725
Report Date: 2018/02/26

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Asbestos Analytical Results

EPA/600R-93/116 by Polarized Light Microscopy

LB-LB-ACM-05C						
Maxxam ID: SX9577		Date Analyzed: 2018/02/22				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous black roofing mix	Not Detected	Cellulose	20%	Non-Fibrous Tar

LB-LB-ACM-06A						
Maxxam ID: SX9578		Date Analyzed: 2018/02/22				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous black roofing mix	Not Detected	Cellulose	20%	Non-Fibrous Tar

LB-LB-ACM-06B						
Maxxam ID: SX9579		Date Analyzed: 2018/02/22				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous black roofing mix	Not Detected	Cellulose	20%	Non-Fibrous Tar

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

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Asbestos Analytical Results

EPA/600R-93/116 by Polarized Light Microscopy

LB-LB-ACM-06C						
Maxxam ID: SX9580		Date Analyzed: 2018/02/22				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous black roofing mix	Not Detected	Cellulose	20%	Non-Fibrous Tar

LB-B18-ACM-01A						
Maxxam ID: SX9581		Date Analyzed: 2018/02/22				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous white mud	Not Detected	Cellulose	1%	Non-Fibrous

LB-B18-ACM-01B						
Maxxam ID: SX9582		Date Analyzed: 2018/02/22				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous white mud	Chrysotile 1%			Non-Fibrous

LB-B18-ACM-01C						
Maxxam ID: SX9583		Date Analyzed: 2018/02/22				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1			N/A			
	Comment: Stop at Positive					

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

Maxxam Job #: B809725
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Asbestos Analytical Results

EPA/600R-93/116 by Polarized Light Microscopy

LB-B18-ACM-02A					
Maxxam ID: SX9584		Date Analyzed: 2018/02/22			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous white texture mix	Not Detected		Non-Fibrous Foam

LB-B18-ACM-02B					
Maxxam ID: SX9585		Date Analyzed: 2018/02/22			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous white texture mix	Not Detected		Non-Fibrous Foam

LB-B18-ACM-02C					
Maxxam ID: SX9586		Date Analyzed: 2018/02/22			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous white texture mix	Not Detected		Non-Fibrous Foam

LB-B18-ACM-03A					
Maxxam ID: SX9587		Date Analyzed: 2018/02/22			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous off-white texture coat	Chrysotile 1%		Non-Fibrous

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

Maxxam Job #: B809725
Report Date: 2018/02/26

KGS Group
Client Project #: 17-0006-013
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Asbestos Analytical Results

EPA/600R-93/116 by Polarized Light Microscopy

LB-B18-ACM-03B							
Maxxam ID: SX9588							Date Analyzed: 2018/02/22
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>	
Layer 1			N/A				
Comment: Stop at Positive							

LB-B18-ACM-03C							
Maxxam ID: SX9589							Date Analyzed: 2018/02/22
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>	
Layer 1			N/A				
Comment: Stop at Positive							

LB-B18-ACM-04A							
Maxxam ID: SX9590							Date Analyzed: 2018/02/22
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>	
Layer 1	100	Homogeneous grey fibrous insulation	Not Detected	Cellulose	95%	Non-Fibrous	

LB-B18-ACM-04B							
Maxxam ID: SX9591							Date Analyzed: 2018/02/22
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>	
Layer 1	100	Homogeneous grey fibrous insulation	Not Detected	Cellulose	95%	Non-Fibrous	

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

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Asbestos Analytical Results

EPA/600R-93/116 by Polarized Light Microscopy

LB-B18-ACM-04C							
Maxxam ID: SX9592		Date Analyzed: 2018/02/22					
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous grey fibrous insulation	Not Detected		Cellulose	95%	Non-Fibrous

LB-B18-ACM-05A							
Maxxam ID: SX9593		Date Analyzed: 2018/02/22					
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	90	Homogeneous beige VSF backing	Chrysotile	35%	Cellulose	5%	Non-Fibrous
Layer 2	10	Homogeneous brown mastic	Not Detected				Non-Fibrous

LB-B18-ACM-05B							
Maxxam ID: SX9594		Date Analyzed: 2018/02/22					
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	90	Homogeneous beige VSF backing	Chrysotile	35%	Cellulose	5%	Non-Fibrous
Layer 2	10	Homogeneous brown mastic	Not Detected				Non-Fibrous

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

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Asbestos Analytical Results

EPA/600R-93/116 by Polarized Light Microscopy

LB-B18-ACM-05C						
Maxxam ID: SX9595						
		Date Analyzed: 2018/02/22				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1			N/A			
Comment: Stop at Positive						

LB-B18-ACM-06A						
Maxxam ID: SX9596						
		Date Analyzed: 2018/02/22				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	80	Homogeneous beige floor tile	Not Detected			Non-Fibrous
Layer 2	20	Homogeneous black fibrous mix	Not Detected	Cellulose	40%	Tar Non-Fibrous

LB-B18-ACM-06B						
Maxxam ID: SX9597						
		Date Analyzed: 2018/02/22				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	75	Homogeneous beige floor tile	Not Detected			Non-Fibrous
Layer 2	15	Homogeneous black fibrous mix	Not Detected	Cellulose	40%	Tar Non-Fibrous
Layer 3	10	Homogeneous white fibrous mix	Chrysotile	30%		Non-Fibrous

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

Maxxam Job #: B809725
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Asbestos Analytical Results

EPA/600R-93/116 by Polarized Light Microscopy

LB-B18-ACM-06C					
Maxxam ID: SX9598		Date Analyzed: 2018/02/22			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1			N/A		
Comment: Stop at Positive					

LB-B18-ACM-07A					
Maxxam ID: SX9605		Date Analyzed: 2018/02/22			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous white mud	Not Detected		Non-Fibrous

LB-B18-ACM-07B					
Maxxam ID: SX9606		Date Analyzed: 2018/02/22			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous white mud	Not Detected		Non-Fibrous

LB-B18-ACM-07C					
Maxxam ID: SX9607		Date Analyzed: 2018/02/22			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous white mud	Not Detected		Non-Fibrous

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

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Asbestos Analytical Results

EPA/600R-93/116 by Polarized Light Microscopy

LB-B5-ACM-01A						
Maxxam ID: SX9608		Date Analyzed: 2018/02/22				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous brown VSF Backing	Not Detected	Cellulose	25%	Non-Fibrous
				Glass Fibres	5%	

LB-B5-ACM-01B						
Maxxam ID: SX9609		Date Analyzed: 2018/02/22				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous brown VSF Backing	Not Detected	Cellulose	25%	Non-Fibrous
				Glass Fibres	5%	

LB-B5-ACM-01C						
Maxxam ID: SX9610		Date Analyzed: 2018/02/22				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous brown VSF Backing	Not Detected	Cellulose	25%	Non-Fibrous
				Glass Fibres	5%	

LB-B5-ACM-02A						
Maxxam ID: SX9611		Date Analyzed: 2018/02/22				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous white mud	Not Detected			Non-Fibrous

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

Maxxam Job #: B809725
Report Date: 2018/02/26

KGS Group
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Sampler Initials: GRA

Asbestos Analytical Results

EPA/600R-93/116 by Polarized Light Microscopy

LB-B5-ACM-02B					
Maxxam ID: SX9612			Date Analyzed: 2018/02/22		
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous white mud	Not Detected		Non-Fibrous

LB-B5-ACM-02C					
Maxxam ID: SX9613			Date Analyzed: 2018/02/22		
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous white mud	Not Detected		Non-Fibrous

LB-B5-ACM-03A					
Maxxam ID: SX9614			Date Analyzed: 2018/02/22		
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	70	Homogeneous brown VSF backing	Chrysotile 40%		Non-Fibrous
Layer 2	10	Homogeneous grey leveling compound	Not Detected		Non-Fibrous
Layer 3	20	Homogeneous light brown tile	Not Detected		Non-Fibrous

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

Maxxam Job #: B809725
Report Date: 2018/02/26

KGS Group
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Asbestos Analytical Results

EPA/600R-93/116 by Polarized Light Microscopy

LB-B5-ACM-03B						
Maxxam ID: SX9615			Date Analyzed: 2018/02/22			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	70	Homogeneous brown VSF backing	Chrysotile	40%		Non-Fibrous
Layer 2	10	Homogeneous grey leveling compound	Not Detected			Non-Fibrous
Layer 3	20	Homogeneous light brown tile	Not Detected			Non-Fibrous

LB-B5-ACM-03C						
Maxxam ID: SX9616			Date Analyzed: 2018/02/22			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Other Fibres</u>	<u>Particulate</u>
Layer 1			N/A			
		Comment: Stop at Positive				

LB-B5-ACM-04A						
Maxxam ID: SX9619			Date Analyzed: 2018/02/22			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Non-homogeneous grey-white cement	Chrysotile	<1%		Non-Fibrous

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

Maxxam Job #: B809725
Report Date: 2018/02/26

KGS Group
Client Project #: 17-0006-013
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Asbestos Analytical Results

EPA/600R-93/116 by Polarized Light Microscopy

LB-B5-ACM-04B					
Maxxam ID: SX9620		Date Analyzed: 2018/02/22			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Particulate</u>
Layer 1	100	Non-homogeneous grey-white cement	Chrysotile	<1%	Non-Fibrous

LB-B5-ACM-04C					
Maxxam ID: SX9621		Date Analyzed: 2018/02/22			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Particulate</u>
Layer 1	100	Non-homogeneous grey-white cement	Chrysotile	<1%	Non-Fibrous

LB-B5-ACM-05A					
Maxxam ID: SX9622		Date Analyzed: 2018/02/22			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Particulate</u>
Layer 1	100	Homogeneous white mud	Not Detected		Non-Fibrous

LB-B5-ACM-05B					
Maxxam ID: SX9623		Date Analyzed: 2018/02/22			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Particulate</u>
Layer 1	100	Homogeneous white mud	Not Detected		Non-Fibrous

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
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Asbestos Analytical Results

EPA/600R-93/116 by Polarized Light Microscopy

LB-B5-ACM-05C					
Maxxam ID: SX9624			Date Analyzed: 2018/02/22		
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous white mud	Not Detected		Non-Fibrous

LB-B5-ACM-06A					
Maxxam ID: SX9625			Date Analyzed: 2018/02/22		
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous grey cement	Not Detected		Non-Fibrous

LB-B5-ACM-06B					
Maxxam ID: SX9626			Date Analyzed: 2018/02/22		
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Non-homogeneous grey-white cement	Chrysotile <1%		Non-Fibrous

LB-B5-ACM-06C					
Maxxam ID: SX9627			Date Analyzed: 2018/02/22		
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Non-homogeneous grey-white cement	Chrysotile <1%		Non-Fibrous

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

Maxxam Job #: B809725
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Asbestos Analytical Results

EPA/600R-93/116 by Polarized Light Microscopy

LB-B5-ACM-06D						
Maxxam ID: SX9628			Date Analyzed: 2018/02/22			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Non-homogeneous grey-white cement	Chrysotile	<1%		Non-Fibrous

LB-B5-ACM-06E						
Maxxam ID: SX9629			Date Analyzed: 2018/02/22			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Non-homogeneous grey-white cement	Chrysotile	<1%		Non-Fibrous

LB-B3-ACM-01A						
Maxxam ID: SX9630			Date Analyzed: 2018/02/22			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous off-white fibrous mix	Chrysotile	50%	Cellulose 5%	Non-Fibrous

LB-B3-ACM-01B						
Maxxam ID: SX9631			Date Analyzed: 2018/02/22			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Other Fibres</u>	<u>Particulate</u>
Layer 1			N/A			
	Comment: Stop at Positive					

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

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Asbestos Analytical Results

EPA/600R-93/116 by Polarized Light Microscopy

LB-B3-ACM-01C					
Maxxam ID: SX9632					
		Date Analyzed: 2018/02/22			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1			N/A		
Comment: Stop at Positive					

LB-B3-ACM-02A					
Maxxam ID: SX9633					
		Date Analyzed: 2018/02/22			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous white texture mix	Chrysotile 2%		Non-Fibrous

LB-B3-ACM-02B					
Maxxam ID: SX9634					
		Date Analyzed: 2018/02/22			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous white texture mix	Chrysotile 2%		Non-Fibrous

LB-B3-ACM-02C					
Maxxam ID: SX9635					
		Date Analyzed: 2018/02/22			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1			N/A		
Comment: Stop at Positive					

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

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Asbestos Analytical Results

EPA/600R-93/116 by Polarized Light Microscopy

LB-B3-ACM-03A					
Maxxam ID: SX9636			Date Analyzed: 2018/02/22		
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous grey cement	Not Detected		Non-Fibrous

LB-B3-ACM-03B					
Maxxam ID: SX9637			Date Analyzed: 2018/02/22		
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous grey cement	Not Detected		Non-Fibrous

LB-B3-ACM-03C					
Maxxam ID: SX9638			Date Analyzed: 2018/02/22		
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous grey cement	Not Detected		Non-Fibrous

LB-B3-ACM-03D					
Maxxam ID: SX9639			Date Analyzed: 2018/02/22		
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous grey cement	Not Detected		Non-Fibrous

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

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Report Date: 2018/02/26

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Asbestos Analytical Results

EPA/600R-93/116 by Polarized Light Microscopy

LB-B3-ACM-03E							
Maxxam ID: SX9640				Date Analyzed: 2018/02/22			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous grey cement	Not Detected				Non-Fibrous

LB-B4-ACM-01A							
Maxxam ID: SX9641				Date Analyzed: 2018/02/22			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous off-white fibrous mix	Chrysotile	50%	Cellulose	5%	Non-Fibrous

LB-B4-ACM-01B							
Maxxam ID: SX9642				Date Analyzed: 2018/02/22			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous off-white fibrous mix	Chrysotile	50%	Cellulose	5%	Non-Fibrous

LB-B4-ACM-01C							
Maxxam ID: SX9643				Date Analyzed: 2018/02/22			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Other Fibres</u>		<u>Particulate</u>
Layer 1			N/A				
	Comment: Stop at Positive						

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

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Report Date: 2018/02/26

KGS Group
Client Project #: 17-0006-013
Site Location: CFIA LETHBRIDGE
Sampler Initials: GRA

Asbestos Analytical Results

EPA/600R-93/116 by Polarized Light Microscopy

LB-B4-ACM-02A							
Maxxam ID: SX9644		Date Analyzed: 2018/02/22					
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous off-white fibrous mix	Chrysotile	50%	Cellulose	5%	Non-Fibrous

LB-B4-ACM-02B							
Maxxam ID: SX9645		Date Analyzed: 2018/02/22					
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Other Fibres</u>		<u>Particulate</u>
Layer 1			N/A				
	Comment: Stop at Positive						

LB-B4-ACM-02C							
Maxxam ID: SX9646		Date Analyzed: 2018/02/22					
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Other Fibres</u>		<u>Particulate</u>
Layer 1			N/A				
	Comment: Stop at Positive						

LB-B8-ACM-01A							
Maxxam ID: SX9647		Date Analyzed: 2018/02/22					
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous light brown VSF backing	Not Detected		Cellulose	20%	Non-Fibrous
					Glass Fibres	5%	

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

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Asbestos Analytical Results

EPA/600R-93/116 by Polarized Light Microscopy

LB-B8-ACM-01B						
Maxxam ID: SX9648		Date Analyzed: 2018/02/22				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous light brown VSF backing	Not Detected	Cellulose	20%	Non-Fibrous
				Glass Fibres	5%	

LB-B8-ACM-01C						
Maxxam ID: SX9649		Date Analyzed: 2018/02/22				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous light brown VSF backing	Not Detected	Cellulose	20%	Non-Fibrous
				Glass Fibres	5%	

LB-B8-ACM-02A						
Maxxam ID: SX9650		Date Analyzed: 2018/02/23				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous off-white fibrous mix	Chrysotile 50%	Cellulose	5%	Non-Fibrous

LB-B8-ACM-02B						
Maxxam ID: SX9651		Date Analyzed: 2018/02/23				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1			N/A			
	Comment: Stop at Positive					

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

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Asbestos Analytical Results

EPA/600R-93/116 by Polarized Light Microscopy

LB-B8-ACM-02C					
Maxxam ID: SX9652		Date Analyzed: 2018/02/23			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1			N/A		
Comment: Stop at Positive					

LB-B20-ACM-01A					
Maxxam ID: SX9653		Date Analyzed: 2018/02/23			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	95	Homogeneous grey VFT	Chrysotile 4%		Non-Fibrous
Layer 2	5	Homogeneous brown mastic	Not Detected		Non-Fibrous

LB-B20-ACM-01B					
Maxxam ID: SX9654		Date Analyzed: 2018/02/23			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	95	Homogeneous grey VFT	Chrysotile 4%		Non-Fibrous
Layer 2	5	Homogeneous brown mastic	Not Detected		Non-Fibrous

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
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LB-B20-ACM-01C					
Maxxam ID: SX9655		Date Analyzed: 2018/02/23			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1			N/A		
Comment: Stop at Positive					

LB-B20-ACM-02A					
Maxxam ID: SX9656		Date Analyzed: 2018/02/23			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous white mud	Not Detected		Non-Fibrous

LB-B20-ACM-02B					
Maxxam ID: SX9657		Date Analyzed: 2018/02/23			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous white mud	Not Detected		Non-Fibrous

LB-B20-ACM-02C					
Maxxam ID: SX9658		Date Analyzed: 2018/02/23			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous white mud	Not Detected		Non-Fibrous

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

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Asbestos Analytical Results

EPA/600R-93/116 by Polarized Light Microscopy

LB-B11-ACM-01A						
Maxxam ID: SX9659		Date Analyzed: 2018/02/23				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous black roofing mix	Not Detected	Cellulose	20%	Tar Non-Fibrous

LB-B11-ACM-01B						
Maxxam ID: SX9660		Date Analyzed: 2018/02/23				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous black roofing mix	Not Detected	Cellulose	20%	Tar Non-Fibrous

LB-B11-ACM-01C						
Maxxam ID: SX9661		Date Analyzed: 2018/02/23				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Homogeneous black roofing mix	Not Detected	Cellulose	20%	Tar Non-Fibrous

LB-B11-ACM-02A						
Maxxam ID: SX9662		Date Analyzed: 2018/02/23				
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>		<u>Particulate</u>
Layer 1	100	Non-homogeneous grey-white transite	Chrysotile 25%			Non-Fibrous

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
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LB-B11-ACM-02B						
Maxxam ID: SX9663						Date Analyzed: 2018/02/23
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Non-homogeneous grey-white transite	Chrysotile	25%		Non-Fibrous

LB-B11-ACM-02C						
Maxxam ID: SX9664						Date Analyzed: 2018/02/23
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Other Fibres</u>	<u>Particulate</u>
Layer 1			N/A			
	Comment: Stop at Positive					

LB-B11-ACM-03A						
Maxxam ID: SX9665						Date Analyzed: 2018/02/23
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Other Fibres</u>	<u>Particulate</u>
Layer 1	100	Homogeneous grey transite	Chrysotile	25%		Non-Fibrous

LB-B11-ACM-03B						
Maxxam ID: SX9666						Date Analyzed: 2018/02/23
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>		<u>Other Fibres</u>	<u>Particulate</u>
Layer 1			N/A			
	Comment: Stop at Positive					

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

Maxxam Job #: B809725
Report Date: 2018/02/26

KGS Group
Client Project #: 17-0006-013
Site Location: CFIA LETHBRIDGE
Sampler Initials: GRA

Asbestos Analytical Results

EPA/600R-93/116 by Polarized Light Microscopy

LB-B11-ACM-03C					
Maxxam ID: SX9667		Date Analyzed: 2018/02/23			
	<u>P.O.B</u>	<u>Sample Morphology</u>	<u>Asbestos</u>	<u>Other Fibres</u>	<u>Particulate</u>
Layer 1			N/A		
Comment: Stop at Positive					

The limit of quantitation is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "Not Detected" indicates that no asbestos fibres were observed.

Calibrated Visual Estimate (%)
Date Format : yyyy/mm/dd

Maxxam Job #: B809725
Report Date: 2018/02/26

KGS Group
Client Project #: 17-0006-013
Site Location: CFIA LETHBRIDGE
Sampler Initials: GRA

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	9.0°C
-----------	-------

Results relate only to the items tested.

Maxxam Job #: B809725
Report Date: 2018/02/26

KGS Group
Client Project #: 17-0006-013
Site Location: CFIA LETHBRIDGE
Sampler Initials: GRA

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Richard Cheng, Scientific Service Specialist

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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INVOICE INFORMATION	REPORT INFORMATION (if different from invoice)	PROJECT INFORMATION	MAXXAM JOB NUMBER
Company Name: <u>KGS Group</u>	Company Name:	Quotation #: <u>871597</u>	<u>B809725</u>
Contact Name: <u>GANGA ATMURI</u>	Contact Name:	P.O. #: <u>17</u>	CHAIN OF CUSTODY #
Address: <u>301 PL-865 Waverley St</u> <u>Wpg, MB R3T 8P4</u>	Address:	Project #: <u>17-006-013</u>	N 011700
Phone: <u>204-976-8197</u> Fax: <u>204-996-0754</u>	Phone: Fax:	Project Name: <u>CFIA Leithbridge</u>	
Email: <u>GAtmuri@kgsgrp.com</u>	Email:	Location: <u>GRA/LSP</u>	
		Sampled By: <u>GRA/LSP</u>	

REGULATORY REQUIREMENTS SERVICE REQUESTED:				ANALYSIS REQUESTED (Please be specific)										TURNAROUND TIME (TAT) REQUIRED		
<input type="checkbox"/> CCME <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> Other:				Drinking Water? (Y/N) Coliforms: <input type="checkbox"/> Total <input type="checkbox"/> Fecal <input type="checkbox"/> E. coli <input type="checkbox"/> GT Method: <input type="checkbox"/> MF <input type="checkbox"/> MPN Dissolved Metals: <input type="checkbox"/> Field Filtered? <input type="checkbox"/> Y <input type="checkbox"/> N Field Acidified? <input type="checkbox"/> Y <input type="checkbox"/> N Total Metal: <input type="checkbox"/> Field Acidified? <input type="checkbox"/> Y <input type="checkbox"/> N BTEX / F1 F2 - F4 PCB Biochemical Oxygen Demand <u>Asbestos By PLM (1%)</u>										PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS. Regular (Standard) TAT: <input checked="" type="checkbox"/> 5-7 Working Days Rush TAT: <input type="checkbox"/> 1 day <input type="checkbox"/> 2 days <input type="checkbox"/> 3 days DATE Required:		
Special Instructions: <u>Please use step-positive for homogeneous materials, & Analyse homogenized material please.</u>				SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM.										TATs for certain tests are > 5 days. Please contact your Project Manager for details.		
Lab Use	Sample Identification	Date Sampled	Time Sampled	Matrix (DW, SW, Soil, etc)	Drinking Water? (Y/N)	Coliforms	Dissolved Metals	Total Metal	BTEX / F1	F2 - F4	PCB	Biochemical Oxygen Demand	Asbestos By PLM (1%)	HOLD - DO NOT ANALYZE	# of Cont.	COMMENTS
1	LB-ADRI-ACM-01A	Feb 6, 2018		Building								X				
2	LB-ADRI-ACM-01B			Modrenus								X				
3	LB-ADRI-ACM-01C											X				
4	LB-ADRI-ACM-02A											X				
5	LB-ADRI-ACM-02B											X				
6	LB-ADRI-ACM-02C											X				
7	LB-ADRI-ACM-02D											X				<u>Analyse sample</u>
8	LB-ADRI-ACM-02E											X				
9	LB-ADRI-ACM-02F											X				
10	LB-ADRI-ACM-02G											X				
11	LB-ADRI-ACM-02A											X				
12	LB-ADRI-ACM-02B											X				

RELINQUISHED BY (Signature/Print) <u>G. Atmuri</u>	RECEIVED BY (Signature/Print) <u>[Signature]</u>	Date <u>2018/02/08</u>	Time <u>08:44</u>	RECEIVED ON ICE Y <input type="checkbox"/> N <input type="checkbox"/>	Laboratory Use Only Temperature (°C) on Receipt <u>8, 9, 10</u> <u>10000</u> <u>CS 10</u>
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 Phone: 204-772-7276 Fax: 204-772-2386 Toll Free: (866) 800-8208

CHAIN OF CUSTODY RECORD

Page 2 of 14

INVOICE INFORMATION		REPORT INFORMATION (if different from invoice)		PROJECT INFORMATION		MAXXAM JOB NUMBER	
Company Name: <u>RGS Group</u>		Company Name:		Quotation #: <u>871597</u>		<u>B809725</u>	
Contact Name: <u>George Atturic</u>		Contact Name:		P.O. #:		CHAIN OF CUSTODY #	
Address: <u>3rd Fl- 885 Waverley St Wpg, MB R3T 5P4</u>		Address:		Project #: <u>17-0006-013</u>		N 011708	
Phone: <u>204-576-1207</u> Fax: <u>204-576-0754</u>		Phone: _____ Fax: _____		Project Name: <u>CFIA Wethbridge</u>			
Email: <u>GAtturic@rgsgroup.com</u>		Email: _____		Location: _____			
				Sampled By: <u>GRA/LBP</u>			

REGULATORY REQUIREMENTS SERVICE REQUESTED:				ANALYSIS REQUESTED (Please be specific)										TURNAROUND TIME (TAT) REQUIRED		
<input type="checkbox"/> CCME <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> Other: _____				Drinking Water? (Y/N) Coliforms: Total <input type="checkbox"/> Fecal <input type="checkbox"/> E. coli <input type="checkbox"/> (Method) MF <input type="checkbox"/> MPN <input type="checkbox"/> CF <input type="checkbox"/> Dissolved Metals: Field Filtered? Y <input type="checkbox"/> N <input type="checkbox"/> Field Analyzed? Y <input type="checkbox"/> N <input type="checkbox"/> Total Metal: Field Analyzed? Y <input type="checkbox"/> N <input type="checkbox"/> BTEX / FI _____ P2 - F4 _____ PCB _____ Biochemical Oxygen Demand _____ <u>Asbestos by PLM (1%)</u>										PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS. Regular (Standard) TAT: <input checked="" type="checkbox"/> 5 to 7 Working Days Rush TAT: <input type="checkbox"/> 1 day <input type="checkbox"/> 2 days <input type="checkbox"/> 3 days DATE Required: _____ <small>TATs for certain tests are > 5 days. Please contact your Project Manager for details.</small>		
SPECIAL INSTRUCTIONS:				HOLD - DO NOT ANALYZE												
SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM.																
Lab Use	Sample Identification	Date Sampled	Time Sampled	Matrix (GW, SW, Soil etc)											# of Cont.	COMMENTS
1	LB-ADRI-ACM-03C	Feb 6/18		Buildings											1	
2	LB-ADRI-ACM-04A			Materials											1	
3	LB-ADRI-ACM-04B														1	
4	LB-ADRI-ACM-04C														1	
5	LB-ADRI-ACM-05A														1	
6	LB-ADRI-ACM-05B														1	
7	LB-ADRI-ACM-05C														1	
8	LB-ADRI-ACM-06A														1	
9	LB-ADRI-ACM-06B														1	
10	LB-ADRI-ACM-06C														1	
11	LB-ADRI-ACM-07A														1	
12	LB-ADRI-ACM-07B														1	

RELINQUISHED BY (Signature/Print) <u>G. Atturic</u>	RECEIVED BY (Signature/Print) <u>[Signature]</u>	Date <u>2018/02/08</u>	Time <u>08:44</u>	RECEIVED ON ICE Y <input type="checkbox"/> N <input type="checkbox"/>	Laboratory Use Only Temperature (°C) on Receipt <u>8, 9, 10 rec'd CSW</u>
---	--	----------------------------------	-----------------------------	---	--

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INVOICE INFORMATION		REPORT INFORMATION (if different from invoice)		PROJECT INFORMATION		MAXXAM JOB NUMBER
Company Name: <u>KGS GROUP</u>		Company Name:		Quotation #: <u>B71597</u>		<u>B809725</u>
Contact Name: <u>Gilma Atture</u>		Contact Name:		P.O. #:		CHAIN OF CUSTODY #
Address: <u>3001-865 Waverley St</u> <u>Wpg, MB R3T 5P4</u>		Address:		Project #: <u>17-0006-013</u>		N 011709
Phone: <u>204-896-7869</u> Fax: <u>204-896-0754</u>		Phone: Fax:		Project Name: <u>CFIA Lethbridge</u>		
Email: <u>GAtture@ksgroup.com</u>		Email:		Location:		
				Sampled By: <u>GRA/LSP</u>		

REGULATORY REQUIREMENTS SERVICE REQUESTED:				ANALYSIS REQUESTED (Please be specific)										TURNAROUND TIME (TAT) REQUIRED																																		
<input checked="" type="checkbox"/> CGME <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> Other:				Drinking Water? (Y/N) <table border="1"> <tr> <td>Coliforms:</td> <td>Total</td> <td>Fecal</td> <td>E. coli</td> </tr> <tr> <td>(Method)</td> <td>MPN</td> <td>MPN</td> <td>DT</td> </tr> <tr> <td>Dissolved Metals:</td> <td>Field Filtered?</td> <td>Field Acidified?</td> <td>Field Acidified?</td> </tr> <tr> <td>Total Metal</td> <td>Y</td> <td>N</td> <td>N</td> </tr> <tr> <td>BTEX / F1</td> <td>Y</td> <td>N</td> <td>N</td> </tr> <tr> <td>F2 - F4</td> <td>Y</td> <td>N</td> <td>N</td> </tr> <tr> <td>PCB</td> <td>Y</td> <td>N</td> <td>N</td> </tr> <tr> <td>Biochemical Oxygen Demand</td> <td>Y</td> <td>N</td> <td>N</td> </tr> </table>										Coliforms:	Total	Fecal	E. coli	(Method)	MPN	MPN	DT	Dissolved Metals:	Field Filtered?	Field Acidified?	Field Acidified?	Total Metal	Y	N	N	BTEX / F1	Y	N	N	F2 - F4	Y	N	N	PCB	Y	N	N	Biochemical Oxygen Demand	Y	N	N	PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS. Regular (Standard) TAT: <input checked="" type="checkbox"/> 5 to 7 Working Days Rush TAT: <input type="checkbox"/> 1 day <input type="checkbox"/> 2 days <input type="checkbox"/> 3 days DATE Required: _____ <small>TATs for certain tests are > 5 days. Please contact your Project Manager for details.</small>		
Coliforms:	Total	Fecal	E. coli																																													
(Method)	MPN	MPN	DT																																													
Dissolved Metals:	Field Filtered?	Field Acidified?	Field Acidified?																																													
Total Metal	Y	N	N																																													
BTEX / F1	Y	N	N																																													
F2 - F4	Y	N	N																																													
PCB	Y	N	N																																													
Biochemical Oxygen Demand	Y	N	N																																													
Special Instructions: <u>Please use setup positive for homogeneous materials. Analyze all samples with 1 Analyze sample only.</u>				SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM.										HOLD - DO NOT ANALYZE # of Cont. _____ COMMENTS _____																																		
Lab Use	Sample Identification	Date Sampled	Time Sampled	Matrix (Gr, SW, Sol etc)											# of Cont.	COMMENTS																																
1	LB-ADRI-ACM-07C	Feb 18		Building											1																																	
2	LB-ADRI-ACM-08A			Materials											1																																	
3	LB-ADRI-ACM-08B														1																																	
4	LB-ADRI-ACM-08C														1																																	
5	LB-ADRI-ACM-09A														1																																	
6	LB-ADRI-ACM-09B														1																																	
7	LB-ADRI-ACM-09C														1																																	
8	LB-ADRI-ACM-10A														1																																	
9	LB-ADRI-ACM-10B														1																																	
10	LB-ADRI-ACM-10C														1																																	
11																																																
12																																																

RELEASING BY (Signature/Print)	RECEIVED BY (Signature/Print)	Date	Time	RECEIVED ON ICE	Laboratory Use Only
<u>G. Atture</u>	<u>[Signature]</u>	<u>2018/02/08</u>	<u>08:44</u>	Y <input type="checkbox"/> N <input type="checkbox"/>	Temperature (°C) on Receipt <u>8, 9, 10</u> <u>Feb 10</u> <u>C260</u>

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INVOICE INFORMATION		REPORT INFORMATION (if different from invoice)		PROJECT INFORMATION		MAXXAM JOB NUMBER	
Company Name: <u>KGS Group</u>		Company Name:		Quotation #: <u>871597</u>		<u>B809725</u>	
Contact Name: <u>Garing Atkinson</u>		Contact Name:		P.O. #:		CHAIN OF CUSTODY #	
Address: <u>3rd Fl-865 Waverley St Wpg, MB R3T 5P4</u>		Address:		Project #: <u>17-0006-013</u>		N 011711	
Phone: <u>204-896-1209</u> Fax: <u>204-896-0754</u>		Phone: Fax:		Project Name: <u>CFIA Lethbridge</u>			
Email: <u>GAtkinson@kgsgrp.com</u>		Email:		Location:			
				Sampled By: <u>LSP/GRA</u>			

REGULATORY REQUIREMENTS SERVICE REQUESTED:				ANALYSIS REQUESTED (Please be specific)										TURNAROUND TIME (TAT) REQUIRED		
<input checked="" type="checkbox"/> SCME <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> Other:				Drinking Water? (Y/N) Coliforms: Total <input type="checkbox"/> Fecal <input type="checkbox"/> E. coli <input type="checkbox"/> (Method) MF <input type="checkbox"/> MPN <input type="checkbox"/> DT <input type="checkbox"/> Dissolved Metals: Field Filtered? <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> Field Acidified? <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> Total Metal: Field Acidified? <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> BTEX / F1 F2 - F4 PCB Biochemical Oxygen Demand <u>Asbestos by RM (1%)</u>										PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS. Regular (Standard) TAT: <input checked="" type="checkbox"/> 5 to 7 Working Days Rush TAT: <input type="checkbox"/> 1 day <input type="checkbox"/> 2 days <input type="checkbox"/> 3 days DATE Required: _____ <small>TATs for certain tests are > 5 days. Please contact your Project Manager for details.</small>		
Special Instructions: <u>Use stop positive for homogeneous materials. Analyse all samples with (S) comment.</u>														HOLD - DO NOT ANALYZE # of Cont. COMMENTS		
SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM.																
Lab Use	Sample Identification	Date Sampled	Time Sampled	Matrix (Gr, Sl, Sol etc)											# of Cont.	COMMENTS
1	LB-CS3-ACM-C1A	Feb 6/18		Building											1	
2	LB-CS3-ACM-C1B			Materials											1	Analyse sample (S)
3	LB-CS3-ACM-C1C														1	
4	LB-CS3-ACM-C2A														1	
5	LB-CS3-ACM-C2B														1	
6	LB-CS3-ACM-C2C														1	
7	LB-1SB-ACM-C1A														1	
8	LB-1SB-ACM-C1B														1	
9	LB-1SB-ACM-C1C														1	
10	LB-1SB-ACM-C2A														1	
11	LB-1SB-ACM-C2B														1	Analyse sample (S)
12	LB-1SB-ACM-C2C														1	

RELINQUISHED BY (Signature/Print)	RECEIVED BY (Signature/Print)	Date	Time	RECEIVED ON ICE	Laboratory Use Only
<u>G. Atkinson</u>	<u>[Signature]</u>	<u>7/18/2018</u>	<u>08:44</u>	<input type="checkbox"/> Y <input type="checkbox"/> N	Temperature (°C) on Receipt <u>8.9/10 now</u>

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INVOICE INFORMATION		REPORT INFORMATION (if different from invoice)		PROJECT INFORMATION		MAXXAM JOB NUMBER	
Company Name:	KGS Group	Company Name:		Quotation #:	B71597	B809725	
Contact Name:	GANGA AHMURI	Contact Name:		P.O. #:		CHAIN OF CUSTODY #	
Address:	311 PI-865 Waverley St Wex, MB R3T 5P4	Address:		Project #:	17-0206-013	N 011712	
Phone:	204-876-1209	Phone:		Project Name:	CFIA Lethbridge		
Fax:	204-876-0954	Fax:		Location:			
Email:	G.AHMURI@kgsgroup.com	Email:		Sampled By:	LBP/GRA		

REGULATORY REQUIREMENTS SERVICE REQUESTED:				ANALYSIS REQUESTED (Please be specific)										TURNAROUND TIME (TAT) REQUIRED			
<input checked="" type="checkbox"/> CCME <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> Other:				Drinking Water? (Y/N) Coliforms: Total <input type="checkbox"/> Fecal <input type="checkbox"/> E. coli <input type="checkbox"/> (Method) MF <input type="checkbox"/> MPN <input type="checkbox"/> OT <input type="checkbox"/> Dissolved Metals: Field Filtered? Y <input type="checkbox"/> N <input type="checkbox"/> Field Acidified? Y <input type="checkbox"/> N <input type="checkbox"/> Total Metals: Field Acidified? Y <input type="checkbox"/> N <input type="checkbox"/> BTEX / F1 F2 - F4 PCB Biochemical Oxygen Demand Asbestos by PLM (1%)										PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS. Regular (Standard) TAT: <input checked="" type="checkbox"/> 5 to 7 Working Days Rush TAT: <input type="checkbox"/> 1 day <input type="checkbox"/> 2 days <input type="checkbox"/> 3 days DATE Required: _____ TATs for certain tests are > 5 days. Please contact your Project Manager for details.			
Special Instructions: Use step positive for homogeneous materials. Analyze all samples with (*) comment				HOLD - DO NOT ANALYZE													
SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM.				# of Cont. COMMENTS													
Lab Use	Sample Identification	Date Sampled	Time Sampled	Matrix (GW, SW, Soil etc)											# of Cont.	COMMENTS	
1	LB-LB-ACM-01A	Feb. 6	18	Building													
2	LB-LB-ACM-01B			Materials													Analyze sample
3	LB-LB-ACM-01C																
4	LB-LB-ACM-02A																
5	LB-LB-ACM-02B																
6	LB-LB-ACM-02C																
7	LB-LB-ACM-03A																
8	LB-LB-ACM-03B																
9	LB-LB-ACM-03C																
10	LB-LB-ACM-04A																
11	LB-LB-ACM-04B																
12	LB-LB-ACM-04C																

RELINQUISHED BY (Signature/Print)	RECEIVED BY (Signature/Print)	Date	Time	RECEIVED ON ICE	Laboratory Use Only
<i>G. Ahmuri</i>	<i>[Signature]</i>	2018/02/08	08:45	<input type="checkbox"/> Y <input type="checkbox"/> N	Temperature (°C) on Receipt 8.9, 10, 10, 10, 10

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CHAIN OF CUSTODY RECORD

Page 7 of 14

INVOICE INFORMATION

Company Name: KGS Group
 Contact Name: George Athmari
 Address: 3rd Fl-865 Waverley St
Wpg, MB R3T 5P4
 Phone: 204-896-1309 Fax: 204-896-0754
 Email: G.Athmari@kgsgrp.com

REPORT INFORMATION (if different from invoice)

Company Name:
 Contact Name:
 Address:
 Phone: Fax:

PROJECT INFORMATION

Quotation #: B71594
 P.O. #:
 Project #: 17-0006-013
 Project Name: CFIA Lethbridge
 Location:
 Sampled By: LBP/GRA

MAXXAM JOB NUMBER
B809725
CHAIN OF CUSTODY #
N 011713

REGULATORY REQUIREMENTS SERVICE REQUESTED:

OCME
 DRINKING WATER
 Other:

Special Instructions: Use stop positive for homogeneous materials. Analyze all samples with (*) comment.

ANALYSIS REQUESTED (Please be specific)

Drinking Water? (Y / N)

Coliforms: <input type="checkbox"/> Total <input type="checkbox"/> Fecal <input type="checkbox"/> E. coli	<input type="checkbox"/> MF <input type="checkbox"/> MPN <input type="checkbox"/> OT	Field Filtered? <input type="checkbox"/> Y <input type="checkbox"/> N	Field Acidified? <input type="checkbox"/> Y <input type="checkbox"/> N	Field Acidified? <input type="checkbox"/> Y <input type="checkbox"/> N
Total Metal	BTEX / F1	F2 - F4	PCB	Biochemical Oxygen Demand

Asbestos by PLM (1%)

TURNAROUND TIME (TAT) REQUIRED

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS.

Regular (Standard) TAT:
 5 to 7 Working Days

Rush TAT:
 1 day 2 days 3 days

DATE Required:

TATs for certain tests are > 5 days. Please contact your Project Manager for details.

SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM.

Lab Use	Sample Identification	Date Sampled	Time Sampled	Matrix (GW, SW, SBL etc)	Drinking Water? (Y/N)	Coliforms	Total Metal	BTEX / F1	F2 - F4	PCB	Biochemical Oxygen Demand	HOLD - DO NOT ANALYZE	# of Cont.	COMMENTS
1	LB-LB-ACM-05A	Feb 6, 18		Building Materials							X			
2	LB-LB-ACM-05B										X			
3	LB-LB-ACM-05C										X			
4	LB-LB-ACM-06A										X			
5	LB-LB-ACM-06B										X			
6	LB-LB-ACM-06C										X			
7	LB-BIB-ACM-01A										X			
8	LB-BIB-ACM-01B										X			
9	LB-BIB-ACM-01C										X			
10	LB-BIB-ACM-02A										X			
11	LB-BIB-ACM-02B										X			
12	LB-BIB-ACM-02C										X			

RELINQUISHED BY (Signature/Print) <u>G Athmari</u>	RECEIVED BY (Signature/Print) <u>[Signature]</u>	Date <u>2018/02/08</u>	Time <u>08:44</u>	RECEIVED ON ICE Y <input type="checkbox"/> N <input type="checkbox"/>	Laboratory Use Only Temperature (°C) on Receipt <u>8.9, 10</u>
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***MANDATORY SECTIONS IN GREY MUST BE FILLED OUT. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.**

INVOICE INFORMATION

Company Name: KGS Group
 Contact Name: George Athumi
 Address: 5101 P - 865 Waverley St
Wpg, MB R3T 5P4
 Phone: 204-876-1809 Fax: 204-876-0754
 Email: G.Athumi@kgsgroup.com

REPORT INFORMATION (if different from invoice)

Company Name: _____
 Contact Name: _____
 Address: _____
 Phone: _____ Fax: _____
 Email: _____

PROJECT INFORMATION

Quotation #: 871597
 P.O. #: _____
 Project #: 17-006-018 013
 Project Name: CFIA Lethbridge
 Location: _____
 Sampled By: LBP/GCA

MAXXAM JOB NUMBER
B809725

CHAIN OF CUSTODY #
N 011714

REGULATORY REQUIREMENTS SERVICE REQUESTED:

CCME
 DRINKING WATER
 Other: _____

ANALYSIS REQUESTED (Please be specific)

Drinking Water? (Y/N)

Coliforms: Total Fecal E. coli
 (Method) MF MPN OT

Dissolved Metals: Field Filtered? Y N
 Field Acidified? Y N
 Field Acidified? Y N

Total Metals: _____
 BTEX / F1: _____
 P2 - F4: _____
 PCB: _____
 Biochemical Oxygen Demand: _____
Asbestos by Plan (1%)

TURNAROUND TIME (TAT) REQUIRED

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS.

Regular (Standard) TAT:
 5 to 7 Working Days

Rush TAT:
 1 day 2 days 3 days

DATE Required: _____

TATs for certain tests are > 5 days.
 Please contact your Project Manager for details.

Special Instructions: Use xstep positive for homogeneous materials. Analyse all samples with (X)
Comments

SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM.

Lab Use	Sample Identification	Date Sampled	Time Sampled	Matrix (GL, SW, S&W etc)	Drinking Water? (Y/N)	Coliforms (Method)	Dissolved Metals	Total Metals	BTEX / F1	P2 - F4	PCB	Biochemical Oxygen Demand	Asbestos by Plan (1%)	HOLD - DO NOT ANALYZE	# of Cont.	COMMENTS
1	LB-B18-ACM-03A	Feb 6, 18	18	Bldg												
2	LB-B18-ACM-03B			Materials												
3	LB-B18-ACM-03C															
4	LB-B18-ACM-04A															
5	LB-B18-ACM-04B															
6	LB-B18-ACM-04C															
7	LB-B18-ACM-05A															
8	LB-B18-ACM-05B															Analyse sample (X)
9	LB-B18-ACM-05C															
10	LB-B18-ACM-06A															
11	LB-B18-ACM-06B															
12	LB-B18-ACM-06C															

RELINQUISHED BY (Signature/Print): G. Athumi RECEIVED BY (Signature/Print): [Signature] Date: 2018/02/10 Time: 08:49

RECEIVED ON ICE: Y N

Laboratory Use Only: Temperature (°C) on Receipt: 8, 9, 10

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***MANDATORY SECTIONS IN GREY MUST BE FILLED OUT. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.**

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INVOICE INFORMATION		REPORT INFORMATION (if different from invoice)		PROJECT INFORMATION		MAXXAM JOB NUMBER	
Company Name: <u>KGS Group</u>		Company Name:		Quotation #: <u>871597</u>		<u>B809725</u>	
Contact Name: <u>GANGA ATMURI</u>		Contact Name:		P.O. #:		CHAIN OF CUSTODY #	
Address: <u>3101 FI-865 Waverley St</u> <u>Wpg, MB R3T 5K4</u>		Address:		Project #: <u>17-0006-013</u>		N 011715	
Phone: <u>204-596-1207</u> Fax: <u>204-596-0754</u>		Phone: Fax:		Project Name: <u>CFIA Lethbridge</u>			
Email: <u>GAtmuri@ksggroup.com</u>		Email:		Location: <u>LBP/GRA</u>			
Sampled By:							

REGULATORY REQUIREMENTS SERVICE REQUESTED:				ANALYSIS REQUESTED (Please be specific)										TURNAROUND TIME (TAT) REQUIRED		
<input type="checkbox"/> COME <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> Other:				Drinking Water (Y/N) Coliforms: Total <input type="checkbox"/> Fecal <input type="checkbox"/> E. coli <input type="checkbox"/> (Method) MF <input type="checkbox"/> MPN <input type="checkbox"/> DT <input type="checkbox"/> Dissolved Metals: Field Filtered? <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> Field Addition? <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> Total Metals: Field Addition? <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> BTEX / FT <input type="checkbox"/> F2 - F4 <input type="checkbox"/> PCB <input type="checkbox"/> Biochemical Oxygen Demand <input type="checkbox"/> <u>Asbestos By PLP (1%)</u>										PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS. Regular (Standard) TAT: <input checked="" type="checkbox"/> 5 to 7 Working Days Rush TAT: <input type="checkbox"/> 1 day <input type="checkbox"/> 2 days <input type="checkbox"/> 3 days DATE Required:		
Special Instructions: <u>Use stop positive for homogeneous materials. Analyze all samples with comment.</u>														HOLD - DO NOT ANALYZE # of Cont. COMMENTS		
SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM.														TATs for certain tests are > 5 days. Please contact your Project Manager for details.		
Lab Use	Sample Identification	Date Sampled	Time Sampled	Matrix (G, S, L, etc)											# of Cont.	COMMENTS
1	LB-B18-ACM-07A	Feb 6	18	Building											1	
2	LB-B18-ACM-07B			Microtals											1	
3	LB-B18-ACM-07C														1	
4	LB-B5-ACM-01A														1	
5	LB-B5-ACM-01B														1	
6	LB-B5-ACM-01C														1	
7	LB-B5-ACM-02A														1	
8	LB-B5-ACM-02B														1	
9	LB-B5-ACM-02C														1	
10	LB-B5-ACM-03A														1	
11	LB-B5-ACM-03B														1	
12	LB-B5-ACM-03C														1	Analyze sample

RELINQUISHED BY (Signature/Print)	RECEIVED BY (Signature/Print)	Date	Time	RECEIVED ON ICE	Laboratory Use Only
<u>GAtmuri</u>	<u>[Signature]</u>	<u>2018/02/08</u>	<u>08:44</u>	<input type="checkbox"/> Y <input type="checkbox"/> N	Temperature (°C) on Receipt <u>8.9, 10</u>

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Unit D, 675 Berry St., Winnipeg, MB R3H 1A7
 Phone: 204-772-7276 Fax: 204-772-2386 Toll Free: (866) 800-6208

CHAIN OF CUSTODY RECORD

Page 10 of 14

INVOICE INFORMATION		REPORT INFORMATION (if different from invoice)		PROJECT INFORMATION		MAXXAM JOB NUMBER
Company Name:	KGS GROUP	Company Name:		Quotation #:	BT1599	B809725
Contact Name:	George Amuri	Contact Name:		P.O. #:		
Address:	374 St-B55 Waverley St Wpg, MB R3T 5P4	Address:		Project #:	170006-013	CHAIN OF CUSTODY #
Phone:	204-896-1267 Fax: 204-896-0754	Phone:		Project Name:	CFIA Lethbridge	N 011716
Email:	GAmuri@kgsgrp.com	Email:		Location:	LBP/GRA	
				Sampled By:		

REGULATORY REQUIREMENTS SERVICE REQUESTED:				ANALYSIS REQUESTED (Please be specific)										TURNAROUND TIME (TAT) REQUIRED								
<input checked="" type="checkbox"/> CCME <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> Other:				Drinking Water (Y/N) Confirms: <input type="checkbox"/> Total <input type="checkbox"/> Feat <input type="checkbox"/> E coli <input type="checkbox"/> MF <input type="checkbox"/> OT <input type="checkbox"/> Field Filtered? <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> Field Acidified? <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> Field Acidified? <input type="checkbox"/> Y <input type="checkbox"/> N										PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS. Regular (Standard) TAT: <input checked="" type="checkbox"/> 5 to 7 Working Days Rush TAT: <input type="checkbox"/> 1 day <input type="checkbox"/> 2 days <input type="checkbox"/> 3 days DATE Required:								
Special Instructions: Use stop positive for homogeneous materials. Analyze all samples with comment.				Biochemical Oxygen Demand Asbestos by PLM (1%)										TATs for certain tests are > 5 days. Please contact your Project Manager for details.								
SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM.				HOLD - DO NOT ANALYZE										# of Cont.								
Lab Use	Sample Identification	Date Sampled	Time Sampled	Matrix (SW, SW, Sol etc)	Drinking Water (Y/N)	Coliforms	Total	Feat	E coli	MF	OT	Field Filtered?	Field Acidified?	Field Acidified?	BTEX / F1	F2 - F4	PCB	Biochemical Oxygen Demand	Asbestos by PLM (1%)	# of Cont.	COMMENTS	
1	LB-B5-ACM-04A	Feb. 6	18	Bldg																		
2	LB-B5-ACM-04B			Materials																		
3	LB-B5-ACM-04C																					
4	LB-B5-ACM-05A																					
5	LB-B5-ACM-05B																					
6	LB-B5-ACM-05C																					
7	LB-B5-ACM-06A																					
8	LB-B5-ACM-06B																					
9	LB-B5-ACM-06C																					
10	LB-B5-ACM-06D																					
11	LB-B5-ACM-06E																					
12																						

RELINQUISHED BY (Signature/Print)	RECEIVED BY (Signature/Print)	Date	Time	RECEIVED ON ICE	Laboratory Use Only
<i>[Signature]</i> GAmuri	<i>[Signature]</i> [unclear]	2018/02/02	08:44	Y <input type="checkbox"/> N <input type="checkbox"/>	Temperature (°C) on Receipt 8.9/10

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 *MANDATORY SECTIONS IN GREY MUST BE FILLED OUT. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.
 CoC-1028 Maxxam International Corporation o/a Maxxam White: Maxxam Yellow: Client Copy

INVOICE INFORMATION	REPORT INFORMATION (if different from invoice)	PROJECT INFORMATION	MAXXAM JOB NUMBER
Company Name: <u>KGS Group</u>	Company Name:	Quotation #: <u>671597</u>	<u>B809725</u>
Contact Name: <u>Ganga Athuri</u>	Contact Name:	P.O. #:	CHAIN OF CUSTODY #
Address: <u>8107-865 Waverley St</u>	Address:	Project #: <u>17-0126-013</u>	N 011699
Phone: <u>204-876-1209</u> Fax: <u>204-876-0754</u>	Phone: _____ Fax: _____	Project Name: <u>CFA Leithbridge</u>	
Email: <u>G.Athuri@kgsgrp.com</u>	Email: _____	Location: <u>LSP/GRA</u>	
		Sampled By: _____	

REGULATORY REQUIREMENTS SERVICE REQUESTED: **ANALYSIS REQUESTED (Please be specific)** **TURNAROUND TIME (TAT) REQUIRED**

CCME
 DRINKING WATER
 Other:

Special Instructions: Use stop positive for homogeneous materials. Analyse all samples with comment.

SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM.

Drinking Water? (Y/N)
 Confirms: Total Fecal E. coli DT
 (Method) MF MPN DT
 Field Filtered? Y N
 Field Acidified? Y N
 Field Acidified? Y N

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS.
 Regular (Standard) TAT:
 5 to 7 Working Days
 Rush TAT:
 1 day 2 days 3 days
 DATE Required: _____

HOLD - DO NOT ANALYZE

TATs for certain tests are > 5 days. Please contact your Project Manager for details.

Lab Use	Sample Identification	Date Sampled	Time Sampled	Matrix (S, L, Sol, etc)	Drinking Water? (Y/N)	Total	Fecal	E. coli	DT	MF	MPN	DT	Field Filtered?	Field Acidified?	Field Acidified?	BTEX / F1	F2 - F4	PCB	Biochemical Oxygen Demand	Asbestos By P/M (%)	# of Cont.	COMMENTS
1	LB-B3-Acm-01A	Feb. 7/18		Building															X		1	
2	LB-B3-Acm-01B			Materials															X		1	
3	LB-B3-Acm-01C																		X		1	
4	LB-B3-Acm-02A																		X		1	
5	LB-B3-Acm-02B																		X		1	Analyse sample #
6	LB-B3-Acm-02C																		X		1	
7	LB-B3-Acm-03A																		X		1	
8	LB-B3-Acm-03B																		X		1	
9	LB-B3-Acm-03C																		X		1	
10	LB-B3-Acm-03D																		X		1	
11	LB-B3-Acm-03E																		X		1	
12																						

RELINQUISHED BY (Signature/Print) <u>G. Athuri</u>	RECEIVED BY (Signature/Print) <u>[Signature]</u>	Date <u>2018/12/18</u>	Time <u>6:44</u>	RECEIVED ON ICE Y <input type="checkbox"/> N <input type="checkbox"/>	Laboratory Use Only Temperature (°C) on Receipt <u>8, 9, 10, 12, 20</u>
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INVOICE INFORMATION

Company Name: KGS Group
 Contact Name: GANGA AMUR
 Address: 511 F-1-865 Waverley St
Wpx, MB R3T 5P4
 Phone: 204-876-1207 Fax: 204-876-0754
 Email: GAMUR@KSGROUP.COM

REPORT INFORMATION (if different from invoice)

Company Name: _____
 Contact Name: _____
 Address: _____
 Phone: _____ Fax: _____
 Email: _____

PROJECT INFORMATION

Quotation #: B71597
 P.O. #: _____
 Project #: 17-0026-013
 Project Name: CFIA Lethbridge
 Location: LP/GRA
 Sampled By: _____

MAXXAM JOB NUMBER
B 809725

CHAIN OF CUSTODY #
N 011704

REGULATORY REQUIREMENTS SERVICE REQUESTED:

CCME
 DRINKING WATER
 Other: _____

Special Instructions: Use stop positive for homogeneous materials. Analyze all samples with (+) comment.

SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM.

ANALYSIS REQUESTED (Please be specific)

Drinking Water? (Y/N)	Coliforms:	Method:	Disinfectant Residual?	Total Metal	BTEX/F1	F2-F4	PCB	Biochemical Oxygen Demand	Asbestos by PLM (1%)
	<input type="checkbox"/> Total <input type="checkbox"/> Fecal <input type="checkbox"/> E. coli	<input type="checkbox"/> MF <input type="checkbox"/> MPN <input type="checkbox"/> OT	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N					
			<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N					
			<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input type="checkbox"/> N					

TURNAROUND TIME (TAT) REQUIRED

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS.

Regular (Standard) TAT:
 5 to 7 Working Days

Rush TAT:
 1 day 2 days 3 days

DATE Required: _____

TATs for certain tests are > 5 days. Please contact your Project Manager for details.

Lab Use	Sample Identification	Date Sampled	Time Sampled	Matrix (soil, SW, etc)	Drinking Water? (Y/N)	Coliforms	Method	Disinfectant Residual?	Total Metal	BTEX/F1	F2-F4	PCB	Biochemical Oxygen Demand	Asbestos by PLM (1%)	HOLD - DO NOT ANALYZE	# of Cont.	COMMENTS
1	LB-84-ACM-01A	Feb. 7/18		Building Materials										X	1		
2	LB-84-ACM-01B													X	1	Analyse sample #	
3	LB-84-ACM-01C													X	1		
4	LB-84-ACM-02A													X	1		
5	LB-84-ACM-02B													X	1		
6	LB-84-ACM-02C													X	1		
7	LB-88-ACM-01A													X	1		
8	LB-88-ACM-01B													X	1	Analyse sample #	
9	LB-88-ACM-01C													X	1		
10	LB-88-ACM-02A													X	1		
11	LB-88-ACM-02B													X	1		
12	LB-88-ACM-02C													X	1		

RELINQUISHED BY (Signature/Print) <u>G. Amur</u>	RECEIVED BY (Signature/Print) <u>[Signature]</u>	Date <u>2018/02/08</u>	Time <u>08:44</u>	RECEIVED ON ICE <input type="checkbox"/> Y <input type="checkbox"/> N	Laboratory Use Only Temperature (°C) on Receipt <u>8.9, 10 raw CSW</u>
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INVOICE INFORMATION		REPORT INFORMATION (if different from invoice)		PROJECT INFORMATION		MAXXAM JOB NUMBER	
Company Name: <u>KGS Group</u>		Company Name:		Quotation #: <u>871594</u>		B809725	
Contact Name: <u>GANGA AMUEL</u>		Contact Name:		P.O. #:		CHAIN OF CUSTODY #	
Address: <u>510 FI-865 Waverley St Wpg, MB R3T 5P4</u>		Address:		Project #: <u>17-0026-013</u>		N 011705	
Phone: <u>204-896-1269</u> Fax: <u>204-896-0754</u>		Phone: _____ Fax: _____		Project Name: <u>CFIA Lethbridge</u>			
Email: <u>GAmuel@kgsgrp.com</u>		Email: _____		Location: <u>WSP/GRA</u>			
Sampled By: _____		Sampled By: _____		Sampled By: _____			

REGULATORY REQUIREMENTS SERVICE REQUESTED:				ANALYSIS REQUESTED (Please be specific)										TURNAROUND TIME (TAT) REQUIRED		
<input type="checkbox"/> OCME <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> Other:				Drinking Water? (Y/N) California: Total <input type="checkbox"/> Feat <input type="checkbox"/> E. coli <input type="checkbox"/> Method (MF) <input type="checkbox"/> MFN <input type="checkbox"/> OT <input type="checkbox"/> Disinfectant <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> Field Acidified? <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> Field Acidified? <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> Field Acidified? <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> Matrix: <input type="checkbox"/> Total Metal <input type="checkbox"/> BTEX / F1 <input type="checkbox"/> F2 - F4 <input type="checkbox"/> PCB <input type="checkbox"/> Biochemical Oxygen Demand <input type="checkbox"/> Asbestos by PLM (%)										PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS. Regular (Standard) TAT: <input checked="" type="checkbox"/> 5 to 7 Working Days Rush TAT: <input type="checkbox"/> 1 day <input type="checkbox"/> 2 days <input type="checkbox"/> 3 days DATE Required: _____ TATs for certain tests are > 5 days. Please contact your Project Manager for details.		
Special Instructions: <u>Use step positive for homogeneous materials. Analyze all samples with (*) comment.</u>														HOLD - DO NOT ANALYZE # of Cont. _____ COMMENTS _____		
SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM.																
Lab Use	Sample Identification	Date Sampled	Time Sampled	Matrix (G/L, SW, Soil etc.)											# of Cont.	COMMENTS
1	LB-B20-ACM-01A	Feb. 7/18		Building											1	
2	LB-B20-ACM-01B			Materials											1	Analyze sample (*)
3	LB-B20-ACM-01C														1	
4	LB-B20-ACM-02A														1	
5	LB-B20-ACM-02B														1	
6	LB-B20-ACM-02C														1	
7	LB-B11-ACM-01A														1	
8	LB-B11-ACM-01B														1	
9	LB-B11-ACM-01C														1	
10	LB-B11-ACM-02A														1	
11	LB-B11-ACM-02B														1	Analyze sample (*)
12	LB-B11-ACM-02C														1	

RELINQUISHED BY (Signature/Print)	RECEIVED BY (Signature/Print)	Date	Time	RECEIVED ON ICE	Laboratory Use Only
<u>GAmuel</u>	<u>[Signature]</u>	<u>2018/02/08</u>	<u>08:44</u>	<input type="checkbox"/> Y <input type="checkbox"/> N	Temperature (°C) on Receipt <u>8.9, 10 min</u>

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 *MANDATORY SECTIONS IN GREY MUST BE FILLED OUT. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.
 CoC-1028 Maxxam International Corporation c/o Maxxam White: Maxxam Yellow: Client Copy

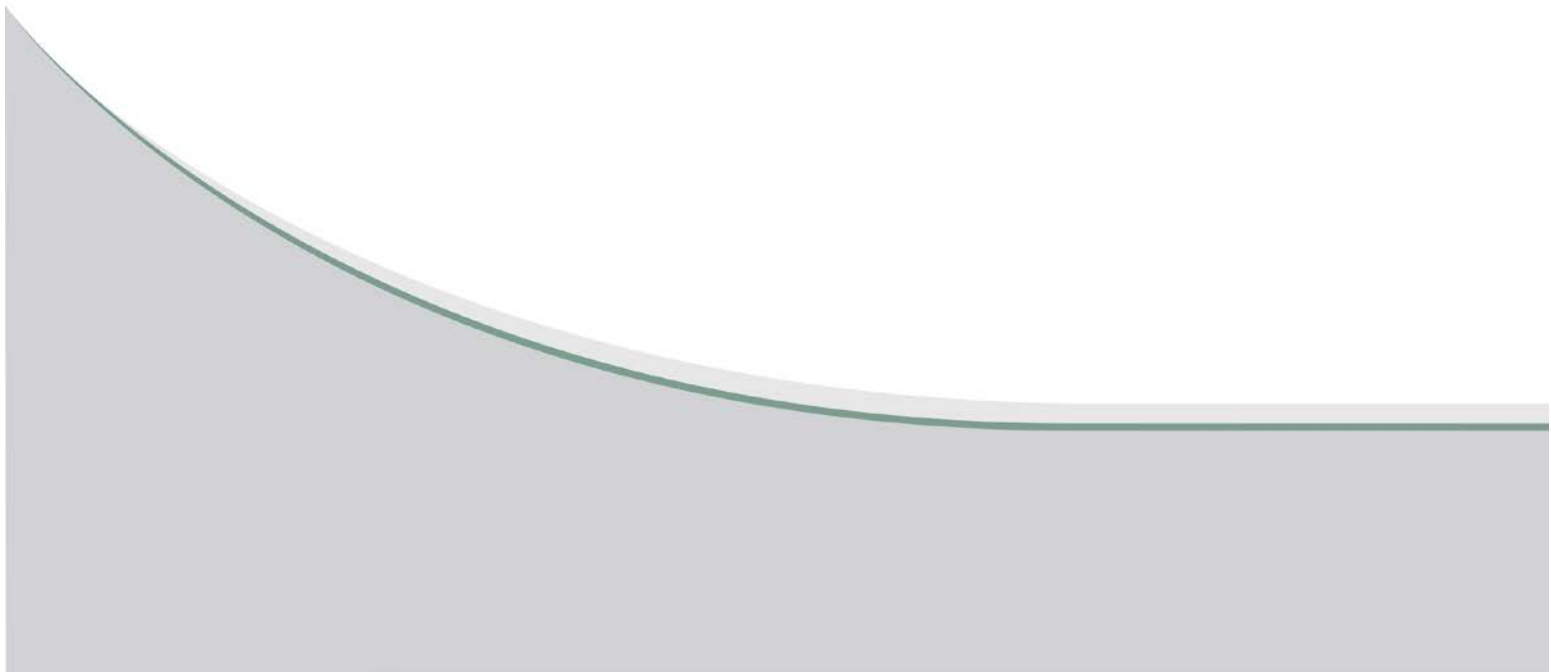
INVOICE INFORMATION		REPORT INFORMATION (if different from invoice)		PROJECT INFORMATION		MAXXAM JOB NUMBER	
Company Name: <u>KGS Group</u>		Company Name:		Quotation #: <u>871597</u>		<u>B809725</u>	
Contact Name: <u>Garry Atmire</u>		Contact Name:		P.O. #:		CHAIN OF CUSTODY #	
Address: <u>3101-865 Waverley St</u>		Address:		Project #: <u>17-006-013</u>		N 011703	
Address: <u>Wg., MB R3T 5P4</u>		Address:		Project Name: <u>CFIA Lethbridge</u>			
Phone: <u>204-876-1209</u> Fax: <u>204-876-0754</u>		Phone: Fax:		Location: <u>WSP/GPA</u>			
Email: <u>gattmire@kgsgrp.com</u>		Email:		Sampled By:			

REGULATORY REQUIREMENTS SERVICE REQUESTED:				ANALYSIS REQUESTED (Please be specific)										TURNAROUND TIME (TAT) REQUIRED						
<input checked="" type="checkbox"/> CCME <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> Other:				Drinking Water? (Y/N) Conform: <input type="checkbox"/> Total <input type="checkbox"/> Fecal <input type="checkbox"/> E. coli <input type="checkbox"/> MPN <input type="checkbox"/> OT <input type="checkbox"/> MF <input type="checkbox"/> Field Filtered? <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> <input type="checkbox"/> Field Acidified? <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> <input type="checkbox"/> Field Acidified? <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>										PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS. Regular (Standard) TAT: <input checked="" type="checkbox"/> 5 to 7 Working Days Rush TAT: <input type="checkbox"/> 1 day <input type="checkbox"/> 2 days <input type="checkbox"/> 3 days DATE Required:						
Special Instructions: <u>Use xtrap positive for homogeneous materials. Analyze all samples with @ comment.</u>				SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM.										TATs for certain tests are > 5 days. Please contact your Project Manager for details.						
Lab Use	Sample Identification	Date Sampled	Time Sampled	Matrix (Gr, Sw, Solids)	Coliforms	Fecal	E. coli	MPN	OT	Field Filtered?	Field Acidified?	Field Acidified?	BTEX / F1	F2 - F4	PCB	Biochemical Oxygen Demand	Asbestos by PLM (1%)	HOLD - DO NOT ANALYZE	# of Cont.	COMMENTS
1	LB-B11-Acm-03A	Feb 7/18	11:15	Aldg													X		1	
2	LB-B11-Acm-03B	2		Material													X		1	
3	LB-B11-Acm-03C	2		↓													X		1	
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				

RELINQUISHED BY (Signature/Print)	RECEIVED BY (Signature/Print)	Date	Time	RECEIVED ON ICE	Laboratory Use Only
<u>Garry Atmire</u>	<u>[Signature]</u>	<u>2018/02/08</u>	<u>08:44</u>	<input type="checkbox"/> Y <input type="checkbox"/> N	Temperature (°C) on Receipt <u>8.9, 10</u>

Unless otherwise agreed to in writing, work submitted on this Chain of Custody is subject to Maxxam's standard Terms and Conditions. Signing of this Chain of Custody document is acknowledgment and acceptance of our terms which are available for viewing at www.maxxam.ca/terms
 *MANDATORY SECTIONS IN GREY MUST BE FILLED OUT. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.
 CoC-1028 Maxxam International Corporation o/a Maxxam White: Maxxam Yellow: Client Copy

APPENDIX C
SITE SPECIFIC HEALTH AND SAFETY PLAN



SITE SPECIFIC HEALTH AND SAFETY PLAN
CFIA Lethbridge Facility, Lethbridge, Alberta
(Post on Site)

PROJECT NUMBER: 17-0006-013

DATE: February 1, 2018

I. GENERAL SITE INFORMATION

Client: Public Services and Procurement Canada (PSPC) (on behalf of the Canadian Food Inspection Agency – CFIA)

Site Name: CFIA Lethbridge Facility Buildings, Lethbridge, Alberta (39 buildings).

Site Address: Main Lab: 9-1 TWP Road, Lethbridge, Alberta

Field Activities: Comprehensive asbestos survey at the buildings (see Appendix A for full list).

Project Manager: Bonnie Hoffensetz, M.Sc.

Plan Prepared By: Ganga Atmuri, P.Eng.

Date: February 1, 2018

Approved By: Bonnie Hoffensetz, M.Sc.

Date: February 2, 2018

II. EMERGENCY CONTINGENCY PLAN

A. Local Emergency Phone Numbers:

Emergency: 911

Ambulance: 911 RCMP: 911

Hospital: (403)-338-6111 (Chinook Regional Hospital – Lethbridge)

Poison Control Center: 911 Fire: 911

B. Emergency Routes

(Give name, address, telephone number, directions, distance and time estimate.)

Hospital Name: Chinook Regional Hospital Phone Number: (403)-388-6111

Hospital Address: 960-19 Street South, Lethbridge

Directions to nearest Hospital: See attached map (Appendix B)

Estimated driving distance and time: 16 km, ~ 20 minutes.

Map and route from project site to hospital is attached (Appendix B).

C. Site Resources

Water supply available on site: Yes

Telephone available on site: Cell Service

Bathrooms available on site: Yes - inside main lab.

Other resources available on site: None

If "yes", identify:

If "no", identify closest available facility & provide directions:

D. Emergency Contacts (Names and Numbers):

KGS Group Contact: Bonnie Hoffensetz office (204)-896-1209 cell (204) 781-5873

Alternate KGS Group Contacts: Gord Siebert office (204)-896-1209; cell (204)-771-7222
Jason Mann office (204)-896-1209, cell (204) 791-6805

KGS Group Site Contacts: Ganga Atmuri cell (204) 918-6110 and
Leah Poliszczak cell (807) 629-7900

PSC Contact: Marie McGregor (204)-984-6289 – office; (204)-227-0615 (cell)

CFIA Contact: Darcy Quintin (403)-381-1055 – office; (403)-915-7459 (cell)

III. SITE DESCRIPTION

A. Summary of Available Site Information:

Thirty-nine buildings (mix of lab/outbuildings/storage and barns/residences) is to be inspected.

Refer to Appendix A for a summary of the buildings.

B. Sources of Background Site Information:

A general floor plan of the Main Laboratory and overall site plan was provided by CFIA.

IV. WASTE CHARACTERIZATION

A. Known or Suspected Hazardous Materials:

There is a potential for the following hazardous materials to be present within the subject buildings (which on-site personnel may be in contact with):

Asbestos - Type, quantity and locations of all materials that may potentially contain asbestos, including (but not limited to) mechanical and duct insulation; flooring, ceiling and roofing materials; wall board and coverings; plaster, stucco, grouting, mastics, parging and caulking materials; dust in ceiling spaces and crawlspaces.

B. Fuel/Chemicals/Wastes Stored On Site:

There are possible minor amounts of cleaning supplies within the buildings.

V. JOB SAFETY ANALYSIS

The Job Safety Analysis Form is used for identifying and controlling hazards before work begins, reducing or preventing risk of accidents, promoting communication in a written format for daily reference.

Attach a blank Job Safety Analysis Form (JSA). This JSA will be completed and amended as tasks require. Note the JSA will serve as a “Tail Gate Meeting” at the start of each work day (Appendix C).

Comments: Ganga Atmuri and Leah Poliszczak of the KGS Group Winnipeg and Thunder Bay Offices will be conducting the asbestos survey for the 39 identified buildings at the CFIA Lethbridge Facility in Lethbridge, Alberta on February 5 to 9th, 2018. A safety meeting with CFIA and KGS Group field staff will occur on February 5th, 2018 prior to the commencement of any sampling activities.

The asbestos survey will identify any building materials with the potential to contain asbestos. Bulk samples of materials suspected to contain asbestos will be collected and submitted for laboratory analysis.

VI. STANDARD OPERATIONING PROCEDURES

A. General:

General physical hazards include, but are not limited to slips, trips, falls, traffic, electrical shock, drowning, inadequate lighting, fire and explosions. Before the commencement of work, during the tailgate safety meeting, note all potential hazards to health, safety and the environment including potential hazards resulting from work operations both on and off any particular site. Evaluate the possibility and severity of impact and take the appropriate steps to minimize the impacts before proceeding with any field activities. All personnel will adhere to the Province of Alberta's Occupational Health and Safety Act, Regulation and Code, as applicable.

B. Asbestos & Other Hazardous Materials:

Since inhalation of asbestos fibres during hundreds of inspection and sampling projects may pose a serious health hazard, the use of personal protection by field personnel is crucial during the sampling process. All KGS Group personnel sampling asbestos must use Level C level of protection, including half-mask respirators with high efficiency filter cartridges, tyvek suits with a hood and booties, safety glasses, work boots, and disposable gloves. Field personnel must also carry plastic bags during sampling activities to handle the disposal of cartridges, protective equipment, wet cloths, and debris. These wastes should be stored pending laboratory results of collected samples. If the results confirm the presence of asbestos containing material, these waste materials should be disposed of as asbestos contaminating wastes. In order to minimize

exposure to friable asbestos fibres, collection of bulk samples for asbestos containing materials shall follow the sampling protocol and procedures outlined in the *Alberta Asbestos Abatement Manual* (2012) (Appendix D) and the *Amended PSPC Asbestos Management Standard* (June 5, 2017) and the *PSPC Department Policy 057 on Asbestos Management* (Appendix E). Samples will be obtained in the absence of building occupants (i.e. are not present within the room/work place) and will be collected from locations/areas to minimize disturbance, as reasonably possible. All surfaces that disturbed by sampling will be repaired, as reasonably possible, (except for areas of the interior walls that are to be renovated) in the absence of building occupants.

All other hazardous materials sampling will follow similar procedures with personnel using, as a minimum, the following PPE: tyvek suits, safety glasses, work boots, and disposable gloves.

C. Working from Heights:

In order to carry out all hazardous sampling, ladders will be used to access ceilings, rooftops and/or siding materials. When working with ladders all personnel will follow the Alberta Occupational Health and Safety Code 2009, Part 9, which states in Section 139 that workers use a fall protection system under these conditions:

- If a worker could fall more than 3 metres;
 - If a worker could fall *less than* 3 metres and there is an unusual possibility of injury. An unusual possibility of injury refers to the potential for a worker to sustain injuries more serious than those likely to result from landing on a solid, flat surface.
-

The fall arrest system will meet CSA approved shock absorbing lanyards, lifeline, rope grabs and safety harnesses in accordance with the requirements of the applicable legislation. The scissor lift will be operated by a trained professional and one KGS Group field personnel will act as a spotter for the scissor lift operator, if required. KGS Group field personnel will follow the guidelines pertaining to aerial lifts (scissor lifts), as required (Appendix F).

D. Confined Spaces Entry (Crawlspace):

Sumps, vaults and crawlspaces may present a confined space hazard. KGS Group personnel must be trained to identify confined spaces, however, only personnel trained in Confined Space Entry will enter any confined space. Should the need arise to enter a confined space; all personnel will follow the *Alberta Occupational Health and Safety Code 2009, Part 5*.

Trained field staff will utilize air monitors equipped to monitor levels of oxygen (O₂), carbon dioxide (CO₂) and hydrogen sulphide (H₂S) before and during the work event.

No person will enter any confined or semi-confined space without support from the appropriate equipment or at least one aboveground spotter. All personnel present at the work site will be briefed on the appropriate entry and rescue procedures before the commencement of work and complete the confined space permit (Appendix G).

E. Tools & Equipment:

Tools and equipment used at the site will be in good working order and maintained according to the manufacturer's specifications. Personnel will be trained in the safe and proper use of all tools and equipment before the outset of work.

VII. EMERGENCY PROCEDURES

A. Communications

Daily communication via cellular phone will occur between KGS Group field personnel and Winnipeg office staff before leaving site and/or if changes to scope of work are required. In the event of an emergency KGS Group field personnel will contact the PSPC / CFIA Representative and the appropriate emergency number outlined in Section II. KGS Group field personnel will then contact the KGS Group Project Manager or designated alternate contacts.

The KGS Group Project Manager or KGS Group Alternate Contact (Bonnie Hoffensetz or Gord Siebert/Jason Mann) will phone/email PSPC / CFIA if changes to scope of work are required.

B. First Aid

KGS Group personnel are certified to provide emergency First Aid services and CPR. A provincially approved first aid kit sized for the number of individuals on-site will accompany all KGS Group field work crews and/or will be available on the work site (vehicle or inside the building).

Anyone providing CPR or First Aid should use latex gloves or other appropriate equipment to limit exposure to possible blood borne and infectious agents. Report all CPR or First Aid assistance to the district health and safety officer immediately.

APPENDIX A
LIST OF BUILDINGS

Appendix A: List of Buildings at CFIA Lethbridge Facility

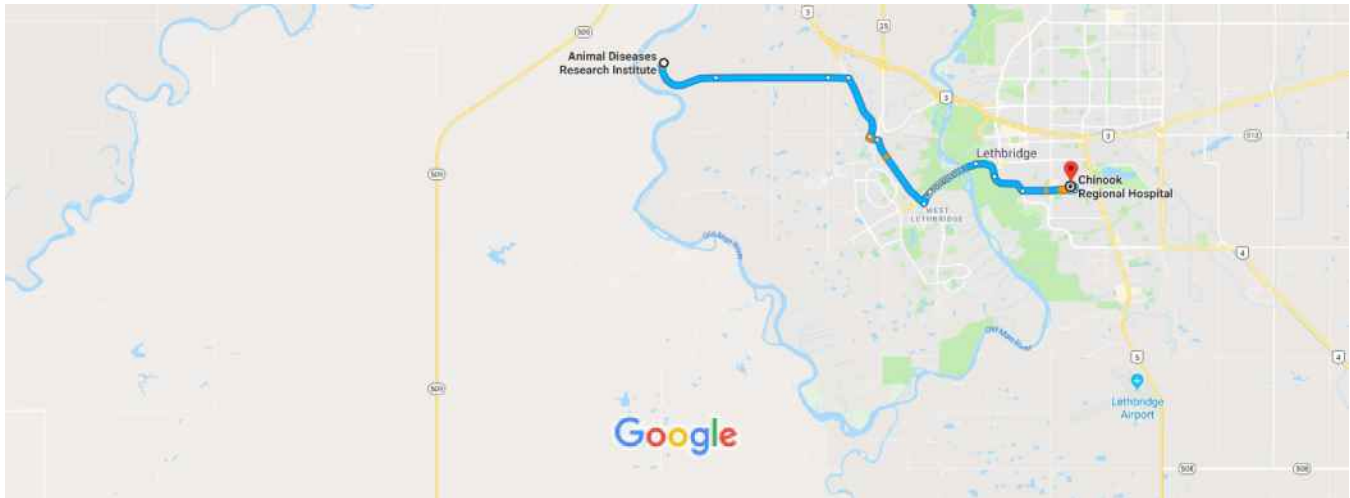
CFIA Facility: Lethbridge, Alberta			
Building Number	Description	Floor Area (m ²)	Construction Date
014990	Main Laboratory	8759	1987
102829	General Services Building	1375	1996
102830	Residence AGR 277	227	1912
102831	Residence AGR 281	168	1954
102832	Student Residence	261	1963
102833	Residence AGR 280	177	1962
102834	Pumphouse #1	9	1951
102835	Powerhouse	15	1951
102836	Metal Shop	89	1951
102837	Large Barn	533	1951
102838	House AGR 282	178	1984
102839	House AGR 184	194	1954
102840	Irrigation Reservoir	15	1956
102841	Scale House	3	1958
102842	Isolation Sheep Barn	96	1961
102843	Feed & Machinery Storage	642	1962
102844	Cattle Shelter #2	89	1963
102845	Cattle Shelter #3	67	1965
102846	Pumphouse #2	5	1965
102849	Lower Pen #1	33	1974
102850	Lower Pen #2	33	1974
102851	Lower Pen #3	32	1974
102852	Lower Pen #4	32	1974
102853	Lower Pen #5	32	1974
102854	Lower Pen #6	32	1974
102855	Lower Pen #7	32	1974
102856	Lower Pen #8	32	1974
102857	Upper Pen #1	77	1976
102858	Upper Pen #2	77	1976
102859	Upper Pen #3	144	1976
102860	Upper Pen #4	44	1981
102861	Upper Pen #5	44	1981
102862	Upper Pen #6	44	1981
102863	Upper Pen #7	44	1981
102864	Upper Pen #8	206	1981
102865	Pump House #3	11	1994
102866	Isolation Sheep Shelter	31	1997
102867	Radio Repeater Shack	9	1995
137925	Dry Storage	89	1960

APPENDIX B
MAP OF HOSPITAL ROUTE



Animal Diseases Research Institute to
Chinook Regional Hospital

Drive 15.8 km, 20 min



Map data ©2018 Google 2 km

Animal Diseases Research Institute

Township Road 91, Lethbridge, AB T1J 3Z4

Take Township Rd 91 to Westside Dr W in Lethbridge

- | | |
|-----------------------------------|----------------|
| | 7 min (5.8 km) |
| ↑ 1. Head southeast | |
| _____ | 2.0 km |
| ↑ 2. Continue onto Township Rd 91 | |
| _____ | 3.2 km |
| ↑ 3. Continue onto 2 Ave W | |
| _____ | 600 m |

Continue on Westside Dr W. Take University Dr W and Whoop-Up Dr E to 10 Ave S


- | | |
|--|----------------|
| | 9 min (8.3 km) |
| ↗ 4. Turn right onto Westside Dr W | |
| _____ | 1.9 km |
| ↖ 5. Turn left onto Walsh Dr W | |
| _____ | 290 m |
| ↗ 6. Turn right onto University Dr W (signs for University Drive/Whoop-Up Drive) | |
| _____ | 2.3 km |
| ⤴ 7. Turn left onto the ramp to City Centre E | |
| _____ | 400 m |

 8. Merge onto Whoop-Up Dr E

1.6 km

 9. Take the Scenic Drive exit toward AB-4 S/AB-5 S

800 m

 10. Merge onto Scenic Dr S


1.0 km

Follow 10 Ave S to 19 St S

4 min (1.6 km)

 11. Turn left onto 10 Ave S

1.5 km

 12. Turn left onto 19 St S

110 m

Chinook Regional Hospital

960 19 St S, Lethbridge, AB T1J 1W5

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

APPENDIX C
JOB SAFETY ANALYSIS (JSA) FORM

TOOLS / EQUIPMENT (Tools / equipment required for the work)					
TOOL / EQUIPMENT	CHECKED FOR PROPER OPERATION	TOOL / EQUIPMENT	CHECKED FOR PROPER OPERATION	TOOL / EQUIPMENT	CHECKED FOR PROPER OPERATION

PERSONAL PROTECTIVE EQUIPMENT (Check those that apply. Use blanks for additional PPE)							
<input type="checkbox"/>	EYE PROTECTION	<input type="checkbox"/>	FOOT PROTECTION	<input type="checkbox"/>	HEARING PROTECTION	<input type="checkbox"/>	PROTECTIVE CLOTHING
<input type="checkbox"/>	FALL PROTECTION	<input type="checkbox"/>	HAND PROTECTION	<input type="checkbox"/>	HIGH VISIBILITY VEST	<input type="checkbox"/>	RADIOS / PHONES
<input type="checkbox"/>	FIRE PROTECTION	<input type="checkbox"/>	HEAD PROTECTION	<input type="checkbox"/>	LIFE JACKET / PFD / FLOATER SUIT	<input type="checkbox"/>	RESPIRATORY PROTECTION
<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
EMERGENCY EQUIPMENT		<input type="checkbox"/>	FIRE EXTINGUISHER	<input type="checkbox"/>	FIRST AID KIT	<input type="checkbox"/>	SPELL KIT

OTHER CREWS INVOLVED IN KGS WORK			
NAME OF CREW / TRADE	PERSON IN CHARGE	CONTACT NUMBER	HOW WILL THEIR JOB AFFECT YOU

VISITORS (Visitors to the site that are associated with the work described on the form must review it and sign below)			
NAME OF VISITOR	REPRESENTING	SIGNATURE	DATE

PERSONNEL									
<ul style="list-style-type: none"> • Attach additional pages if required. If the form is updated or used for more than one day, Workers should review and initial the form each day. • Workers should be familiar with the procedure for reporting unsafe work conditions and their right to refuse dangerous work as described in the Health and Safety Manual Section 6.3.1 • Questions or concerns can be directed to a member of the Health and Safety Committee. Contact information can be found on the Health and Safety bulletin board. 									
DATE (day/month) →									
	ON SITE	NAME & CONTACT NUMBER			INITIAL	INITIAL	INITIAL	INITIAL	INITIAL
PROJECT MANAGER	<input type="checkbox"/>								
SUPERVISOR	<input type="checkbox"/>								
CREW MEMBER	<input type="checkbox"/>								
CREW MEMBER	<input type="checkbox"/>								
CREW MEMBER	<input type="checkbox"/>								
CREW MEMBER	<input type="checkbox"/>								

NOTES

APPENDIX D

ASBESTOS SAMPLING PROCEDURES AS OUTLINED IN THE ALBERTA ASBESTOS ABATEMENT MANUAL (2012)

ALBERTA ASBESTOS SAMPLE PROCEDURES

5.5.10.1 Collecting a Sample of Vermiculite Insulation

Procedures for sampling vermiculite insulation are somewhat different than for other asbestos containing materials. The objective is to determine whether or not the product is of the type that is asbestos contaminated (contains asbestos fibres) rather than determine how much asbestos is present. There are three important factors that must be considered when sampling this material:

- (1) The concentration of asbestos in the product is highly variable, so more than one sample is required.
- (2) Because asbestos fibres can be present at low concentrations, typically a larger sample size is required.
- (3) Asbestos fibres tend to fall off from the product and settle at the bottom of the insulation layer. Samples must be taken that represent the entire thickness of the insulation layer.

The sampling procedure should follow the basic steps outlined below. This procedure may need to be modified, depending on where and how the material is installed.

Equipment

- four litre plastic bag (such as a large heavy duty zip lock freezer bag)
- metal scoop with a flat edge
- appropriate protective equipment (gloves, coveralls, half-mask respirator with high efficiency particulate filters such as P100s)

Procedure

- (1) Insert the scoop into the insulation until it reaches the bottom substrate, move it along the bottom and raise it through the remaining material. Deposit the material collected into the plastic bag.
- (2) Collect multiple scoops at random spots to make up the sample.
- (3) Seal the bag and wipe the outside with a damp cloth (or place bag into another bag).
- (4) Label the sample.
- (5) At least three four litre samples should be taken at each sampling site. The scoop should be cleaned between samples.

Sample Analysis

It is not unusual for vermiculite to contain asbestos in concentrations below one per cent. However, the concentration can be variable and hazardous concentrations of airborne asbestos fibres can be generated even when the concentration is below one

per cent if the material is disturbed. There are a few options for sample analysis; some methods are quantitative (provide a precise concentration), some are qualitative (provide an estimate of concentration). In either case, the key is to determine whether the product is contaminated with asbestos. In the absence of sampling and analysis data or other information that shows that the vermiculite is not contaminated with asbestos, it is assumed that the product is contaminated.

For quantitative analysis, the US Environmental Protection Agency (EPA) has developed a specific analytical method for vermiculite in their publication "*Research Method for Sampling and Analysis of Fibrous Amphibole in Vermiculite Attic Insulation*". It is noted that some laboratories may not be able to provide this type of analysis. This method uses transmission electron microscopy (TEM) and can achieve detection limits from 0.1 to 0.0001 per cent.

5.6.4 Sampling of materials suspected to contain asbestos

5.6.4.1 Bulk Sampling

Bulk samples of materials suspected to contain asbestos must be collected by a competent person. It is considered to be a low risk activity and the appropriate procedures need to be followed.

(1) Sample materials when the immediate area is not in use and there are no unprotected workers nearby. (Only the persons doing the sampling should be in the immediate area.)

(2) Spray the material with a light mist of water.

(3) Take the sample in a manner that avoids disturbing it any more than necessary. If there is a cover over the suspected asbestos which must be damaged for access, it must be properly repaired immediately after the sample is collected.

(4) Take a representative sample from within the material by penetrating the entire depth of the material, since materials may have been applied in more than one layer or covered with paint or another protective coating.

(5) Ensure that materials having different appearances, colours or textures are sampled separately.

(6) Place the samples in sealable, impervious containers and label them as laboratory samples. The containers should have WHMIS labels that contain the following information (sample quantity less than 10 kg):

- Product identifier
- A statement to the effect that the material may contain asbestos.
- The statement "Hazardous laboratory sample. For hazard information or in an emergency call ..." and an emergency telephone number.

(7) If pieces of the material break during sampling, clean the contaminated area with a vacuum cleaner equipped with a HEPA-filtered exhaust or by wet-wiping. Where necessary, polyethylene drop cloths should be placed under the sample area to catch and contain loose waste generated during sampling.

(8) The workers doing the sampling must wear an appropriate respirator (at least a halfmask, air-purifying respirator equipped with high efficiency particulate filters) and should also wear disposable gloves and change gloves each time a sample is collected. The gloves will be disposed of as asbestos waste.

(9) Ensure that sampling tools and other equipment used during sampling are properly decontaminated.

(10) Put waste materials into labelled bag appropriate for asbestos waste. For homogenous materials, it is recommended that the minimum number of bulk samples collected be done as noted in Table 3. If analysis establishes that a bulk material sample does contain asbestos then the entire area of homogeneous material from which the bulk material sample was taken is considered to be asbestos-containing material.

Type of material	Size of area of homogeneous material	Minimum number of bulk material samples to be collected
Any homogenous material, including but not limited to fireproofing, drywall joint compound, ceiling tile stucco, acoustical and stipple finishes and visually similar floor tiles.	Less than 90 m ² (<1000 ft ²)	3
	90 or more square metres, but less than 450 square metres (1000-5000 ft ²)	5
	450 or more square metres (>5000 ft ²)	7

Samples should be collected at random locations and need to be representative of the materials sampled. One quality assurance/quality control sample should be collected for every 20 samples or per building.

There are methods that can be used to analyze bulk samples. NIOSH has two methods, NIOSH Method 9002, *Asbestos (bulk) by PLM* or Method 9000, *Asbestos Chrysotile by XRD* (if the material is chrysotile). Method 9002 involves the viewing of the sample under apolarized light microscope. Identification is based on appearance and colour. The percentage of asbestos in the sample is expressed as an estimate of the area per cent of all material present (diagrams are provided to assist with this). Method 9000 involves preparing the sample and doing an x-ray diffraction scan using an x-ray powder diffractometer with a copper target x-ray tube and scintillation detector. Chrysotile is identified by specific diffraction peaks and the size of the peaks determines the content. US EPA has test method EPA/600/R-93/116, *Method for the Determination of Asbestos in Bulk Building Materials*. The method uses PLM, XRD and analytical transmission electron microscopy for qualitative identification of materials. Quantitative analysis is done by comparing gravimetrically prepared standards of know composition with unknown samples using a combination of visual comparison, point counting, gravimeter and quantitative XRD.

5.6.4.2 Wipe sampling

While there are currently no criteria for asbestos levels on surfaces, there are two methods for sampling dust on surfaces that have been developed by ASTM:

(1) D6480-05, *Standard Test Method for Wipe Sampling of Surfaces, Indirect Preparation and Analysis for Asbestos Structure Number Concentration by Transmission Electron Microscopy.*

(2) D5756-03, *Standard Test Method for Microvacuum Sampling and Indirect Analysis of Dust by Transmission Electron Microscopy for Asbestos Mass Surface Loading.*

The standards can be purchased by contacting ASTM at www.astm.org

If asbestos fibres are detected on surfaces, additional air monitoring may be required to determine if there is a potential worker exposure issue. Where wipe sampling is chosen as a method to evaluate the effectiveness of asbestos abatement, sample will need to be collected before and after asbestos-containing materials are distributed and compared. If asbestos fibres are found on surfaces outside the abatement area, work practices will need to be reviewed.

APPENDIX E

**AMENDED PSPC ASBESTOS MANAGEMENT STANDARD
AND
PSPC DEPARTMENT POLICY 057 ON ASBESTOS MANAGEMENT**



Title: Asbestos Management Directive

1. **Effective date:** June 5, 2017

2. Authority

This directive is issued under the authority of the Director General (DG), Service Lead, Technical Services (TS), Real Property Branch (RPB), Public Services and Procurement Canada (PSPC).

3. Context

This directive must be read in conjunction with the RPB *Asbestos Management Standard*.

This directive enhances and supplements Part II of the *Canada Labour Code - Occupational Health and Safety*, as well as the *Canada Occupational Health and Safety Regulations* (COHSR) Part X - Hazardous Substances, subsection 10.19 Control of Hazards, and should be read in that context.

This directive should also be read in conjunction with the National Joint Council *Occupational Health and Safety Directive*, Part XI - Hazardous Substances, and the PSPC *Standard on Occupational Health and Safety Training*, and *Standard on Hazardous Substances*, which are part of the departmental occupational health and safety policy suite.

4. Scope

This directive applies to all Real Property employees involved in the delivery of the Real Property Business Line, and have responsibilities related to the management of buildings, both Crown-owned and leased (including lease-purchase and sale leaseback), in which either:

- asbestos-containing materials have been found to be present; or
- no professional certification attesting that the building does not include any known asbestos-containing material can be obtained.

For all matters pertaining to the health and safety of RPB employees involved with asbestos and its management, please refer to the PSPC *Standard on Hazardous Substances* and *Standard on Occupational Health and Safety Training*.

This directive does not apply to PSPC service providers: for these individuals consult the RPB *Asbestos Management Standard*.

5. Purpose

This directive ensures the safe and efficient operation of buildings and engineering assets where asbestos is deemed to be present, in accordance with the minimum standards of the applicable codes and regulations.

The purpose of this directive is to outline the responsibilities of Asset Managers, Property and Facility Managers, Project Managers, Regional Asbestos Coordinators, and leasing representatives when asbestos-containing materials are present in the building inventory. The purpose of this document is to also provide the operational details of the activities required to be carried out for the management of asbestos-containing materials.

6. Asbestos management, maintenance, and repair work processes

In addition to the requirements of this directive, leased buildings are subject to existing lease clauses and provincial/territorial regulations.

6.1. Asbestos Management Plan

Please refer to the RPB *Asbestos Management Standard* for details and requirements in the following areas pertinent to the Asbestos Management Plan:

- background information
- inspection of building or engineering asset for asbestos-containing material
- laboratory analysis of material samples
- assessment of materials found to contain asbestos
- inventory of asbestos-containing materials
- annual asbestos-containing material reassessment
- notification where there is disturbance or potential disturbance of asbestos-containing materials in building or engineering asset
- leased space

6.1.1. Training

Training for departmental employees is subject to, and must be compliant with, the PSPC *Standard on the Hazard Prevention Program, Standard on Occupational Health and Safety Training, Standard on Hazardous Substances, Standard on Personal Protective Equipment and Clothing for Employees, and Standard on Occupational Health Evaluations*, which are part of the departmental occupational health and safety policy suite.

Training by way of the required PSPC course *Asbestos Work Practices Awareness* shall be provided to RPB Asset Managers, Property and Facility Managers, building systems

technicians, building operator maintainers, and all employees who may disturb asbestos-containing material through the activities of their work, or persons who may enter a work area. This same training course is also required for those departmental employees who supervise workers or service providers who may work near, and may disturb asbestos-containing material.

In addition to the awareness course, any employees who will perform low risk work will receive additional appropriate training, from a qualified service provider, that conforms to the regulations, codes and guidelines related to asbestos abatement of the province or territory where the work will be performed, as no such requirements exist federally.

6.2. Maintenance, renovations, and construction processes involving asbestos-containing materials

Please refer to the RPB *Asbestos Management Standard* for details and requirements in the following areas pertinent to the maintenance, renovation, and construction processes involving asbestos-containing materials:

- classification of asbestos-related work
- asbestos work processes
- bulk sample procedures
- informing building occupants through Employer representatives
- respirator fitting, inspection and maintenance
- asbestos work inspection and air quality monitoring in situations where the work is classified as low, intermediate, or high
- hazardous occurrence investigation and reporting
- recordkeeping

6.2.1. Control prior to maintenance work

Only maintenance work classified as low risk can be performed by RPB employees, and they must have taken training as outlined in 6.1.1., and may be required to undertake a medical evaluation as per the requirements of the *Standard on Occupational Health Evaluations*. A copy of an *Asbestos-Related Work Record* (form PWGSC-TPSGC 55, available in Electronic Form (ELF)) shall be placed in the employment file of each employee who performs low-risk work. Work classified as intermediate and high risk must be performed by a qualified service provider which has been approved by the Project Manager. The Asset Manager, or Property and Facility Manager must notify the Employer representatives prior to the commencement of work that will disturb asbestos-containing material.

When there are asbestos-containing materials in the maintenance area, and it has been determined that these materials could be disturbed by the planned work, the Project Manager, Asset Manager, or Property and Facility Manager must notify the maintenance staff or the service provider of the presence of asbestos-containing material. In situations where the service provider is performing work directly for the PSPC Asset Manager or Property and

Facility Manager, the service provider shall be required to sign the *Contractor Notification and Acknowledgement* form (form PWGSC-TPSGC 16, available in Electronic Forms (ELF)) prior to commencement of the work. This form will be kept with other maintenance work documentation.

Please refer to the RPB *Asbestos Management Standard* for additional details.

6.2.2. Control prior to renovation and construction work

Only renovation and construction work classified as low risk can be performed by RPB employees, and they must have taken training as outlined in 6.1.1 and may be required to undertake a medical evaluation as per the requirements of the *Standard on Occupational Health Evaluation*. A copy of an *Asbestos-Related Work Record* (form PWGSC-TPSGC 55, available in Electronic Form (ELF)) shall be placed in the employment file of each employee who performs low-risk work. Work classified as intermediate and high risk must be performed by a service provider.

Current PSPC practice is to undertake full asbestos abatement in a building only in the case of a major renovation. In each case, the Investment Analysis Report (IAR) will be used as a financial tool to evaluate the cost/benefit, and the design phase will evaluate the abatement feasibility. In rare instances, a full abatement of all asbestos in the building may not be achievable as the abatement would equate to the demolition of the entire structure. In such cases that a portion of asbestos is left in place, it will be managed by an Asbestos Management Plan that ensures the health and safety of building occupants. The Director General, Service Lead, Technical Services will make the decision for exceptions to leave asbestos-containing material in place during major renovations.

When there are asbestos-containing materials in the renovation area, and it has been determined that these materials could be disturbed by the work, the Project Manager, Asset Manager, or Property and Facility Manager must notify the maintenance staff and/or the service provider and the Employer representatives of the presence of asbestos-containing material. In situations where the service provider is performing work directly for the PSPC Asset Manager or Property and Facility Manager, the service provider shall be required to sign and provide documentation as outlined in Section 6.2.1.

Some projects require a Technical Authority in addition to a Project Manager. In these instances, project documentation must be reviewed by the Technical Authority.

If the work involves the disturbance of asbestos-containing material, then it must be ensured that the Employer representatives are informed by the Asset Manager, or Property and Facility Manager, giving the Employer representatives the opportunity to invite their Workplace Health and Safety Committee to attend a pre-construction meeting with the service provider and project manager.

Please refer to the RPB *Asbestos Management Standard* for additional details.

6.2.3. Hazardous occurrence investigation and reporting

When a building occupant is, or may accidentally be, exposed to airborne asbestos as a result of disturbance of asbestos-containing material, or by inadvertent contact during regular maintenance, renovation or construction work, a qualified person shall be appointed to conduct a hazard assessment by the Asset Manager or Property and Facility Manager as per the requirements of the *Canada Occupational Health and Safety Regulations*.

The assessment shall determine the potential hazard, and must conclude as to whether the hazardous material could be present as an airborne hazard, at a level of at least 50% of the exposure limit as determined by the threshold limit values identified by the American Conference of Governmental Industrial Hygienists (ACGIH). The Asset Manager or Property and Facility Manager, building Employer representatives, and the Workplace Health and Safety Committee must be invited to participate in the assessment. At the conclusion of the assessment a *Hazardous Occurrence Investigation Report* (form PWGSC-TPSGC 874, available in ELF) is to be completed by the Asset Manager or Property and Facility Manager, in compliance with the departmental *Standard on Hazardous Occurrence Investigation and Reporting* and provided to all assessment participants.

When airborne asbestos fibers are likely present at level of at least 50% of the exposure limit, a control plan shall be instituted. The control plan must address the following:

- a record of where asbestos-containing material was found
- written procedures for control
- communication with building occupants through Employer representatives
- medical surveillance, when applicable
- training of employees

6.2.4. Leased space

Federal workplaces are subject to the *Canada Labour Code*, Part II, including space within leased buildings. Leased buildings (including lease-purchase and sale leaseback) are also subject to existing lease clauses and provincial/territorial regulations concerning the management of asbestos-containing material. Lease clauses must be consulted on a building-by-building basis to confirm existing lease requirements.

Prior to occupancy, the Leasing Representatives obtain and provide all documents concerning asbestos-containing materials to the Asset Manager, or Property and Facility Manager. The Asset Manager, or Property and Facility Manager must provide these documents to the Employer representatives. The Asset Manager or Property and Facility Manager shall retain received electronic copies of documents in GCDOCS, with oversight of the records management by the Regional Asbestos Coordinator.

During the lease period, as updates are provided by the building owner, the Asset Manager, or Property and Facility Manager, must provide an update, written in plain language to the Employer representatives, summarizing the report, in addition to the building owner's report

concerning modifications and reassessments of the asbestos-containing material. The Asset Manager, or Property and Facility Manager, must also provide copies of the reassessment to the Regional Asbestos Coordinator.

7. Responsibilities

Compliance with this directive is mandatory. Failure of an employee at any level to comply may be considered misconduct, and the employee may be subject to consequences as per the applicable departmental and Treasury Board policies.

7.1. The Regional Directors General (RDGs), and the Director General (DG), Service lead, Technical Services, in support of PSPC's role as custodian, are responsible in their respective regions for:

- appointing a Regional Asbestos Coordinator.

7.2. The Director General, Service Lead, Technical Services, is responsible for:

- reviewing this directive every five years, or when there are amendments to the documents referred to in the Context section of this directive;
- providing functional direction on asbestos-containing materials; and
- making the final decision for exceptions to leave asbestos-containing material in place during major renovations.

7.3. Regional Directors (RDs), Professional and Technical Services (PTS), Regional Directors, Environmental Services, Senior Directors, Property and Facility Management Service Line, Senior Directors, Technical Services Service Line, and Senior Directors, Infrastructure Asset Management Service Line, in support of PSPC's role as custodian, are responsible for:

- ensuring RPB managers/supervisors are informed on occupational health and safety requirements related to management of asbestos in the workplace;
- ensuring that records of asbestos location, investigation reports, work reports, and exposure reports are maintained onsite in accordance with applicable regulations; and
- ensuring that employee learning plans include training relevant to this directive.

7.4. Regional Asbestos Coordinators, are responsible for:

- collaborating with Asset Manager or Property and Facility Managers to ensure the asbestos management plan, and annual reassessment, including the inventory, is updated as required;
- providing guidance during the selection of qualified person;
- collaborating with Project Managers to ensure work is properly classified, proper specifications are provided, and all applicable legislation are respected;
- reviewing the project documentation of high-risk (in terms of project risk and complexity) projects, at the request of the Technical Authority, as provided by the Project Manager;

- maintaining a copy of the Asbestos Management Plan, inventory, and reassessments as provided by the Asset Managers, or Property and Facility Managers; and
- providing oversight of the retention of asbestos records in GCDOCS.

7.5. Asset Managers, or Property and Facility Managers are responsible, for:

- developing and updating Asbestos Management Plans, including the inventory and assessment, as well as annual asbestos inventory reassessment reports, when necessary collaborating with the Regional Asbestos Coordinator, and ensuring that copies of this information are maintained and available as specified in the *Asbestos Management Standard*;
- providing a copy of the Asbestos Management Plan, including the inventory and assessment, as well as annual asbestos reassessment reports, or if applicable the professional certificate of no known asbestos, to the Regional Asbestos Coordinator and Employer representatives and recording when and to whom the reports were presented;
- providing service providers access to the Asbestos Management Plan;
- providing written notification to the Employer representatives of potential disturbance (including work processes, duration, hours of work, and possible disruption) of asbestos-containing materials during repair, maintenance and construction projects and recording when and to whom the reports were presented;
- reviewing all maintenance and project work requirements against survey information to determine the possibility of asbestos being disturbed, and classifying the work based on the approved criteria;
- for leased facilities, obtaining from the lessor a copy of the Asbestos Management Plan, including inventory and the most recent asbestos-containing material reassessment, and asbestos-related work notifications, or professional certification confirming that the building does not include any known asbestos-containing materials, and ensuring these items are provided to the Employer representatives and Regional Asbestos Coordinator;
- retaining electronic copy in GCDOCS in accordance with records management practices;
- assisting in the identification of real or potential accidental exposure to asbestos of occupants or visitors, and notifying the Regional/Area Manager Occupational Health and Safety, Asset Managers, Property and Facility Managers, and Project Manager accordingly; and
- ensuring hazardous occurrence investigation conform with the PSPC *Standard on Hazardous Occurrence Investigation and Reporting*.

7.6. The Technical Authority is responsible for:

- being the principal point of contact with Real Property Contractor for all matters relating to the contract, including daily operations, reporting and administration; and

- ensuring work is executed in accordance with the RP contract and monitors real property contractor performance;

7.7. RPB Employer representatives are responsible for:

- providing the workplace Occupational Health and Safety Committee with documentation related to the asbestos management plan, construction, and hazardous occurrence; and
- responding to employee requests for information concerning asbestos-containing materials in the workplace.

7.8. Leasing Representatives are responsible for:

- before leased space is occupied, obtaining from building owner an Asbestos Management Plan documenting the presence, location, and condition of asbestos within the building, or a professional certification confirming that the building does not include any known asbestos-containing materials;
- before leased space is occupied, confirming that asbestos documentation conforms with the lease agreement; and
- providing Asbestos Management Plan and inventory documentation to the Asset Manager, or Property and Facility Manager.

7.9. RPB Project Managers/Supervisors are responsible for:

- ensuring that employees on site have received notification that asbestos-containing material are present in work area;
- ensuring that employees on site have received proper asbestos training based on the responsibilities and duties to be undertaken in relation to asbestos;
- ensuring that documentation has been received by service provider performing asbestos work;
- ensuring that in the case of a hazardous occurrence, comply with all requirements of the departmental *Standard on Hazardous Occurrence Investigation and Reporting*;
- ensuring service provider hired to perform asbestos work according to applicable legislation are in possession of valid certification to perform asbestos work;
- ensuring employees required to perform work classified as low risk have received proper training;
- ensuring RPB employees do not perform asbestos-related work classified as intermediate or high risk; and
- ensuring that all procedures for inspection and air monitoring are implemented based on the classification of the work and the specified requirements.

7.10. RPB Building Systems Technicians / Building Operator Maintainers are responsible for:

- ensuring that they have taken required training;
- wearing, using, and maintaining the required personal protective equipment, clothing, and tools; and

- only performing asbestos-related work within the scope of their training;

7.11. RPB employees are responsible for:

- adhering to provided instructions, training, and procedures related to asbestos; and
- reporting immediately to their Manager/Supervisor all known or foreseeable occurrences, conditions, or activities in the workplace that are likely to be hazardous to the health and safety of employees or other persons granted access to the workplace. If the Manager/Supervisor is not available and the situation is urgent, the employee should report to the next higher management level.

8. Definitions

Definitions may be found in the RPB *Asbestos Management Standard*, and the departmental *Occupational health and safety policy suite glossary*.

9. References

Federal acts and regulations:

[Canada Labour Code, Part II](#)

[Canada Occupational Health and Safety Regulations](#)

National Joint Council publications:

[Occupational Health and Safety Directive](#)

[Occupational Health Evaluation Standard](#)

PSPC publications:

[Directive on occupational health and safety - Hazard prevention program \(007-1\)](#)

[Occupational health and safety policy suite glossary](#)

[Policy on occupational health and safety \(007\)](#)

[Records management and information holdings](#)

[Standard on the Hazard Prevention Program](#)

[Standard on Hazardous Occurrence Investigation and Reporting](#)

[Standard on Hazardous Substances](#)

[Standard on Personal Protective Equipment and Clothing for Employees](#)

[Standard on Occupational Health Evaluations](#)

[Standard on Occupational Health and Safety Training](#)


RPB [Asbestos Management Standard](#)

Training course:

[Asbestos Work Practices Awareness](#)

Other publications:

Provincial and Territorial Occupational Health and Safety Legislation



Provincial and Territorial Environmental Protection Legislation
American Conference of Governmental Industrial Hygienists (ACGIH), TLVs and BEIs Book
(as amended from time to time)

[Canadian National Master Construction Specification \(NMS\)](#)

Forms:

Contractor Notification and Acknowledgement (form PWGSC-TPSGC 16, available in ELF)

Hazardous Occurrence Investigation Report (form PWGSC-TPSGC 874, available on ELF)

Asbestos-Related Work Record (form PWGSC-TPSGC 55, available in ELF)

10. Enquiries

Please direct all enquiries regarding this directive to:

Senior Director, Environment, Health & Safety

Technical Services

Real Property Branch, PSPC



Title: Asbestos Management Standard

1. **Effective date:** June 5, 2017

2. Authority

This standard is issued under the authority of the Assistant Deputy Minister (ADM), Real Property Branch (RPB), Public Services and Procurement Canada (PSPC).

3. Context

This standard enhances and supplements Part II of the *Canada Labour Code - Occupational Health and Safety*, as well as the *Canada Occupational Health and Safety Regulations* (COHSR) Part X - Hazardous Substances, subsection 10.19 Control of Hazards, and should be read in that context.

This standard should also be read in conjunction with the National Joint Council *Occupational Health and Safety Directive*, Part XI - Hazardous Substances, and the PSPC *Standard on Hazardous Substances*, which is part of the departmental occupational health and safety policy suite.

4. Scope

This standard applies to buildings and engineering assets, both Crown-owned and leased (including lease-purchase, and sale leaseback), where PSPC is the custodian, in which either:

- asbestos-containing material has been found to be present; or
- no professional certification attesting that the building does not include any known asbestos-containing material can be obtained.

This includes buildings and engineering assets that are managed internally, as well as those managed on behalf of PSPC by real property contractors.

5. Purpose

This standard sets out Real Property Branch's requirements regarding the operational and technical activities required to be carried out for the management of asbestos-containing material.

6. Details on Asbestos Management, Maintenance and Repair Work Processes

Each building that contains asbestos-containing material shall have in place an Asbestos Management Plan that must be kept onsite, and be available to building systems technicians, building operator maintainers, and service providers through the Asset Manager, or Property and Facility Manager, as well as departmental employees through the Employer representatives. Annual reassessment of asbestos-containing material, work records, and sampling results must be part of the Asbestos Management Plan.

An Asbestos Management Plan is required for all buildings unless a professional certification confirming that the building does not include any known asbestos-containing materials is obtained. The certification must be kept onsite and be available to all building occupants upon request.

The asbestos management requirements for leased buildings are subject to the existing lease clauses, in addition to the requirements named in this standard.

Processes regarding the contents and preparation of the Asbestos Management Plan are provided in Section 6.1, Asbestos Management Plan.

Maintenance and renovation work performed in a building known to contain asbestos-containing material shall be conducted as per the processes outlined in Section 6.2, Maintenance, renovations and construction processes involving asbestos-containing materials.

6.1. Asbestos Management Plan

6.1.1. Background information

An Asbestos Management Plan is required to ensure that asbestos-containing material is managed and controlled in PSPC custodial buildings and engineering assets, both Crown-owned and leased (including lease-purchase, and sale leaseback), to reduce the risk of damaging asbestos-containing material, and potential occupant exposure to airborne asbestos fibers. The Asbestos Management Plan is to be reviewed and updated to reflect changes in policy and regulations at least every 5 years, or more frequently if required. Whenever reviewed or updated, the Asbestos Management Plan must be provided to the Employer representatives and retained in accordance with section 6.2.11. A record must be kept reflecting when and to whom the report was presented.

The Asbestos Management Plan performs the following functions:

- At the building level, it is a central repository of all information related to the management of asbestos for each facility.
- It acts as a control mechanism to ensure compliance.
- It communicates roles and responsibilities of those required to work with or around asbestos-containing materials.
- It describes work classification for disturbances of asbestos-containing materials.

- It communicates the departmental processes for working with asbestos-containing materials.
- It acts as common terms of reference for the safe operation and management of a building or engineering asset with asbestos-containing materials.

The Asbestos Management Plan includes the following elements at a minimum:

- a list of applicable regulatory requirements
- a brief summary of locations and types of material that contain asbestos present in the building
- a survey and inventory of asbestos-containing materials, and assessment of material condition
- annual asbestos-containing material reassessment
- notification of location, quantity, and condition of asbestos-containing materials and the potential for disturbance
- training and awareness requirements
- notification of Employer representatives when work will be performed that disturbs asbestos
- repair and maintenance procedures
 - classification
 - sample collection and analysis
 - processes
 - project inspection
 - air monitoring
- emergency work procedure(s)
- laboratory results for all materials tested (to be included whether samples are positive or negative for asbestos content)

6.1.2. Crown-owned Buildings and Engineering Assets' asbestos-containing material inspection, assessment, and inventory

6.1.2.1. Inspection

In order to determine the presence of asbestos-containing material in buildings and engineering assets, and to ensure the maintenance of a complete inventory of asbestos-containing materials, an initial baseline survey must be completed by a qualified person on all buildings and engineering assets which have the potential to contain asbestos. An annual reassessment must be performed by a qualified person on all asbestos-containing materials identified in the baseline asbestos survey, and on those materials which may have subsequently been identified during maintenance, renovations, or other construction activities at the site.

The baseline survey must include:

- identification, location, condition, accessibility, and quantity of suspected and confirmed friable and non-friable asbestos-containing material; and

- an action matrix (as described in Annex A, Section 1.4.3.), which establishes recommended asbestos control action(s).

Any material suspected of containing asbestos must have its status confirmed through laboratory analysis; until confirmed, it is assumed to be asbestos-containing material.

6.1.2.2. Laboratory material analysis

The collection of material samples shall be carried out as randomly-collected bulk samples, and be representative of the homogeneous surfaces, areas, and types of material present. Samples are to be collected following the procedures outlined in Section 6.2.6.

The analysis of bulk samples shall be performed by a laboratory accredited by either the National Voluntary Laboratory Accreditation Program (NVLAP), American Industrial Hygiene association (AIHA), or the Canadian Association for Laboratory Accreditation (CALA), or using a method noted in provincial regulations where the sample was taken, to the detection limits specified in Annex A, Section 1.2. Frequency of sample collection must meet federal/provincial/territorial regulations, but can be more frequent at the discretion of the surveyor.

Analysis of bulk samples are to be performed, where possible, using the United States Environmental Protection Agency method EPA/600/R-93/116 for Polarized Light Microscopy (PLM). In some instances, analysis must be performed using Transmission Electron Microscopy (TEM) (an example of this would be analysis of vinyl floor tile).

6.1.3. Assessment of asbestos-containing materials

Asbestos-containing materials that are identified as a result of the survey and laboratory analysis shall be assessed for their condition and accessibility. Annex A - *Evaluation of Asbestos-Containing Materials and Recommendations for Control*, provides specific criteria for the assessment of asbestos-containing materials based on condition and accessibility, as well as mandatory Asbestos Management Program response(s) relative to health risk. It also provides an action matrix, which is used to determine the recommended action to control asbestos-containing materials based on the particular circumstances. Detailed information regarding the requirements to properly undertake each action is also provided.

6.1.4. Inventory of asbestos-containing materials

An inventory of asbestos-containing materials must be maintained, and the inventory shall contain information for the specific building or engineering asset. The inventory record shall remain in the building or engineering asset. The inventory shall contain a list of all known asbestos-containing materials and their locations. If access to an area is not permitted due to security or other reasons, it will be noted in the inventory.

In general, inventories are in table format and include the following:

- type of building material that contains asbestos (example: floor tile)
- asbestos location
- asbestos type and percent content (example: amosite 3%)

- asbestos friability (friable or non-friable)
- quantity of building material
- asbestos condition
- accessibility of the asbestos

Floor plans indicating the location(s) of asbestos-containing materials may be included.

It must be ensured that a copy of the current inventory is maintained onsite at a location that is accessible, and provided to the Employer representatives, and facility maintenance staff.

6.1.5. Annual asbestos-containing material reassessment

On a yearly basis, the building or engineering asset's asbestos-containing material inventory information is to be updated through a reassessment based primarily on change in condition and quantity (refer to Annex B), and outdated versions of the inventory records must be archived and retained in accordance with section 6.2.11. The Asbestos Management Plan shall be updated with new inventory information as changes are made at the various locations, or where new information identifies the existence of asbestos-containing material not previously identified.

The reassessment must be signed by, and conducted under the direction of, a person qualified in asbestos management. The results of this assessment are to be added to the building Asbestos Management Plan as described in section 6.1.1.

In a timely fashion, the annual re-assessment, along with a summary of the report in plain language, must be provided to the Employer representatives and Regional Asbestos Coordinator. A record must be kept reflecting when and to whom the report was presented.

6.1.6. Leased Space

If a building is known to contain asbestos-containing materials, then before leased space is occupied, an Asbestos Management Plan must be obtained from the Lessor that identifies all friable and non-friable asbestos-containing materials located within the building and on the property. Otherwise, a professional certification confirming that the building does not include any known asbestos-containing materials is required.

The Asset Manager, or Property and Facility Manager will keep an electronic copy of the Asbestos Management Plan available to be distributed upon request.

For detail on lease clauses, refer to *PWGSC's Invitation to Offer document*, owned by the Real Estate Services Service Line.

6.2. Maintenance, renovations and construction processes involving asbestos-containing materials

6.2.1. Classification of asbestos-related work

The following criteria shall be used in determining the classification of asbestos work.

6.2.1.1. Low risk work

Low risk work includes:

- non-destructive (i.e. without breaking, cutting, drilling, abrading) removal of non-friable asbestos-containing material;
- destructive work (i.e. breaking, cutting, drilling, abrading) on wetted non-friable asbestos-containing material with non-powered hand-held tools;
- removal of one square meter or less of drywall in which joint compounds contain asbestos-containing materials;
- removal or replacement of 7.5 square metres or less of asbestos-containing compressed-mineral-fibre-type ceiling tiles; and
- collecting samples of materials suspected of containing friable asbestos.

6.2.1.2. Intermediate risk work

Intermediate risk work includes:

- entry into ceiling spaces, crawlspaces, pipe tunnels, etc., where friable asbestos debris is or may be present;
- removing more than 7.5 square meters of asbestos-containing suspended ceiling tiles;
- removal of more than one square metre of drywall where asbestos-containing joint compound materials has been used;
- destructive work (i.e. breaking, cutting, drilling, abrading) on non-wetted, non-friable asbestos-containing material with non-powered hand held tools;
- destructive work (i.e. breaking, cutting, drilling, abrading) on non-friable asbestos-containing material if the work is done by means of power tools that are attached to dust collecting devices equipped with a high efficiency particulate air (HEPA) filters;
- minor removal or disturbance of friable asbestos-containing material. Minor is defined as follows:
 - in British Columbia: up to 0.1 m² surface area, or 3 linear metres of pipe insulation
 - in Quebec: up to 0.03 m³ of debris
 - all others: up to 1 m² of surface area
- enclosing friable asbestos-containing material;
- applying tape or cover to asbestos-containing insulation;
- glove bag removal of asbestos-containing material from a pipe, duct or similar structure;
- removing filters in an air handling unit in a building that has sprayed-on asbestos-containing fireproofing; and
- work not otherwise classified as either low or high risk.

6.2.1.3. High risk work

High risk work includes:

- major removal or disturbance of friable asbestos-containing material (greater than quantities defined under intermediate work);

- destructive work (i.e. breaking, cutting, drilling, abrading) of non-friable asbestos-containing material using power tools not attached to dust-collecting devices equipped with HEPA filters;
- encapsulating friable asbestos-containing material by spray application of an encapsulant or sealant;
- cleaning or removal of ductwork and air handling equipment serving or passing through areas of buildings with sprayed, friable asbestos-containing material; and
- repair, alteration or demolition of a boiler, furnace, kiln, or similar equipment made of asbestos-containing refractory materials.

6.2.2. Asbestos work processes

Written processes for performing low, intermediate, and high risk work are to be developed for the work to be undertaken, based on the friability of the asbestos-containing material, processes to be used, and the worksite. These processes shall be developed in accordance with the *Canadian National Master Construction Specification (NMS)*, Sections 02 82 00.01 (Asbestos Abatement - Minimum Precautions), 02 82 00.02 (Asbestos Abatement - Intermediate Precautions), or 02 82 00.03 (Asbestos Abatement - Maximum Precautions).

6.2.3. Notification

Written notification must be given to the Asset Manager, or Property and Facility Manager of the potential disturbance of asbestos-containing materials during repair, maintenance and construction projects.

6.2.4. Control prior to maintenance work

All maintenance work shall be reviewed for the possibility of disturbance of asbestos-containing material when work is required.

Before undertaking any work that may disturb asbestos-containing materials, a report shall be prepared stating the type(s) of asbestos and the condition of the asbestos-containing material, and the location of the asbestos-containing material.

When there are friable or non-friable asbestos-containing materials in the work area and this material will be disturbed by the work, then the work shall be considered asbestos-related work, and the risk level classified by a qualified person in accordance with the work to be performed.

Prior to the start of work, the Asset Manager, or Property and Facility Manager will inform the Employer representatives.

Arrangements shall be made for specifications to be prepared for asbestos work by a qualified person, following the appropriate specifications according to *Canadian National Master Construction Specification (NMS)* format mentioned in Section 6.2.2. Alterations to specifications, in order to accommodate specific federal and provincial requirements, shall be determined based on work requirements.

When there are asbestos-containing materials in the maintenance area, and it has been determined that these materials could be disturbed by the work, the maintenance staff or the service provider must be notified.

Before asbestos abatement work is started, the following documentation must be provided by the service provider as proof of competency as per provincial/territorial regulations:

- third-party liability insurance
- fit test certificate
- service provider's site-specific safety plan
- Notice of Project
- copy of Workplace Safety and Insurance Board / Ministry of Labour clearance
- copy of trade certificates / competency cards
- other certificates where required (fall protection, confined space, man lift, etc.)

Also prior to the commencement of asbestos abatement work, the following precautions must be ensured:

- management has received proof of adequate training for employees performing asbestos work and approved personal protective equipment is provided;
- containers for asbestos waste shall be labeled as asbestos waste and are held at a pre-determined, secure location in the building; and
- the collection and disposal of asbestos-containing material waste is performed in accordance with the applicable provincial regulations.

In the event of a suspected release of asbestos-containing material outside of the contained work area, the processes detailed in the building Asbestos Management Plan concerning emergency work procedures must be complied with.

6.2.5. Control prior to renovation and construction work

Prior to commencement of projects that include the demolition of material suspected of containing asbestos which has not yet been tested (such as material not accessible in the original survey), testing of this material for asbestos shall be undertaken, unless previous comprehensive testing in the building has shown this material to be free of asbestos. Along with the asbestos surveys of the building, records of test results shall be maintained on site as per Section 6.2.11.

When there are friable or non-friable asbestos-containing materials in the work area and this material will be disturbed by the work, then the work shall be determined as asbestos-related work and the risk level classified by a qualified person in accordance with the work to be performed.

In a timely fashion, a summary report, written in plain language, concerning the asbestos work must be provided to the Employer representatives. A record must be kept reflecting when and to whom the report was provided.

Arrangements shall be made for specifications to be prepared for asbestos work by a qualified person, following the appropriate *Canadian National Master Construction Specification (NMS)* format mentioned in Section 6.2.2. Alterations to specifications, in order to accommodate specific federal and provincial requirements, shall be determined based on work requirements.

Services related to the design and preparation of specifications shall be performed by a qualified person with the appropriate training, experience, and insurance for asbestos-related work.

When there are asbestos-containing materials in the renovation area, and it has been determined that these materials could be disturbed by the work, the maintenance staff and/or the service provider must be notified of the presence of asbestos-containing material.

Prior to the start of asbestos abatement work, documentation and work precautions must be ensured as per section 6.2.4.

In the event of a suspected release of asbestos-containing material outside of the contained work area, the processes detailed in the building Asbestos Management Plan concerning emergency work procedures must be followed.

Upon completion of any project work which alters the amount or condition of asbestos-containing material in the building or engineering asset, a report will be prepared that indicates the work that has been completed. The inventory shall be updated, and this information is to be retained in accordance with Section 6.2.11.

6.2.6. Bulk sample procedures

During the annual reassessment or investigation prior to renovation projects, material may be discovered that could contain asbestos. The only way to confirm the presence of asbestos is by means of laboratory testing. In order to establish whether there are any asbestos-containing materials, and to identify the type and concentration of asbestos, bulk material samples must be collected by a qualified person from a homogeneous surface, area or insulation. The information gathered is essential in ensuring proper identification of asbestos materials by microscope analysis. Bulk material sampling is conducted as follows:

1. The material must be sampled when the area is not in use where feasible. Only those persons needed for sampling should be present in the immediate area.
2. The use of a National Institute for Occupational Safety and Health (NIOSH) approved respirator is recommended for all sampling. Depending on the condition and location of the material, airborne fibres can be generated during sampling.
3. Under the work area, polyethylene drop sheet must be placed over flooring that absorbs dust (such as carpeting) and over flooring in the asbestos work area where dust and contamination cannot otherwise be safely contained. Drop sheets are not to be reused.

4. The material is to be sprayed with a light mist of water to prevent asbestos fibre release during sampling, if possible. The material must not be disturbed any more than necessary.
5. Materials of different appearance should be sampled separately. Mechanical insulation must be sampled separately on all systems, tanks, vessels, etc. Both the straight sections of pre-formed insulation, and the insulating cement typically present at elbows, fittings, etc. (unless visually identified as fibreglass) must be sampled. Frequency of sampling must meet federal/provincial/territorial regulations.
6. For asbestos insulation, the sample is collected by penetrating the entire depth of the material, as the insulation may have been applied in more than one layer or covered with paint or other protective coating.
7. If pieces of material break off during sampling, the contaminated area must be cleaned up by wet cleaning. Any debris generated must be placed in plastic bags, labelled, sealed and disposed of as asbestos waste in accordance with requirements of the provincial/territorial and/or federal authority having jurisdiction.
8. Samples must be placed in labeled plastic bags with a zip-lock closure or in sealed plastic vials. Samples shall be identified with the following information:
 - sample number
 - location (e.g. building name, room number)
 - date of sampling
 - name of sampler
 - source of sample, e.g. cold water pipe, cold water fitting, etc.
9. Any openings created to collect the sample must be sealed (e.g. self-adhesive tape, paint or metal-foil tape to be wrapped completely around the pipe, duct or structure).
10. Bulk sample analysis shall be done by an accredited laboratory (refer to Section 6.1.2.2, Laboratory material analysis).
11. The minimum number of bulk material samples to be collected for each type of test material is 3. When sampling homogeneous materials such as plaster, or materials applied by troweling, 5 samples are required when the area is greater than 90 square meters, 7 samples are required when the area exceeds 450 square meters.

6.2.7. Respirator fitting, inspection and maintenance

For matters pertaining to respiratory protection, refer to the departmental *Procedure on Respiratory Protection* which is under the *Standard on Personal Protective Equipment and Clothing for Employees*.

6.2.8. Asbestos work inspection and air quality monitoring

6.2.8.1. Low risk work

Work classified as low risk shall be subject to the standard maintenance or project inspection requirements, ensuring all asbestos-containing material has been removed and the area cleaned of dust and debris. Air monitoring is not required during or after work.

6.2.8.2. Intermediate risk work

Work classified as intermediate risk shall be inspected by a qualified person during the work. Air monitoring for total fibre concentration outside of work areas will be conducted adjacent to the work area daily by a qualified person. Upon completion of work, with acceptable results attained by the inspection and air monitoring, asbestos precautions in the area are no longer required.

The air samples will be analyzed by phase contrast microscopy as determined by NIOSH Method 7400, or an equivalent under provincial regulations. Analysis of samples shall be performed by organizations participating in a recognized external quality control program. A stop-work order will be issued when phase contrast microscopy measurements of the air samples exceed 0.05 fibres/cm³. This order is in effect until work processes are corrected and subsequent tests are less than 0.05 fibres/cm³.

6.2.8.3. High risk work

Arrangements shall be made for a qualified person to inspect and perform daily air monitoring for total fibre concentration outside of work areas classified as high risk. If required, additional monitoring shall be performed to meet provincial/territorial regulations.

The air samples are to be analyzed by phase contrast microscopy as determined by NIOSH, Method 7400, or an equivalent under provincial regulations. Analysis of samples shall be performed by organizations participating in a recognized external quality control program. A stop-work order will be issued when phase contrast microscopy measurements of the air samples exceed 0.05 fibres/cm³. This order is in effect until work processes are corrected and subsequent tests are less than 0.05 fibres/cm³.

All high risk removal projects shall be subject to final clearance air testing. The clearance criterion shall be a concentration of less than 0.01 fibres per cubic centimetre (fibres/cm³) of air, as determined by NIOSH, Method 7400, or an equivalent under provincial regulations. If any sample does not pass the phase contrast microscopy test, samples shall be further analyzed via transmission electron microscopy following NIOSH Method 7402.

6.2.9. Hazardous occurrence investigation and reporting

When a building occupant is, or may have accidentally been, exposed to airborne asbestos as a result of disturbance of asbestos-containing material, or by inadvertent contact during regular maintenance, renovation or construction work, a qualified person shall be appointed to conduct a hazard investigation as defined by the *Canada Occupational Health and Safety Regulations*.

The assessment shall determine the potential hazard, and must conclude as to whether the hazardous material could be present as an airborne hazard, at a level of at least 50% of the exposure limit as determined by the threshold limit values identified by the American Conference of Governmental Industrial Hygienists (ACGIH). The Asset Manager or Property and Facility Manager, building Employer representatives, and the Workplace Health and Safety Committee must be invited to participate in the assessment. At the conclusion of the assessment, all participants will receive a copy of the Hazardous Occurrence Investigation report.

When airborne asbestos-containing materials are likely present at level of at least 50% of the exposure limit, a control plan shall be instituted. The control plan must address the following:

- a record of where asbestos-containing material was found
- written procedures for control
- a communication plan with building Employer representatives
- medical surveillance, when applicable
- training of employees

6.2.10. Emergency work procedures

A building’s Asbestos Management Plan outlines emergency work procedures.

6.2.11. Records

Records shall be kept in accordance with the following:

Document	Length of retention – electronic copy	Information on site
Annual record of inspection	30 years (including beyond the life of the building / disposal of the building / building no longer managed by PSPC)	Most recent copy
Asbestos Management Plan	30 years (including beyond the life of the building / disposal of the building / building no longer managed by PSPC)	Most recent copy
Asbestos Containing Materials inventory	30 years (including beyond the life of the building / disposal of the building / building no longer managed by PSPC)	Most recent copy
Test results (air and bulk sampling)	30 years (including beyond the life of the building / disposal of the building / building no longer managed by PSPC)	Most recent copy
Medical test records	30 years from date of test - Refer to human resources document storage requirements	Refer to human resources requirements

In addition, for records noted above to be kept on site, these shall be retained on site as long as a building is occupied or managed by PSPC. For electronic copies (other than medical

records), these records shall be saved and retained in GCDOCS as per the above retention schedule, and managed subject to any instructions for a hazardous substances information management system.

All other documents related to asbestos management and abatements shall be maintained and disposed of as per PSPC's departmental policy *Records Management and Information Holdings (044)*, and the associated Departmental Records Retention and Disposal Plan.

7. Definitions

Asbestos: naturally occurring fibrous silicates, including chrysotile, amosite, crocidolite, tremolite, anthophyllite, and actinolite.

Asbestos containing material (ACM): any material found to contain asbestos that is at or above the limit defined by provincial standards, as determined by the standard Polarized Light Microscopy (PLM) or Transmission Electron Microscopy (TEM) methods for the analysis of bulk samples.

Asbestos-related work: work that will disturb friable or non-friable asbestos-containing material in the area.

Asbestos work area: area where work is being performed which will or may disturb asbestos-containing material, including overspray and fallen material or settled dust that may contain asbestos.

Assets and facilities for which PSPC is the custodian: any federal real property or federal immovable acquired or leased by the Department for the purposes of the Department under the administration of the Minister of Public Services and Procurement.

Construction: any work or undertaking in connection with a project, including, but not restricted to, erection, alteration, repair, dismantling, demolition, structural maintenance, painting, land clearing, earth moving, grading, excavating, trenching, digging, boring, drilling, blasting or concreting; the installation of any machinery or plant; and ship repair/maintenance when in dry dock.

Custodian: a department whose minister has administration of real property for the purposes of department or agency programs, or for the accommodation of other federal departments and agencies.

Department: Public Service and Procurement Canada (PSPC)

Employee: a person employed in the part of the public service to which the Public Service Commission has exclusive authority to make appointments; this includes students and part-time employees and casual workers.

Employer: a person who employs one or more employees, and includes an employer's organization and any person who acts on behalf of an employer.

Employer representative: a person who acts on behalf of the employer department, as designated by the department. This means that each department located in a building has a representative who communicates with his or her department's Workplace Health and Safety Committee, in compliance with the *Canada Labour Code*, Part II.

Encapsulation: application of a liquid sealant to asbestos-containing material; the sealant may penetrate and harden the material, or cover the surface with a protective coating (bridging sealants). Also called encasement.

Enclosure: a structure made of polyethylene or other suitable material to prevent the spread of asbestos containing material from the work area.

Friable asbestos product: asbestos-containing material that, when dry, can be crumbled, pulverized or powdered by hand pressure. This definition also includes dust or debris arising from non-friable materials that are, or will become, crumbled, pulverized or powdered, i.e. asbestos-containing plaster disturbed by demolition.

Glove bag removal: a method of removing friable insulation from a piping system using a prefabricated bag which isolates the section of insulation being removed.

Hazard: any source of potential damage, harm or adverse effects on life, health, property or environment at work. It refers to any biological, chemical, ergonomic, physical, psychosocial or safety factor that is reasonably likely to cause harm or damage to humans, other organisms, or the environment in the absence of its control. Sometimes a hazard is referred to as being the actual harm or the health effect it caused rather than the hazard. For example the disease tuberculosis might be called a hazard by some but in general the tuberculosis-causing bacteria would be considered the "hazard" or "hazardous biological agent". Exposure to tuberculosis would be the hazardous incident.

Hazardous occurrence: an event occurring at a PSPC-managed building or worksite, or through the course of an employee's work, that results in, or has the potential to result in, a fatality, injury, illness, exposure to a hazardous substance or property damage, or an escapement of a hazardous material. For the purpose of investigating, recording and reporting hazardous occurrences, the following are included under this term: disabling injuries, minor injuries and near-misses.

Hazardous substance: a controlled product that is a chemical, biological or physical agent that, by reason of a property that the agent possesses, is hazardous to the safety or health of a person exposed to it.

Investigation: act or process of a qualified person investigating a hazardous occurrence; a careful search or examination in order to discover facts, identify the root cause and contributing factors to produce a report of corrective measures.

Manager: an employee who forms part of a management team and is accountable for exercising delegated authority over human and financial resources to accomplish the objectives of the organization.

Personal protective equipment: any clothing, equipment, or device worn or used by a person to protect that person from injury or illness, and to minimize exposure to specific occupational hazards.

Professional certification: a document which has been validated by the signature of a person formally certified by a professional body.

Qualified person: a person who:

- has the required knowledge, training and experience to organize the work and its performance;
- is familiar with all legislation and regulations that apply to the work; and
- has knowledge of any potential or actual danger to health or safety in the workplace.

Examples of a qualified person include a Professional Engineer, Industrial Hygienist, or someone who has another professional designation for the purposes of this standard that are related to asbestos management.

Risk: for the purposes of this document, the potential for harm befalling an individual, given the probability of an incident occurring, combined with the potential severity of the harm.

Real property contractor: a person, entity, or entities named in contracts to supply services to Canada as defined in procurement mechanisms such as RP-1 property management and project delivery services; RP-2 National Capital Area property management, project delivery services and optional services; and subsequent real property procurement mechanisms RP-n.

Service provider: a person or entity who performs work for and/or supplies services to the owner for monetary compensation, either by undertaking the work alone, by employing one or more workers, or by contracting the services of one or more workers.

Supervisor: a person who has the responsibility for day to day supervision of other employees, e.g. assigns work, sets priorities, assesses performance, and approves or recommends approval of leave.

Workplace: any place where an employee is engaged in work for the department.

Workplace Health and Safety Committee: as defined in the *Canada Labour Code*, Part II, Occupational Health and Safety, Sections 134.1, 135, and 136.

Vermiculite: silicate mineral with a layered (mica-like) morphology which may range in colour from silvery-blond to dark grey-brown. For the purposes of this document, vermiculite with any concentration of asbestos measured in a composite sample taken in accordance with provincial/territorial sampling and analysis standards is considered an asbestos-containing material.

8. References

Federal acts and regulations:

[Canada Labour Code, Part II](#)
[Canada Occupational Health and Safety Regulations](#)
[Canadian Environmental Protection Act](#)
[Hazardous Materials Information Review Act](#)
[Hazardous Products Act](#)

National Joint Council publications:

[Occupational Health and Safety Directive](#)
[Occupational Health Evaluation Standard](#)

PSPC publications:

[Directive on occupational health and safety - Hazard prevention program \(007-1\)](#)
[Policy on occupational health and safety \(007\)](#)
[Procedure on Respiratory Protection](#)
[Records management and information holdings](#)
[Standard on Hazardous Occurrence Investigation and Reporting](#)
[Standard on Personal Protective Equipment and Clothing for Employees](#)
PWGSC's Invitation to Offer document


Other publications:

Provincial and territorial occupational health and safety legislation
Provincial and territorial environmental protection legislation
American Conference of Governmental Industrial Hygienists (ACGIH), TLVs and BEIs Book (as amended from time to time)
[Canadian National Master Construction Specification \(NMS\)](#) - Asbestos Abatement Precautions

Attachments

Annex A – Evaluation of Asbestos-Containing Materials and Recommendations for Control
Annex B – Asbestos-containing Material Reassessment

9. Enquiries



Please direct all enquiries regarding this standard to:
Senior Director, Environment, Health & Safety
Technical Services
Real Property Branch, PSPC

Evaluation of Asbestos-Containing Materials and Recommendations for Control

1. Assessment of condition

1.1. Spray-applied fireproofing, insulation and texture finishes

In evaluating the condition of asbestos-containing material spray applied as fireproofing, thermal insulation, or texture, decorative or acoustic finishes, the following criteria apply:

GOOD Surface of material shows no significant signs of damage, deterioration or delamination. Up to one percent of the surface area having visible damage to surface is allowed within range of GOOD. Evaluation of sprayed fireproofing requires the assessor to be familiar with the irregular surface texture typical of sprayed asbestos products. GOOD condition includes un-encapsulated or unpainted fireproofing, insulation or texture finishes where no delamination or damage is observed, and encapsulated fireproofing, insulation or texture finishes where the encapsulation has been applied after the damage or fallout occurred.

POOR Sprayed materials show signs of damage, delamination or deterioration. More than one percent damage to surface of asbestos-containing material spray.

In observation areas, where damage exists in isolated locations, both GOOD and POOR condition may be reported. The extent or percentage of each condition will be recorded on the survey or reassessment form.

NOTE: FAIR condition is not used or considered as a valid criterion in the evaluation of sprayed fireproofing, sprayed insulation, or texture coat finishes.

The evaluation of asbestos-containing material spray applied as fireproofing, non-mechanical thermal insulation, or texture, decorative, or acoustic finishes which are present above ceilings may be limited by the number of observations made, and by building components such as ducts or full-height walls that obstruct the above-ceiling observations. Persons entering the ceiling area are advised to be watchful for asbestos-containing material debris prior to accessing or working above ceilings in areas of buildings with asbestos-containing material, regardless of the reported condition.

1.2. Detection limit of bulk analysis

Asbestos-containing material is defined as any material found to contain asbestos at or above the limit defined by provincial/territorial standards for an asbestos-containing material, as determined by the allowable analytical method for the analysis of bulk samples (refer to *Asbestos Management Standard*, Section 6.1.2.2). Except in the case of vermiculite, the provincially/territorially-regulated limits or generally-accepted guidelines to consider a

material as an asbestos-containing material, subject to asbestos in buildings regulation, are provided as follows:

MINIMUM CONCENTRATION TO CONSIDER AS AN ASBESTOS-CONTAINING MATERIAL (BY PROVINCE)	
QUEBEC (includes part of National Capital Area)	0.1%
MANITOBA, SASKATCHEWAN (for friable material)	0.1%
ONTARIO (includes part of National Capital Area) BRITISH COLUMBIA	0.5%
NOVA SCOTIA	0.5%
All other provinces and territories, (non-friable material in Manitoba, Saskatchewan)	1.0%

Note that these concentrations may change with regulatory amendments, therefore applicable legislation should be consulted to confirm that they are still valid.

Vermiculite is considered an asbestos-containing material in the presence of any concentration of asbestos measured in a composite sample taken in accordance with provincial/territorial sampling standards.

1.3. Mechanical insulation

In evaluating the condition of mechanical insulation (on boilers, breeching, ductwork, piping, tanks, equipment, etc.) the following criteria are used:

- GOOD** Insulation is completely covered in jacketing and exhibits no evidence of damage or deterioration, i.e. no insulation is exposed. Includes conditions where the jacketing has minor surface damage (i.e. scuffs or stains), but the jacketing is not penetrated.
- FAIR** Minor penetration damage to jacketed insulation (cuts, tears, nicks, deterioration or delamination), or undamaged insulation that has never been jacketed. Insulation is exposed but not showing surface disintegration. The extent of missing insulation should range from minor to none.
- POOR** Original insulation jacket is missing, damaged, deteriorated or delaminated. Insulation is exposed and significant areas have been dislodged. Damage cannot be readily repaired.

The evaluation of mechanical insulation may be limited by the number of observations made and building components such as ducts or full-height walls that obstruct observations. In these circumstances, it is not possible to observe each foot of mechanical insulation from all angles.

1.4. Non-friable and potentially-friable materials

Non-friable materials generally have little potential to release airborne fibres, even when damaged by mechanical breakage, but can become friable if disturbed by drilling or abrading.

However, some non-friable materials, e.g. exterior asbestos cement products, may have deteriorated so that the binder no longer effectively contains the asbestos fibres. In such cases of significantly-deteriorated non-friable material, the material will be treated as a friable product.

1.4.1. Asbestos-containing material debris

1.4.1.1. Debris from friable asbestos-containing material

The presence of fallen friable asbestos-containing material is noted separately from the presumed friable asbestos-containing material source (sprayed fireproofing, thermal insulation, texture, decorative or acoustic finishes or mechanical insulation) and is referred to as **debris**.

The presence of fallen asbestos-containing material from damaged non-friable asbestos-containing material is reported separately from the non-friable asbestos-containing material source. Fallen non-friable asbestos-containing material that has become friable is reported as debris. Workers are advised to be watchful for the presence of debris prior to accessing, or working in proximity to, mechanical insulation or above ceiling areas of buildings with asbestos-containing material, regardless of the reported presence or absence of debris.

1.4.2. Evaluation of accessibility

The accessibility of building materials known or suspected of being asbestos-containing material is rated according to the following criteria:

- ACCESS (A) Areas of the building within reach (from floor level) of all building users. Includes areas such as gymnasiums, workshops, and storage areas where activities of the building users (e.g. basketball on gym ceiling) may result in disturbance of asbestos-containing material not normally within reach from floor level.

- ACCESS (B) Frequently entered maintenance areas within reach of maintenance staff, without the need for a ladder. Includes: frequently entered pipe chases, tunnels and service areas or areas within reach from a fixed ladder or catwalk, e.g. tops of equipment, mezzanines.

- ACCESS (C)
EXPOSED Areas of the building above 8'0" where use of a ladder is required to reach the asbestos-containing material. Only refers to asbestos-containing material materials that are exposed to view, from the floor or ladder, without removing or opening other building components such as ceiling tiles, or service access doors or hatches. Does not include infrequently-accessed service areas of the building.

ACCESS (C)

CONCEALED Areas of the building which require the removal of a building component, including lay-in ceilings and access panels into solid ceiling systems such as a ventilation plenum. Includes rarely-entered crawl spaces, attic spaces, etc. Observations are limited to the extent visible from the access points.

ACCESS (D) Areas of the building behind inaccessible solid ceiling systems, walls, or mechanical equipment, etc., where demolition of the ceiling, wall or equipment, etc., is required to reach the asbestos-containing material. Evaluation of condition and extent of asbestos-containing material is limited or impossible, depending on the assessor's ability to visually examine the materials in areas rated Access (D).

1.4.3. Action matrix and action descriptions

The action matrix below (Table 1) prioritizes the corrective actions in terms of potential health risk based on condition, accessibility, and potential for future disturbance.

The following factors shall be considered in making site-specific recommendations for corrective actions in conformance with the existing applicable regulation or codes of practice in most provinces, and for the practical implementation of asbestos management:

1. Asbestos-containing material in POOR condition is not routinely repairable. If an abatement action is necessary, removal is the recommended action (enclosure is a viable option in unusual circumstances, e.g. where removal is difficult or costly and the asbestos-containing material can be thoroughly enclosed).
2. Mechanical insulation in FAIR condition will be repaired or removed based on the following general recommendations, applied on a case-by-case basis:
 - Asbestos-containing mechanical insulation found in FAIR condition in ACCESS (B) or ACCESS (C) EXPOSED areas is to be repaired.
 - Asbestos-containing mechanical insulation found in FAIR condition in ACCESS (B) and ACCESS (C) EXPOSED areas, where future damage to the asbestos-containing material is likely to occur, is to be removed.
3. Asbestos-containing material in GOOD condition present in ACCESS (A) can be managed by surveillance, as long as it is not disturbed by future renovation, maintenance or demolition. Proactive removal of the asbestos-containing material in ACCESS (A) will be considered where damage is possible by ongoing occupant activity (accidental or intentional).
4. Non-friable or manufactured products are considered in the action matrix as follows:
 - Non-friable and manufactured products reported in POOR condition, or friable DEBRIS resulting from the deterioration of non-friable asbestos-containing material, are treated as friable materials and the appropriate action, depending on

accessibility, is determined from the action matrix for friable asbestos-containing material.

- For non-friable or manufactured products reported in GOOD condition, Action 7 (surveillance) is recommended regardless of accessibility.

5. All asbestos-containing material from a particular area is to be removed where small quantities of asbestos are present and removal will negate the need for the use of an Asbestos Management Program in that area.

The action matrix provided below establishes the recommended asbestos control action. The ACTIONS themselves are described in full following the table.

Table 1: Action matrix for determining actions required based on the location and condition of asbestos-containing materials.

ASBESTOS-CONTAINING MATERIAL				
ACCESS	CONDITION			DEBRIS
	GOOD	FAIR	POOR	
(A)	ACTION 5/7 ¹	ACTION 5/6 ²	ACTION 3	ACTION 1
(B)	ACTION 7	ACTION 6/5 ³	ACTION 3	ACTION 1
(C) exposed	ACTION 7	ACTION 6	ACTION 4	ACTION 2
(C) concealed	ACTION 7	ACTION 7	ACTION 4	ACTION 2
(D)	ACTION 7	ACTION 7	ACTION 7	ACTION 7

¹ If material in **ACCESS (A)/GOOD** condition is not removed, **ACTION 7** is required.

² If material in **ACCESS (A)/FAIR** condition is not removed, **ACTION 6** is required.

³ Remove asbestos-containing material in **ACCESS (B)/FAIR** condition if asbestos-containing material is likely to be disturbed.

ACTION 1 Immediate clean-up of debris that is likely to be disturbed.

Access that is likely to cause a disturbance of the ASBESTOS-CONTAINING MATERIAL DEBRIS is to be restricted and clean up ASBESTOS-CONTAINING MATERIAL DEBRIS is to be done immediately. Use correct asbestos procedures. This action is required for compliance with regulatory requirements and good practice. The assessor should immediately notify the Asset or Property and Facility Manager, or Regional/Area Asbestos Management Coordinator of this condition.

ACTION 2 Entry into areas with asbestos-containing material debris requires intermediate risk precautions.

At locations where ASBESTOS-CONTAINING MATERIAL DEBRIS can be isolated in lieu of removal or cleaned up, appropriate means to limit entry to the area is to be used. Access to the area is restricted to persons using intermediate risk asbestos-work precautions. The precautions will be required until the ASBESTOS-CONTAINING MATERIAL DEBRIS has been cleaned up, and the source of the DEBRIS has been stabilized or removed following intermediate risk (if minor) or high risk precautions.

ACTION 3 Asbestos-containing material removal required for compliance.

Asbestos-containing material must be removed for compliance with regulatory requirements and good practice. Use asbestos procedures appropriate to the scope of the removal work.

ACTION 4 Access into areas where asbestos-containing material is present and likely to be disturbed by access requires intermediate risk precautions.

Intermediate risk asbestos precautions are to be used when entry or access into an area is likely to disturb the asbestos-containing material. ACTION 4 must be used until the asbestos-containing material is removed (Use ACTION 1 or 2 if DEBRIS is present). Intermediate risk or high risk precautions should be used for removal (depending on extent of removal).

ACTION 5 Proactive asbestos-containing material removal.

Removal of asbestos-containing material in lieu of repair may be considered, even if it is in GOOD condition at locations, where asbestos-containing material is easily accessible, limited in quantity, and removal would be cost-effective.

ACTION 6 Asbestos-containing material repair.

Asbestos-containing material may be repaired if found in FAIR condition and not likely to be damaged again or disturbed by normal use of the area or room. Upon completion of the repair work, asbestos-containing material is to be treated as being in GOOD condition and ACTION 7 is to be implemented. If asbestos-containing material is likely to be damaged or disturbed during normal use of the area or room, ACTION 5 is to be implemented.

ACTION 7 Routine Surveillance.

Routine surveillance of the asbestos-containing material is to be instituted. Trained workers or service providers must use appropriate asbestos precautions (low, intermediate or high) during disturbance of the remaining asbestos-containing material.

Asbestos-containing Material Reassessment

The following outlines the **minimum** requirements to include in all Asbestos Reassessment Reports.

Table of contents

The table of contents is to include a list of tables and a list of appendices. At minimum, appendices include:

- photographs of damaged asbestos (clearly labeled linking to findings tables); and
- the requirements set out in the *Asbestos Management Standard*.

Executive summary

The following must be noted when preparing the executive summary:

1. The executive summary is to be written in layman's terms. Every effort must be made to use plain language, and where technical information is used, context must be given for the average reader.
2. Reference is to be made to the previous year's assessment/reassessment, and the status of any areas previously identified as Action level 1.
3. When identifying asbestos materials, it is to be noted if the location is accessible to building occupants, maintenance staff, or service providers.
4. The term "not compliant" is only to be used when referring to a regulation - the exact title of the regulation is to be cited, as well as the specific section where there is a compliance issue. NOTE: guidelines, and departmental/Employer policies and processes are not regulatory items and "compliance" terminology cannot be used for these type of documents.

Introduction

The introduction is to include the following elements:

- The regulatory and "other" requirements are to be outlined:
 - applicable requirements under the *Canada Labour Code*
 - applicable provincial acts and regulations
 - RPB policy/directive/standard requirements
- Purpose
- Scope
- Limitations of the assessment conducted

Methodology

Information must be included as to how RPB documentation is used when assessing condition of materials, as well as accessibility.

Survey findings

This section must include a general description of the building. Findings are to be presented in a table format as follows:

- Table 1 – Summary of Findings (Action level 1 – This must include any newly-discovered materials covered in Table 3 which are considered Action level 1). A note must be included stating that items in this table should be actioned as soon as possible.
- Table 2 – Summary of Findings (for all materials other than Action level 1). A note must be included stating that items in this table are less urgent and can be addressed through long term action plans.
- Table 3 – Summary of Findings (newly-discovered materials – if applicable)

Each table in which the findings are presented must use the following headings (example provided):

Floor	Location	Material Description	Quantity	Condition	Accessibility	Action Level
8th	Rm 812	Pipe Fitting (paring cement)	5 fittings	Good	C (concealed)	7

Conclusions and recommendations

State any conclusions reached and recommendations for further action.

Abatement strategies

If applicable, provide abatement strategies, including the following:

- the complexity of the abatement (low, intermediate, or high risk); and
- a general description of the project, as well as the estimated scope/size of the abatement.

APPENDIX F
AERIAL LIFTS

AERIAL LIFTS AND MANLIFTS

An aerial lift is any vehicle-mounted device, telescoping or articulating, or both, which is used to position Workers. Aerial lifts include extendable boom platforms, aerial ladders, articulating boom platforms, manlifts and scissor lifts. In most circumstances, KGS Group Workers will not operate aerial lift equipment. Operation of such machinery will normally be left to other qualified persons while Workers ride aboard the lift to carry out their assigned duties. A Worker who will operate a lift must be trained in accordance with manufacturers' safe work procedures and be competent to do so. Workers who will be passengers on aerial lifts are also required to obtain appropriate orientation and/or training before riding on these machines.

The following steps will assist in the safe operation of an aerial lift:

- Erect barricades and warning signs;
- Assign a flag person;
- Identify a swamper (assistant);
- Ensure a means of communication between operator and swamper;
- Ensure fall arrest protection is in place; and
- Follow manufacturers' safe work procedures.

GENERAL

- Equipment that is not designed to lift Workers must not be used to do so (e.g., front end loader buckets, backhoe buckets and cranes).
- Lift controls, brakes and operating systems must be tested prior to use to determine that such controls are in safe working condition.
- Review and follow the protection requirements for aerial lifts as detailed in Appendix C: Fall Protection. Workers must always stand firmly on the floor of the basket and are not permitted to stand on the rails of the aerial device (edge of the basket) or use planks, ladders or other devices for a work position.
- A body harness must be worn and a lanyard appropriately attached for most aerial lifts. An approved fall restraint system must be attached to the boom or basket when working from an aerial lift. The fall restraint system cannot be attached to adjacent poles or structures.
- The vehicle must have a reverse signal alarm audible above the surrounding noise level or a spotter must guide the vehicle when in reverse.
- Load limits specified by the manufacturer must not be exceeded.
- Aerial lifts that can operate horizontally must have brakes and outriggers set. When used, the outriggers must be positioned on pads or a solid surface and the wheels chocked before operating on an incline.
- An aerial lift truck must not be moved when the boom is elevated in a working position with Workers in the basket, except for equipment that is specifically designed for this type of operation.
- For overhead electrical lines rated 50 kV or below, minimum clearance between the lines and any part of the equipment or load is at least 10 feet.

- The insulated aerial devices must not be altered in any manner that might reduce their insulating value. The insulated boom of a lift must be regularly maintained and certified to ensure the continued insulating properties.

MODIFICATIONS

Aerial lifts may be "field modified" for uses other than those intended by the manufacturer, provided the modification has been certified in writing by the manufacturer or by an equivalent entity, to be at least as safe as the equipment was before modification.

APPENDIX G
CONFINED SPACES ENTRY PERMIT

CONFINED SPACE ENTRY PERMIT		Permit number _____ Date: _____	
<u>Location and Description of Confined Spaces</u>		<u>Purpose of Entry</u>	
_____		_____	
_____		_____	
Scheduled Start _____ a.m. _____ p.m. Day Date Time		Scheduled Start _____ a.m. _____ p.m. Day Date Time	
Worker(s) in charge of entry:			
Entrants _____		Attendants _____	
_____		_____	
Pre-Entry Authorization (Check those items below which are applicable to your confined space entry permit)			
<input type="checkbox"/> Oxygen-Deficient Atmosphere	<input type="checkbox"/> Engulfment	<input type="checkbox"/> Energized Electric Equipment	
<input type="checkbox"/> Oxygen-Enriched Atmosphere	<input type="checkbox"/> Toxic Atmosphere	<input type="checkbox"/> Entrapment	
<input type="checkbox"/> Welding/cutting	<input type="checkbox"/> Flammable Atmosphere	<input type="checkbox"/> Hazardous Chemical	
<u>SAFETY PRECAUTIONS</u>			
<input type="checkbox"/> Self-Contained Breathing Apparatus	<input type="checkbox"/> Linelines	<input type="checkbox"/> Signs Posted	
<input type="checkbox"/> Air-Line Respirator	<input type="checkbox"/> Respirators	<input type="checkbox"/> Clearance Secured	
<input type="checkbox"/> Flame Resistant Clothing	<input type="checkbox"/> Lockout/Tagout	<input type="checkbox"/> Lighting	
<input type="checkbox"/> Ventilation	<input type="checkbox"/> Fire Extinguishers	<input type="checkbox"/> Ground Fault Interrupter	
<input type="checkbox"/> Protective Gloves	<input type="checkbox"/> Barricade Job Area		
<input type="checkbox"/> Remarks _____			
<u>ENVIRONMENTAL CONDITIONS</u>			
<u>Tests to be taken</u>		<u>Re-Testing</u>	
Oxygen _____ %	<u>Date/Time</u> _____ a/p	Oxygen _____ %	<u>Date/Time</u> _____ a/p
Lower Explosive Limit _____ %	_____ a/p	Lower Explosive Limit _____ %	_____ a/p
Toxic Atmosphere _____		Toxic Atmosphere _____	
Instruments Used _____		Instruments Used _____	
Worker conducting safety checks signature _____			
Remarks on the overall condition of the confined space: _____			
<input type="checkbox"/> ENTRY AUTHORIZATION – All actions and/or conditions for safe entry have been performed Person in charge of entry _____ Please print			
<input type="checkbox"/> ENTRY CANCELLATION – Entry has been completed and all entrants have left the space Person in charge of entry _____ Please print			

PROJECT NUMBER	17-0226-013	PROJECT NAME	Asbestos Survey
LOCATION	Lethbridge, AB	START DATE	February 4 / 2018
ACTIVITY	Asbestos Surveys / Sampling	WEATHER	Snowing, -15 to 26 C / Partly Sunny
FIRST AID KIT LOCATION	In Rental Vehicle		
EMERGENCY NUMBERS	<input checked="" type="checkbox"/> 911 <input type="checkbox"/> Other	MUSTER LOCATION	Vehicle
LOCATION OF HOSPITAL OR MEDICAL CENTRE	Refer to site specific HASP		

HAZARD IDENTIFICATION LIST (Health and Safety Manual (HSM) section (§) reference)			
<input type="checkbox"/> BOREHOLE DRILL / TESTPIT EXCAVATION	<input type="checkbox"/> EXTREME HEAT / COLD (HSM Appendix C)	<input checked="" type="checkbox"/> MATERIAL HANDLING / LIFTING	<input type="checkbox"/> TRAFFIC CONTROL
<input checked="" type="checkbox"/> CHEMICALS / HAZARDOUS MATERIALS	<input checked="" type="checkbox"/> EXTREME WEATHER CONDITIONS	<input type="checkbox"/> MOBILE EQUIPMENT	<input checked="" type="checkbox"/> TRAVEL TO AND FROM SITE
<input type="checkbox"/> CONFINED SPACE (HSM Appendix C)	<input type="checkbox"/> FALLING OBJECTS	<input type="checkbox"/> NOISE (HSM §8.2.7)	<input type="checkbox"/> VEHICLE CONDITIONS (HSM Appendix B)
<input type="checkbox"/> DANGEROUS PRESSURE	<input type="checkbox"/> FIRE (HSM Appendix C)	<input type="checkbox"/> OVERHEAD / UNDERGROUND UTILITIES	<input type="checkbox"/> WATER / EROSION
<input type="checkbox"/> DEMOLITION	<input type="checkbox"/> FUEL / PETROLEUM HANDLING	<input type="checkbox"/> PILE DRIVING / DRILLING EQUIPMENT	<input type="checkbox"/> WORK AT HEIGHT (HSM Appendix C)
<input checked="" type="checkbox"/> DRILLING / <u>CUTTING</u> / GRINDING	<input type="checkbox"/> HOT WORK	<input type="checkbox"/> RADIOGRAPHY / X-RAY TESTING	<input type="checkbox"/> WORK IN HAZARDOUS AREA
<input type="checkbox"/> ELECTRICAL	<input type="checkbox"/> HYDROBLASTING / SANDBLASTING	<input type="checkbox"/> REMOTE WORK LOCATION	<input type="checkbox"/> WORKING ALONE (HSM §6.4)
<input checked="" type="checkbox"/> EQUIPMENT / MACHINERY / <u>TOOLS</u>	<input type="checkbox"/> INSECTS / ANIMALS	<input type="checkbox"/> SITE ACCESS CONDITIONS	<input type="checkbox"/> WORKING ON OR NEAR WATER (HSM §6.5)
<input type="checkbox"/> EXCAVATION / SHORING / TRENCHING	<input type="checkbox"/> LACK OF COMMUNICATION	<input type="checkbox"/> TEMPORARY PUMPING FACILITIES	<input type="checkbox"/> OTHER

JOB STEPS (Attach additional pages if required)		
BASIC JOB STEPS (IN SEQUENCE)	HAZARD	SAFETY CONTROLS TO REDUCE OR ELIMINATE HAZARD
Refer to Site Specific HASP		
1. Travel to CFA Lethbridge from Calgary Airport	<ul style="list-style-type: none"> Driving conditions other drivers Wildlife 	<ul style="list-style-type: none"> drive to current weather conditions (i.e. snow/ice/wind) Use second person (passenger) as spotter for driver → watch for wildlife, road debris / snow drifts, other drivers
2. Sampling various building materials i.e.: flooring, drywall, joint comp, tiles, insulation, duct comp, other potential materials	<ul style="list-style-type: none"> Cuts, scrapes / working with hand tools Possible airborne Acms Potential to work from heights 	<ul style="list-style-type: none"> Wear work gloves / safety glasses Work slowly with hand tools, ensure digits are not in way of blades Wear appropriate respirator / Tyvek Suits Use 3 points of contact when on ladder. Also use second person as spotter; ensure ladder is on level ground.

TOOLS / EQUIPMENT (Tools / equipment required for the work)					
TOOL / EQUIPMENT	CHECKED FOR PROPER OPERATION	TOOL / EQUIPMENT	CHECKED FOR PROPER OPERATION	TOOL / EQUIPMENT	CHECKED FOR PROPER OPERATION
Camera	X				
Various hand tools	X				

PERSONAL PROTECTIVE EQUIPMENT (Check those that apply. Use blanks for additional PPE)							
<input checked="" type="checkbox"/>	EYE PROTECTION	<input checked="" type="checkbox"/>	FOOT PROTECTION	<input type="checkbox"/>	HEARING PROTECTION	<input checked="" type="checkbox"/>	PROTECTIVE CLOTHING
<input type="checkbox"/>	FALL PROTECTION	<input checked="" type="checkbox"/>	HAND PROTECTION	<input checked="" type="checkbox"/>	HIGH VISIBILITY VEST	<input checked="" type="checkbox"/>	RADIOS / PHONES
<input type="checkbox"/>	FIRE PROTECTION	<input type="checkbox"/>	HEAD PROTECTION	<input type="checkbox"/>	LIFE JACKET / PFD / FLOATER SUIT	<input checked="" type="checkbox"/>	RESPIRATORY PROTECTION
EMERGENCY EQUIPMENT		FIRE EXTINGUISHER (ON SITE) X		FIRST AID KIT		SPILL KIT	

OTHER CREWS INVOLVED IN KGS WORK			
NAME OF CREW / TRADE	PERSON IN CHARGE	CONTACT NUMBER	HOW WILL THEIR JOB AFFECT YOU

VISITORS (Visitors to the site that are associated with the work described on the form must review it and sign below)			
NAME OF VISITOR	REPRESENTING	SIGNATURE	DATE

PERSONNEL										
<ul style="list-style-type: none"> Attach additional pages if required. If the form is updated or used for more than one day, Workers should review and initial the form each day. Workers should be familiar with the procedure for reporting unsafe work conditions and their right to refuse dangerous work as described in the Health and Safety Manual Section 6.3.1 Questions or concerns can be directed to a member of the Health and Safety Committee. Contact information can be found on the Health and Safety bulletin board 										
		DATE (day/month) →		07/02	05/02	06/02	07/02	08/02		
	ON SITE	NAME & CONTACT NUMBER			INITIAL	INITIAL	INITIAL	INITIAL	INITIAL	INITIAL
PROJECT MANAGER	<input type="checkbox"/>	Bonnie McFennerty								
SUPERVISOR	<input checked="" type="checkbox"/>	LEAH POLSZEK (807) 629-7900			LP	LP	LP	LP	LP	
CREW MEMBER	<input checked="" type="checkbox"/>	George Ahman 204-918-6110			GA	GA	GA	GA	GA	
CREW MEMBER	<input type="checkbox"/>									
CREW MEMBER	<input type="checkbox"/>									
CREW MEMBER	<input type="checkbox"/>									

NOTES

KGS
GROUP
CONSULTING
ENGINEERS

