



HAZARDOUS BUILDING MATERIALS ASSESSMENT

WABUSH AIRPORT
WABUSH, NL

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EXECUTIVE SUMMARY

Conestoga-Rovers & Associates (CRA) was retained by Transport Canada (TC) to conduct a Hazardous Building Materials Assessment (HBMA) at the Wabush Airport in Newfoundland and Labrador (NL). The Site Location Map is presented as Figure 1.

The HBMA was completed at the Wabush Airport on December 16, 2011, which included the Air Terminal Building (ATB) and Combined Services Building (CSB). The HBMA was performed in accordance with CRA's Proposal dated November 2011.

Based on the Government of Newfoundland and Labrador Occupation Health and Safety Act (OC98-730), materials containing 1.0 percent or more of asbestos is legislated to be managed in accordance with the Asbestos Abatement Regulations (111/98).

Of the 27 potential asbestos-containing material (ACM) samples collected at the Wabush Airport, 14 were submitted for ACM analysis of which 10 samples were reported as asbestos-containing with concentrations ranging from 1.9 to 65 percent Chrysotile. Two bulk samples collected from elbow pipe insulation in the ATB mechanical room had asbestos content reported as 40 percent and 65 percent. One sample collected from the drywall plaster in the Janitor's closet had an asbestos content reported at 5 percent. Six samples collected from the CSB were reported asbestos concentrations ranging from 1.9 percent to 60 percent Chrysotile. Two bulk samples collected from the cast iron elbow insulation and insulation from the first floor mechanical room had asbestos content reported as 60 percent and 50 percent, respectively; two samples from the sprinkler line and elbow wrap insulation reported asbestos content as 60 percent and 40 percent, respectively; one sample of tan vinyl floor tile from the first level warehouse reported asbestos content of 1.9 percent; and one sample from the roof drain elbow insulation of the second level fire hall reported asbestos content as 60 percent. ACMs observed by CRA during the Site visit were noted to be in good condition and do not require any action, repairs, or encapsulation at this time.

Through discussions with the TC representative at the Wabush Airport, it was determined that all painted building surfaces were latex and newly replaced within the past 15 years; therefore, it was unlikely that a layer of lead-based paint (LBP) existed under the top coat of latex paints. Therefore collection of paint samples for lead analysis at this facility was not warranted.

Based on the results of the HBMA, CRA recommends that an Asbestos Management Plan (AMP) be developed and implemented for the Wabush Airport facility. The AMP should be used to manage TC and other airport employees, including contractors,

maintenance and custodial personnel, and the public to minimize their exposure to asbestos fibres. A detailed Site survey should also be conducted in developing the AMP, which would include a review of As-Built drawings in comparison to current conditions at the facility.

Minor, localized water damage and mould was identified throughout the buildings of the Wabush Airport, mostly on acoustic ceiling tiles and window sills. Although any discovered leaks have been repaired and any damage is due to isolated incidents, the mould impacted areas should be mitigated by cleaning and/or removal following practices outlined in the Canadian Construction Association's "Mould Guidelines for the Canadian Construction Industry."

Although the use of petroleum hydrocarbons is common and frequent at the Airport, no evidence existed to indicate potential contamination.

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1.0 INTRODUCTION

Conestoga-Rovers & Associates (CRA) was retained by Transport Canada (TC) to conduct a Hazardous Building Material Assessment (HBMA) of selected buildings located at the Wabush Airport in Newfoundland and Labrador (Figure 1).

The HBMA involved two buildings at the Wabush Airport and was performed in accordance with CRA's November 2011 proposal. The purpose of the HBMA was to identify, sample, and quantify potential Asbestos-Containing Material (ACM) and Lead-Based Paint (LBP) as well as note any potential issues related to Polychlorinated Biphenyls (PCBs), mould, mercury, and petroleum hydrocarbons at the Site, prepare a report documenting the results of the HBMA, and provide recommendations regarding the management of HBMs within the buildings.

1.1 SITE DESCRIPTION

The HBMA was completed on two buildings at the Wabush Airport, which is located 3.2 km from the Town of Wabush and 7.2 km from Labrador City. The following two buildings were assessed at the Wabush Airport:

- Air Terminal Building (ATB)
- Combined Services Building (CSB)

The ATB is used mainly for the inbound and outbound travelers. The ATB is a concrete block and metal clad, two storey building constructed in 1980. It contains a passenger waiting area, baggage drop-off and retrieval area, service desks for represented airlines, freight storage, café, boiler and mechanical rooms as well as a security area for outbound travelers on the first floor. The second floor is mostly comprised of office space with an HVAC and communication rooms. The roof for the ATB was reported to have been replaced in 2011.

The CSB is a two storey metal clad structure with concrete block construction and slab-on-grade concrete floor constructed in 1980. It is mostly used for the storage and maintenance of heavy equipment in half of the building while the other half was previously used as a Fire Hall. The Fire Hall is still used for storage of Fire Engines and has office space and a minor storage area. The Equipment side of the CSB houses a boiler/mechanical room and fuel storage rooms containing three steel 163,660 Litre (L)

(noted as 36,000 gallon) aboveground storage tanks (ASTs). The diesel AST is still on-Site, but has been decommissioned.

1.2 SCOPE OF WORK

The objectives identified by TC in the TOR released October 27, 2011 included the following:

- Determine if asbestos is present in the identified buildings or building materials
- Collect and analyze paint chips located on interior walls and floors, as applicable, of the identified buildings to determine if lead is present
- Identify any other possible hazardous building materials or environmental hazards including, but not limited to: PCBs, mould, mercury, and petroleum hydrocarbons
- Produce a report outlining the methodology used, in obtaining the samples, sample Quality Assurance/Quality Control (QA/QC), findings, and recommendations
- Complete the work and report within the required time frame.

As outlined in CRA's Proposal of November 2011, the following scope of work was completed:

- Collection of representative bulk samples from building materials that potentially contained ACM, including, but not limited to, the following materials:
 - Insulation and textile wrap (pipe and fitting insulation)
 - Floor coverings
 - Wall and ceiling surfaces and surface coatings
 - Drywall plaster
- Collection and submission of representative interior and exterior paint samples of each colour from the above noted buildings located at the airport where finishes were suspect of being more than 30 years old.
- Based on lead analytical results from paint samples, analysis of select samples for leachability, if required.
- Identify other potential hazardous building materials such as PCBs, mould, mercury, and petroleum hydrocarbons.
- Preparation of a report with floor plans showing sample locations and a detailed description of all materials surveyed and sampled by CRA. Preparation of a summary table of confirmed ACMs including sample location, quantity, asbestos

content and type, friability, and overall condition. Preparation of a summary table of confirmed lead in paint including location, quantity, colour and overall condition. Provide recommendations regarding abatement or repairs to damaged ACM or LBP surfaces with peeling or scaling paint. Preparation of a detailed photographic log of the ACM/LBP samples.

1.3 PREVIOUS STUDIES

The scope of work was developed based on solicitation documents issued by TC Solicitation # T2012-110029.

It is noted that a previous environmental baseline study was completed at the Wabush Airport and did not identify any ACMs; however, asbestos was recently identified in pipe insulation in the CSB.

2.0 FIELD INVESTIGATION METHODOLOGY

The Site inspection at the Wabush Airport was completed by Mr. Jason Wall on December 16, 2011. Mr. Harold Horwood of TC provided building access to CRA during the field work activities and offered some insight to some of the previous building renovations completed at the Wabush Airport.

The HBMA did not include the inspection of materials that were concealed and/or could not be accessed by existing access panels, below floors, below grade, associated with mechanical and electrical equipment, or on the roof. It is also noted that TC representatives indicated certain rooms were not accessible during the Survey for security reasons; however, each room was reported by site contacts to be similar to surrounding rooms.

2.1 ASBESTOS CONTAINING MATERIALS SAMPLE COLLECTION

Samples were collected using a utility knife or hammer and chisel after wetting down the material. Once collected, samples were placed in zip lock baggies, sealed and labeled, and submitted to an accredited analytical laboratory under chain-of-custody protocols. Photographs of the ACM sample locations are presented in Appendix A.

A total of 27 potential ACM samples were collected at the Wabush Airport from pipe insulation, drywall plaster, acoustic ceiling tiles, and vinyl floor tiles (16 from the ATB and 11 from the CSB). Sample locations at the Wabush Airport buildings are presented on Figures 2 to 4 for the ATB first and second levels as well as the CSB, respectively. The Wabush Airport ACM Sampling Summary is provided in Table 1.

2.2 PAINT SAMPLE COLLECTION

Through discussions with TC representatives at Wabush Airport, it was determined that all painted building surfaces were latex and newly replaced within the past 15 years; therefore, it was unlikely that a layer of LBP existed under the top coat of latex paints. As a result, it was determined in the field that collection of paint samples for lead analysis was not warranted.

2.3 ANALYTICAL PROGRAM

A total of 14 representative potential ACM building material samples were collected during the field program. A number of samples were considered to be representative of similar building materials throughout the facilities; therefore, one or two of each sample type were generally submitted to EMSL Analytical Inc. (EMSL) in Mississauga, Ontario for asbestos content and identification based on NIOSH 9002 method.

All potential ACM samples collected and not submitted to EMSL for analysis have been archived by CRA for a 12 month period. Copies of the Laboratory Certificates of Analysis are included in Appendix B.

3.0 ANALYTICAL RESULTS AND DISCUSSION

3.1 ASSESSMENT CRITERIA

ACM

Asbestos materials are defined in the Newfoundland and Labrador Asbestos Abatement Regulations, 1998(NLR 111/98) under the Occupational Health and Safety Act (O.C.98 730) as materials containing greater than 1 percent of asbestos by dry weight, which can be found on-line at the following website address:

<http://assembly.nl.ca/Legislation/sr/regulations/rc980111.htm>

In addition to Provincial requirements, a number of federal departmental directives and guidelines have been adopted for the protection of occupants from asbestos exposure. One of these documents is the Canada Occupational Health and Safety Regulations (SOR/86-304) Part XI as it relates to asbestos management, which can be found on-line at the following website address:

<http://www.njc-cnm.gc.ca/directive/index.php?sid=261&lang=eng>

Another such directive is the Public Works and Government Services Canada Deputy Minister Directive (DIR:057) – Asbestos Management respecting asbestos management in federally owned or leased buildings or facilities containing asbestos, March 12, 1997, which can be found on-line at the following website address:

http://www.njc-cnm.gc.ca/aux_bin.php?auxid=575

An ACM Management Plan is a regulatory requirement in Newfoundland and Labrador. For an ACM Management Plan to be effective, it needs to be prepared based on an asbestos survey and implemented in accordance with the procedures and protocols in the plan.

Lead-Based Paint (LBP)

In 1976, the lead content of interior paint was limited to 0.5 percent by weight (5,000 mg/kg) under the Federal Hazardous Products Act, which can be found on-line at the following web site address:

http://www.hc-sc.gc.ca/cps-spc/pubs/indust/reference_guide-consultation_rapid/index-eng.php

All consumer paints produced and imported into Canada are virtually lead free as of 1991. In 2005, the above guidelines were replaced by the Surface Coating Materials Regulations (published in the Canada Gazette Part II, Vol. 139, No. 9 (SOR/2009 109) on April 19, 2005). In the Surface Coating Materials Regulations, production of surface coating products was limited when dry to 0.06% (600 mg/kg) lead, which can be found on-line at the following web site address:

<http://www.gazette.gc.ca/rp-pr/p2/2010/2010-11-10/pdf/g2-14423.pdf>

These guidelines apply to the production of all surface coating materials including paint, however, they do not apply to older paints (manufactured prior to April 19, 2005).

Health Canada has identified lead levels in paint chips exceeding 5,000 mg/kg or 1 mg/cm² as indicative of “lead based paint” and recommends precautions for sensitive individuals (such as children and pregnant women) during renovations or if the paint is peeling or in otherwise poor condition.

The Newfoundland and Labrador Department of Environment and Conservation (NLDOEC) has established guidelines that restrict certain materials (e.g., lead) from municipal landfills and C&D (Construction and Demolition) waste disposal sites that could potentially leach/migrate into the groundwater and create an adverse environmental effect, which can be found on-line at the following website address:

http://www.env.gov.nl.ca/env/env_protection/waste/constructdemo.pdf

NLDOEC suggests that materials with a total lead concentration exceeding 5,000 mg/kg undergo leachate testing to assess whether or not the leachate exceeds the Transportation of Dangerous Goods (TDG) regulatory limit of 5 mg/L lead, which can be found on-line at the following website address:

<http://www.tc.gc.ca/eng/tdg/clear-tofc-211.htm>

The material tested may consist of paint and substrate if the paint is in good condition, or paint chips only if the paint is peeling or in poor condition and will be disposed of separately.

Materials with a total lead concentration below 5,000 mg/kg do not require leachate analysis and may be disposed of as a solid, non hazardous waste at a permitted municipal landfill. Materials with a total lead concentration exceeding 5,000 mg/kg, but

with a leachable lead concentration of less than the regulatory limit of 5 mg/L can also be disposed of at a permitted municipal landfill.

Material that exhibits a lead leachate concentration above 5 mg/L is considered hazardous waste based on being “lead leachate toxic” and must be disposed of at a permitted hazardous waste treatment, storage, disposal facility (TSDF). There are currently no hazardous waste TSDFs in Newfoundland and Labrador capable of accepting lead leachate toxic materials and out of province disposal is required. Lead leachate toxic paint that becomes separated from its substrate (i.e., loose chips and flaking) or other lead toxic material are also considered “leachable toxic” dangerous goods and are subject to the TDG Act.

3.2 ACM ANALYTICAL RESULTS AND DISCUSSION

Eleven of the 14 potential ACM samples submitted for the Wabush Airport reported ACM levels as Chrysotile ranging from 0.6 percent (ASB-15) to 65 percent (ASB-14). Reported ACM exceedances are summarized below.

ATB

- Drywall plaster in the Janitor’s Closet (ASB-7 and its field duplicate ASB-27) reported 5 percent ACM content, which is considered representative of all drywall plaster throughout the ATB including samples ASB-3, ASB-5, ASB-6, ASB-9, and ASB-10
- Cast iron water line elbow insulation in the Mechanical Room (ASB-13) reported 40 percent ACM content, which is considered representative of all cast iron water line elbow insulation throughout the ATB including sample ASB-12
- Domestic water line elbow insulation in the Mechanical Room (ASB-14) reported 65 percent ACM content, which is considered representative of all domestic water line elbow insulation throughout the ATB

The following samples reported non-detectable or ACM contents below the Provincial regulatory limit of 1 percent:

- Brown/red acoustic ceiling tile in the Equipment Room (ASB-4) reported non-detectable ACM content
- Green/beige vinyl floor tile in the Janitor’s Closet (ASB-8) reported non-detectable ACM content
- Beige vinyl floor tile throughout the second level (ASB-15) reported 0.5 percent ACM content

Based on the ACM analytical results and Site observations in the Wabush ATB, it appears that all plastered drywall surfaces on the first and second levels as well as all mechanical insulation on heating and domestic water lines should be considered as ACM. Due to the extent of acoustic ceiling tiles and wide spread distribution of pipes throughout the ATB, an accurate quantity of fittings and pipe insulation could not be provided as inaccessible and/or hidden areas were not visually inspected during the HBMA. Based on As-Built drawings provided by TC and assuming that all ACM drywall plaster and mechanical insulation are still in place, estimated quantities of ACMs confirmed in the ATB may be as high as follows:

- 300 Fittings on first floor associated with heating lines
- 50 Fittings on first floor associated with domestic plumbing lines
- 100 Fittings on first floor associated with sprinkler lines
- 50 Fittings on second floor associated with heating lines
- 10 Fittings on first floor associated with domestic plumbing lines
- 150 square metres (m²) on first floor of drywall with plaster
- 650 m² on second floor of drywall with plaster

CSB

- Cast iron water line elbow insulation in the Mechanical Room on the first level (ASB-18) reported 60 percent ACM content, which is considered representative of all cast iron water line elbow insulation throughout the CSB
- Cast iron water line insulation in the Mechanical Room on the first level (ASB-19) reported 50 percent ACM content, which is considered representative of all cast iron water line insulation throughout the CSB
- Sprinkler line elbow insulation in the Warehouse/Maintenance area (ASB-21) reported 60 percent ACM content, which is considered representative of all sprinkler line insulation throughout the CSB
- Sprinkler line insulation in the Warehouse/Maintenance area (ASB-22) reported 40 percent ACM content, which is considered representative of all sprinkler line elbow insulation throughout the CSB
- Tan vinyl floor tile in the Warehouse/Maintenance area (ASB-23) reported 1.9 percent ACM content, which is considered representative of all tan vinyl floor tile throughout the CSB
- Roof drain elbow insulation in the second level of the Firehall (ASB-26) reported 60 percent ACM content, which is considered representative of all roof drain elbow insulation throughout the CSB

One sample reported a non-detectable ACM content, which was the furnace insulation wrap on the first level of the Trades Workshop/Storage Room (ASB-24).

The CSB and ATB were reportedly constructed at the same time; therefore, CRA have assumed that drywall plaster, insulation, floor tiles, etc. in both buildings were supplied from the same source. Based on the ACM analytical results from the ATB and CSB along with Site observations in the CSB, it appears that all plastered drywall surfaces and all mechanical insulation on heating and domestic water lines should be considered as ACM. Due to the extent of acoustic ceiling tiles and wide spread distribution of pipes throughout the CSB, an accurate quantity of fittings and pipe insulation cannot be provided as inaccessible and/or hidden areas were not visually inspected during the HBMA. Based on As-Built drawings provided by TC and assuming that all ACM drywall plaster and mechanical insulation are still in place, estimated quantities of ACMs in the CSB may be as high as follows:

- 1,000 m² of drywall plaster
- 115 Fittings on first floor associated with heating lines
- 150 metres of heating and domestic water line insulation
- 75 metres of sprinkler line insulation
- 10 Fittings on sprinkler line elbow insulation
- 50 m² of tan vinyl floor tile in office areas
- 150 metres on roof drain insulation
- 25 Fittings on roof drain elbow insulation

Asbestos analytical results are presented in Table 1 for the Wabush Airport and Laboratory Certificates of Analysis are included in Appendix B.

3.3 LBP ANALYTICAL RESULTS AND DISCUSSION

Since the TC representative at the Wabush Airport indicated complete interior renovations were completed with the last 15 years, paint samples were not collected as all painted interior surfaces were renovated and replaced more than 15 years following the cessation of lead-based additives in paint.

4.0 SPECIAL ATTENTION ITEMS

Evidence of potential PCBs was not identified during the HBMA at the Wabush Airport. Since the facilities were constructed in 1980 or later, the use of PCB containing light ballasts in fluorescent lighting had already been discontinued.

Minor, localized water damage and mould was identified throughout the buildings of the Wabush Airport, mostly on acoustic ceiling tiles and window sills. The TC representative advised CRA that any discovered leaks have been repaired and any observed damage was due to isolated incidents. None of the identified areas were wet during the HBMA's and mould growth was minor, where present.

Although the use of petroleum hydrocarbons is common and frequent at the Airport, visual evidence of potential contamination was not observed.

5.0 CONCLUSIONS

Conestoga-Rovers & Associates (CRA) was retained by Transport Canada (TC) to conduct a Hazardous Building Material Assessment (HBMA) of selected buildings located at the Wabush Airport in Newfoundland and Labrador.

Based on the analytical results reported for potential ACM samples collected at the Wabush Airport from the Air Terminal Building and Combined Services Building, several building materials were confirmed to contain asbestos. The cast iron elbow wrap and insulation from the first floor mechanical room of the ATB and CSB, insulation from the sprinkler line and elbow wrap at the CSB, vinyl floor tile from the first level at the CSB, drywall plaster at the ATB, and roof drain elbow wrap from the second level Fire Hall at the CSB reported concentrations of asbestos at levels greater than 1 percent content.

Through discussions with the TC representative at the Wabush Airport, it was determined that all paint was latex and added within the past 15 years. Given the extent of recent renovations it is unlikely that lead based product exist on Site and as such, further investigation or management practices are not required at this time.

Minor, localized water damage and mould was identified throughout the buildings of the Wabush Airport, mostly on acoustic ceiling tiles and window sills. The TC representative advised CRA that any discovered leaks have been repaired and any damage is due to isolated incidents. None of the identified areas were wet during the HBMA and mould growth was minor, where present.

Although the use of petroleum hydrocarbons is common and frequent at the Wabush Airport, visual evidence of potential contamination was not observed.

6.0 RECOMMENDATIONS

Based on the results of the HBMA, it is recommended that an Asbestos Management Plan (AMP) be developed and implemented for the Wabush Airport facility. The AMP should be used to manage TC and airport employees, including contractors, maintenance and custodial personnel, and the public to minimize their exposure to asbestos fibres. ACMs observed by CRA during the Site visit were noted to be in good condition and do not require any action, repairs, or encapsulation at this time. A detailed Site survey should also be conducted in developing the AMP, which would include a review of As-Built drawings in comparison to current conditions at the facility.

Minor, localized water damage and mould was identified throughout the buildings of the Wabush Airport, mostly on acoustic ceiling tiles and window sills. Although any discovered leaks have been repaired and any damage is due to isolated incidents, the mould impacted areas should be mitigated by cleaning and/or removal following practices outlined in the Canadian Construction Association's "Mould Guidelines for the Canadian Construction Industry."

7.0 CLOSURE

All of Which is Respectfully Submitted,

CONESTOGA-ROVERS & ASSOCIATES

A handwritten signature in blue ink, appearing to read 'B. Luffman', is written over a faint, light blue rectangular background.

Brian Luffman, P.Eng.

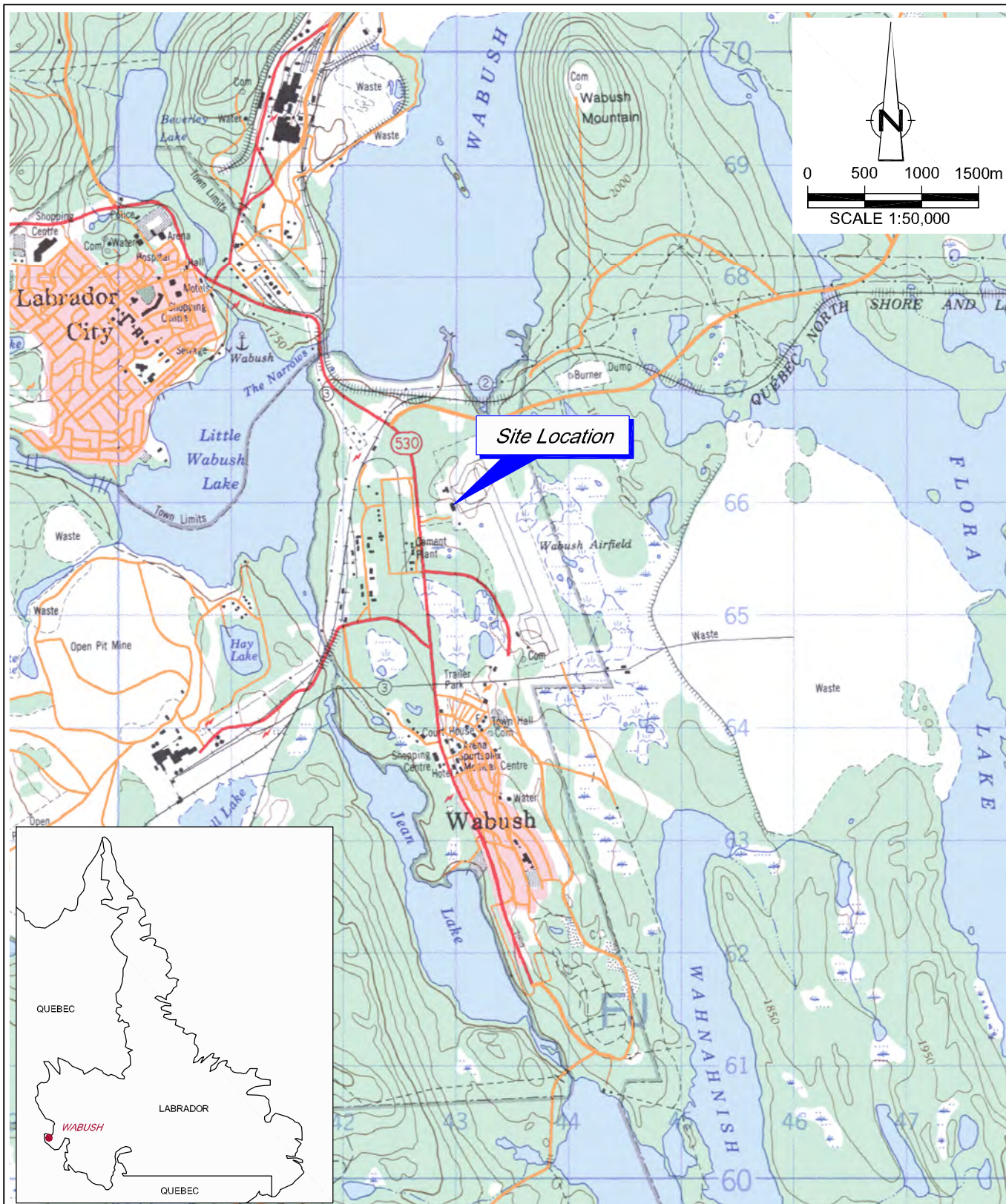
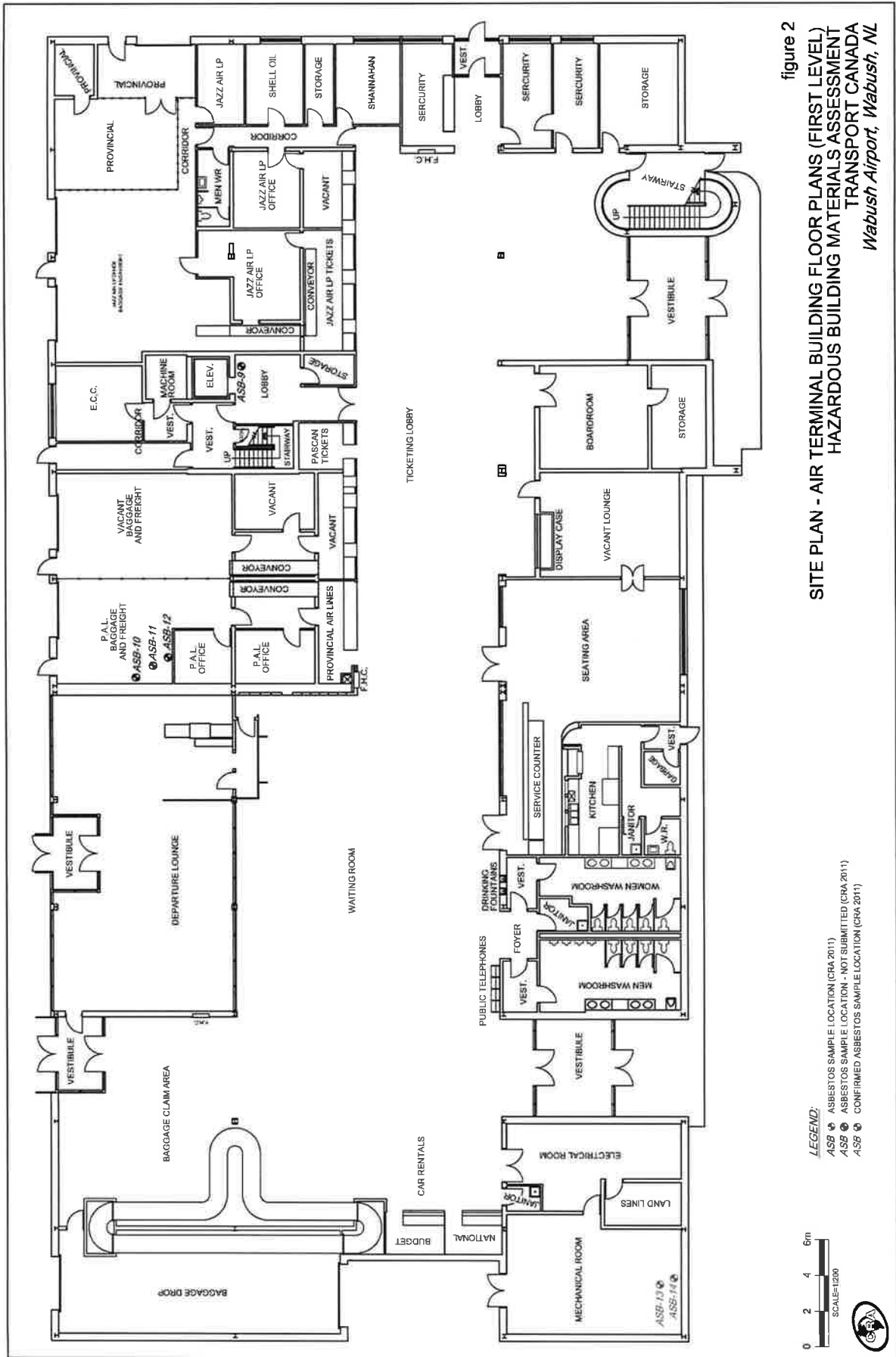


figure 1

SITE LOCATION MAP
HAZARDOUS BUILDING MATERIALS ASSESSMENT
TRANSPORT CANADA
Wabush Airport, Wabush, NL





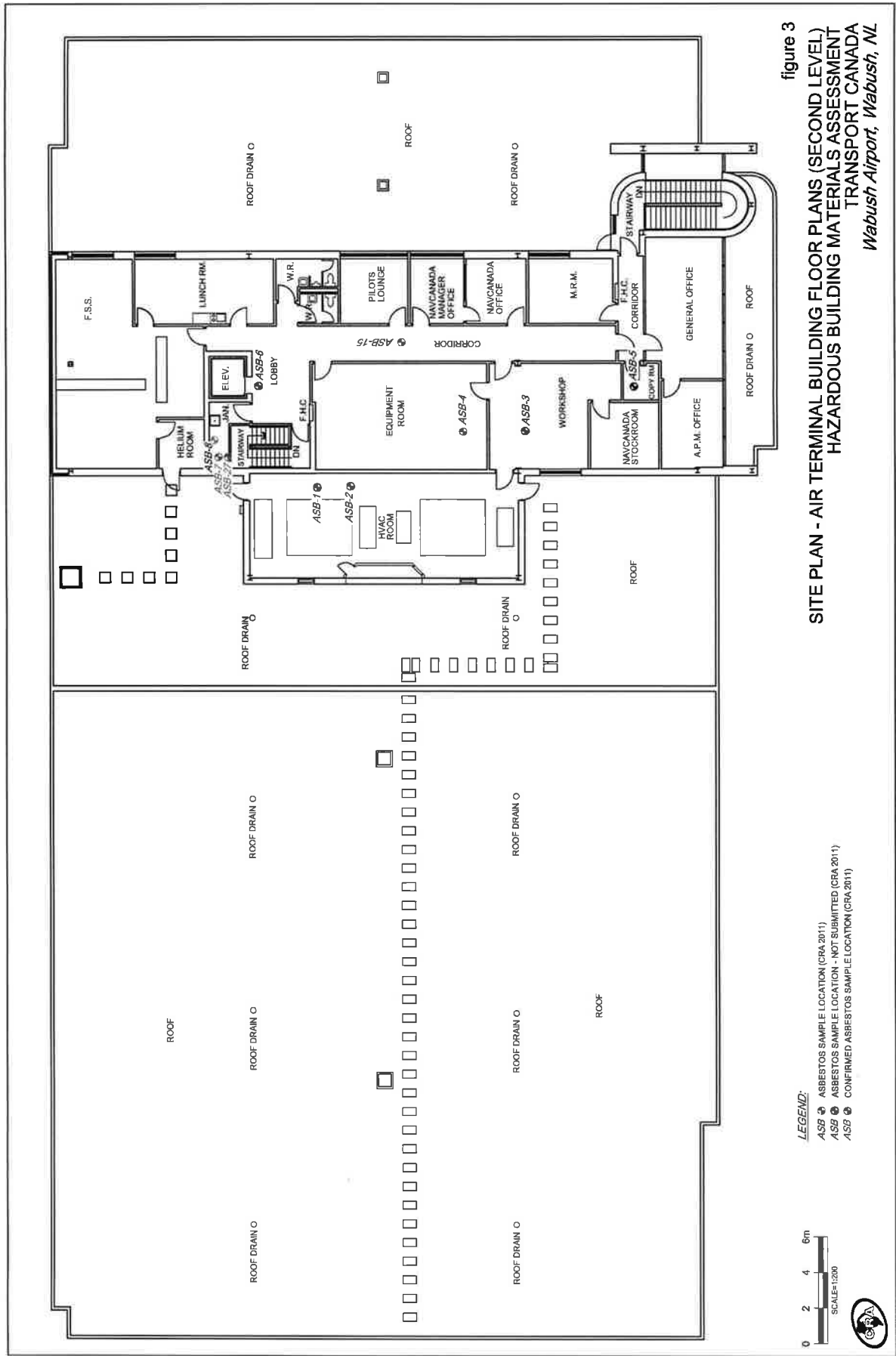


figure 3
SITE PLAN - AIR TERMINAL BUILDING FLOOR PLANS (SECOND LEVEL)
HAZARDOUS BUILDING MATERIALS ASSESSMENT
TRANSPORT CANADA
Wabush Airport, Wabush, NL

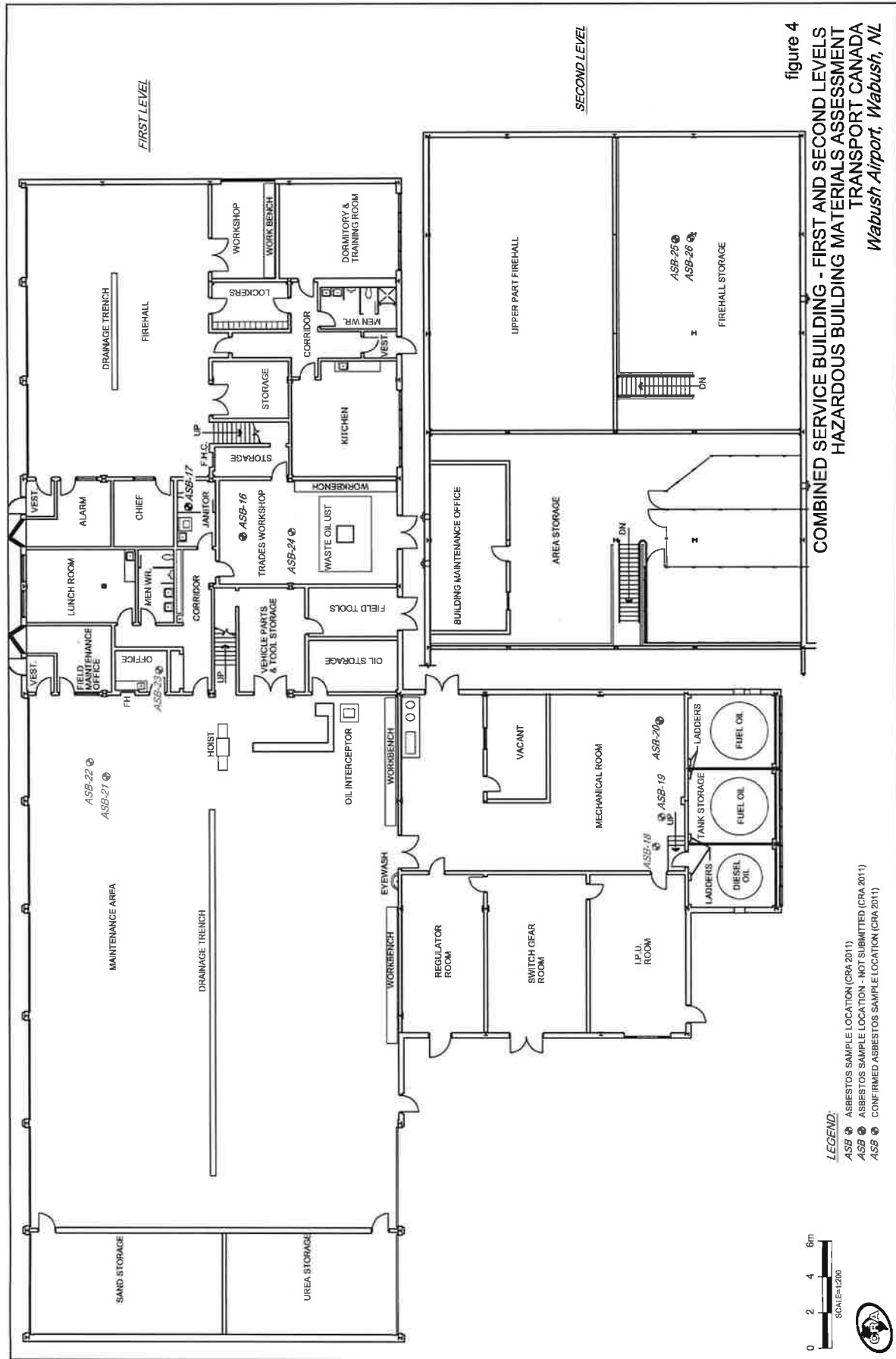


TABLE 1

**SUMMARY OF ASBESTOS SAMPLES
HAZARDOUS BUILDING MATERIALS ASSESSMENT
WABUSH AIRPORT, WABUSH, NL**

SAMPLE ID	SAMPLE DATE	SAMPLE LOCATION	MATERIAL SAMPLED	ASBESTOS CONTENT (% and Type)	QUANTITY	FRIABLE	CONDITION
AIR TERMINAL BUILDING							
ASB-1	Dec 16, 2011	HVAC Room	Pipe Elbow Insulation	NS	50 Fittings	Y	Good
ASB-2	Dec 16, 2011	HVAC Room	Pipe Wrap and Insulation	NS	?	Y	Good
ASB-3	Dec 16, 2011	Workshop	Drywall Plaster	NS	50 m ²	Y	Good
ASB-4	Dec 16, 2011	Equipment Room	Ceiling Tile (Brown/Red)	None Detected	-	-	Good
ASB-5	Dec 16, 2011	Photocopy Room	Drywall Plaster	NS	15 m ²	Y	Good
ASB-6	Dec 16, 2011	2nd Level - Corridor	Drywall Plaster	NS	90 m ²	Y	Good
ASB-7	Dec 16, 2011	Janitor's Closet	Drywall Plaster	5% Chrysotile	30 m ²	Y	Good
ASB-27*	Dec 16, 2011	Janitor's Closet	Drywall Plaster	5% Chrysotile	-	Y	Good
ASB-8	Dec 16, 2011	Janitor's Closet	Floor Tile (Green/Beige)	None Detected	-	-	Good
ASB-9	Dec 16, 2011	1st Floor - Elevator Lobby	Drywall Plaster	NS	35 m ²	Y	Good
ASB-10	Dec 16, 2011	Pascan Freight	Drywall Plaster	NS	15 m ²	Y	Good
ASB-11	Dec 16, 2011	Pascan Freight	Pipe Insulation and Wrap	NS	40 Metres	Y	Good
ASB-12	Dec 16, 2011	Pascan Freight	Pipe Elbow Insulation	NS	30 Fittings	Y	Good
ASB-13	Dec 16, 2011	Mechanical Room	Cast Iron Water Elbows Insulation	40% Chrysotile	60 Fittings	Y	Good
ASB-14	Dec 16, 2011	Mechanical Room	Domestic Water Pipe Elbow Insulation	65% Chrysotile	60 Fittings	Y	Good
ASB-15	Dec 16, 2011	2nd Level - Various Areas	Floor Tile (Beige)	0.6% Chrysotile	-	-	Good
COMBINED SERVICES BUILDING							
ASB-16	Dec 16, 2011	1st Level - Mechanics Shop	Drywall Plaster	NS	15 m ²	Y	Good
ASB-17	Dec 16, 2011	1st Level - Janitor's Closet	Pipe Insulation	NS	10 Metres	Y	Good
ASB-18	Dec 16, 2011	1st Level - Mechanical Room	Cast Iron Water Elbows Insulation	60% Chrysotile	60 Fittings	Y	Good
ASB-19	Dec 16, 2011	1st Level - Mechanical Room	Cast Iron Water Insulation	50% Chrysotile	20 Metres	Y	Good
ASB-20	Dec 16, 2011	1st Level - Mechanical Room	Incoming Water Insulation	NS	20 Metres	Y	Good
ASB-21	Dec 16, 2011	1st Level - Warehouse/Maintenance	Sprinkler Line Elbow Insulation	60% Chrysotile	75 Metres	Y	Good
ASB-22	Dec 16, 2011	1st Level - Warehouse/Maintenance	Sprinkler Line Insulation	40% Chrysotile	10 Fittings	Y	Good
ASB-23	Dec 16, 2011	1st Level - Warehouse Office	Floor Tile (Tan)	1.9% Chrysotile	50 m ²	N	Good
ASB-24	Dec 16, 2011	1st Level - Trades Workshop/Storage	Wrap on Furnace	None Detected	-	-	Good
ASB-25	Dec 16, 2011	2nd Level - Firehall	Roof Drain Insulation	NS	150 Metres	Y	Good
ASB-26	Dec 16, 2011	2nd Level - Firehall	Roof Drain Elbow Insulation	60% Chrysotile	25 Fittings	Y	Good

NOTES:

NS = Sample collected, but not submitted for analysis

None Detected - Asbestos was not detected in the sample

Bold-Indicates sample contains asbestos at a concentration of 1% or greater.

Newfoundland and Labrador Occupational Health and Safety Act, Asbestos Regulations indicate that building materials with an asbestos content of 1% or greater shall be removed by a certified abatement contractor and disposed in an approved facility.

*ASB-27 = Field Duplicate of ASB-7

APPENDIX A

SITE PHOTOGRAPHS



PHOTO 1: EXTERIOR SHOT OF ATB.



PHOTO 2: MAIN WAITING AREA OF ATB.

figure P1

PHOTOLOG
HAZARDOUS BUILDING MATERIALS ASSESSMENT
TRANSPORT CANADA
Wabush Airport, Wabush, NL



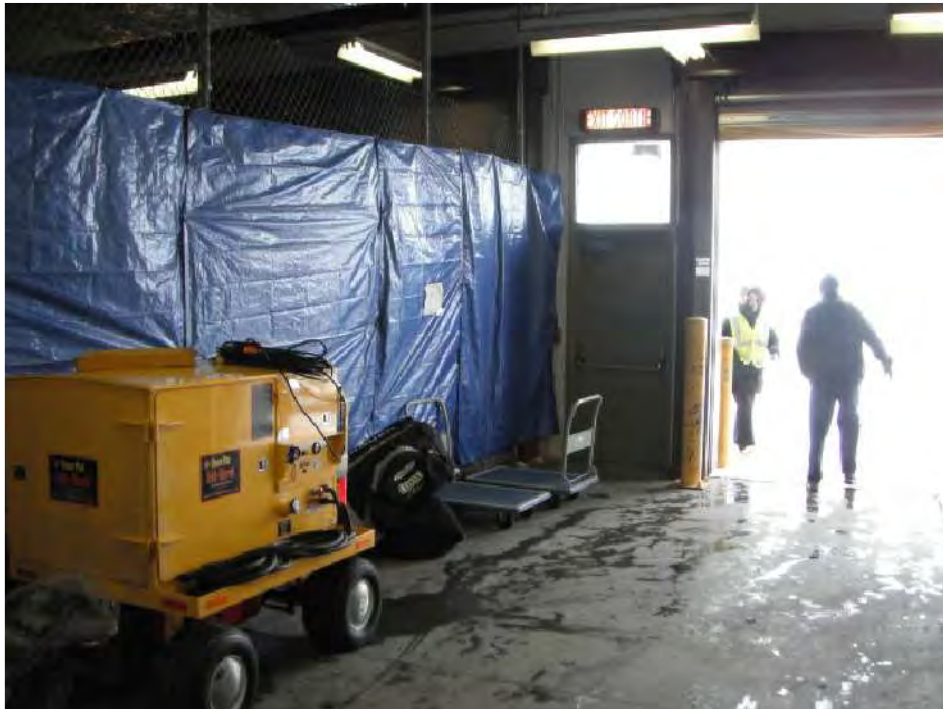


PHOTO 3: TYPICAL AIRLINE FREIGHT AREA.



PHOTO 4: BAGGAGE STORAGE.

figure P2

PHOTOLOG
HAZARDOUS BUILDING MATERIALS ASSESSMENT
TRANSPORT CANADA
Wabush Airport, Wabush, NL





PHOTO 5: BOILER/MECHANICAL ROOM IN ATB.



PHOTO 6: HVAC ROOM ON 2ND FLOOR OF ATB.

figure P3

PHOTOLOG
HAZARDOUS BUILDING MATERIALS ASSESSMENT
TRANSPORT CANADA
Wabush Airport, Wabush, NL





PHOTO 7: TYPICAL HALLWAY 2ND FLOOR OF ATB.



PHOTO 8: EXTERIOR SHOT OF CSB.

figure P4

PHOTOLOG
HAZARDOUS BUILDING MATERIALS ASSESSMENT
TRANSPORT CANADA
Wabush Airport, Wabush, NL



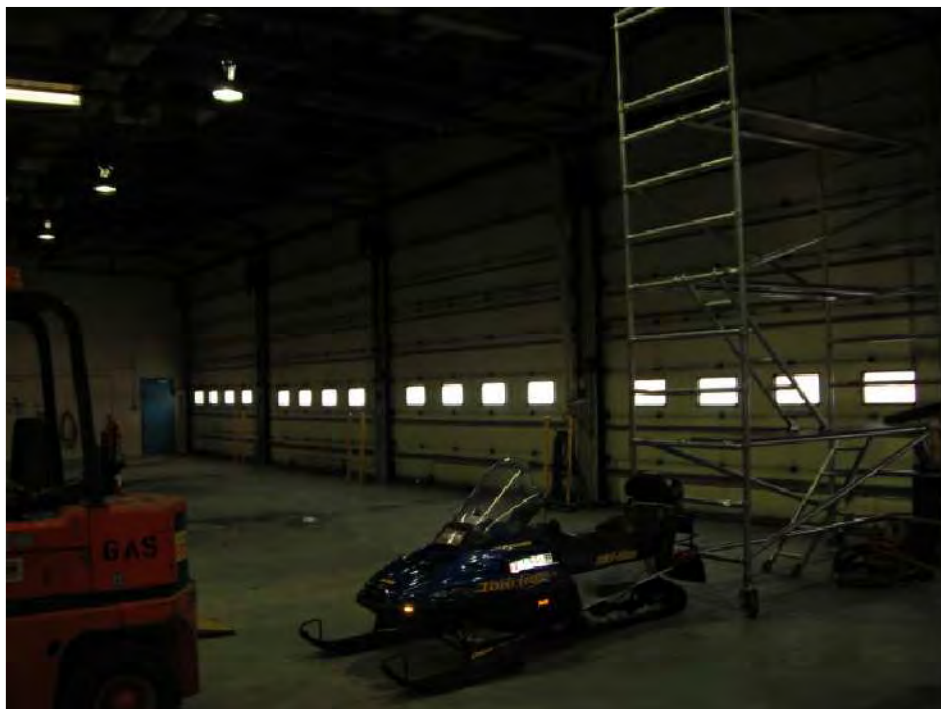


PHOTO 9: CSB WAREHOUSE AND EQUIPMENT STORAGE.



PHOTO 10: BOILER/MECHANICAL ROOM IN CSB.

figure P5

PHOTOLOG
HAZARDOUS BUILDING MATERIALS ASSESSMENT
TRANSPORT CANADA
Wabush Airport, Wabush, NL





PHOTO 11: DIESEL STORAGE ROOM OFF BOILER/MECHANICAL ROOM IN CSB.



PHOTO 12: TYPICAL FLUID STORAGE IN CSB.

figure P6

PHOTOLOG
HAZARDOUS BUILDING MATERIALS ASSESSMENT
TRANSPORT CANADA
Wabush Airport, Wabush, NL





PHOTO 13: TYPICAL TOOL STORAGE IN CSB.



PHOTO 14: TYPICAL OFFICE SPACE IN CSB/FIRE HALL.

figure P7

PHOTOLOG
HAZARDOUS BUILDING MATERIALS ASSESSMENT
TRANSPORT CANADA
Wabush Airport, Wabush, NL



APPENDIX B

LABORATORY CERTIFICATES OF ANALYSIS

**EMSL Canada Inc.**

10 Falconer Drive, Unit #3, Mississauga, ON L5N 3L8

Phone: 289-997-4602 Fax: (289) 997-4607 Email: torontolab@emsl.com

Attn: **Joyce MacDonald**
Conestoga-Rovers & Assoc. (CRA)
45 Akerley Boulevard
Dartmouth, NS B3B 1J7

Fax: (519) 725-1394

Phone: (902) 468-1248

Project: 076653

Customer ID: 55CRAS62

Customer PO: 076653

Received: 12/21/11 11:38 AM

EMSL Canada Or 551104663

EMSL Canada Pr

Analysis Date: 12/27/2011

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by PLM
via EPA 600/R-93/116 section 2.3

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
8 551104663-0003	WA-ACM-FLOOR TILE	Green /Beige Non-Fibrous Heterogeneous	100	None	No Asbestos Detected
15 551104663-0004	WA-ACM-FLOOR TILE	Beige Non-Fibrous Heterogeneous	99.4	None	0.60% Chrysotile
23 551104663-0009	WA-ACM-FLOOR TILE	Tan Non-Fibrous Heterogeneous	98.1	None	1.9% Chrysotile
17 551104663-0015	STA-ACM-FLOOR TILE	Beige Non-Fibrous Heterogeneous	100	None	No Asbestos Detected
7 551104663-0018	STA-ACM-FLOOR TILE	Beige Non-Fibrous Heterogeneous	100	None	No Asbestos Detected
8 551104663-0022	STA-ACM-FLOOR TILE	Beige Non-Fibrous Heterogeneous	100	None	No Asbestos Detected
6 551104663-0023	STA-ACM-FLOOR TILE	Gray /White Non-Fibrous Heterogeneous	100	None	No Asbestos Detected

Initial report from 12/28/2011 12:43:49

Analyst(s)

Lisa Podzyhun (7)


Kevin Pang
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. This report contains data that is (are) not covered by the NVLAP accreditation. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Canada Inc. Mississauga, ON NVLAP Lab Code 200877-0

**EMSL Canada Inc.**

10 Falconer Drive, Unit #3, Mississauga, ON L5N 3L8

Phone: 289-997-4602 Fax: (289) 997-4607 Email: torontolab@emsl.com

Attn: **Joyce MacDonald**
Conestoga-Rovers & Assoc. (CRA)
45 Akerley Boulevard
Dartmouth, NS B3B 1J7

Customer ID: 55CRAS62
Customer PO: 076653
Received: 12/21/11 11:38 AM
EMSL Canada Or 551104663

Fax: (519) 725-1394 Phone: (902) 468-1248
Project: 076653

EMSL Canada Pr
Analysis Date: 12/28/2011


Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
4 551104663-0001	WA-ACM-CEILING TILE	Brown/Red Fibrous Heterogeneous	30% Cellulose 45% Min. Wool	25% Non-fibrous (other)	None Detected
7 551104663-0002	WA-ACM-PLASTER	Gray/Various Non-Fibrous Heterogeneous		95% Non-fibrous (other)	5% Chrysotile
19 551104663-0005	WA-ACM-PIPE INSULATION	Gray/White/Various Fibrous Heterogeneous		50% Non-fibrous (other)	50% Chrysotile
18 551104663-0006	WA-ACM-PIPE ELBOW	White Fibrous Heterogeneous		40% Non-fibrous (other)	60% Chrysotile
21 551104663-0007	WA-ACM-PIPE ELBOW	Gray Fibrous Heterogeneous		40% Non-fibrous (other)	60% Chrysotile
22 551104663-0008	WA-ACM-PIPE INSULATION	Gray/Various Fibrous Heterogeneous		60% Non-fibrous (other)	40% Chrysotile
24 551104663-0010	WA-ACM-WRAP	Tan/Various/Silver Fibrous Heterogeneous	15% Cellulose 25% Min. Wool	60% Non-fibrous (other)	None Detected

Initial report from 12/28/2011 12:43:49

Analyst(s)

Lisa Podzyhun (19)


Kevin Pang
or other approved signatory

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Samples analyzed by EMSL Canada Inc. Mississauga, ON NVLAP Lab Code 200877-0

**EMSL Canada Inc.**

10 Falconer Drive, Unit #3, Mississauga, ON L5N 3L8

Phone: 289-997-4602 Fax: (289) 997-4607 Email: torontolab@emsl.com

Attn: **Joyce MacDonald**
Conestoga-Rovers & Assoc. (CRA)
45 Akerley Boulevard
Dartmouth, NS B3B 1J7

Fax: (519) 725-1394 Phone: (902) 468-1248
Project: **076653**

Customer ID: 55CRAS62
Customer PO: 076653
Received: 12/21/11 11:38 AM
EMSL Canada Or 551104663

EMSL Canada Pr
Analysis Date: 12/28/2011

**Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA
600/M4-82-020 Method(s) using Polarized Light Microscopy**

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
26 551104663-0011	WA-ACM-PIPE ELBOW	Gray/Various Fibrous Heterogeneous		40% Non-fibrous (other)	60% Chrysotile
27 551104663-0012	WA-ACM- PLASTER	Gray/Various Non-Fibrous Heterogeneous		95% Non-fibrous (other)	5% Chrysotile
14 551104663-0013	WA-ACM-PIPE ELBOW	Gray/Various Fibrous Heterogeneous		35% Non-fibrous (other)	65% Chrysotile
13 551104663-0014	WA-ACM-PIPE ELBOW	Gray/Various Fibrous Heterogeneous		60% Non-fibrous (other)	40% Chrysotile
16 551104663-0016	STA-ACM- PLASTER	Gray/White/Variou s Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
14 551104663-0017	STA-ACM- PLASTER	White/Various Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
12 551104663-0019	STA-ACM- INSULATION	Gray Fibrous Heterogeneous	60% Cellulose	40% Non-fibrous (other)	None Detected

Initial report from 12/28/2011 12:43:49

Analyst(s)

Lisa Podzyhun (19)


Kevin Pang
or other approved signatory

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Samples analyzed by EMSL Canada Inc. Mississauga, ON NVLAP Lab Code 200877-0



**CONESTOGA-ROVERS
& ASSOCIATES**

1118 Topsail Road., P.O. Box 8353, Station A
St. John's, Newfoundland, Canada A1B 3N7
Telephone: (709) 364-5353 Facsimile: (709) 364-5368
www.CRAworld.com

March 28, 2012

Reference No. 076653

Ms. Sara Richard, P.Eng.
Environmental Officer
Transport Canada
Environmental Affairs
95 Foundry Street, P.O. Box 42
Moncton, NB E1C 8K6

Dear Ms. Richard:

Re: Asbestos Air Sampling Program – March 21, 2012
Wabush Airport, Wabush, NL

Conestoga-Rovers & Associates (CRA) was retained by Transport Canada (TC) to collect air samples for analysis of potential asbestos content at the Wabush Airport in Wabush, Newfoundland and Labrador (Site). A Site Location Map is presented as Figure 1 of Attachment A. This letter report summarizes the air sampling program and analytical results from March 21, 2012.

CRA conducted an air sampling program for potential asbestos fibres throughout the Air Terminal Building (ATB) and Combined Services Building (CSB) at the Wabush Airport facility. Air sampling was performed in accordance with the Asbestos Abatement Regulations, 1998 under the Occupational Health and Safety Act (O.C. 98-730).

The purpose of the air sampling program was to investigate the potential presence of air borne asbestos fibres throughout the two facility buildings and evaluate potential asbestos inhalation exposure for TC and other airport employees including contractors, maintenance and custodial personnel, and the public. Air sample locations are shown on Figures 2 to 4 of Attachment A.

The samples for total fibres analysis were collected on open-face, 25mm-diameter 0.45-µm pore size mixed cellulose ester (MCE) filters with a 5-µm pore size MCE diffusing filter and cellulose support pad contained in a three-piece cassette with a 50-mm conductive cowl.

The filter cassettes were positioned on a sampling pole that accommodated cassette placement at 1.5 metres above floor level. The filter face was positioned at approximately a 45° angle toward the floor. At the end of the 30 minute sampling period, the filters were turned upright before being disconnected from the vacuum pump, capped, and then stored in this position.

The filter assembly was attached with flexible Teflon® tubing to an electric-powered (110-volt alternating current) 1/10-hp vacuum pump operating at an airflow rate of 15 Litres per minute (L/min). An air volume of 450 L or 1,050 L was targeted for all samples. The pumps were



**CONESTOGA-ROVERS
& ASSOCIATES**

March 28, 2012

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Reference No. 076653

equipped with a flow-control regulator that was calibrated with a rotameter prior to each sampling event to maintain the flow rate of 15 L/min or 35 L/min.

All air samples were submitted to Pinchin Leblanc Environmental Limited (PLEL) in St. John's, NL for Phase Contrast Microscopy (PCM) analysis for fibre content.

The analytical results of the air monitoring reported that all fibre levels were non-detectable and below the acceptable limit prescribed in the 1998 Asbestos Abatement Regulations, which references the most current American Conference of Industrial Hygienists (ACGIH) Threshold Limit Value (TLV) of 0.1 fibres/cc. Table 1 of Attachment B shows the sample location and analytical results of the air sampling program and the laboratory certificate of analysis is presented in Attachment C. Photographs of typical air sampling events are included as Attachment D.

Based on CRA's inspections during the December 16, 2011 and March 21, 2012, asbestos-containing materials were noted to be in good condition and do not require any action, repairs, or encapsulation at this time.

Should you have any questions or require additional information, please do not hesitate to contact our office.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

Brian Luffman, P.Eng.
Project Manager

BL/tc/1

Attachments:	Attachment A	Figure 1: Site Location Map Figure 2: Site Plan - ATB Floor Plans (First Level) Figure 3: Site Plan - ATB Floor Plans (Second Level) Figure 4: Site Plan - CSB Floor Plans (First & Second Level)
	Attachment B	Table 1 - Air Sampling Analytical Results
	Attachment C	Laboratory Certificate of Analysis
	Attachment D	Site Photographs

ATTACHMENT A

FIGURE 1: SITE LOCATION MAP

FIGURE 2: SITE PLAN - ATB FLOOR PLANS (FIRST LEVEL)

FIGURE 3: SITE PLAN - ATB FLOOR PLANS (SECOND LEVEL)

FIGURE 4: SITE PLAN - CSB FLOOR PLANS (FIRST & SECOND LEVEL)

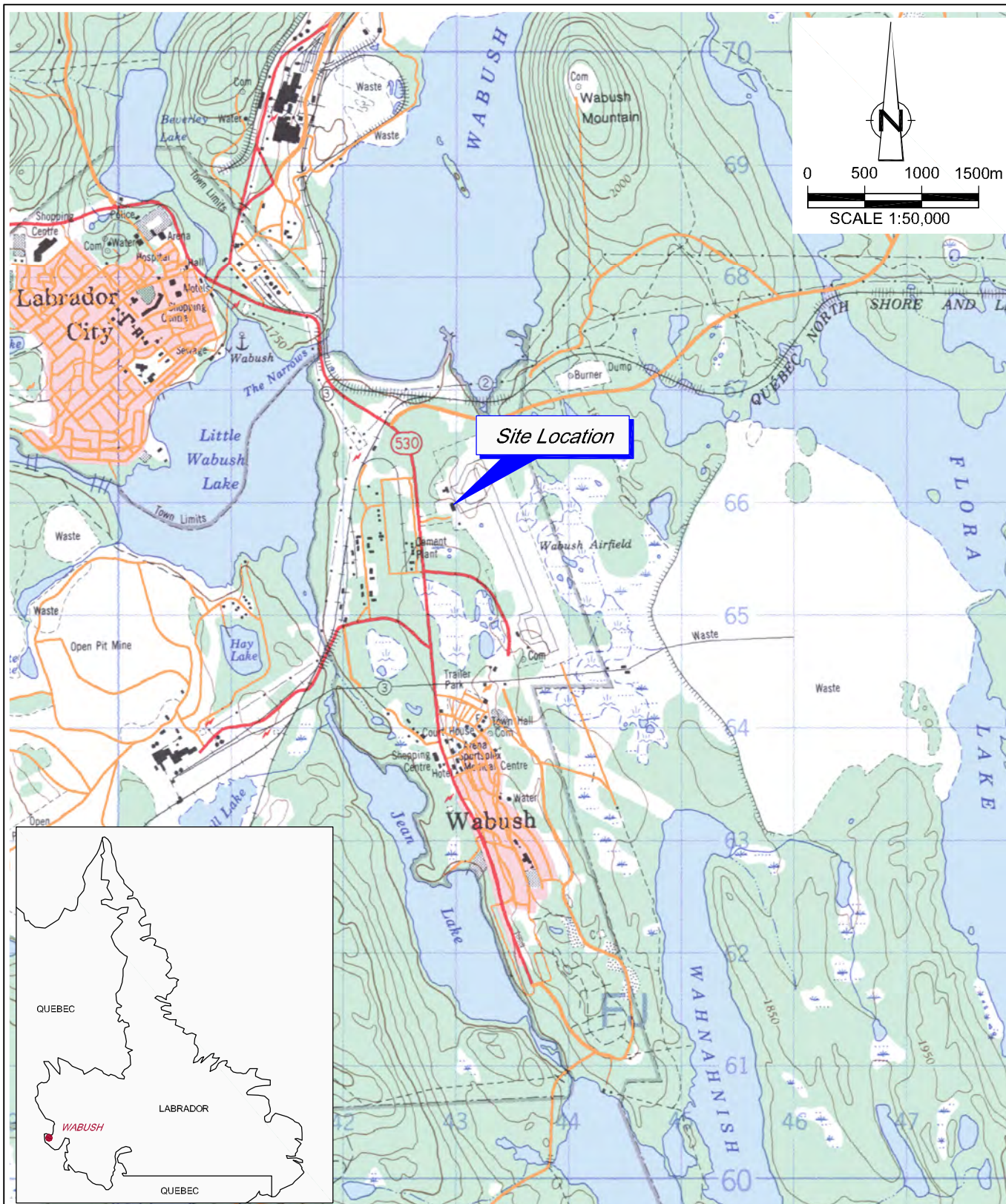


figure 1

SITE LOCATION MAP
 ASBESTOS AIR SAMPLING PROGRAM
 TRANSPORT CANADA
 Wabush Airport, Wabush, NL



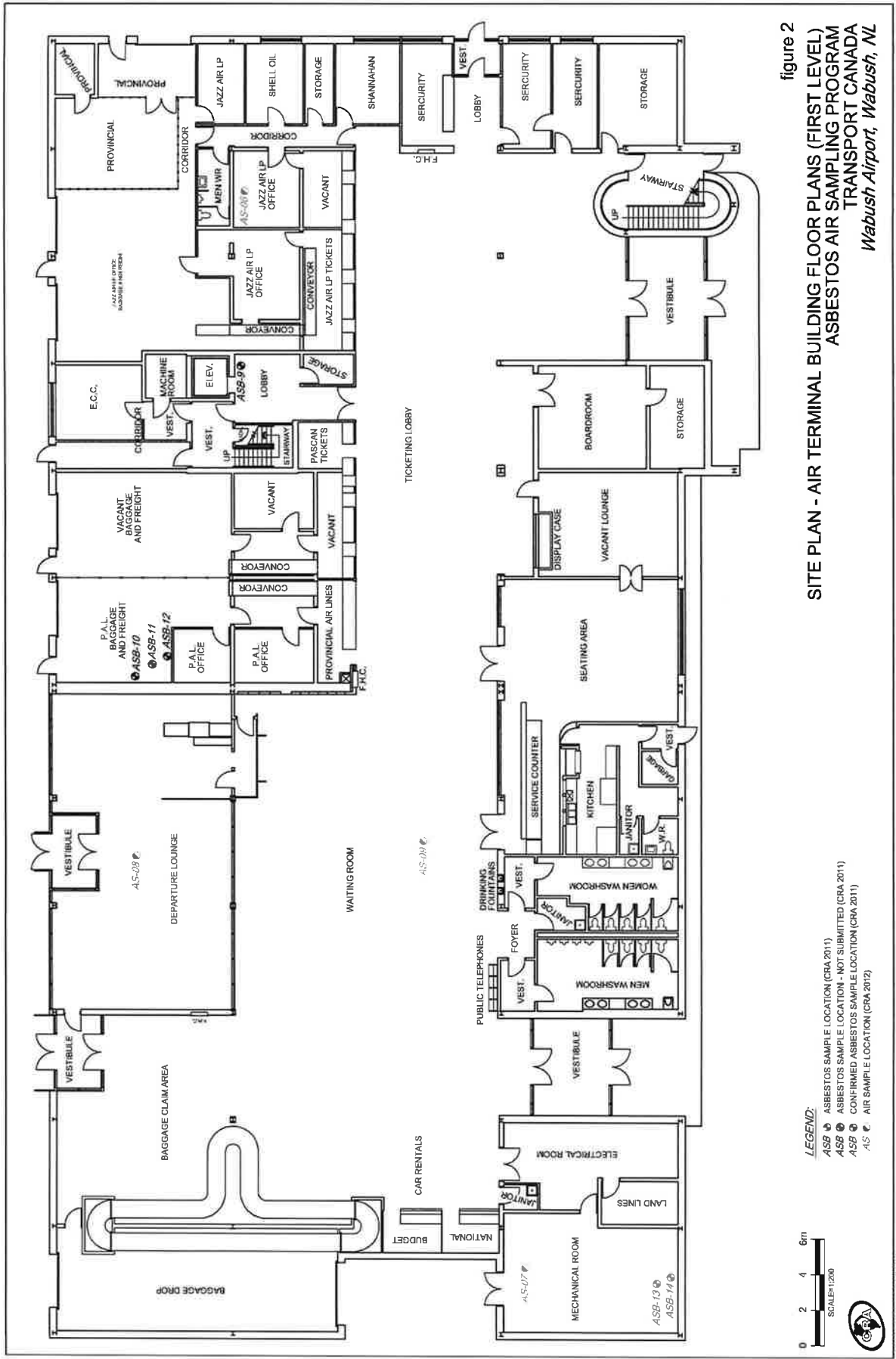
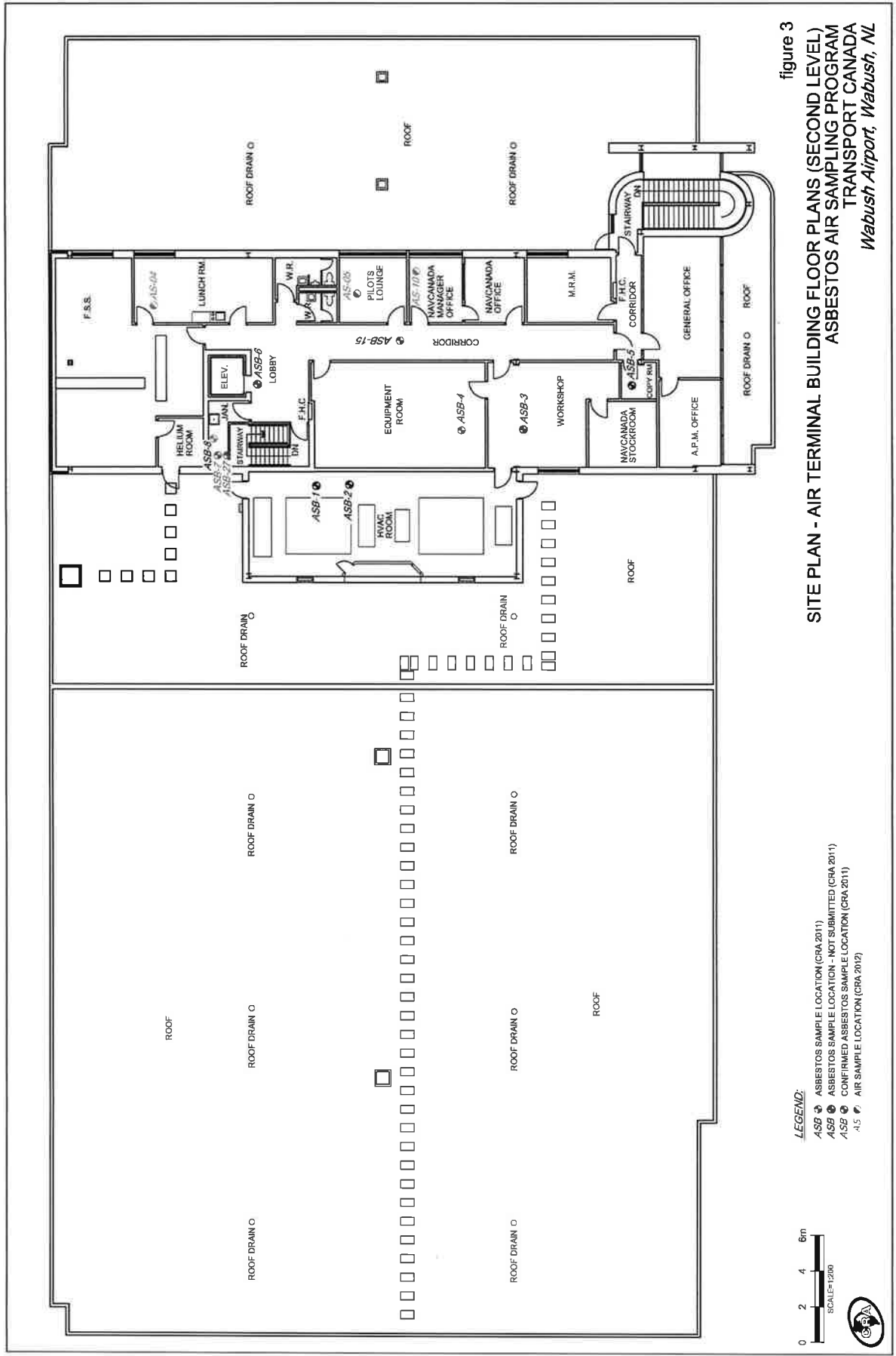
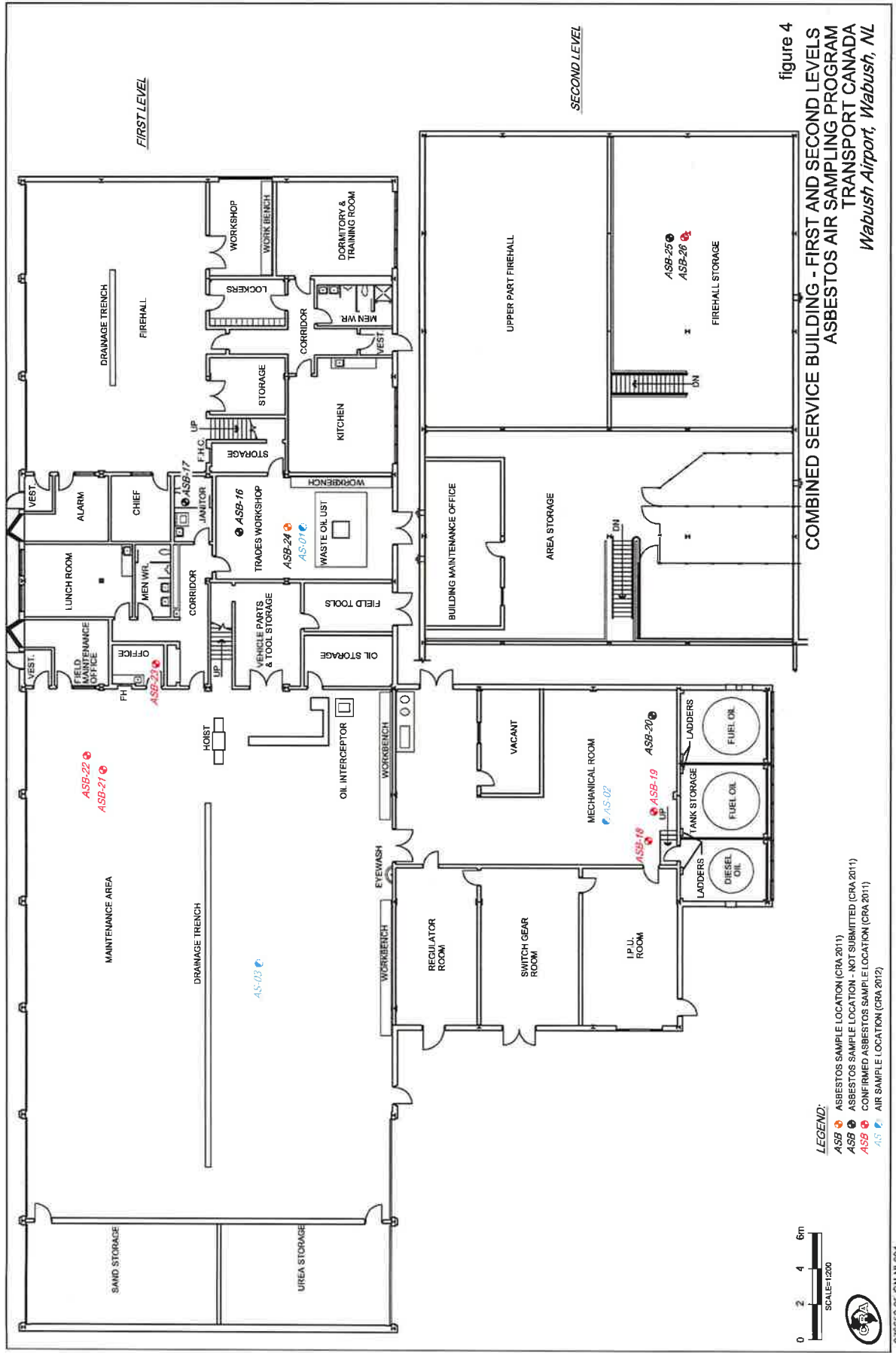


figure 2
 SITE PLAN - AIR TERMINAL BUILDING FLOOR PLANS (FIRST LEVEL)
 ASBESTOS AIR SAMPLING PROGRAM
 TRANSPORT CANADA
 Wabush Airport, Wabush, NL





ATTACHMENT B

TABLE 1: AIR SAMPLING ANALYTICAL RESULTS

TABLE 1

AIR SAMPLING ANALYTICAL RESULTS - MARCH 21, 2012
ASBESTOS AIR SAMPLING PROGRAM
TRANSPORT CANADA
WABUSH AIRPORT, WABUSH, NL

Sample ID	Location	Fibre Count* (Fibres/cc)	Comments
Combined Services Building			
AS-01	1st Level - Trades Workshop	<0.02	-
AS-02	1st Level - Mechanical Room	<0.02	-
AS-03	1st Level - Maintenance Area	<0.04	-
Air Terminal Building			
AS-04	2nd Level - Lunch Room	<0.04	-
AS-05	2nd Level - Pilot's Lounge	<0.02	-
AS-06	1st Level - Jazz Air LP Office	<0.02	-
AS-07	1st Level - Mechanical Room	<0.04	-
AS-08	1st Level - Departure Lounge	<0.02	-
AS-09	1st Level - Public Waiting Area	<0.02	-
AS-10	2nd Level - NavCanada Manager's Office	<0.04	-
ACGIH TLV		0.100	-

Note:

* Phase Contrast Microscopy via NIOSH Method 7400

<(0.04)

Below Limit of Detection

Shading

Indicates concentration above ACGIH TLV

ACGIH TLV

American Conference of Governmental and
Industrial Hygienists' Threshold Limit Value

ATTACHMENT C

LABORATORY CERTIFICATE OF ANALYSIS



March 26, 2012

Conestoga-Rovers & Associates
1118 Topsail Road, P. O. Box 8353,
St. John's, NL A1B 3N7

Attn: Brian Luffman

Re: Air Sample Analysis Phase Contrast Microscopy

This letter is to provide you with the results of the counting of ten (10) filter cassettes submitted on March 22, 2012.

The samples were analyzed by the Phase Contrast Microscopy (PCM) Method, using the "A" set of counting rules and following the National Institute of Occupational Safety and Health (NIOSH) Method 7400 dated August 15, 1994. Phase Contrast Microscopy is an optical technique for viewing small particles rather than a method for measuring specific properties of a substance. It is a technique based entirely on the shape of the particle rather than a method for measuring specific properties of a substance. It is not inherently specific for asbestos. Consequently, all particles satisfying a 3:1 length to width ratio are counted as fibres.

A segment of the filter was mounted, treated chemically to make the filter membrane transparent, and examined using a special microscope reticle and counting procedure with phase contrast illumination at 400 to 500 times magnification. Particles are observed for shape and size. Results are presented as the number of fibres per milliliter of air (f/milliliter). This result is calculated by the following formula:

$$\text{Fibres/milliliter} = \frac{\text{total number of fibres on the filter}}{\text{total volume of air sampled (in milliliter)}}$$

Your results are presented based on the above formula and the Quantitation Limit (Q.L.) for Sampling Volume. The reliable Quantitation limit of this method, determined from in-house quality control data, is based on a minimum fibre density of about 40 fibres in 100 fields (assuming a graticule area of 0.0077 mm/sq.). If calculated value is less than Q.L. then the result is reported as <Q.L. (numerical value for Q.L.). If the calculated value is greater than Q.L., then the result is reported as the calculated value.

The results of the samples are presented on the following page.



PHASE CONTRAST MICROSCOPY (PCM)
PINCHIN LEBLANC ENVIRONMENTAL LTD.
ST. JOHN'S, NL

PROJECT NAME:

Conestoga-Rovers & Associates

REPORT DATE: March 26, 2012

PREPARED FOR:

Brian Luffman

PAGE: 1 of 1

Date	Location	Sample #	Volume (l)	Reported Result (f/ml)
March 21, 2012	N/A	AS 01	1050 L	<0.02
March 21, 2012	N/A	AS 02	1050 L	<0.02
March 21, 2012	N/A	AS 03	450 L	<0.04
March 21, 2012	N/A	AS 04	450 L	<0.04
March 21, 2012	N/A	AS 05	1050 L	<0.02
March 21, 2012	N/A	AS 06	1050 L	<0.02
March 21, 2012	N/A	AS 07	450 L	<0.04
March 21, 2012	N/A	AS 08	1050 L	<0.02
March 21, 2012	N/A	AS 09	1050 L	<0.02
March 21, 2012	N/A	AS 10	450 L	<0.04
<p>* TLV (Threshold Limit Value) Concentration for a normal 8-hour workday and 40-hour workweek, to which nearly all workers may be repeatedly, exposed, day after day, without adverse effects. Chrysotile Asbestos TLV = 0.1 fibres/ml. Amosite Asbestos TLV = 0.1 fibres/ml. Crocidolite Asbestos TLV = 0.1 fibres/ml.</p>				

Analyst: ML

ATTACHMENT D

SITE PHOTOGRAPHS



Photo 1: View, showing air sampling set-up at sample location AS-01 (Combined Services Building, 1st level, Trades Workshop).



Photo 2: View, showing air sampling set-up at sample location AS-09 (Air Terminal Building, 1st level, Public Waiting Area).