



Stantec Consulting Ltd.
845 Prospect Street, Fredericton, NB E3B 2T7

August 21, 2015
File: 121811235.300

Ms. Dianne Theriault,
Environmental Services
Public Works and Government Services Canada
189 Prince William St.
Saint John, NB E2L 4J4

Dear Ms. Theriault:

Reference: Suspect Asbestos-Containing Materials and Lead Paint Sampling, Chignecto South and Point Wolfe Campgrounds, Fundy National Park, Alma, New Brunswick

As requested, Stantec Consulting Ltd. (Stantec) conducted an assessment of suspected asbestos-containing building materials and lead paint at the Chignecto South and Point Wolfe Campgrounds located at Fundy National Park in Alma, New Brunswick (Drawing 1, Appendix A).

BACKGROUND AND SCOPE OF WORK

The purpose of this assessment was to determine whether special handling and/or disposal procedures are required related to the planned renovation or demolition of the structures at the above two campgrounds. We understand that the structures at Chignecto South campground are to be demolished while those at the Point Wolfe campground are to be renovated.

An initial site visit was completed by Stantec staff on July 15, 2015 to scope out the extent of suspect asbestos-containing materials and lead paint sampling. A second site visit was conducted between July 20, 2015 and July 22, 2015 to collect samples of suspect asbestos-containing building materials for analysis; to collect samples of paint for lead and lead leachate analysis; and to confirm the quantities and locations of hazardous building materials present at the two campgrounds. Other suspected hazardous materials, which included mercury and PCBs were also assessed at the subject buildings during the site visits.

At the time of the site visits, several buildings at the Chignecto South Campground were observed to be in various states of demolition. These included: Washroom/Building #4, Washroom/Building #6, and Washroom/Kitchen Shelter #7.

Building names and designations assigned as part of this project are shown on Drawings 2 and 3 in Appendix A.

Regulatory considerations as they pertain to hazardous building materials are provided in Appendix B.



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SAMPLING METHODOLOGY

Asbestos

One hundred and seven samples of suspect asbestos-containing materials (including QA/QC samples) identified during the July 2015 site visits were submitted to EMSL Analytical Inc. (EMSL), located in Mississauga, Ontario, for analysis using Polarized Light Microscopy (PLM). Analysis was conducted by EMSL in accordance with the method outlined in the "Regulation Respecting Asbestos on Construction Projects and in Buildings and Repair Operations" (made under the *Occupational Health and Safety Act, Ontario Regulation 278/05*), and the "EPA/600/R-93/116 Method for the Determination of Asbestos in Bulk Building Materials". EMSL is certified under the National Voluntary Laboratory Accreditation Program (NVLAP) to perform PLM asbestos analysis of bulk samples. Samples of adhesives, flooring tiles (12" x 12"), vinyl sheet flooring, roofing shingles, roofing tar, tar paper, window glazing, and caulking were analyzed using PLM and Non-Organically Bound (NOB) methods. Materials that are considered to be NOB are generally not conducive to asbestos analysis. This is because the asbestos (if present) is usually tightly bound to the matrix material and, therefore, not easily isolated and detected by microscopy. In the PLM EPA NOB method of analysis, the samples undergo gravimetric reduction preparation to eliminate any organic material in the samples in order for asbestos fibres to be more visible under the microscope.

Inaccessible attic spaces were identified in three buildings in Point Wolfe Campground: Washroom Shower #2, Washroom Shower #4, and Washroom Shower #7. It is assumed that these attics are similar to the attic of Washroom Shower #11, which was observed not to contain any suspect hazardous building materials.

Lead Paint

Thirty-five bulk paint samples (including QA/QC samples) were collected using clean tools to cut representative samples of each surface, as required. For selected sampling locations, a sample of paint chips was collected (including all layers of paint where possible). Where the paint was in good condition and adhered to its substrate, and where substrate sampling was possible, e.g. painted wood, a sample of paint plus substrate was collected. Each sample was stored in a clean plastic bag and transported by courier to Maxxam Analytics Inc. in Bedford, NS, for analysis of available lead. Lead leachate testing (TCLP method) was completed on all samples with lead concentrations greater than 1,000 mg/kg.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

Asbestos-Containing Materials (ACMs)

ACMs are defined by "A Code of Practice for Working with Materials Containing Asbestos in New Brunswick" (Regulation 92-106) as materials with asbestos concentrations greater than 1%.



Reference: Suspect Asbestos-Containing Materials and Lead Paint Sampling, Chignecto South and Point Wolfe Campgrounds, Fundy National Park, Alma, New Brunswick

Confirmed Non-ACMs

As indicated in Tables 1 and 2, Appendix C, ACMs were not identified by laboratory analysis in the majority of the bulk samples of building materials collected from the campground buildings.

Confirmed ACMs

As shown in Tables 1 and 2, asbestos at concentrations greater than 1% was identified in the following materials:

- "Transite" cement board panels observed screwed/nailed to interior and exterior walls and ceilings in several buildings;
- Corrugated "Transite" roofing materials used on several buildings;
- Green asphalt shingles on one building; and
- Black caulking (painted grey) debris located at one building.

These non-friable ACMs were observed to be generally in GOOD condition with the exception of broken pieces of "Transite" cement board panels, corrugated "Transite" roofing material and black caulking observed amongst the debris of the partially demolished Washroom/Kitchen Shelter #7 (WKS 7) structure located in the Chignecto South Campground.

Photographs of identified hazardous materials are provided in Appendix D.

Presumed ACMs (PACM)

Based on the lab identifying Chrysotile asbestos in green asphalt shingles from two buildings (one sample at 3.1% and the other at 0.55%), all green asphalt shingles on Chignecto South and Pointe Wolfe Campground buildings should be presumed to be asbestos-containing.

Vermiculite

Vermiculite was not observed during the assessment of the subject buildings. Should vermiculite be discovered during renovation or demolition activities, it should be treated as a PACM unless testing indicates otherwise.

ACM Recommendations

Any work involving the disturbance, repair (i.e., encapsulation) or removal of the above noted confirmed and presumed ACMs should be conducted by a qualified contractor using Asbestos Work Procedures as defined by A Code of Practice for Working with Materials Containing Asbestos in New Brunswick (N.B. Regulation 92-106) and Federal Directive 057.

Also, should a material suspected to contain asbestos fibres become uncovered or discovered during demolition or renovation activities, all work in that area that may disturb the suspect



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material should be stopped. Samples of the suspect material should be submitted for laboratory analysis to determine if asbestos fibres are present or the asbestos should be removed by a qualified contractor prior to continuation of demolition activities.

Lead-Containing Paint

Lead Concentrations in Paint

Stantec collected bulk paint chip and paint with substrate samples from the interior and exterior of the subject buildings. A summary of the sampling locations and analytical results are presented in the attached Tables 3 and 4 in Appendix C. Results are generally discussed below.

Analytical results indicate that lead was detected at concentrations above the Construction & Demolition (C&D) Site disposal guideline (1,000 mg/kg) in the following paint samples:

Chignecto South Campground

- White over yellow over red paint (C-PS-09) present on one wood door associated with the mostly demolished Washroom Kitchen Shelter 7 (WKS 7) structure. The paint was generally in GOOD condition (*i.e.* paint is well adhered to substrate);
- White paint chips (C-PS-16) on the exterior window trim on the Washroom Kitchen Shelter 2 (WKS 2) structure. The paint was generally in FAIR condition (*i.e.* some paint is loose and is becoming detached from substrate).

Point Wolfe Campground

- Black over white paint (PW-PS-01) on exterior plywood at the Laundry building (L9). The paint was generally in GOOD condition.
- Yellow paint (PW-PS-03) on exterior doors, wood panels and masonry areas on the Laundry Building (L9). The paint was generally in GOOD condition.

The four paint applications noted above had a lead concentration above 1,000 mg/kg and, therefore are considered lead-containing paint under the NBDELG disposal policy. NBDELG policy dictates that, should these materials be removed during the planned renovation or demolition of the site buildings, they cannot be disposed of at a Construction and Demolition (C&D) waste disposal site.

Lead-Leachate from Paint

All four lead-containing paint samples were submitted for leachate toxicity analysis and one of those samples was found to exceed the lead leachate regulatory limit of 5.0 mg/L. All other lead leachate concentrations were below the regulatory limit. Lead-leachate toxic paint (*i.e.* paint with lead leachate concentrations greater than 5 mg/L) was identified on the following painted surfaces:



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Chignecto South Campground

- White paint chips on the exterior window trim on the Washroom/Kitchen Shelter #2 (WKS 2) structure. The paint was generally in FAIR condition.

Based on laboratory analysis, the above paint sample is lead leachate toxic and cannot be disposed of at a Regional Solid Waste Landfill.

Paint Disposal Recommendations

All paint with lead concentrations below 1,000 mg/kg (the majority of the paint samples) can be disposed of at a Construction and Demolition site provided the paint is well-adhered to its substrate.

Paint samples (C-PS-09, PW-PS-01, and PW-PS-03) were found to have a lead-concentration above 1,000 mg/kg and to have a lead leachate concentration less than 5 mg/L. These materials can be disposed of at a Regional Solid Waste Landfill provided permission is obtained from the facility.

The sample of white paint chips (C-PS-16) obtained from the exterior wood window trim of WKS 2 located at the Chignecto South Campground had a lead concentration above 1,000 mg/kg and a lead leachate concentration above 5 mg/L. This white paint is, therefore, considered lead-leachate toxic and should be removed by a certified contractor and disposed of at an approved hazardous waste disposal facility capable of handling leachate toxic waste.

It should be noted that painted "Transite" cement board panels located on walls of Washroom/Kitchen Shelter #2 and Washroom/Kitchen Shelter #3 at the Chignecto South Campground are considered ACMs and must be removed and disposed of accordingly as per *A Code of Practice for Working with Materials Containing Asbestos in New Brunswick* (N.B. Regulation 92-106) and Federal Directive 057.

Lead-Containing Materials

The Guideline: Lead on Construction Projects (prepared by the Ontario Ministry of Labour), 2004, does not require removal of lead paint or lead-based materials such as pipe solder or ceramic tiles unless work on these materials is likely to cause worker exposure to lead fumes or lead dust. Worker exposure to lead fumes or dust is elevated by activities such as welding, flame cutting, grinding, sanding or sandblasting. If these activities are to be performed on painted surfaces, procedures outlined in the aforementioned guideline should be adhered to.

Based upon our visual observations and the historic use of lead in construction, lead may also be present in the following building materials:

- solder on copper domestic water pipes; and
- caulking in bell joints on cast iron drainage pipe systems.



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These materials should be carefully separated from other building materials and re-cycled by a metals recycling depot. Based on the possible presence of lead-containing solder on copper piping, all copper piping removed during demolition/renovation of the building should be cut above and below any soldered joints to avoid direct disturbance of the lead solder.

Other Hazardous Materials at the Site

Mercury-Containing Equipment

Mercury containing equipment identified included:

- approximately 113 fluorescent light tubes located in light fixtures throughout the subject buildings.

Prior to renovation/demolition, fluorescent light tubes should be packaged for recycling to avoid emissions of mercury vapours. The fluorescent light tubes should be properly stored on site until they can be safely removed and transported from the site by a recycling contractor for disposal at a registered recycling depot.

PCBs in Electrical Equipment

Approximately 93 fluorescent light fixtures containing fluorescent lamp ballasts are present throughout the subject buildings.

Based on the age of the subject buildings, all ballasts should be checked for PCBs prior to removal by comparing the ballast manufacturer catalogue numbers to the Environment Canada document "Identification of Lamp Ballasts Containing PCBs", Report EPS 2/CC/2 (revised), August 1991 prior to disposal. PCB containing ballasts removed from the building during renovation or demolition should be handled according to the New Brunswick Policy on the Storage of PCB Light Ballasts.

No other suspected PCB-containing equipment was identified within the subject buildings at the time of the assessment.

ESTIMATED ABATEMENT COSTS

Overall quantities of hazardous materials in each building are provided in Tables 5 and 6. Class "D" abatement cost estimates for hazardous materials were prepared and are provided in Appendix E. The cost estimates presented for hazardous material abatement/disposal are for removal and disposal only and there has been no allowance for replacing materials/finishes.



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CLOSURE

This report has been prepared for the sole benefit of Public Works Government Services Canada and for Parks Canada. The report may not be relied upon by any other person or entity without the express written consent of Public Works Government Services Canada and Stantec.

Any use which a third party makes of this report or any reliance on decisions made based on it, are the responsibility of such third parties. Stantec accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

The information and conclusions contained in this report are based upon work undertaken by trained professional and technical staff in accordance with generally accepted engineering and scientific practices at the time the work was performed. The conclusions presented herein represent the best technical judgment of Stantec based on the information obtained from the specific sampling locations.

In addition, analysis has been carried out for a limited number of chemical parameters, and it should not be inferred that other chemical species are not present. Due to the nature of the investigation and the limited data available, Stantec cannot warrant against undiscovered environmental liabilities or hazardous materials. If any conditions become apparent that differ significantly from our understanding of conditions as presented in this report, we request that this information be brought to our attention so that we may re-assess the conclusions presented herein. This report was prepared by Jonathan Charters and reviewed by Christine Mullaly, P.Tech and Clayton Barclay, Ph.D., P.Eng. Should you have any questions or would like clarification, please do not hesitate to contact the undersigned at (506) 452-7000.

Sincerely,

STANTEC CONSULTING LTD.

Clayton Barclay, Ph.D., P.Eng.
Principal

Appendices

CM/PDP/jes

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APPENDIX A

Drawings



POINT WOLFE CAMPGROUND
CAMPGROUND HAZMAT
FUNDY NATIONAL PARK, NEW BRUNSWICK

Client: PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

Job No.: 121811235
Scale: 1 : 5000
Date: 11-AUG-2015
Dwn. By: JL
App'd By: CB

Dwg. No.: 3

Stantec

APPENDIX B

Regulatory Considerations

Regulatory Considerations

Asbestos-Containing Materials

A summary of the regulations, guidelines and other reference documents used for this assessment is provided in Table B1 and is generally discussed below. This information was used to evaluate results and make recommendations.

Table B1 **Summary of Regulations and Guidelines for Asbestos-Containing Materials**

Jurisdiction	Regulations, Guidelines, Codes of Practice and Other Reference Documentation
Provincial	<ul style="list-style-type: none">• A Code of Practice for Working with Materials Containing Asbestos in New Brunswick referenced in New Brunswick Regulation (NB) 92-106 made under the Occupational Health and Safety Act.
Federal	<ul style="list-style-type: none">• Public Works and Government Services Canada Deputy Minister Directive (DIR:057) – <i>Respecting Asbestos Management in Federal Owned or Leased Buildings or Facilities Containing Asbestos</i>, dated March 12, 1997• Federal Treasury Board of Canada Secretariat Hazardous Substances Directive – II, Section 2.9 as it relates to asbestos management

The above information was used to evaluate results and make recommendations. Because Fundy National Park is a federal site, the buildings and employees are under federal, not provincial, jurisdiction. Typically, federal buildings and employees come under the Canada Labour Code, however, contractors would be under provincial guidelines.

For the purposes of managing worker exposure during building maintenance, renovation and demolition, the NB Regulation and the PWGSC Directive (DIR:057) define an asbestos-containing material (ACM) as a material which contains 1% or more by volume of asbestos.

The assessment included both friable and non-friable asbestos building materials. The term friable is applied to a material that can be readily reduced to dust or powder by hand or moderate pressure. Asbestos materials that are friable have a much greater potential to release airborne asbestos fibres when disturbed.

The disturbance of ACMs on construction projects is governed by New Brunswick Regulation 92-106, *A Code of Practice for Working with Materials Containing Asbestos in New Brunswick (NB 92-106)*. ACMs must be removed prior to any demolition or renovation that may potentially disturb the asbestos-containing materials.

The New Brunswick waste regulations require the disposal of asbestos waste in a double sealed container, properly labeled and free of cuts, tears or punctures. The waste must be disposed of in a licensed waste facility, which has been properly notified of the presence of asbestos waste.

The transport of asbestos waste to the disposal site is covered by the federal "Transportation of Dangerous Goods Act". Asbestos waste is to be handled by a licensed waste hauler.

Paint

In New Brunswick, building materials covered with lead paint is regulated by the NBDELG Policy for disposal of building materials containing lead paint. There is no specific construction

legislation in Canada that establishes criteria for defining lead-based paint. However, both Canadian federal legislation and guidelines established by the U.S. Department of Housing and Urban Development (HUD) consider paint with lead concentrations greater than 5,000 parts per million (ppm) to be lead-based paint. This criterion is now widely, although not universally, used across Canada.

In Canada, the Surface Coating Materials Regulations (SOR/2005-109) under the federal Hazardous Products Act provides a concentration of lead that must not be exceeded in surface coatings that are presently sold in this country. This value has recently been reduced from 600 ppm to 90 ppm. However, it is important to note that there is not a direct correlation between the concentrations of lead in a material to the potential occupational exposure if the material is disturbed.

Applicable sections of New Brunswick's *Occupational Health and Safety Act* (NB Reg. 91-191) should be followed whenever a material containing lead is disturbed. Under NB Reg. 91-191, a regulatory limit has been established for occupational exposure to airborne lead that may be present in a workplace. Worker exposures should not exceed the time-weighted average (TWA) occupational exposure limit (OEL) for airborne lead dust or fumes of 0.05 mg/m³. The TWA is the applicable regulated occupational exposure limit in New Brunswick and is based on the time-weighted average concentration for a conventional 8-hour work day and a 40-hour work week, to which it is believed that nearly all workers may be repeatedly exposed, day after day, without adverse health effects.

Furthermore, in the absence of a New Brunswick guideline, the Ontario Ministry of Labour (MOL) document entitled **Guideline: Lead on Construction Project (April 2011)**, provides procedures for removing lead paint where work on lead containing materials are likely to produce airborne lead dust or fumes, for example during welding, torch cutting, sanding and sand blasting. If these operations are likely to occur during building renovations or demolition, it is recommended that the removal of lead paint be carried out in accordance with procedures outlined in the Ontario guideline.

NBDELG has established guidelines which restrict certain materials from municipal landfills and C&D (Construction and Demolition) waste disposal sites which could potentially leach/migrate into the ground and create an adverse environmental effect. Lead is an inorganic contaminant that has been associated with (among others) paints and other protective coatings. Lead can leach from its base material into soil and groundwater creating environmental impacts. The NBDELG recommends that materials with a total lead concentration exceeding 1,000 mg/kg (1,000 ppm) undergo leachate testing to assess whether the leachate exceeds the regulatory limit of 5 mg/L lead. The material 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. Materials with a total lead concentration exceeding 1,000 mg/kg but under the leachate regulatory limit of 5 mg/L, cannot be disposed of at a C&D waste disposal site. However, these materials can be disposed of at an approved provincial "sanitary landfill". If the material has a lead leachate concentration above 5 mg/L, it is considered "lead leachate toxic" and must be disposed of at an approved facility. There are currently no facilities in New Brunswick capable of accepting "lead leachate toxic" materials and out-of-province disposal is required.

Mercury

Mercury is regulated in New Brunswick under the Occupational Health and Safety Act. Mercury is commonly found in buildings as mercury vapour lighting, in thermometers, thermostats and

some electrical switches. Mercury can also be found in minor amounts in fluorescent lamp tubes and in paints and adhesives.

Mercury or mercury vapour within light fixtures, thermometers, thermostats and electrical switches poses no risk to workers or occupants provided the mercury containers remain intact and undisturbed. Prior to demolition, remove mercury-containing materials and store in a safe location until they are properly disposed of.

Canadian Council of Ministers of the Environment (CCME) have developed Canada-Wide Standards for mercury-containing lights and mercury emissions. The goal of the standards is to reduce release of mercury into the environment.

Polychlorinated-Biphenyls (PCBs)

The past use of PCBs (as coolants and lubricants) in electrical equipment such as transformers, fluorescent light ballasts, and capacitors was common throughout North America. From the 1930s to the 1970s, PCBs were widely used in a number of industrial materials, including sealing and caulking compounds, inks and paint additives. PCBs are an environmental concern as they do not readily degrade and have been identified to bioaccumulate. In 1976, the federal Environment Contaminants Act prohibited the use of PCBs in heat transfer equipment installed after September 1, 1977, and in transformers and capacitors installed after July 1, 1980. For federal sites, the PCB Regulations (2008) applies.

The Environment Canada document "Identification of Lamp Ballasts Containing PCBs" Report EPS 2/CC/2 (revised) August, 1991, can be used as a guide to identify PCB capacitors in fluorescent light ballasts and high intensity discharged (HID) light fixtures.

As of September 5, 2008, under Subsection 93(1) of the *Canadian Environmental Protection Act*, (CEPA), Federal PCB regulations have been published by the Canada Gazette Part II (SOR/2008-273) that impose specific deadlines for the elimination of all PCBs in concentrations at or above 50 mg/kg. The regulation requires the elimination of all PCBs and PCB-containing materials currently in-use and in storage and limits the period of time PCB materials can be stored before being eliminated. Other aspects of the regulation govern the labelling and reporting of stored PCB materials and equipment as well as improved practices for the management of PCBs that remain in use (i.e., those with PCB concentrations less than 50 mg/kg) until their eventual elimination.

APPENDIX C

Summary Analytical Tables
and Laboratory Certificates

Table 2: Summary of Suspected ACM Bulk Samples - Point Wolfe Campground

Sample ID	Material Description	Sample Location	Analytical Results
PW- BS- 01A	2' x 2' perforated "Transite" cement board ceiling panels, grey	L9	45% Chrysotile
PW- BS-01A FD (PW- Dup 01)	2' x 2' perforated "Transite" cement board ceiling panels, grey	L9	65% Chrysotile
PW- BS- 01B	2' x 2' perforated "Transite" cement board ceiling panels, grey	L9	45% Chrysotile (assumed based on PW-BS-01A)
PW- BS- 01C	2' x 2' perforated "Transite" cement board ceiling panels, grey	L9	45% Chrysotile (assumed based on PW-BS-01A)
PW- BS- 02	Grout, grey	L9	None Detected
PW- BS- 03	Grout, dark grey	L9	None Detected
PW- BS- 04	Mortar, grey	L9	None Detected
PW- BS- 05	Mortar, grey	L9	None Detected
PW- BS- 06A	Adhesive, gold	L9	None Detected
PW- BS- 06B	Adhesive, gold	L9	None Detected
PW- BS- 06C	Adhesive, gold	L9	None Detected
PW- BS- 07	Fiber board panelling, white 4" pattern	L9	None Detected
PW- BS-07 FD (PW- Dup 02)	Fiber board panelling, white 4" pattern	L9	None Detected
PW- BS- 08	Mortar, grey	L9	None Detected
PW- BS- 09A	Tar and gravel roofing material, black	L9	None Detected
PW- BS- 09B	Tar and gravel roofing material, black	L9	None Detected
PW- BS- 09C	Tar and gravel roofing material, black	L9	None Detected
PW- BS- 10A	Exterior caulking, white	L9	<0.25% Chrysotile
PW- BS- 10B	Exterior caulking, white	L9	<0.25% Chrysotile
PW- BS- 10C	Exterior caulking, white	L9	<0.25% Chrysotile
PW- BS- 11A	Exterior skim coat, white	L9	None Detected
PW- BS- 11B	Exterior skim coat, white	L9	None Detected
PW- BS- 11C	Exterior skim coat, white	L9	None Detected
PW- BS- 12	Asphalt shingle, green	Kiosk 810	None Detected (PACM based on PW-BS-46)
PW- BS- 13A	Vinyl sheet flooring - beige with grey, turquoise and cherry dots	Kiosk810	None Detected
PW- BS- 13B	Vinyl sheet flooring - beige with grey, turquoise and cherry dots	Kiosk810	None Detected

Table 2: Summary of Suspected ACM Bulk Samples - Point Wolfe Campground

Sample ID	Material Description	Sample Location	Analytical Results
PW- BS- 13C	Vinyl sheet flooring - beige with grey, turquoise and cherry dots	Kiosk810	None Detected
PW- BS- 14	Adhesive, cream colour	Kiosk810	None Detected
PW- BS- 15	Asphalt shingle, green	WS 2	None Detected (PACM based on PW-BS-46)
PW- BS- 16	Mortar, grey/dark grey	WS 2	None Detected
PW- BS- 17	Grout, white	WS 2	None Detected
PW- BS- 18	Mortar, white	WS 2	None Detected
PW- BS- 19	Grout, dark grey	WS 2	None Detected
PW- BS- 20	Mortar, dark grey	WS 2	None Detected
PW- BS- 21	Asphalt shingle, green	KS 5	None Detected (PACM based on PW-BS-46)
PW- BS- 22	Asphalt shingle, green	WS 7	0.55% Chrysotile (PACM based on PW-BS-46)
PW- BS-22 FD (PW- Dup 03)	Asphalt shingle, green	WS 7	None Detected (PACM based on PW-BS-46)
PW- BS- 23	Mortar, white	WS 7	None Detected
PW- BS-23 FD (PW- Dup 04)	Mortar, white	WS 7	None Detected
PW- BS- 24	Mortar, grey	WS 7	None Detected
PW- BS- 25	Mortar, grey-brown	WS 7	None Detected
PW- BS- 26	Grout, grey-brown	WS 7	None Detected
PW- BS- 27	Grout, grey-brown	WS 7	None Detected
PW- BS- 28	Mortar, white	WS 7	None Detected
PW- BS- 29	Caulking, white	WS 7	None Detected
PW- BS- 30	Asphalt shingle, green	KS 6	None Detected (PACM based on PW-BS-46)
PW- BS- 31	Mortar, white	KS 6	None Detected
PW- BS- 32	Asphalt shingle, green	WS 11	None Detected (PACM based on PW-BS-46)
PW- BS- 33	Mortar, white	WS 11	None Detected
PW- BS- 34	Grout, white	WS 11	None Detected
PW- BS- 35	Mortar, grey/dark grey	WS 11	None Detected
PW- BS- 36	Grout, grey-brown	WS 11	None Detected
PW- BS- 37	Mortar, grey/dark grey	WS 11	None Detected

Table 2: Summary of Suspected ACM Bulk Samples - Point Wolfe Campground

Sample ID	Material Description	Sample Location	Analytical Results
PW- BS- 38	Mortar, gold	WS 11	None Detected
PW- BS- 39	Grout, white	WS 11	None Detected
PW- BS- 40	Asphalt shingle, green	KS 3	None Detected (PACM based on PW-BS-46)
PW- BS- 41A	Blown-in insulation, grey	KS 3	None Detected
PW- BS- 41B	Blown-in insulation, grey	KS 3	None Detected
PW- BS- 41C	Blown-in insulation, grey	KS 3	None Detected
PW- BS- 42	Mortar, dark grey	KS 3	None Detected
PW- BS- 43	Asphalt shingle, green	OH 1	None Detected (PACM based on PW-BS-46)
PW- BS- 44	Grout, grey	WS 4	None Detected
PW- BS-44 FD (PW- Dup 05)	Grout, grey	WS 4	None Detected
PW- BS- 45	Mortar, white	WS 4	None Detected
PW- BS- 46	Asphalt shingle, green	WS 4	3.1% Chrysotile
PW- BS- 47	Tar Paper, black	WS 4	None Detected
PW- BS- 48	Mortar, white	WS 4	None Detected
PW- BS- 49	Caulking, white	WS 4	None Detected

* **Bold** indicates asbestos containing material (ACM) 1 % by volume or greater as defined by *A Code of Practice for Working with Materials Containing Asbestos in New Brunswick* (Regulation 92-106).

FD = Field Duplicate

Table 4: Summary of Paint Sample Results for Point Wolfe Campground

Sample ID	Material Description	Location	Lead Concentration Analytical Result (mg/kg)	Lead Leachate Concentration Analytical Result (mg/L)
PW-PS-01	BLACK OVER WHITE PAINT ON WOOD SUBSTRATE	Exterior Plywood on L9	3500	3.2
PW-PS-01 LD	BLACK OVER WHITE PAINT ON WOOD SUBSTRATE	Exterior Plywood on L9	3500	3.7
PW-PS-02	YELLOW PAINT ON WOOD SUBSTRATE	Interior door frames, benches in L9	400	Leachate Not Analysed
PW-PS-03	YELLOW PAINT ON WOOD SUBSTRATE	Exterior doors, wood panels, masonry areas on L9	1400	1.9
PW-PS-04	TURQUOISE PAINT ON WOOD SUBSTRATE	Interior front door and 2 exterior doors on L9	510	Leachate Not Analysed
PW-PS-05	BROWN RED PAINT ON WOOD SUBSTRATE	Interior wall between laundry and furnace rooms and entry door in L9	470	Leachate Not Analysed
PW-PS-07	WHITE PAINT ON WOOD SUBSTRATE	Exterior clapboard on Kiosk 810	10	Leachate Not Analysed
PW-PS-07 FD (DUP-01)	WHITE PAINT ON WOOD SUBSTRATE	Exterior clapboard on Kiosk 810	9	Leachate Not Analysed
PW-PS-09	WHITE PAINT ON WOOD SUBSTRATE	Interior door frame, interior walls and ceilings in KS 5	37	Leachate Not Analysed
PW-PS-10	WHITE PAINT ON WOOD SUBSTRATE	Exterior eave on KS 5	10	Leachate Not Analysed
PW-PS-11	DARK GREY PAINT ON WOOD SUBSTRATE	Exterior end of KS 5	13	Leachate Not Analysed
PW-PS-12	LIGHT GREY PAINT ON WOOD SUBSTRATE	Exterior clapboard on end of KS 5	860	Leachate Not Analysed
PW-PS-13	WHITE PAINT ON WOOD SUBSTRATE	Interior window trim and walls in KS 6	28	Leachate Not Analysed
PW-PS-14	GREY PAINT ON WOOD SUBSTRATE	Interior ceiling trim, walls and ceiling in KS 3	46	Leachate Not Analysed
PW-PS-17	LIGHT GREY PAINT ON WOOD SUBSTRATE	Exterior clapboard siding on WS 4	14	Leachate Not Analysed
PW-PS-17 LD	LIGHT GREY PAINT ON WOOD SUBSTRATE	Exterior clapboard siding on WS 4	17	Leachate Not Analysed
PW-PS-18	DARK GREY PAINT ON WOOD SUBSTRATE	Exterior clapboard siding (gable ends) on WS 4	9	Leachate Not Analysed

Bold - lead-containing paint has a lead concentration >1,000 mg/kg

Bold - lead leachate toxic paint has a lead concentration >5 mg/L

FD = Field Duplicate

LD = Lab Duplicate

Table 6. Quantities of Hazardous Materials at Point Wolfe Campground

Material	Quantity of Hazardous Materials (m ²)											
	L9	Kiosk 810	OH 1	Wood shed	WS 2	WS 4	WS 7	WS 11	KS 3	KS 5	KS 6	Total
ACM (>1%)												
"Transite" cement board ceiling panels	50	0	0	0	0	0	0	0	0	0	0	50
Asphalt shingles, green	0	30	5	15	80	80	80	80	80	80	80	610
Lead-Containing Materials (>1000 mg/kg)												
Lead-Containing Paint on Wood												
Black over white	7	0	0	0	0	0	0	0	0	0	0	7
Yellow	35	0	0	0	0	0	0	0	0	0	0	35
Lead-Leachate Toxic Paint (> 5 µg/L)	None	None	None	None	None	None	None	None	None	None	None	0
Material	Quantity of Hazardous Materials (number of tubes or ballasts)											
	L9	Kiosk 810	OH1	Wood shed	WS2	WS4	WS7	WS11	KS3	KS5	KS6	Total
Mercury Containing Equipment												
Fluorescent Light Tubes	11	8	0	0	18	18	18	18	0	0	0	91
Potential PCB-Containing Equipment												
Lamp Ballasts	8	4	0	0	14	14	14	14	0	0	0	68

APPENDIX D

Identified Hazardous Building Materials
(Photographs)



PHOTO 9: View of asbestos-containing 2' x 2' perforated "Transite" cement board ceiling panels (off-white colour) observed in building L9 located at the Point Wolfe Campground.



PHOTO 10: View of sample PW-BS-22 (green asphalt shingle) obtained from the roof of building WS 7 located in the Point Wolfe Campground. This shingle sample was found to contain **0.55% Chrysotile asbestos**.



PHOTO 11: View of sample PW-BS-46 (green asphalt shingle) obtained from the roof of building WS 4 . This shingle sample was found to **3.1% Chrysotile asbestos**.



PHOTO 12: View of paint sample C-PS-09 (white over yellow over red paint on wood substrate) found to be lead-containing. This paint sample was obtained from a wood door of the partially demolished building WKS 7 located at the Chignecto South Campground.



PHOTO 15: View of location of paint sample PW-PS-03 (yellow paint on wood substrate) found to be lead-containing. This yellow colour paint was observed on the exterior doors, wood panels, and masonry of building L9 located at the Point Wolfe Campground.



PHOTO 14: View of location of paint sample PW-PS-01 (black over white paint on wood substrate) found to be lead-containing. This sample was obtained from the exterior plywood on building L9 located at the Point Wolfe Campground.

APPENDIX E

Hazardous Building Material Quantities and Class D Abatement Costs

**QTY ESTIMATES –
POINT WOLFE CAMPGROUNDS, FUNDY NATIONAL PARK, ALMA, NEW BRUNSWICK**

Point Wolfe Campground - HazMat Qty Estimates:

Material	Approximate Quantity	
Asbestos-Containing Materials		
"Transite" cement board panels	50 m ²	
Asphalt shingles, green	610 m ²	
Lead-Containing Paint		
Black over white	7 m ²	
Yellow	35 m ²	
Mercury-Containing Equipment		
Fluorescent Light Tubes	91	
Potential PCB-Containing Equipment		
Lamp ballasts	68	