FINAL MODIFIED PHASE I ENVIRONMENTAL SITE ASSESSMENT AND HAZARDOUS MATERIALS SURVEY

DALVAY ASSETS
PRINCE EDWARD ISLAND NATIONAL PARK
DALVAY, QUEENS COUNTY, PEI

PUBLIC WORKS AND GOVERNMENT SERVICES CANADA FOR PARKS CANADA

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GLOSSARY OF TERMS

ACMs	Asbestos Containing Materials
AST	Aboveground Storage Tank
B[a]P PEF	Benzo(a)pyrene Potency Equivalence Factor
B[a]P TPE	Benzo(a)pyrene Total Potency Equivalents
BTEX	Benzene, toluene, ethylbenzene, and xylenes
C & D	Construction and Demolition
CCME	Canadian Council of Ministers of the Environment
CEPA	Canadian Environmental Protection Act
CSA	Canadian Standards Association
CSRS	Canadian Spatial Reference System
CWS	Canada Wide Standards
DFRP	Directory of Federal Real Property
EMFs	Electromagnetic Fields
ESA	Environmental Site Assessment
FD	Field Duplicate
Hazmat	Hazardous Materials
LD	Laboratory Duplicate
mbgs	Metres Below Ground Surface
NAD83	North American Datum of 1983
ODSs	Ozone Depleting Substances
PAH	Polynuclear Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
PEIDEEF	Prince Edward Island Department of Environment, Energy and Forestry
PEIPT	Prince Edward Island Provincial Treasury
PID	Property Identification
ppm	Parts Per Million
PWGSC	Public Works and Government Services Canada
QA/QC	Quality Assurance / Quality Control
RPD	Relative Percent Difference
SCC	Standards Council of Canada
UFFI	Urea Formaldehyde Foam Insulation
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank

EXECUTIVE SUMMARY

Between August 2010 and October 2010, Stantec Consulting Ltd. (Stantec) conducted a Modified Phase I Environmental Site Assessment (ESA) and Hazardous Materials (Hazmat) Survey of six (6) Parks Canada assets located in Dalvay, Prince Edward Island National Park, Queens County, Prince Edward Island. The purpose of the assessment was to identify and characterize potentially hazardous materials on the structures scheduled for decommissioning and demolition.

Based on the information gathered and on observations made during this investigation, the modified Phase I ESA revealed evidence of potential hazardous materials associated with the identified structures. A Hazmat survey limited to lead based paint and asbestos containing materials (ACMs) was conducted to confirm the findings of the modified Phase I ESA, where practical. The findings of the Hazmat survey are presented in Table 1.

Table 1. Summary Table of Findings

Asset No. (Building ID)	Building Type	Lead Paint			Asbestos	
		Surface Area (m^2) non-detect	Surface Area (m^2) content <5,000 mg/kg	Surface Area (m^2) leachate >5 mg/L	ACMs	Area (m^2)
Compound						
209	**Storage**	-	-	10	-	-
210	**Storage**	-	80	-	-	-
217	**House**	-	850	5	Floor tile	50
					Drywall	5
					Asbestos	15
	Garage	-	-	15	-	-
Long Term Storage Facility						
216	**Sign Building**	2	165	-	-	-
218	**Change House**	-	350	-	-	-

Disposal Options

Lead Paint

- Paint with no lead detected can be disposed of at a provincially licensed Construction and Demolition (C&D) disposal facility. The PEIDEEF permits materials with a total lead concentration below 5,000 mg/kg to be disposed of at East Prince Waste Management Facility (EPWM) without leachate testing. Waste materials containing lead in concentrations in excess of 5,000 mg/kg must undergo leachate testing. If the leachate contains lead in excess of 5 mg/L those materials must be disposed of outside of PEI. Demolition work should not involve sanding, scraping or otherwise disturbing painted surfaces in a manner to create lead dust. Any activities that may create lead

dust should be carried out under controlled conditions with appropriate protection for workers and the environment.

Asbestos Containing Materials

- Confirmed ACMs, and all visually similar materials throughout the buildings, should be removed in accordance with Part 49-Asbestos Regulations of the Occupational Health & Safety Act Regulations, R.S.P.E.I. 1988, Cap 0-1.

- ACMs should be removed by a certified contractor and disposed of in a provincially approved manner.

- Asbestos may also be present in the other building materials not accessible during the survey. If potential ACMs are identified they should be sampled and, if found to contain asbestos, should be removed in accordance with the regulations noted above.

Additional Environmental Concerns

The following additional environmental concerns were identified, including:

- Existing heating fuel AST associated with the Staff House (Asset No. 217). The existing heating fuel AST should be checked for leaks or any sign of spill or stained areas beneath the tank or associated infrastructure. Decommissioning and disposal of the fuel oil AST must be completed according to applicable Provincial Regulations;

- Potential PCB and mercury containing equipment (thermostat, light bulbs and light ballasts) were observed in the Staff House (Asset No. 217). Potential PCB and mercury containing equipment should be confirmed and disposed of according to Federal and Provincial Regulations; and,

- Refrigeration equipment should be removed and disposed using a certified refrigerant contractor. If ODSs are identified they should be dealt with in accordance with the Federal Halocarbon Regulations.

Please note that the Hazmat survey was specific to asbestos and lead based paint. Based on the age of the buildings, there is potential for other hazardous building materials (i.e., mercury, UFFI, etc.); however, none were identified at the time of the assessment. In the event that other hazardous building materials are identified during decommissioning and demolition activities, that were not addressed in this assessment, the contractor should test (if applicable) and take proper precautions with regard to disposal.

The statements made in this Executive Summary are subject to the same limitations included in Section 5.0 (Closure), and are to be read in conjunction with the remainder of this report.

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1.0 INTRODUCTION

Stantec Consulting Ltd. (Stantec) was commissioned by PWGSC, on behalf of Parks Canada, to complete a Modified Phase I ESA and Hazardous Materials (Hazmat) Survey for six (6) assets located in Dalvay, Prince Edward Island National Park, Queens County, Prince Edward Island (Drawing No.1, **Appendix A**).

1.1 Objectives

This work had the following general objectives:

- To conduct a Modified Phase I ESA to identify and document potential sources of contamination in relation to site structures to be decommissioned and demolished; and
- Complete a Hazmat Survey of the buildings to be decommissioned and demolished in Dalvay in order to complete the following:

    - Identify, assess and quantify the hazardous materials that are associated with the identified structures; and
    - Provide the necessary information required to develop a decommissioning and demolition plan for the identified structures.

1.2 Assessment Standards

1.2.1 Paint

In 1976, the lead content in interior paint was limited to 0.5% by weight under the federal Hazardous Products Act. Health Canada has established home renovation guidelines of 1 mg/cm^2 for children and pregnant women, and 5 mg/cm^2 as constituting heavily leaded paint.

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

The USEPA have identified lead levels in paint chips exceeding 5,000 mg/kg or 1 mg/cm^2 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. Health Canada also recommends similar precautions, but does not refer to a specific lead concentration to define lead-based paint.

PEIDEEF has established guidelines that restrict certain materials from municipal landfills and C&D waste disposal sites. The PEIDEEF suggest that materials with a total lead concentration exceeding 5,000 mg/kg undergo leachate testing to determine whether the leachate exceeds the Federal Guideline for Export and Import of Hazardous Waste and Hazardous Recyclable Material Regulations limit of 5 mg/L for lead. The tested 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 below 5,000 mg/kg do not require leachate testing, and may be disposed of at an approved provincial disposal site. Materials with a total lead concentration exceeding 5,000 mg/kg, but under the leachate regulatory limit of 5 mg/L can be disposed of at an approved provincial disposal site.

If the material has a lead leachate concentration above 5 mg/L and it is to be sent for disposal, it is considered "lead leachate toxic" and must be disposed of at an approved facility. There are currently no facilities in Prince Edward Island 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) is considered a "leachable toxic" dangerous good.

1.2.2 Asbestos

The Province of PEI regulates the use and disposal of asbestos containing materials both through legislation, codes and guidelines. In general, asbestos containing materials with asbestos content over 1% must be managed appropriately in accordance with Part 49-Asbestos Regulations of the Occupational Health and Safety Regulations RSPEI 1988, Cap 0-1.

2.0 MODIFIED PHASE I ENVIRONMENTAL SITE ASSESSMENT

2.1 Scope of Work

The purpose of the modified Phase I ESA was to identify any actual or potential environmental contaminants associated with the subject property which may exist as a result of current or past activities. The Modified Phase I ESA consisted of the following:

- records review;
- interviews with personnel associated with the subject properties;
- a site visit; and
- an evaluation of information and preparation of the report provided herein.

2.2 Methodology

2.2.1 Records Review

The applicable search distance for the records review included the subject property only or, if applicable, where the potential for environmental contamination to impact the subject property was apparent (*e.g.*, petroleum product storage in the immediate area). A list of records reviewed is provided in **Appendix B**.

2.2.2 Previous Environmental Reports

The following environmental study was used to assist in the modified Phase I ESA and Hazmat:

- Jacques Whitford Limited (File No. 91843) Final Phase I/II ESA Parks Canada – Dalvay Compound, Queens County, Prince Edward Island - PWGSC, March 2010.

2.2.3 Interviews

Mr. Paul Ayles, Acting Environmental Protection Officer and Geomatics Technician, Parks Canada (Charlottetown, PE) was interviewed by Mrs. Danya MacGillivray of Stantec. Details of the interview are provided in **Appendix B**. Information obtained from the interviews is discussed in the relevant sections of the report.

2.2.4 Site Visit

The site visit was completed on September 16, 2010 by Stantec personnel. The subject buildings and readily visible portions of the property around the buildings were examined for the presence of actual or potential environmental contamination. The weather conditions at the time of the site visit was sunny and humid.

2.3 Site Description

The Dalvay area is owned by Parks Canada and is located in the Prince Edward Island National Park. Established in 1937, the Prince Edward Island National Park is located along a 40 km stretch of the north shore of PEI in Queens County and features sand dunes, sandstone cliffs, beaches, barrier islands, wetlands and forests, and plays host to a variety of plants, animals and many archeological finds. The Park also features several historical sites and cultural resources. The assets scheduled for decommissioning and demolition from the Parks Canada facilities at Dalvay relate to the following:

- a staff housing building and associated garage (Asset No. 217);
- two storage buildings (Asset Nos. 209 and 210);

- a sign building (Asset No. 216); and
- a change house (Asset No. 218)

Each of these buildings has been assigned an asset number which will be used as the building identification number throughout the report. Refer to Drawing Nos. 1 and 2 in **Appendix A** for the site location plan and site plan.

2.3.1 Subject Property Description

The Prince Edward Island National Park property is owned by the Government of Canada and is located in the Prince Edward Island National Park. Two (2) of the six (6) buildings that are scheduled for demolition are located in the Stanhope Long Term Storage Facility which is located south of the Gulf Shore Parkway, just east of the intersection with Bagnalls Road. Four (4) of the six (6) buildings are located in the Dalvay Compound, which is located on Dalvay Crescent in Dalvay, Queens County, Prince Edward Island (refer to Drawing Nos. 2 and 3, **Appendix A**). Each of these buildings has been assigned an asset number which will be used as the building identification number throughout the report.

Dalvay Compound

The site is owned by the Government of Canada and occupied by Parks Canada, which operates the facility as a maintenance yard and trades (i.e., carpentry, automotive mechanics, etc.) compound as a resource for the Prince Edward Island National Park. The Dalvay Compound is a portion (i.e., approximately 5 acres) of land within the Prince Edward Island National Park property, identified by Provincial PID No. 214569. Refer to Drawing No. 3, **Appendix A**, for locations and photos of the following assets:

- Asset No. 217 - Staff House #5 and associated Triple Car Garage;
- Asset No. 209 – Chemical Storage Building; and
- Asset No. 210 – Interpretative Storage Building.

The site is located on Parks Canada property in a predominantly recreational area in the Community of Dalvay. The site is surrounded by a National Park wildlands to the east and west, National Park beach property to the north (i.e., across the Gulf Shore Parkway), and Dalvay-by-the-Sea National Historic Site property (i.e., including a hotel, cottages, and a freshwater lake) to the south.

Stanhope Long Term Storage Facility

This site is owned by the Government of Canada and occupied by Parks Canada, which operated the storage facility as an area for the excess materials and buildings/building materials required for park maintenance (i.e., roads, paths, buildings, structures, etc.). Refer to Drawing No. 3, **Appendix A**, for locations and photos of the following assets:

- Asset No. 218 – Shaw's Beach Change House; and
- Asset No. 216 – Sign Building.

The site is surrounded by a National Park wildlands in all directions. The National Park beach property is located to the north (i.e., across the Gulf Shore Parkway), and Long Pond (a freshwater lake) is located to the east.

2.3.2 Water Supply/Groundwater Usage

The subject site is supplied with potable water by two groundwater production wells (PWs) located within the compound site and operated by Parks Canada. One PW is located within the Pump House Building and the second production well is located directly south of the public washroom (refer to Drawing No. 3, **Appendix A**).

The subject property has a private sewer system that is operated by Parks Canada. The subject site is presently serviced with power supplied by Maritime Electric Company, Limited (Maritime Electric); however, the power network and associated infrastructure is owned and operated by Parks Canada.

The Long Term Storage Facility is not serviced.

2.3.3 Soil, Topography and Drainage

Based on an available surficial geology map (J. I. MacDougall, C. Veer and F. Wilson, 1988), the native surficial soils of the site consist of glacial till deposits, principally comprised of sand and silt. A site-specific determination would be required in order to obtain detailed soil profile and permeability information.

Based on an available geology maps, bedrock in the area of the subject property consists of Upper Paleozoic (Pictou Group) Lower Permian Megacyclic Sequence IV, which is made up of redbeds; conglomerate and sandstone (H.W. van de Poll, 1977).

The surfaces of the Dalvay Compound consist of approximately fifty percent impervious materials including the site structures and pavement, with the remaining fifty percent of site surfaces being grass, one gravelled parking area, peripheral forest and native ground covers. Storm water is drained from the site through the on-site localized sewer system; and through infiltration and overland flow.

The majority of the surfaces of the Stanhope Long Term Storage Facility are pervious materials. Storm water is drained from the site through infiltration and overland flow.

Based on an available topographic map and the observed site topography; the subject property slopes slightly to the north at an approximate grade of less than 1 percent.

2.3.4 On-Site Buildings and Structures

There are six (6) structures scheduled for decommissioning and demolition at the Dalvay location. A summary of the property and building information is presented in Table 2.

Table 2. Summary of Current Lot Information and Building Information

Property Description		
Area	Approximately 5 acres (portion of Prince Edward Island National Park consisting of 1,245 acres – according to Provincial property records)	
Services: Sewer, Water, Electricity	• Sewage services provided by central sewage lagoon operated by Parks Canada • Water is supplied by two drilled groundwater production wells at the site • Electricity is supplied to the site by Maritime Electric • The Long Term Storage Facility is not serviced	
Building Description	**Staff House (Asset No. 217)**	**Triple Car Garage (Asset No. 217)**
Date Constructed	Early 1960's	Late 1960's to early 1970's
Area	124 m^2	72 m^2
Number of Storeys	One	One
Foundation	Concrete	Slab on grade
Basement	Yes	No
Interior Finish	Drywall, wood	Wood
Insulation	Yes	No
Exterior Finish	Vinyl Siding	Wood siding
Heating and Cooling Ventilation	Electric	No
Roofing Materials	Asphalt Shingles	Asphalt Shingles
Building Description	**Interpretive Storage Building (Asset No. 210)**	**Chemical Storage Building (Asset No. 209)**
Date Constructed	Late 1960's to early 1970's	Late 1960's to early 1970's
Area	32 m^2	37 m^2
Number of Storeys	One	One
Foundation	None – wooden blocks	Slab on grade
Basement	No	none
Interior Finish	None	Painted cinderblock
Insulation	No	None
Exterior Finish	Wood siding	Cinderblock
Heating and Cooling Ventilation	No	No
Roofing Materials	Asphalt Shingles	Asphalt Shingles

Table 2. Summary of Current Lot Information and Building Information

Building Description	Change House – Shaw's Beach (Asset No. 218)	Sign Building (Asset No. 216)
Date Constructed	1965	1990's
Area	24 m^2	54 m^2
Number of Storeys	One	One
Foundation	None	None
Basement	No	No
Interior Finish	Wood	None
Insulation	No	No
Exterior Finish	Wood siding	Plywood
Heating and Cooling Ventilation	No	No
Roofing Materials	Asphalt	Asphalt

2.4 Historical Land Use

2.4.1 Subject Property

Historical information describing the subject property was obtained from a variety of sources as detailed in **Appendix B**. A summary of historical land uses for the subject property is provided in Table 3. Note that the historical information in the following table relates only to the assets scheduled for demolition and generalizations have been made with regard to the compound facility. A detailed historical review for the Dalvay Compound is provided in the previous Phase I/II report.

Table 3. Historical Information for the Subject Property

Period/Date	Land Use	Sources of Information
Compound		
Pre – 1935 to present	The majority of the subject site is forested or cleared for agricultural use. A farm is visible in the area of the current Dalvay Compound. The former Administration Building (located in the same area as the current Administration Building) was originally constructed as a farmhouse around 1900, and then later used as the Administration Building for the Dalvay Compound until approximately 2001 when it became abandoned and subsequently demolished in 2006. The current Administration Building was constructed in 2006 and is located in the same location as the former Administration Building.	Aerial photos, previous reports
1958	The initial buildings for the compound are present, including: the Maintenance Garage, the Industrial Building, the Administration Building and the former Staff House and Warden's Garage.	Aerial photos
1974 - 2000	By 1974, additional buildings include: the Staff House No. 5 and associated garage, Staff House No. 4 (currently a public washroom), the chemical storage building, the trades building, the stores buildings, the fire hall, the pump house and several storage sheds.	Aerial photos, previous reports
2006	In 2006 the following buildings were removed from the site: The original administration building and interpretation building (the new administration building was subsequently built in this location), the Warden's Office / Staff House and the Warden's Garage.	Previous reports
Asset No. 217 – Staff House and Triple Car Garage		
1961-1987	One 1,816 L UST was installed along the south-eastern side of Staff House No. 5 (Asset No. 217). The UST was removed in 1987 under the supervision of PEIDEEF. This tank was reportedly a "leaker". One 1,816L UST was installed along the north-western side of former Staff House No. 4 (currently public washroom) – located to the east of Asset No. 217. The UST was removed in 1987 under the supervision of PEIDEEF. This tank was reportedly a "non-leaker".	Previous report
2007	One 1,1250 L fibreglass furnace oil AST was installed along the eastern side of Staff House No. 5 (Asset No. 217).	Previous report
2010	Three boreholes, two completed as monitor wells, were installed in the vicinity of Asst No. 217 to assess soil and groundwater conditions due to the presence of former USTs and a current AST. Petroleum hydrocarbons were not detected in any of the soil or groundwater samples collected from these locations.	Previous report

Table 3. Historical Information for the Subject Property

Period/Date	Land Use	Sources of Information
Asset No. 209 – Chemical Storage Building		
1998	A Phase II ESA was completed to determine if the overflow of a waste tank impacted the soil and/or groundwater on the subject property. Eight (8) boreholes were drilled in the area of the Chemical Storage Building (Asset No. 209), three of which were converted to monitor wells. Soil and groundwater samples were submitted for hydrocarbon analysis. Two locations tested were above the applicable soil and groundwater guidelines (i.e., MW 2-98 and MW 3-98). A hydrocarbon odour was also identified in BH 3. Samples were also submitted for pesticide analyses; all samples indicated non-detectable concentrations.	Previous report
1999	A Supplemental Phase II ESA was conducted to identify the source of contamination found during the Phase II ESA and to determine the horizontal/vertical extent of contamination and to identify any potential risks to the groundwater in the area. Samples were collected from the existing monitor wells and the on-site well and submitted for hydrocarbon analysis. Detectable concentrations of TPH were identified in the groundwater from MW 2-98 and MW 3-98. The sample from the on-site well was also submitted for General Chemistry analysis. Analysis from the on-site well indicated that all parameters met the applicable Canadian Drinking Water Quality Guidelines. The soil sampling program consisted of sampling eleven (11) probe holes in the area of MW 3-98 and submitting for hydrocarbon analysis. Detectable concentrations of petroleum hydrocarbons were identified in three (3) locations. Recommendations were made to conduct a remedial excavation at the impacted areas around the north and east sides of the Chemical Storage Building (Asset No. 209). Additional delineation work was completed November 1999 with soil and groundwater samples submitted for hydrocarbon analysis. The data collected from the boreholes/monitor wells and previous assessments was used to develop an estimate of the total volume of impacted material within the affected area.	Previous report
2004	A Human Health Screening Level Risk Assessment (HHSLRA) was conducted at the Dalvay Compound. The HHSLRA determined that there were only four operable exposure pathways to the contaminants in the soil; dermal absorption from skin contact, soil ingestion, inhalation of contaminated soil particles and inhalation of soil vapours. The potential receptors for the site were deemed as commercial workers and toddlers (tourists) who would be visiting the site during the summer months (eight weeks of the year). Overall, it was determined that the site posed only a low potential risk to the health of commercial workers and toddlers (tourists). The Hazard Quotients exceeded the Health Canada acceptable benchmark of 1.2, the conservative nature of the assessment overestimated the potential risk, and therefore, further action was not deemed to be warranted, unless conditions on the property change (i.e., building construction or someone continually on site).	Previous report

Table 3. Historical Information for the Subject Property

Period/Date	Land Use	Sources of Information
Asset No. 216 – Interpretive Storage Building		
2004	A double walled, steel furnace oil AST was installed on the north side of the Maintenance Garage, which is located to the south of Asset No. 216.	Previous report
2010	Three (3) boreholes and one probe hole were advanced in the area around the current and former AST locations at the Maintenance Garage. The concentrations of petroleum hydrocarbons in the soil samples collected from these locations were below the applicable CCME SQGs for the site.	Previous report
Long Term Storage Facility		
1935	The area of the Stanhope Long Term Storage Facility is agricultural field and regenerating old field spruce.	Aerial photos, interview
1958	The area of the Stanhope Long Term Storage Facility is noticeable – cleared, in an area of regenerating old field spruce.	Aerial photos, interview
1974 - present	By 1974, there are several buildings visible on site – these are generally stored on site and are not permanent fixtures. This practice continues today. By 1990, a large horse barn had been relocated to this site (west part of Storage Facility) and has been used for storage of equipment and miscellaneous maintenance materials.	Aerial photos, interview
2001	Sign Building (Asset No. 216) was built for use as a shower facility for the Boy Scout Jamboree at the Cabot Beach Provincial Park. Shortly after the jamboree, it was brought to the Storage Yard.	Interview
Around 2002	The Change House (Asset No. 218) was removed from Shaws Beach and brought to the Storage Yard. The Change House was removed because of the shifting dunes at the beach.	Interview

No other potential sources of environmental contamination from historical activities on the subject property were identified during the historical review.

2.5 Site Visit and Evaluation of Findings

2.5.1 Fuel Storage and Handling

Only one of the Assets scheduled for decommissioning and demolition had an AST – which was Asset No. 217 (i.e., Staff House). This tank is described as being a 1,136 L fibreglass tank, located on the eastern side of the building. Reportedly the tank was manufactured in 2006.

The PEIDEEF requests completed for PID 214569 was conducted in a previous report (JWL, March 2010), and reported the following tanks registered at the Dalvay Compound property:

In the area of the Dalvay Compound, the Department has records indicating that there is one (1) 1979 - 4,540-litre gasoline underground petroleum storage tank and one (1) 1989 - 5,000-litre diesel underground petroleum storage tank at the subject property.

The PEIDEEF reported the following tank removals:

On August 25, 1987, the Department supervised the removal of one (1) 1961 - 1,816-litre, and one (1) 1963 - 1,816-litre underground petroleum storage tank. The 1961 tank was classified as a non-leaker. The 1963 tank was classified as a leaker. Contaminated soil was removed.

On August 15, 1988, the Department supervised the removal of one (1) 1968 - 2,200-litre underground petroleum storage tank. The tank was classified as a leaker. Contaminated soil was removed.

On October 27, 1989, the Department supervised the removal one (1) 1960 and one (1) 1961 - 1,816-litre petroleum storage tanks. The tanks were classified as a leakers and contaminated soil was removed.

On December 1, 1989, the Department supervised the removal of one (1) 1972 - 1,816-litre underground petroleum storage tank. The tank was classified as a leaker and contaminated soil was removed.

On December 20, 1989, the Department supervised the removal of one (1) 1961 - 4,540-litre underground petroleum storage tank. The tank was classified as a non-leaker.

On June 18, 1990 the Department supervised the removal of one (1) 1970 - 1,816-litre, one (1) 1963 - 2,275-litre, and one (1) 1970 - 2,275-litre underground petroleum storage tank. The 1970 tanks were classified as leakers and contaminated soil was removed.

All of the above tank removals and cleanups were completed to the satisfaction of the Department.

The aboveground home heat storage tanks listed below have the Department's identification label affixed to them as required under Section 30 of the Petroleum Storage Tanks Regulations under the Environmental Protection Act:

Owner's Information	Civic Address	Year of Tank Manufacture
Government of Canada	16 Cottage Crescent	2000
Government of Canada	77 Dalvay Court	1994 – tag expired
Government of Canada	71 Dalvay Crescent	2007
Government of Canada	40 Dalvay Crescent	2006
Government of Canada	Dalvay Crescent	2004

The Department has no records on file for any non-compliance environmental issues, outstanding charges or Ministerial Orders, or operating air quality permits for the above mentioned properties.

Please note that the PEIDEEF tank database records on federal lands have not been updated since 1993.

During the 2010 previous assessment the following ASTs were identified on the property during the site visit:

- Administration Building – One “ASI” 2006 2,365-litre tank located on the northeast corner of building;
- Pump House – Two “ASI” 2006 2,365-litre tanks located on the west face of the building;
- Staff House No. 5 – One “ZCL” 2006 1,136-litre tank located on the east face of the building;
- Trades Shop – One “ASI” 2006 2,365-litre tank located on the south face of the building;
- Stores Building – One “ASI” 2006 2,365-litre tank located on the north face of the building;
- Fire Hall – One “ULC” 1997 910-litre tank located on the west face of the building;
- Maintenance Garage – One “ULC” 2003 2,382-litre tank located on the north face of the building; and
- Shed (NE corner of site) – One “ULC” 2001 1,100-litre waste oil tank located on the east face of the building.

The identification of the above noted former and current petroleum storage tanks (USTs) were considered an environmental concern at the time of the assessment and have been addressed with subsequent work carried out at the site (i.e., Jacques Whitford Phase I/II ESA, March 2010).

No other current or historical activities, operations or tenants on the site property were identified within the PEIDEEF letter that would be considered a potential environmental concern. A copy of the letter received from PEIDEEF in response to this request is provided in **Appendix C**.

2.5.2 Chemicals

A variety of chemicals, including paint and petroleum products were identified in several of the buildings on the property during the previous assessments – namely the Maintenance Garage, Stores Building and Trades Building during the site visit. These buildings are slab on grade structures with cement floors in good condition. There are dedicated yellow chemical storage cabinets present in Trades and Stores Buildings. Therefore, the small quantities of the chemicals observed during the site visit are not considered to represent a significant environmental concern.

Chemicals were not observed in the buildings/assets at the Long Term Storage Facility during the site visit and not identified in the records review or interviews.

2.5.3 Waste Disposal

There are municipal waste, compost waste and recyclable receptacles on site. Waste generated at the subject site is transferred by local sanitation contractors.

2.5.4 Spill and Stain Areas

No spills or stained areas were observed on the subject property during the site reconnaissance and none were identified or reported in the records review or interviews.

2.5.5 Lead and/or Lead Based Paint

Based on the age of the buildings, lead and/or lead based paint may be present on the site. Representative samples were collected at the time of the site visit for the purpose of laboratory analysis and the results are further discussed in Section 3.4.

2.5.6 Mercury

At least one mercury containing thermostat was observed in the Staff House (Asset No. 217). No other significant sources of mercury containing materials were identified on the subject property at the time of the site visit or in the records reviewed and interviews conducted.

2.5.7 Pesticides

Evidence of pesticide related contamination was not identified. The environmental concerns from the historical storage of pesticides in the Chemical Storage Building (Asset No. 209) were addressed in a previous report (Jacques Whitford Limited, Phase I/II ESA, March 2010). This report indicated that the analytical results for soil samples collected in the vicinity of the Chemical Storage Building during a Phase II ESA conducted by Jacques Whitford in 1998 had concentrations of pesticides below the laboratory method detection limits.

2.5.8 Wastewater Effluent

No waste water is currently generated at the site, other than sanitary wastewater that is discharged to a central treatment lagoon located on the subject property.

2.5.9 Air Emissions

Sources of air emissions that are suspected to result in residual contamination to the property were not identified on the subject property. Further, no strong, pungent, or unusual odours were identified during the site visit.

2.5.10 Polychlorinated Biphenyls

Lamp Ballasts:

Fluorescent light fixtures were observed in Asset No. 217 (Staff House). Based on the age of many of the site buildings, PCB containing ballasts may be present.

Transformers:

No transformers were identified or associated with the Assets scheduled for decommissioning and demolition. Reportedly, in 1999, Parks Canada replaced any PCB containing transformers within the parks with non-PCB containing models.

2.5.11 Asbestos Containing Materials

Several potential ACMs were observed during the site visit and identified during the interviews. Representative samples were collected at the time of the site visit for the purpose of laboratory analysis and the results are further discussed in Section 3.5.

2.5.12 Urea Formaldehyde Foam Insulation

Evidence of UFFI was not observed during the site visit nor identified in the records review and interviews.

2.5.13 Ozone Depleting Substances

A refrigerator was noted Asset No. 217 (Staff House No. 5). No other equipment or appliances that could contain ODSs were observed on the subject property during the site visit.

2.5.14 Mold

No visual evidence of suspected mold growth was observed in any buildings/assets scheduled for decommissioning and demolition.

2.5.15 Electromagnetic Fields

High-tension transmission lines or electrical substations which could generate significant electromagnetic fields were not identified near the subject property.

2.5.16 Noise and Vibration

Major sources of noise or vibration were not identified on the property or adjoining properties at the time of the site visit, nor were they identified in the records review.

2.5.17 Radon

Testing for radon gas or its breakdown products has not been completed on the subject property. However, based upon the local geology (i.e., sandstone bedrock), and lack of any basements in on-site buildings, significant levels of radon gas or its breakdown products are not expected.

2.5.18 Other Areas of Concern

Based on the results of the analysis conducted for the paint sampling (Section 3.4), lead paint has been identified at the sites. Based on our experience with other Parks Canada sites, there is the potential for metals impacts in the soil adjacent to the site buildings (i.e., drip line and extending out from the building footprint). Note that the soil extending out from the building footprints at the Dalvay Compound have previously been investigated and the results of those soil sampling programs are provided under separate covers. The soil sampling results from the previous site assessment indicate that the concentrations of metals in the soil surrounding the assets scheduled for decommissioning and demolition at the Dalvay Compound do not exceed the applicable CCME commercial criteria.

3.0 HAZARDOUS MATERIALS SURVEY

3.1 Scope of Work

The Hazmat survey was conducted to identify and quantify the hazardous materials that were associated with the structures identified for decommissioning and demolition. The hazardous substances which were investigated included lead paint and asbestos (non-friable and friable). The survey included an assessment of 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.

3.2 Methodology

3.2.1 Paint Sampling Program

Paint sampling of the structures was conducted with paint analyzed for lead. Samples were submitted to Maxxam Analytics (Maxxam) in Bedford, Nova Scotia. Maxxam is accredited by the SCC for each of the analysis methods utilized and has in-house QA/QC programs to govern sample analysis.

A minimum of 10 g of paint was attempted to be collected from each area sampled (i.e., different coloured paint). The lab weighed each paint sample and the areal extent of the samples was measured in the field. For samples exceeding 5,000 mg/kg lead, leachate testing for lead was conducted. The approximate areal extent of each paint colour was also measured in the field.

3.2.2 Asbestos Sampling Program

Suspect asbestos-containing building materials were collected, stored in a clean plastic bag, and submitted for asbestos analysis using Polarized Light Microscopy (PLM) and/or Transmission Electron Microscopy (TEM). Samples were submitted to AmeriSci Boston (AmeriSci), located in Weymouth, Massachusetts. AmeriSci is certified under the National Voluntary Laboratory Accreditation Program (NVLAP) to perform asbestos analysis of bulk samples (NVALP Lab #102079-0). Please note that AmeriSci has scope of accreditation to ISO/IEC Standard 17025 as certified by NVLAP.

3.2.3 Field and Laboratory Analytical Program

The field and laboratory analytical program is summarized in Table 4. Laboratory reports are presented in **Appendix D**.

Table 4. Field and Laboratory Program

Analytes	Matrix	Sample Locations	Samples Submitted	Sample IDs	QA/QC Samples		
					Original	Field Dup	Lab Dup
Lead in Paint	Paint chips	13	14 including 1 QA/QC	PS-3, PS-5, PS-7, PS-11 to PS-20	PS-3 PS-13 PS17	- DUP1 -	PS-3 LD - PS-17 LD
Asbestos	Bulk Materials	13	14 including 1 QA/QC	AS-1 to AS-13	AS-6	DUP2	-

3.2.4 Quality Assurance/Quality Control Sampling Program

The QA/QC sampling was conducted on approximately 10% of parameters that were analyzed. QA/QC was addressed by collecting field duplicates. The results of this testing were used to evaluate the reliability of the sampling. QA/QC results are provided in Section 3.8.

3.3 Field Observations

The sample locations for the paint and asbestos samples are shown on Drawing Nos. 4 to 8 in **Appendix A**. Photographs of each building are provided in **Appendix C** and the field observations (i.e., estimated area of painted surfaces, descriptions of asbestos samples and sample locations) are provided in the appropriate Tables in **Appendix D**.

3.4 Laboratory Analysis Results for Lead in Paint

Laboratory analytical results for lead concentrations in paint and paint leachate from the structures in Dalvay are presented in Table D-1, **Appendix D**, along with an estimate of the area of each painted surface.

Lead in Paint Samples
• 9 submitted including 1 QA/QC
• 1 exceeded 5,000 mg/kg
• [Pb] <50 - 50,000 mg/kg

One (1) of nine (9) paint samples contained lead in concentrations greater than 5,000 mg/kg. Leachate analysis was not conducted on this sample as there was not enough sample remaining from the original sample to run the leachate test.

3.4.1 Historical Results – Lead Paint Dalvay Compound

A Phase I/II ESA conducted at the Dalvay Compound in 2010, quantified the lead content of the paints used on the buildings within the compound. Four (4) of thirteen (13) paint samples submitted for analysis contained lead in concentrations greater than 5,000 mg/kg.

Lead in Paint Samples
• 13 submitted for analysis
• 4 exceeded 5,000 mg/kg
• [Pb] 93 – 17,000 mg/L

Based on the lead content results, samples were collected during the current assessment for lead leachate analysis for the paints that had a lead content greater than 5,000 mg/kg. In total, four (4) paint samples were collected for lead leachate analysis. The paint sample results exceeded the lead leachate criteria for all the paint samples submitted for analysis.

Lead Leachate in Paint Samples based on previous results
• 4 submitted for analysis
• 4 exceeded lead leachate criteria
• [Pb] leachate 33 - 64 mg/L

3.5 Laboratory Analysis Results for Asbestos

Laboratory analytical results for the asbestos samples collected from the structures in Dalvay is presented in Table D-2, **Appendix D**, along with the description of the material and the sample location.

Asbestos Samples
• 14 submitted including 1 QA/QC
• 6 contained >1% asbestos
• 0 contained trace asbestos

Based on the results provided, asbestos was identified (material with 1% or more by volume of asbestos) in six (6) of the fourteen (14) samples collected from the buildings/assets in Dalvay. ACMs included drywall compound, floor tile and asbestos board for the furnace.

3.6 Quality Assurance / Quality Control Discussion

Results of the QA/QC sampling are provided in Table 5.

Table 5. Summary of QA/QC Sampling

Duplicate Type	Analysis	Range of %RPD	Number of Analytes within ±40% RPD	Acceptable Duplicate Correlation
Field Duplicates	metals	37%	1 of 1	Yes
Laboratory Duplicates	metals	0%	2 of 2	Yes
Field Duplicates	Asbestos	0%	1 of 1	Yes

In general, the duplicate results agree closely with their corresponding samples and confirm the representativeness of the sampling procedures. There are no firm guidelines for the degree of correlation expected between duplicates due to natural heterogeneity in the sample and contaminant distribution. However, the values noted above are considered to indicate an acceptable duplicate correlation.

All individual parameters in the duplicates were classified the same (either above or below guidelines). The overall data quality is considered acceptable.

3.7 Discussion

Paint with no lead content may be disposed of at a Provincially licensed construction and demolition (C&D) disposal facility. Lead containing paint with concentrations below 5,000 mg/kg may be disposed of at the East Prince Waste Management (EPWM) facility located in Wellington, Prince County, PEI. Where enough sample remained, paint samples containing a lead concentration greater than 5,000 mg/kg were submitted for leachate analysis. Although all the paint samples were not analyzed for leachate, there is a large enough representation from the site to identify that any sample containing > 5,000 mg/kg exceeded the lead leachate criteria of 5 mg/L as all the samples available for leachate analysis exceeded the leachate criteria. All the paints sampled will require disposal at EPWM, with the exception of the paints (approximate surface areas indicated) identified as follows, which will require disposal out of province:

<u>Asset No. 209 – Chemical Storage Building</u>

- Exterior green and white trim (10 m^2)

Asset No. 217 – Interpretive Storage Building

- Exterior beige trim under the flashing (5 m^2) – Staff House
- Exterior white trim (2 m^2) and yellow doors (13 m^2) – Triple Car Garage

Generally, the paint was in fair to poor condition on/in all the buildings/assets assessed on the subject property.

The asbestos containing materials (including estimated volumes) are identified as follows:

Asset No. 217 – Staff House

- Floor tile in upstairs bedroom and basement (50 m^2), drywall compound in the basement (5 m^2) and asbestos board around the stove (15 m^2)

Removal of any ACMs should be removed using appropriate procedures by a qualified abatement contractor prior to demolition of the building.

4.0 CONCLUSIONS

Based on the information gathered and on observations made during this investigation, the modified Phase I ESA and Hazmat Survey has revealed evidence of potential hazardous materials associated with the property assets. Results are as follows:

- Five (5) of twenty two (22) paint samples from the buildings/assets exceeded the provincial disposal criteria of 5,000 mg/kg.
- All four (4) samples submitted for lead leachate analysis exceeded the applicable disposal criteria of 5 mg/L.
- Six (6) of fourteen (14) suspected ACMs had asbestos detected in the content.

5.0 CLOSURE

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

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

Some of the information presented in this report was provided through existing documents and interviews. Although attempts were made, whenever possible, to obtain a minimum of two confirmatory sources of information, Stantec Consulting Ltd. in certain instances has been required to assume that the information provided is accurate.

The conclusions and recommendations presented represent the best judgement of the assessor based on current environmental standards and on the observed site conditions. Due to the nature of the investigation and the limited data available, the assessor cannot warrant against undiscovered environmental liabilities.

The conclusions are based on results from specific testing and/or sampling locations, and can only be extrapolated to an undefined limited area around these locations. The extent of the limited area depends on the soil and groundwater conditions, as well as the history of the site reflecting natural, construction and other activities. 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.

Should additional information become available, Stantec Consulting Ltd. requests that this information be brought to our attention so that we may re-assess the conclusions presented herein. This report was prepared by Mrs. Danya MacGillivray, P.Eng. and reviewed by Mr. Peter H. Joostema, FEC, P.Eng., CESA.

The professional qualifications of Site Assessors, and the Senior Reviewer are provided in **Appendix F**.

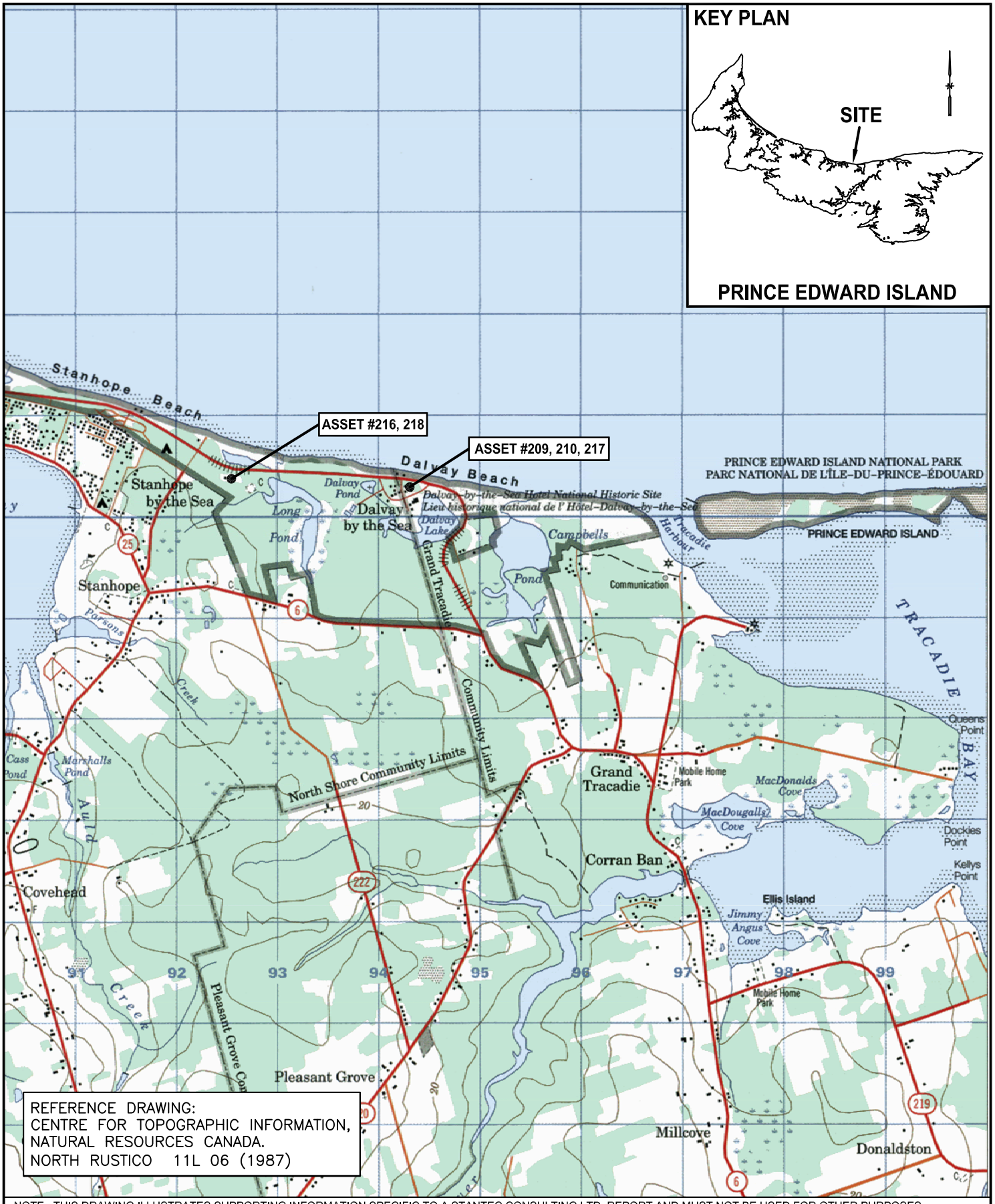
STANTEC CONSULTING LTD.

Danya MacGillivray, P.Eng.
Site Assessor

Peter H. Joostema, FEC, P.Eng., CESA
Senior Reviewer

APPENDIX A

DRAWINGS AND AERIAL PHOTOGRAPHS



REFERENCE DRAWING:
CENTRE FOR TOPOGRAPHIC INFORMATION,
NATURAL RESOURCES CANADA.
NORTH RUSTICO 11L 06 (1987)

NOTE: THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

SITE LOCATION PLAN

MODIFIED PHASE I ESA AND HAZMAT SURVEY
PARKS CANADA - DALVAY
PRINCE EDWARD ISLAND NATIONAL PARK

Client: PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

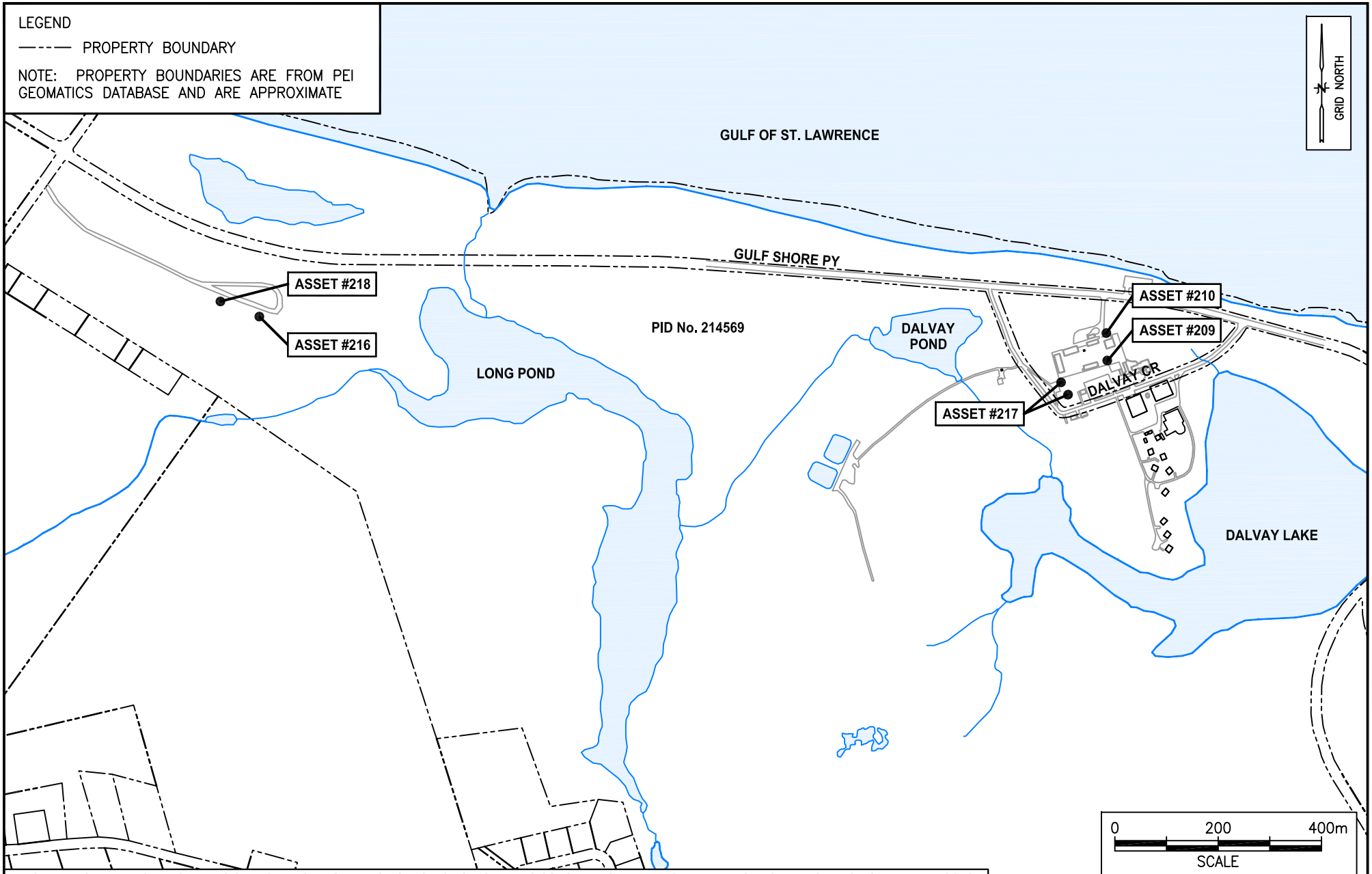
Job No.:	121711090
Scale:	1 : 50,000
Date:	2010 10 27
Dwn. By:	JL
App'd By:	DM

Dwg. No.: 1

Stantec

U:\z Cadd\9XXXX\121711090_300_400\121711090_300-400_DALVAY_DWG1.dwg

U:\z Cadd\9XXXX\121711090_300_400\121711090_300-400_DALVAY_DWG2.dwg



NOTE: THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

PROPERTY PLAN

MODIFIED PHASE I ESA AND HAZMAT SURVEY
PARKS CANADA - DALVAY
PRINCE EDWARD ISLAND NATIONAL PARK

Client: PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

Job No.:	121711090
Scale:	1 : 10,000
Date:	2010 10 27
Dwn. By:	JL
App'd By:	DM

Dwg. No.: 2

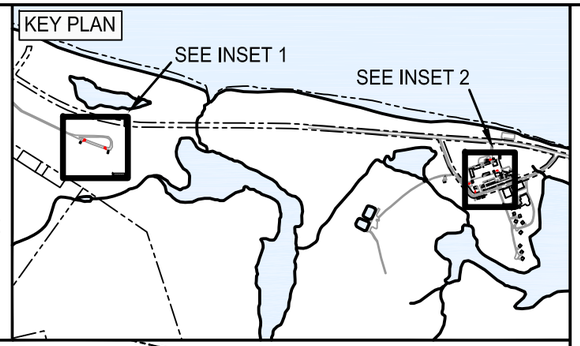
Stantec

LEGEND

- PROPERTY BOUNDARY
- EXISTING STRUCTURE
- WELL
- FORMER UNDERGROUND PETROLEUM STORAGE TANK
- EXISTING UNDERGROUND PETROLEUM STORAGE TANK
- ABOVE GROUND PETROLEUM STORAGE TANK
- FORMER ABOVE GROUND PETROLEUM STORAGE TANK
- (1) PHOTO NUMBER AND DIRECTION

NOTE: PROPERTY BOUNDARIES ARE FROM PEI GEOMATICS DATABASE AND ARE APPROXIMATE

KEY PLAN



INSET 1

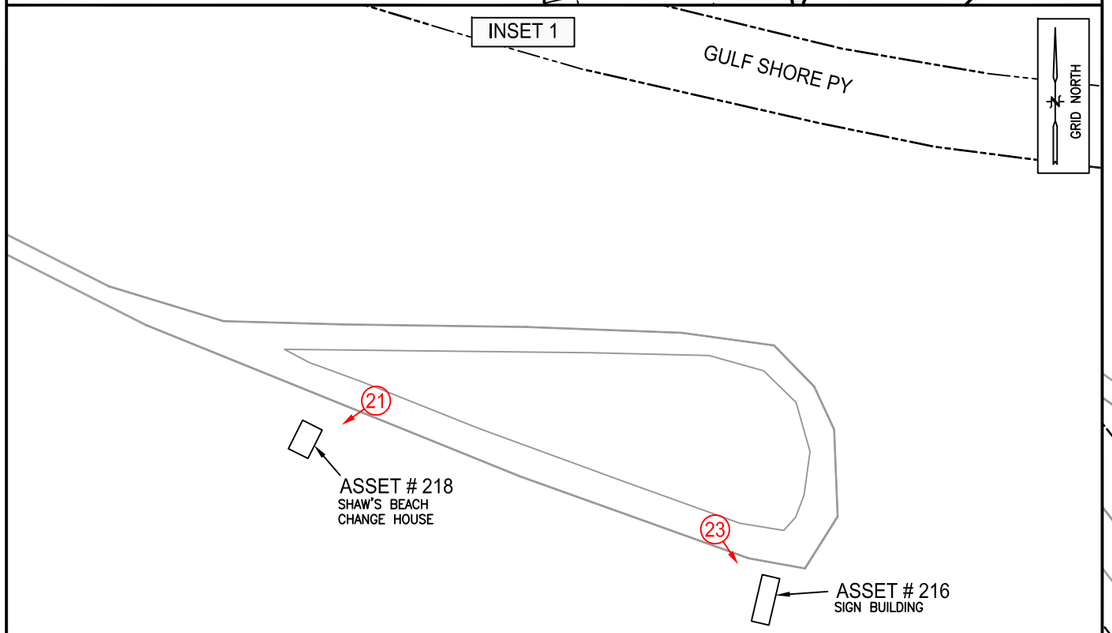


PHOTO 21 - VIEW FACING SOUTHWEST TOWARD ASSET NO. 218 (SHAW'S BEACH CHANGE HOUSE)

PHOTO 23 - VIEW FACING SOUTHEAST TOWARD ASSET NO. 216 (SIGN BUILDING)

0 50m
SCALE 1:1500

PHOTO 17 - VIEW FACING NORTHEAST TOWARD ASSET NO. 210

INSET 2

PHOTO 19 - VIEW FACING SOUTHWEST TOWARD ASSET NO. 209 (CHEMICAL STORAGE)

PHOTO 6 - VIEW FACING NORTHEAST TOWARD ASSET NO. 217 (3 CAR GARAGE)

PHOTO 1 - VIEW FACING NORTH TOWARD ASSET NO. 217 (STAFF HOUSE No. 5)

0 20 40m
SCALE 1:1000

NOTE: THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

Reference: -	**Job No.:** 121711090 **Scale:** AS SHOWN (APPROX.) **Date:** 2010 10 27 **Dwn. By:** JL **App'd By:** DM	**Client:** PUBLIC WORKS AND GOVERNMENT SERVICES CANADA **Site Address:** PRINCE EDWARD ISLAND NATIONAL PARK	MODIFIED PHASE I ESA AND HAZMAT SURVEY - DALVAY	SITE PLAN WITH PHOTOGRAPHS	**Dwg. No.:** 3

U:\z Cadd\9XXX\121711090_300_400\121711090_300-400_DALVAY_DWG3.dwg

Stantec

LEGEND

PS-X PAINT SAMPLE LOCATION

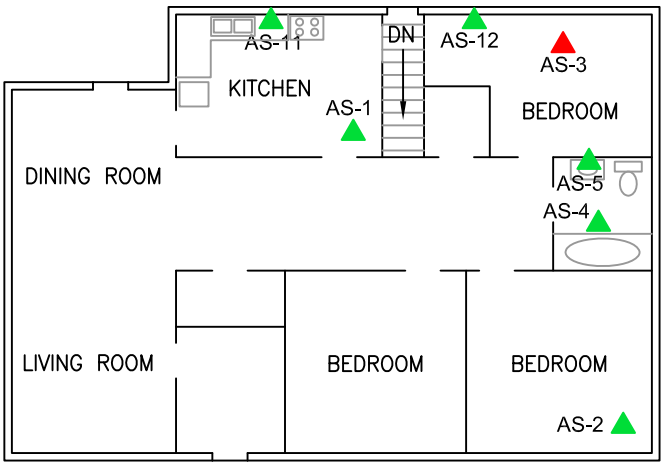
PS-X LEAD CONTENT EXCEEDS 5000 mg/kg

AS-X ASBESTOS SAMPLE LOCATION

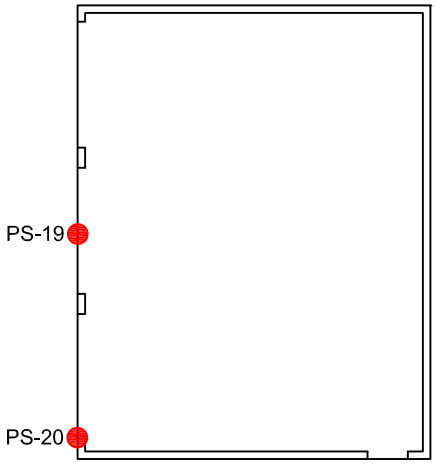
AS-X ASBESTOS CONTAINING MATERIAL

NOTE: BUILDING AND ROOM SIZES ARE APPROXIMATE

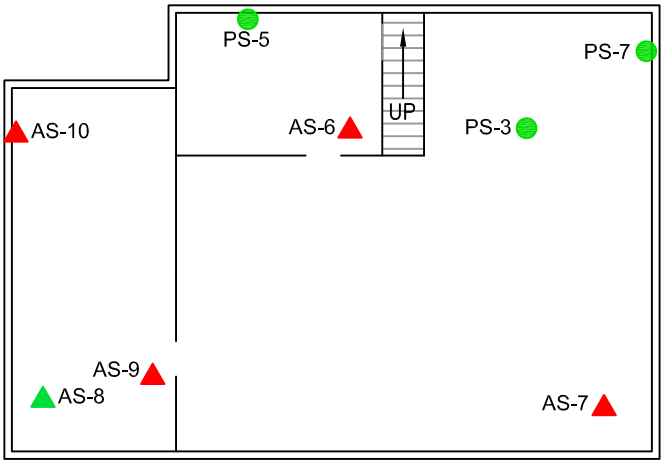
GRID NORTH



MAIN FLOOR
STAFF HOUSE # 5



TRIPLE GARAGE



BASEMENT
STAFF HOUSE # 5

0 5 m
SCALE

NOTE: THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

SAMPLE LOCATION PLAN

MODIFIED PHASE I ESA AND HAZMAT SURVEY
ASSET # 217 - DALVAY
PRINCE EDWARD ISLAND NATIONAL PARK

Client: PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

Job No.:	121711090
Scale:	1 : 150
Date:	2010 10 27
Dwn. By:	JL
App'd By:	DM

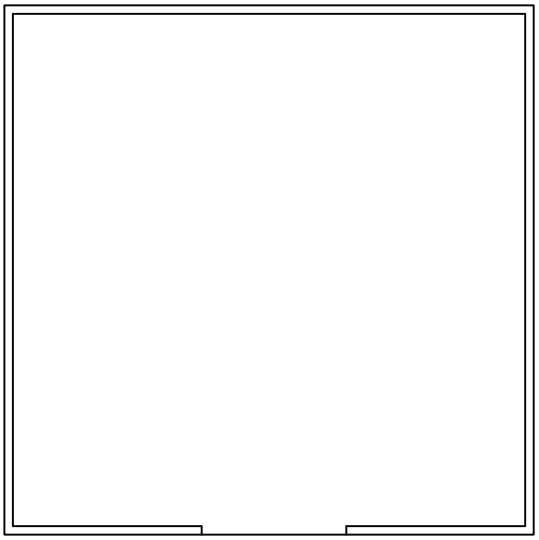
Dwg. No.: 4

Stantec

U:\z Cadd\9XXXX\121711090_300_400\121711090_300-400_DALVAY_DWG4.dwg

NOTE: BUILDING SIZE IS APPROXIMATE

GRID NORTH



INTERPRETIVE STORAGE
BUILDING

0 2 4m
SCALE

NOTE: THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

SAMPLE LOCATION PLAN

MODIFIED PHASE I ESA AND HAZMAT SURVEY
ASSET # 210 - DALVAY
PRINCE EDWARD ISLAND NATIONAL PARK

Client: PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

Job No.:	121711090
Scale:	1 : 150
Date:	2010/11/25.
Dwn. By:	D.RIMMER
App'd By:	DM

Dwg. No.: 5

Stantec

U:\z Cadd\9XXXX\121711090_300_400\121711090_300-400_DALVAY_DWG5.dwg

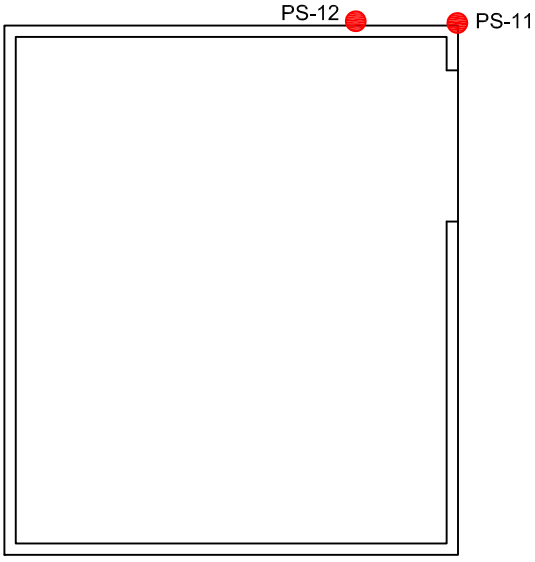
LEGEND

PS-X PAINT SAMPLE LOCATION

PS-X LEAD CONTENT EXCEEDS 5000 mg/kg

NOTE: BUILDING SIZE IS APPROXIMATE

GRID NORTH



0 2 4m

SCALE

NOTE: THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

SAMPLE LOCATION PLAN

MODIFIED PHASE I ESA AND HAZMAT SURVEY

ASSET # 209 - DALVAY

PRINCE EDWARD ISLAND NATIONAL PARK

Client: PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

Job No.:	121711090
Scale:	1 : 150
Date:	2010 10 27
Dwn. By:	JL
App'd By:	DM

Dwg. No.: 6

Stantec

U:\z Cadd\9XXXX\121711090_300_400\121711090_300-400_DALVAY_DWG6.dwg

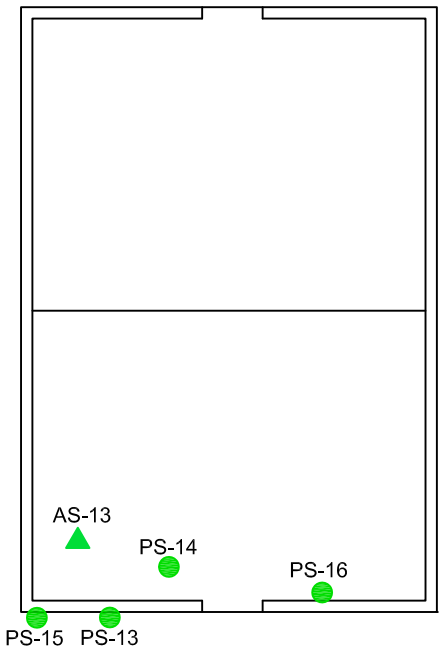
LEGEND

PS-X ● PAINT SAMPLE LOCATION

AS-X ▲ ASBESTOS SAMPLE LOCATION

NOTE: BUILDING SIZE IS APPROXIMATE

GRID NORTH



SHAW'S BEACH CHANGE HOUSE

0 2 4m

SCALE

NOTE: THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

SAMPLE LOCATION PLAN

MODIFIED PHASE I ESA AND HAZMAT SURVEY

ASSET # 218 - DALVAY

PRINCE EDWARD ISLAND NATIONAL PARK

Client: PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

Job No.:	121711090
Scale:	1 : 150
Date:	2010 10 28
Dwn. By:	JL
App'd By:	DM

Dwg. No.: 7

Stantec

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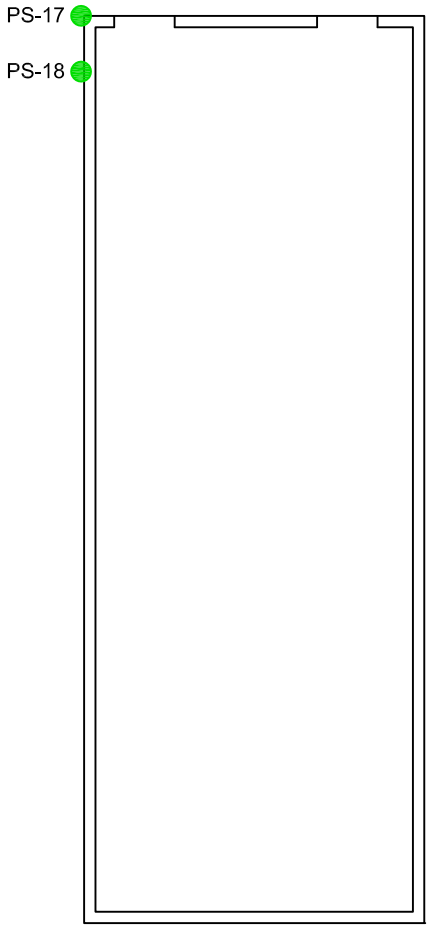
LEGEND

PS-X PAINT SAMPLE LOCATION

NOTE: BUILDING SIZE IS APPROXIMATE

GRID NORTH



SIGN BUILDING

0 2 4m

SCALE

NOTE: THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

SAMPLE LOCATION PLAN

MODIFIED PHASE I ESA AND HAZMAT SURVEY

ASSET # 216 - DALVAY

PRINCE EDWARD ISLAND NATIONAL PARK

Client: PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

Job No.:	121711090
Scale:	1 : 150
Date:	2010 10 28
Dwn. By:	JL
App'd By:	DM

Dwg. No.: 8

Stantec

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U:\z Cadd\9XXXX\121711090_300_400\121711090_300-400_DALVAY_AERIALS.dwg

NOTE: THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

2000 AERIAL PHOTOGRAPH

MODIFIED PHASE I ESA AND HAZMAT SURVEY
PARKS CANADA - DALVAY
PRINCE EDWARD ISLAND NATIONAL PARK

Client: PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

Job No.:	121711090
Scale:	1 : 10,000
Date:	2010 10 27
Dwn. By:	JL
App'd By:	DM

Aerial No.: 1

Stantec

U:\z Cadd\9XXXX\121711090_300_400\121711090_300-400_DALVAY_AERIALS.dwg

NOTE: THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

1990 AERIAL PHOTOGRAPH

MODIFIED PHASE I ESA AND HAZMAT SURVEY
PARKS CANADA - DALVAY
PRINCE EDWARD ISLAND NATIONAL PARK

Client: PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

Job No.:	121711090
Scale:	1 : 10,000
Date:	2010 10 27
Dwn. By:	JL
App'd By:	DM

Aerial No.: 2

Stantec

U:\z Cadd\9XXXX\121711090_300_400\121711090_300-400_DALVAY_AERIALS.dwg

NOTE: THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

1974 AERIAL PHOTOGRAPH

MODIFIED PHASE I ESA AND HAZMAT SURVEY
PARKS CANADA - DALVAY
PRINCE EDWARD ISLAND NATIONAL PARK

Client: PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

Job No.:	121711090
Scale:	1 : 10,000
Date:	2010 10 27
Dwn. By:	JL
App'd By:	DM

Aerial No.: 3

Stantec

U:\z Cadd\9XXXX\121711090_300_400\121711090_300-400_DALVAY_AERIALS.dwg

NOTE: THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

1958 AERIAL PHOTOGRAPH

MODIFIED PHASE I ESA AND HAZMAT SURVEY
PARKS CANADA - DALVAY
PRINCE EDWARD ISLAND NATIONAL PARK

Client: PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

Job No.:	121711090
Scale:	1 : 10,000
Date:	2010 10 27
Dwn. By:	JL
App'd By:	DM

Aerial No.: 4

Stantec

U:\z Cadd\9XXXX\121711090_300_400\121711090_300-400_DALVAY_AERIALS.dwg

NOTE: THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

1935 AERIAL PHOTOGRAPH

MODIFIED PHASE I ESA AND HAZMAT SURVEY
PARKS CANADA - DALVAY
PRINCE EDWARD ISLAND NATIONAL PARK

Client: PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

Job No.:	121711090
Scale:	1 : 10,000
Date:	2010 10 27
Dwn. By:	JL
App'd By:	DM

Aerial No.: 5

Stantec

APPENDIX B

RESOURCE INFORMATION/INTERVIEWS

REGULATORY CONTACTS AND HISTORICAL SOURCES	
Source	**Information/Contact**
Prince Edward Island Department of Environment, Energy and Forestry (PEIDEEF)	Ms. Glenda MacKinnon-Peters, FEC, P.Eng., Hazardous Materials Specialist (902) 368-5000
Environment Canada	Request not submitted to Environment Canada
Aerial Photographs	1935, 1958, 1974 1990, and 2000
City Directories	Not applicable
Fire Insurance Maps	Not applicable
PWGSC Office Files	None provided
Interviews	Mr. Paul Ayles, Acting Environmental Protection Officer an Geomatics Technicial, Parks Canada (Charlottetown) – 902.672.6380
Previous Environmental Site Investigations from Other Sources	Jacques Whitford - Phase I/II Environmental Site Assessment – Parks Canada, Dalvay Compound, Queens County, PE, Final report dated February 2010 (file no 91643)
Other Sources (maps, Figures, etc.)	Prest, V.K. and the Geological Survey of Canada 1973, Surficial Deposits of Prince Edward; Map No. 1366A

INTERVIEW QUESTIONS – Dalvay Compound – RELATNG TO ASSETS FOR DEMOLISSION ONLY

Interviewee: Paul Ayles **Interviewer:** Danya MacGillivray	**Title:** Geomatics Specialist – Environmental Protection Officer	**Phone No.:** (902) 672-6380	**Date:** Nov 1, 2010

Questions	Don't Know	Answers
Do standard Parks Canada keys open all buildings/structures and rooms in buildings on site?		No standard Keys do not cover all buildings
Are buildings all privately-owned or are any owned by Parks Canada?		Yes
Describe ground cover at the site (grass, gravel, asphalt, concrete, soil, fill)? Has there been any fill brought in to the site, where was it placed, what was the source?		Compound – asphalt, some grass Maintenance Storage Yard - mixed forest
What is the site currently used for (if storage, what is stored)? How many/what type of buildings/structures are on site? Note any information on sale of structures and dates.		Compound –operates the facility as a maintenance yard and trades (i.e., carpentry, automotive mechanics) compound as a resource for the PEI National Park Maintenance Storage Yard - storage facility as an area for the excess materials and buildings/building materials required for park maintenance (roads, paths, buildings, structures)
What was the site previously used for? Were there other buildings/structures on the site in the past, where were they? Note any information on sale of structures and dates.		Compound – was a residence for the groundskeeper of the Dalvay Resort Maintenance Storage Yard – agricultural field that some one started to store things there and we never stopped!
Former/existing structure's power and heating supply/type(s)? if coal, note coal storage locations.		Compound – mix electrical underground – over ground Heat – mix of electric and oil fired furnaces Maintenance Storage Yard – not serviced
Any environmental issues of concern (spills in the area, upgradient or on-site landfills or waste disposals, area of fill placement on-site, air emissions of concern, current/historical pesticide/herbicide use, gas stations, vehicle maintenance, dry cleaners, tanneries, fish plants, foundries, etc)? Did they note any staining (approximate area of staining and type/source)?		No – other than what has been addressed in previous report for the compound
Any standing water, drainage ditches or watercourses on subject property? note source of water or beginning of watercourse (upgradient lake, river, swamp, etc.)		Dalvay Lake is approx 100 m SW of the site

Interviewee: Paul Ayles **Interviewer:** Danya MacGillivray	**Title:** Geomatics Specialist – Environmental Protection Officer	**Phone No.:** (902) 672-6380	**Date:** Nov 1, 2010

Questions	Don't Know	Answers
Locations of former/existing fuel storage tanks (gas, diesel, lube, hydraulic, kerosene, underground and above ground, including waste tanks such as waste oil)?		Several in the compound – as per previous report.
Use/locations of former/existing back-up generators (diesel tank, lube oil) or fog alarm (air compressor, diesel tank)?		Yes – maintenance garage and Trades Building. Mobile generator on site as well.
Locations of former/existing chemical storage (method of storage, type of chemical, use and time frames)?		Yes – identified in the compound (chemical storage building)
Battery use, storage, and method of disposal? Type of battery (lead, zinc)?		No
Electricity underground or above ground?		Underground/Aboveground
Former/existing structure building materials (including roof (asphalt singles?) and foundation type (creosote piles or wolmainized lumber)) – note required for all buildings as well as their current/historical use?		As per report Generally wood on concrete foundations. Most have asphalt shingles
Former/existing lighting types – mercury vapour?		No
Ballasts associated with lighting?		Yes with the fluorescent lighting
Former/existing transformers – type and time frame? (Including Maritime Electric/NS &NB Power)		If there is they are not PCB containing – replaced in the park in 1999
Any known PCBs, UFFI or asbestos?		No PCB – just ACMs identified during HAZMAT
Any known lead piping, lead based paints, or other lead materials?		Possible lead paint
Any known refrigeration equipment or air conditioning units?		Yes – staff house has a fridge
Any fire extinguishing devices on the property?		Yes – in the active buildings
Former/existing helicopter landing pad?		No
Locations/Dates of former/existing burn pits?		No

Interviewee: Paul Ayles **Interviewer:** Danya MacGillivray	**Title:** Geomatics Specialist – Environmental Protection Officer	**Phone No.:** (902) 672-6380	**Date:** Nov 1, 2010

Questions	Don't Know	Answers
Subject and adjoining properties water supply – note former and existing well locations, decommissioned/in use, and time frames?		Water supply – on site – 2 wells
Subject property wastewater disposal – note former and existing septic tanks and fields, wastewater outlets and freshwater intakes?		Waste water collection system and treatment lagoon on site
Former/existing trenches, sump, oil-water separators, floor drain locations – discharge to?		Sump pump in the staff house
Types of waste generated, process effluent, method of disposal/removal, frequency, commencing since what date, former disposal method, name of licensed contractor?		Nothing stored on site – regular domestic waste and dumpsters serviced by a local contractor
Any vehicle, boat, equipment, or forklift maintenance on-site or on adjoining properties?		Yes – vehicle maintenance on site.
Any hydraulic lifts, hoists, or elevators? aboveground or underground hydraulic oil chambers?		Hydraulic lift in maintenance garage and elevator in the admin offices
Any former/existing railway lines on-site or along property boundaries?		No
Any electronics on-site? age (PCBs)?		No
Confirm property boundaries.		N/A

Prince Edward Island
CANADA
Environment, Energy and Forestry

Pollution Prevention
P.O. Box 2000, Charlottetown
Prince Edward Island
Canada C1A 7N8

Île-du-Prince-Édouard
CANADA
Environnement, Énergie et Forêts

Prévention de la pollution
C.P. 2000, Charlottetown
Île-du-Prince-Édouard
Canada C1A 7N8

August 27, 2009

Via Email

Dale Conroy
Jacques Whitford Stantec Limited
165 Maple Hills Avenue
Charlottetown, PE
C1C 1N9

Dear Mr. Conroy:

RE: Site-Specific Environmental Review Request - (Parcel No. 214569) Dalvay, PE

In connection with the above property, our Department has the following information:

- The Department has records from 1986 of the unsupervised the removal of one (1) 1960 and one (1) 1961 1,816-litre underground petroleum storage tanks. On September 5, 1986, we also have record of the removal of one (1) 1961 1,816-litre underground petroleum storage tank; the tank was classified as a non-leaker. All tanks were registered under the facility name of Stanhope Campground.
- In the area of the Dalvay Compound, the Department has records indicating that there is one (1) 1979 4540-litre gasoline underground petroleum storage tank and one (1) 1989 5000-litre diesel underground petroleum storage tank at the above property.
- On August 25, 1987, our Department supervised the removal of one (1) 1961 1,816-litre, and one (1) 1963 1,816-litre underground petroleum storage tank. The 1961 tank was classified as a non-leaker. The 1963 tank was classified as a leaker. Contaminated soil was removed.
- On August 15, 1988, our Department supervised the removal of one (1) 1968 2,200-litre underground petroleum storage tank. The tank was classified as a leaker. Contaminated soil was removed.
- On October 27, 1989, the Department supervised the removal one (1) 1960 and one (1) 1961 1,816-litre petroleum storage tanks. The tanks were classified as a leakers and contaminated soil was removed.
- On December 1, 1989, the Department supervised the removal of one (1) 1972 1,816-litre underground petroleum storage tank. The tank was classified as a leaker and contaminated soil was removed.
- On December 20, 1989, the Department supervised the removal of one (1) 1961 4540-litre underground petroleum storage tank. The tank was classified as a non-leaker.
- On June 18, 1990 the Department supervised the removal of one (1) 1970 1,816-litre, one (1) 1963 2,275-litre, and one (1) 1970 2,275-litre underground petroleum storage tank. The 1970 tanks were classified as leakers and contaminated soil was removed.
- In the area of the Stanhope Lane day use area, the Department has record of an active 1985 2275-litre underground petroleum storage tank.

- The above tank removals and cleanups were completed to the satisfaction of the Department.
- The aboveground home heat storage tanks listed below have the Department's identification label affixed to them as required under Section 30 of the Petroleum Storage Tanks Regulation under the *Environmental Protection Act*.

Owner's Information	Civic Address	Year of Tank Manufacture
Government of Canada	16 Cottage Cres.	2000
Government of Canada	77 Dalvay Ct.	1994- tag expired
Government of Canada	71 Dalvay Cres.	2007
Government of Canada	40 Dalvay Cres.	2006
Government of Canada	Dalvay Cres.	2004

- The Department has no records on file for any non-compliance environmental issues, outstanding charges or Ministerial Orders, or operating air quality permits for the above-mentioned property.

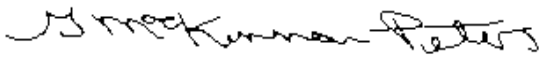
Please note our tank database records on federal lands have not been up-dated since 1993.

The above summary pertaining to the tank removal is based upon visual and olfactory observations in the area of the tank excavation only. It solely reflects the integrity of the system at the time of the removal and what, if any, impacts that system's operation had on the soils immediately adjacent to the system.

Please consider the enclosed invoice as our acknowledgment of payment for the August 17th request meets the fee requirements pursuant to Section 2.(2) of the Environmental Records Review Regulations under the *Environmental Protection Act*.

If you have any questions regarding the above, please call me at (902) 368-5047.

Sincerely,



Glenda MacKinnon-Peters, FEC, P.Eng.
Hazardous Materials Specialist

/gmp

enc

aud1813.let

APPENDIX C

SITE PHOTOGRAPHS

PHOTO 1: Asset 217 – Staff House #5– photo facing North.

PHOTO 2: Asset 217 – Staff House #5 – photo facing southwest.

Stantec

PHOTO 3: Asset 217 – Staff House #5 – photo facing east.

PHOTO 4: Asset 217 – Staff House #5 – photo facing southwest.

Stantec

PHOTO 5: Asset 217 – Garage Associated with Staff House #5 – photo facing north

PHOTO 6: Asset 217 – Garage Associated with Staff House #5 – photo facing east

Stantec

PHOTO 7: Asset 217 – Garage Associated with Staff House #5 – photo facing northwest

PHOTO 8: Asset 217 – Kitchen – Staff House #5.

Stantec

PHOTO 9: Asset 217 –Bathroom – Staff House #5.

PHOTO 10: Asset 217 – Bedroom – Staff House #5.

Stantec

PHOTO 11: Asset 217 – Living Room – Staff House #5.

PHOTO 12: Asset 217 –Dinning – Staff House #5..

Stantec

PHOTO 13: Asset 217 –Basement – Staff House #5.

PHOTO 14: Asset 217 – Basement – Staff House #5.

Stantec

PHOTO 15: Asset 217 – Basement – Staff House #5.

PHOTO 16: Asset 217 – Basement – Staff House #5.

PHOTO 17: Asset 210 – Interpretative Storage Building – photo facing east.

PHOTO 18: Asset 210 – Interpretive Storage Building – photo facing southeast.

PHOTO 19: Asset 209 – Chemical Storage Building – photo facing west.

PHOTO 20: Asset 209 – Chemical Storage Building – photo facing southwest.

Stantec

PHOTO 21: Asset 218 – Change House – photo facing southeast.

PHOTO 22: Asset 218 – Change House – photo facing west**.**

Stantec

PHOTO 23: Asset 216 – Sign Building- photo facing southeast.

PHOTO 24: Asset 216 – Sign Building - photo facing southwest

APPENDIX D

ANALYTICAL TABLES AND FIELD OBSERVATIONS

Table D-1 Lead Concentrations in Paint Samples

Sample ID	Sample Date	Sample Location	Condition	Colour	Total Painted Surface Area (m^2)	Sample Area (cm^2)	Total Sample Weight (g)	Lead Concentration		
								Paint		Paint Leachate
								mg/kg	mg/cm^2	mg/L
Asset No. 217 - Staff House #5 and Triple Car Garage										
PS-3	16-Sep-10	Basement floor	Good	Grey	90	75	1.5	**1,500**	0.03	-
PS-3 LD	16-Sep-10	-	-	-	-	-	-	**1,500**	**-**	-
PS-5	16-Sep-10	Basement Walls	Good	Yellow	30	40	0.3	400	0.00	-
PS-7	16-Sep-10	Exterior Trim (under flashing)	Good	Beige	5	80	1.0	**50,000**	0.63	-
PS-19	16-Sep-10	Exterior Trim - Garage	-	White	2	-	2.2	**17,000***	**-**	**33**
PS-20	16-Sep-10	Exterior Garage Door Trim - Garage	-	Yellow	15	-	2.0	**12,000***	**-**	**37**
DA-I-PS-3-I	22-Sep-09	Interior Door	-	White	20	-	1.9	910*	**-**	-
DA-F-PS-1-E	22-Sep-09	Exterior Porch/Pole	-	White	2	-	1.7	**1,200***	**-**	-
DA-F-PS-2-E	22-Sep-09	Exterior Steps	-	Grey	4	-	0.9	93*	**-**	-
DA-F-PS-3-I	22-Sep-09	Interior Trim Doors and Walls	-	White	400	-	1.2	240*	**-**	-
DA-F-PS-4-I	22-Sep-09	Interior Walls	-	Beige	300	-	2.5	410*	**-**	-
Asset No. 209 - Chemical Storage Building										
PS-11	16-Sep-10	Exterior Trim	Good	Green	2	-	2.5	**15,000***	**-**	**64**
PS-12	16-Sep-10	Exterior Trim	Good	White	9	-	2.5	**8,600***	**-**	**38**
Asset No. 210 - Interperative Storage Building										
DA-Q-PS-1-E	22-Sep-09	Exterior Walls	-	White	70	-	14	120*	-	-
DA-Q-PS-2-E	22-Sep-09	Exterior Trim	-	Yellow	2	-	9.8	**2,500***	-	-
DA-Q-PS-3-E	22-Sep-09	Exterior Door	-	Red	2	-	2.7	**2,500***	-	-
DA-Q-PS-4-E	22-Sep-09	Exterior Door	-	Grey	2	-	1.5	540*	-	-
Asset No. 218 - Change House Shaw's Beach										
PS-13	16-Sep-10	Exterior Walls	Poor	White	130	200	2.5	160	0.00	-
DUP1	16-Sep-10	-	-	-	-	-	-	110	**-**	-
PS-14	16-Sep-10	Interior Floor	Fair	Grey	45	40	0.2	440	0.00	-
PS-15	16-Sep-10	Exterior Trim	Poor	Beige	2	60	0.9	**1,500**	0.02	-
PS-16	16-Sep-10	Interior Walls	Fair	White	165	100	1.6	500	0.01	-
Asset No. 216 - Sign Building										
PS-17	16-Sep-10	Exterior Trim	Poor	White	2	200	2.8	<50	**-**	-
PS-17 LD	16-Sep-10	-	-	-	-	-	-	<50	**-**	-
PS-18	16-Sep-10	Exterior Walls	Poor	Green	165	150	1.6	59	0.00	-
PROVINCIAL										
Draft Provincial guideline for the disposal of lead paint and lead painted material dated February 2005					N/A	N/A	N/A	1,000	N/A	N/A
FEDERAL										
Health Canada guideline for heavily leaded paint					N/A	N/A	N/A	N/A	5	N/A
Health Canada guideline requiring precautions for children and pregnant women					N/A	N/A	N/A	N/A	1	N/A
Surface Coating Materials Regulation (Canada Gazette Part II, Vol. 139, No. 9 (SOR/2009-109) - Lead content in paint manufactured after April 19, 2005).					N/A	N/A	N/A	600	N/A	N/A
Limit for lead leachate toxicity from the Export and Import of Hazardous Waste and Hazardous Recyclable Material Regulations.					N/A	N/A	N/A	N/A	N/A	5

BOLD results exceed provincial disposal criteria and/or Health Canada guideline for heavily leaded paint

BOLD results exceed the lead leachate guideline

Most current version of guidelines accessed April 2010

N/A = Not Applicable, no criteria developed

* - denotes results from previous report " Phase I/II ESA, Parks Canada, Dalvay Compound, Queens County, PEI - March 2010"

"-" denotes not analyzed

Table D-2 Summary of Asbestos Sampling Results

Sample ID	Description of Material	Sample Location	Condition of Material	% Asbestos
September 16, 2010				
Asset No. 217 - Staff House #5				
AS-1	lenolium flooring	kitchen	good	NAD
AS-2	floor underlay	bedroom	good;friable	NAD
AS-3	**floor tile**	**bedroom**	**good**	**2% Chrysotile**
AS-4	floor tile	bathroom	good	NAD
AS-5	wall tile	bathroom	good	NAD
AS-6	**floor tile**	**basement**	**good**	**2% Chrysotile**
DUP-2	**-**	**-**	**-**	**2% Chrysotile**
AS-7	**asbestos board**	**basement - stove**	**good;friable**	**25% Chrysotile**
AS-8	ceiling particle board	basement	good;friable	NAD
AS-9	**12x12 floor tile**	**basement**	**good**	**2% Chrysotile**
AS-10	**Drywall Compound**	**basement**	**good;friable**	**2% Chrysotile**
AS-11	kitchen backsplash	kitchen	good	NAD
AS-12	asphalt shingle	roof	good	NAD
Asset No. 218 - Change Room				
AS-13	asphalt shingle	roof	good	NAD

Notes:

1. NAD = no asbestos detected above 1%

APPENDIX E

LABORATORY ANALYSIS REPORTS

Your P.O. #: 16300R40
Your Project #: 121711090/300.400
Site:DALVAY
Your C.O.C. #: ES113810

Attention: Danya MacGillivray
Stantec Consulting Ltd
Charlottetown - Standing Offer
165 Maple Hills Ave
Charlottetown, PE
C1C1N9

Report Date: 2010/09/29

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0D1363
Received: 2010/09/21, 8:52

Sample Matrix: Leachate
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Metals Leach. Tot. MS - N-per	4	2010/09/23	2010/09/23	ATL SOP 00059 R1	Based on EPA6020A

Sample Matrix: Paint
Samples Received: 14

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Lead Paint Avail. OES	7	2010/09/23	2010/09/24	ATL SOP 00025 R5	Based on USEPA 6010B
Lead Paint Avail. OES	3	2010/09/23	2010/09/28	ATL SOP 00025 R5	Based on USEPA 6010B
TCLP Inorganic extraction - pH	4	N/A	2010/09/23	ATL SOP-00035 R4	Based on EPA1311
TCLP Inorganic extraction - Weight	4	N/A	2010/09/23	ATL SOP-00035 R4	Based on EPA1311
Sample weight	10	2010/09/22	2010/09/22		

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

Encryption Key

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

MICHELLE HILL, Project Manager
Email: Michelle.Hill@maxxamanalytics.com
Phone# (902) 420-0203

==========

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.

Total cover pages: 1

This document is in electronic format, hard copy is available on request.

Maxxam Job #: B0D1363
Report Date: 2010/09/29

Stantec Consulting Ltd
Client Project #: 121711090/300.400
Project name: DALVAY
Your P.O. #: 16300R40

ELEMENTS BY ICP/MS (LEACHATE)

Maxxam ID		HF6173	HF6184	HF6205	HF6210		
Sampling Date		2010/09/16	2010/09/16	2010/09/16	2010/09/16		
COC Number		ES113810	ES113810	ES113810	ES113810		
	Units	**PS-11**	**PS-12**	**PS-19**	**PS-20**	**RDL**	**QC Batch**
Metals							
Leachable Lead (Pb)	ug/L	64000	38000	33000	37000	50	2275323

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 200 Bluewater Rd, Suite 105, Bedford, Nova Scotia Canada B4B 1G9 Tel:902-420-0203 Toll-free:800-565-7227 Fax:902-420-8612 www.maxxamanalytics.com

Maxxam Job #: B0D1363
Report Date: 2010/09/29

Stantec Consulting Ltd
Client Project #: 121711090/300.400
Project name: DALVAY
Your P.O. #: 16300R40

RESULTS OF ANALYSES OF PAINT

Maxxam ID		HF6144	HF6169	HF6170	HF6173	HF6184	HF6185		
Sampling Date		2010/09/16	2010/09/16	2010/09/16	2010/09/16	2010/09/16	2010/09/16		
COC Number		ES113810	ES113810	ES113810	ES113810	ES113810	ES113810		
	Units	**PS-3**	**PS-5**	**PS-7**	**PS-11**	**PS-12**	**PS-13**	**RDL**	**QC Batch**
Inorganics									
Sample Weight (as received)	g				2.5	2.5		N/A	2274815
Weight	g	1.5	0.3	1.0			2.5	0.1	2273625
Initial pH	N/A				NA	NA			2274817
Final pH	N/A				5.0	5.1			2274817

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		HF6186	HF6187	HF6188	HF6189	HF6190	HF6205		
Sampling Date		2010/09/16	2010/09/16	2010/09/16	2010/09/16	2010/09/16	2010/09/16		
COC Number		ES113810	ES113810	ES113810	ES113810	ES113810	ES113810		
	Units	**PS-14**	**PS-15**	**PS-16**	**PS-17**	**PS-18**	**PS-19**	**RDL**	**QC Batch**
Inorganics									
Sample Weight (as received)	g						2.2	N/A	2274815
Weight	g	0.2	0.9	0.6	2.8	1.6		0.1	2273625
Initial pH	N/A						NA		2274817
Final pH	N/A						5.0		2274817

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 200 Bluewater Rd, Suite 105, Bedford, Nova Scotia Canada B4B 1G9 Tel:902-420-0203 Toll-free:800-565-7227 Fax:902-420-8612 www.maxxamanalytics.com

Maxxam Job #: B0D1363
Report Date: 2010/09/29

Stantec Consulting Ltd
Client Project #: 121711090/300.400
Project name: DALVAY
Your P.O. #: 16300R40

RESULTS OF ANALYSES OF PAINT

Maxxam ID		HF6210	HF6213		
Sampling Date		2010/09/16	2010/09/16		
COC Number		ES113810	ES113810		
	Units	**PS-20**	**DUP-1**	**RDL**	**QC Batch**
Inorganics					
Sample Weight (as received)	g	2.0		N/A	2274815
Weight	g		1.8	0.1	2273625
Initial pH	N/A	NA			2274817
Final pH	N/A	5.2			2274817

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 200 Blueweter Rd, Suite 105, Bedford, Nova Scotia Canada B4B 1G9 Tel:902-420-0203 Toll-free:800-565-7227 Fax:902-420-8612 www.maxxamanalytics.com

Maxxam Job #: B0D1363
Report Date: 2010/09/29

Stantec Consulting Ltd
Client Project #: 121711090/300.400
Project name: DALVAY
Your P.O. #: 16300R40

ELEMENTS BY ICP-AES (PAINT)

Maxxam ID		HF6144	HF6144	HF6169	HF6170	HF6185		HF6186		
Sampling Date		2010/09/16	2010/09/16	2010/09/16	2010/09/16	2010/09/16		2010/09/16		
COC Number		ES113810	ES113810	ES113810	ES113810	ES113810		ES113810		
	Units	**PS-3**	**PS-3 Lab-Dup**	**PS-5**	**PS-7**	**PS-13**	**RDL**	**PS-14**	**RDL**	**QC Batch**
Metals										
Available Lead (Pb)	mg/kg	1500	1500	400	50000	160	50	440	200	2276623

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		HF6187		HF6188			HF6189	HF6189	HF6190		
Sampling Date		2010/09/16		2010/09/16			2010/09/16	2010/09/16	2010/09/16		
COC Number		ES113810		ES113810			ES113810	ES113810	ES113810		
	Units	**PS-15**	**RDL**	**PS-16**	**RDL**	**QC Batch**	**PS-17**	**PS-17 Lab-Dup**	**PS-18**	**RDL**	**QC Batch**
Metals											
Available Lead (Pb)	mg/kg	1500	60	500	80	2276623	ND	ND	59	50	2281326

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		HF6213		
Sampling Date		2010/09/16		
COC Number		ES113810		
	Units	**DUP-1**	**RDL**	**QC Batch**
Metals				
Available Lead (Pb)	mg/kg	110	50	2281326

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 200 Bluewater Rd, Suite 105, Bedford, Nova Scotia Canada B4B 1G9 Tel:902-420-0203 Toll-free:800-565-7227 Fax:902-420-8612 www.maxxamanalytics.com

Maxxam Job #: B0D1363
Report Date: 2010/09/29

Stantec Consulting Ltd
Client Project #: 121711090/300.400
Project name: DALVAY
Your P.O. #: 16300R40

GENERAL COMMENTS

Sample HF6173-01: Method Deviation Comment: Reduced sample weight used for leachate procedure due to insufficient sample. All extraction ratios maintained. Minimal impact on sample data quality.

Sample HF6184-01: Method Deviation Comment: Reduced sample weight used for leachate procedure due to insufficient sample. All extraction ratios maintained. Minimal impact on sample data quality.

Sample HF6205-01: Method Deviation Comment: Reduced sample weight used for leachate procedure due to insufficient sample. All extraction ratios maintained. Minimal impact on sample data quality.

Sample HF6210-01: Method Deviation Comment: Reduced sample weight used for leachate procedure due to insufficient sample. All extraction ratios maintained. Minimal impact on sample data quality.

Results relate only to the items tested.

Maxxam Analytics International Corporation o/a Maxxam Analytics 200 Bluewater Rd, Suite 105, Bedford, Nova Scotia Canada B4B 1G9 Tel:902-420-0203 Toll-free:800-565-7227 Fax:902-420-8612 www.maxxamanalytics.com

Stantec Consulting Ltd
Attention: Danya MacGillivray
Client Project #: 121711090/300.400
P.O. #: 16300R40
Project name: DALVAY

Quality Assurance Report

Maxxam Job Number: DB0D1363

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2274815	JWH	Method Blank	Sample Weight (as received)	2010/09/23	50		g	
2275323	KGU	Method Blank	Leachable Lead (Pb)	2010/09/23	ND, RDL=5		ug/L	
2276623	SSI	Matrix Spike						
		[HF6144-01]	Available Lead (Pb)	2010/09/24		NC	%	75 - 125
		QC Standard	Available Lead (Pb)	2010/09/24		101	%	75 - 125
		Spiked Blank	Available Lead (Pb)	2010/09/24		95	%	75 - 125
		Method Blank	Available Lead (Pb)	2010/09/24	ND, RDL=50		mg/kg	
		RPD [HF6144-01]	Available Lead (Pb)	2010/09/24	3.1		%	25
2281326	SSI	Matrix Spike						
		[HF6189-01]	Available Lead (Pb)	2010/09/28		92	%	75 - 125
		QC Standard	Available Lead (Pb)	2010/09/28		102	%	75 - 125
		Spiked Blank	Available Lead (Pb)	2010/09/28		93	%	75 - 125
		Method Blank	Available Lead (Pb)	2010/09/28	ND, RDL=50		mg/kg	
		RPD [HF6189-01]	Available Lead (Pb)	2010/09/28	NC		%	25

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

This document is in electronic format, hard copy is available on request.

Please Reply To:

AmeriSci Boston
8 SCHOOL ST.
WEYMOUTH, MA 02189
TEL: (781) 337-9334 • FAX: (781) 337-7642

FACSIMILE TELECOPY TRANSMISSION

To: Patrick Turner
Stantec
Fax #:

Email: donya.macgillivray@jstantec.com

From: Sandhya Gunasekara
AmeriSci Job #: 510091210
Subject: Chatfield 5 day Results
Client Project: 121711090 Task300.400; Dalvay; PEI

Date: Friday, September 24, 2010
Time: 16:12:02
Comments:

Number of Pages: 04
(including cover sheet)

AmeriSci Job #: **510091210**
Client Name: Stantec

Table I
Summary of Bulk Asbestos Analysis Results
121711090 Task300.400; Dalvay; PEI

AmeriSci Sample #	Client Sample#	HG Area	Sample Weight (gram)	Heat Sensitive Organic %	Acid Soluble Inorganic %	Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
01	AS-12		0.484	55.7	41.1	3.2	NA	NAD
Location: Bulk Material								
02	AS-13		0.362	48.9	45.7	5.3	NA	NAD
Location: Bulk Material								

Reviewed by: _____ Date Reviewed: _____ Analyzed By: Sandhya Gunasekara _____ Date Analyzed:9/24/2010

Semi-Quantitative Analysis: NAD = no asbestos detected; NA = not analyzed; NA/PS = not analyzed due to positive stop; Trace = <1%;
PLM analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #102079-0) or NY ELAP 198.6 for New York NOB samples (NY ELAP Lab # 10982);
TEM analysis by EPA 600/R-93/116 (not covered by NVLAP Bulk accreditation) or NY ELAP 198.4 for New York NOB samples (NY ELAP Lab # 10982);

** Warning Notes: Consider PLM fiber diameter limitation, only TEM will resolve fibers <0.25 micrometers in diameter. TEM bulk analysis is representative of the fine grained matrix material and may not be representative of non-uniformly dispersed debris, soils or other heterogeneous materials for which a combination PLM/TEM evaluation is recommended; Quantitation for beginning weights of <0.1 grams should be considered as qualitative only.

Please Reply To:

AMERI SCI

AmeriSci Boston
8 SCHOOL ST.
WEYMOUTH, MA 02189
TEL: (781) 337-9334 • FAX: (781) 337-7642

FACSIMILE TELECOPY TRANSMISSION

To: Patrick Turner
Stantec
Fax #:

Email: donya.macgillivray@jstantec.com

From: Ivan H Reyes
AmeriSci Job #: 510091211
Subject: PLM 5 day Results
Client Project: 121711090 Task300.400; Dalvay; P.E.I.

Date: Monday, September 27, 2010
Time: 12:57:52
Comments:

Number of Pages: 6 (including cover sheet)

AMERI SCI

AmeriSci Boston
8 SCHOOL ST.
WEYMOUTH, MA 02189
TEL: (781) 337-9334 • FAX: (781) 337-7642

PLM Bulk Asbestos Report

Stantec
Attn: Patrick Turner
165 Maple Hills Ave.

Charlottetown, PE C1C 1N9

Date Received 09/21/10
Date Examined 09/27/10
AmeriSci Job # 510091211
P.O. #

RE: 121711090 Task300.400; Dalvay; P.E.I.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
AS-1	510091211-01	*No*	NAD (by CVES) by Ivan H Reyes on 09/27/10
Location:			
Analyst Description: Black/Brown, Homogeneous, Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Cellulose 20 %, Fibrous glass 3 %, Non-fibrous 77 %			
AS-2	510091211-02	*No*	NAD (by CVES) by Ivan H Reyes on 09/27/10
Location:			
Analyst Description: Tan/Green/Black, Heterogeneous, Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Cellulose 10 %, Synthetic fibers 10 %, Non-fibrous 80 %			
AS-3	510091211-03	*Yes*	2 % (by CVES) by Ivan H Reyes on 09/27/10
Location:			
Analyst Description: Grey, Homogeneous, Non-Fibrous, Bulk Material			
Asbestos Types: Chrysotile 2.0 %			
Other Material: Non-fibrous 98 %			
AS-4	510091211-04	*No*	NAD (by CVES) by Ivan H Reyes on 09/27/10
Location:			
Analyst Description: White, Homogeneous, Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Cellulose 15 %, Non-fibrous 85 %			
AS-5	510091211-05L1	*No*	NAD (by CVES) by Ivan H Reyes on 09/27/10
Location:			
Analyst Description: White/Purple, Homogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
Comment: Ceramic Tile			

See Reporting notes on last page

PLM Bulk Asbestos Report

121711090 Task300.400; Dalvay; P.E.I.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
AS-5	510091211-05L2	*No*	NAD (by CVES) by Ivan H Reyes on 09/27/10
Location:			
Analyst Description: Yellow, Homogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Cellulose Trace, Non-fibrous 100 %			
Comment: Ceramic Tile Adhesive			
AS-6	510091211-06	*Yes*	2 % (by CVES) by Ivan H Reyes on 09/27/10
Location:			
Analyst Description: Beige, Homogeneous, Non-Fibrous, Bulk Material			
Asbestos Types: Chrysotile 2.0 %			
Other Material: Non-fibrous 98 %			
AS-7	510091211-07	*Yes*	25 % (by CVES) by Ivan H Reyes on 09/27/10
Location:			
Analyst Description: Grey, Homogeneous, Fibrous, Cementitious, Bulk Material			
Asbestos Types: Chrysotile 25.0 %			
Other Material: Non-fibrous 75 %			
AS-8	510091211-08	*No*	NAD (by CVES) by Ivan H Reyes on 09/27/10
Location:			
Analyst Description: White, Homogeneous, Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Cellulose 90 %, Non-fibrous 10 %			
AS-9	510091211-09	*Yes*	2 % (by CVES) by Ivan H Reyes on 09/27/10
Location:			
Analyst Description: Off-White/Grey, Homogeneous, Non-Fibrous, Bulk Material			
Asbestos Types: Chrysotile 2.0 %			
Other Material: Non-fibrous 98 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

121711090 Task300.400; Dalvay; P.E.I.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
AS-10	510091211-10.1	***No***	NAD (by CVES) by Ivan H Reyes on 09/27/10
Location:			
Analyst Description: White, Homogeneous, Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Cellulose Trace, Fibrous glass 3 %, Non-fibrous 97 %			
AS-10	510091211-10.2	***Yes***	2 % (by CVES) by Ivan H Reyes on 09/27/10
Location:			
Analyst Description: Off-White, Homogeneous, Fibrous, Bulk Material			
Asbestos Types: Chrysotile 2.0 %			
Other Material: Cellulose Trace, Non-fibrous 98 %			
Comment: Textured Material			
AS-11	510091211-11	***No***	NAD (by CVES) by Ivan H Reyes on 09/27/10
Location:			
Analyst Description: White, Homogeneous, Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Cellulose 65 %, Non-fibrous 35 %			
DUP-2	510091211-12	***Yes***	2 % (by CVES) by Ivan H Reyes on 09/27/10
Location:			
Analyst Description: Beige, Homogeneous, Non-Fibrous, Bulk Material			
Asbestos Types: Chrysotile 2.0 %			
Other Material: Non-fibrous 98 %			

Reporting Notes:

Analyzed by: Ivan H Reyes Ivan Reyes; Date Analyzed: 9/27/10

NAD = no asbestos detected; CVES = Calibrated Visual Estimate; NA = not analyzed; NAPS = not analyzed / positive stop; "Present" or NVA = "No Visible Asbestos" are observations made during a qualitative analysis; PLM Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #102079-0) or NY ELAP PLM Analysis Protocol 198.1 for New York friable samples (198.6 for NOB samples) (NY ELAP Lab # 10982); Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested.

Reviewed By:_____

APPENDIX F

ASSESSOR QUALIFICATIONS

EDUCATION

University of Guelph, Water Resource Engineering, Guelph, ON, 1990
University of PEI, Diploma in Engineering, Charlottetown, Prince Edward Island, 1988

ACCREDITATIONS/TECHNICAL PUBLICATIONS

Association of Professional Engineers of Prince Edward Island (President 2003, Vice-President 2002, Councilor 1999-2001)
National Groundwater Association
Certified Environmental Site Assessor (CESA) - Phase I
Associated Environmental Site Assessors of Canada

Primary Areas of Expertise

- **Phase I, II and III ESAs**
- **Hydrogeology**
- **Remedial System Design/Implementation**
- **Fuel Spill Response**

20 Years Experience
20 Years Experience with Firm

ACCOMPLISHMENTS, ACHIEVEMENTS AND AWARDS

Mr. Joostema, FEC, P.Eng., CESA, is a Senior Associate with Stantec Consulting Ltd. specializing in Environmental Engineering/Hydrogeology. Mr. Joostema has been involved in Phase I-IV Environmental Site Assessments including Risk Assessment, Hazardous Materials Studies, Fresh and Saltwater Aquifer Supply Studies and Air Quality Testing for various projects on Prince Edward Island and has accumulated a variety of experience in each discipline. Mr. Joostema has been involved with or senior project engineer of approximately 200 sites for which investigative and/or remedial work was performed due to product loss from under or aboveground petroleum storage tanks as well as Hazardous Materials studies. He has been the project manager and involved in aquifer studies including the installation of production wells, hydraulic testing and interpretation of data. He has managed both indoor and outdoor air quality studies. Peter was the primary team contact for PWGSC work in PEI for several years.

RELEVANT PROJECT EXPERIENCE

- Sr Reviewer/Project Manager, PWGSC- Phase I & II ESAs and RMPs, Various Parks Canada Sites in PEI, 2009.
- Sr Reviewer/Project Manager, PWGSC - Update RMP/RAP, Charlottetown CCG Base, PWGSC, 2009.
- Project Manager, PWGSC - Phase II ESA/RMP/RAP Fort Amherst Park Canada, 2009.
- Sr Reviewer/Project Manager, PWGSC - EMP, DFO Naufrage Dredge Disposal Facility, PWGSC, PEI, 2009 – 2010.
- Defense Construction Canada (DCC) - Compliance Well Installation/Groundwater Monitoring/Decommissioning, Summerside Armoury, Slemon Park, 2009 – 2010.
- Phase II ESA/Remediation/Monitoring, Major Multi-national Oil Company, 2009.
- Project Manager, PWGSC - Dalvay New Production Well and Hydraulic Testing, March 2008.
- Sr Reviewer/Project Management, PWGSC - Potable Water Testing - Two GOCB Facilities on PEI, 2004 – 2009.
- PWGSC - Harrington Agriculture Canada Research Farm Phase I & II ESA, November 2007 to March 2008.
- Pomerleau - Pre-Occupancy Indoor Air Quality Testing of the Jean Canfield Building (new GOCB) for LEEDs certification, December 2007 - February 2008.
- PWGSC - Qualitative Risk Assessment - Naufrage Marine Sediment Containment Facility, December 2007.
- Souris Harbour Authority - Hydraulic Testing - Saltwater Production Wells, October 2007.
- PEITPW - Phase III ESA and Tier II RA - Summerside Government Garage, 2007.
- Sr Reviewer/Project Manager, Phase I / II ESAs, EMS – HMMPs in NB, NS and PEI, PWGSC, 2009.
- Phase I ESA Gap Analysis/Phase II ESA for PWGSC on the Dominion Building in Charlottetown, PEI, 2005.
- Potable Water Sampling (10 GOCB Sites) for PWGSC various locations PEI, 2004 - 2005.
- Risk Assessment for the New GOCB Facility in Charlottetown, PEI for PWGSC, 2004.
- Screening Level Risk Assessment and Monitor Well Decommissioning, PWGSC, Harrington, PEI, 2004.
- Human Health Risk Assessments, Risk Management Plan development for 7 CCG Lighthouses, PWGSC, 2003.
- Phase II, III and Risk Assessment of DFO-SCH wharf site in Jude's Point, PE, 2003.
- Phase II ESA review for Tank Compliance, Design, Removal and Remediation, DFO SCH, 2003.
- Phase III for PWGSC on the Former Taylor ESSO property in Charlottetown, PEI, 2002.
- Phase II, III and Ecological Screening Level Risk Assessment for Charlottetown CCG base, 2002.
- Phase II, III and Risk Assessment for PWGSC on the proposed GOCB in Charlottetown, PEI, 2001 - 2002.
- Phase I/II ESAs for several sites in the program of 70 DFO sites, in NB, PEI, PWGSC, 2000 - 2001.
- Phase I ESAs for PWGSC for various sites in PEI, 1999 - 2002.
- Phase I ESA for PWGSC on the proposed GOCB in Charlottetown, PEI, 1999 - 2000.

DANYA MacGILLIVRAY – CHARLOTTETOWN, PEI **Junior Project Professional**

EDUCATION

B.Eng., Environmental Engineering, Dalhousie University, Halifax, NS, 2003
Environmental Engineering (Hons), Nova Scotia Agricultural College, Truro, NS, 2001

Primary Areas of Expertise

- **Phase II/III ESAs**

5 Years Experience
5 Years Experience with Firm

ACCREDITATIONS

Professional Engineer, Association of Professional Engineers, Geologists and Geophysicists of Alberta
Professional Engineer, Engineers Nova Scotia

ACCOMPLISHMENTS, ACHIEVEMENTS AND AWARDS

Danya is an environmental engineer at the Charlottetown office. She has five years of experience conducting and managing test pit excavations, borehole and monitor well installation and soil and groundwater sampling, and remedial system supervision, monitoring and maintenance for the purposes of regulatory compliance, financing (property acquisitions) and environmental monitoring. She has experience with the planning and supervision of environmental projects, proposal preparation, project scheduling, supervision of technical staff and contractors and technical report preparation including monitoring and closure reports, site remediation reports and Phase II/III ESA's. Danya has recently moved back from the Stantec Calgary office to the Stantec Charlottetown office. Danya has also been involved with mold assessments and remediation activities and pilot scale dredging activities. In 2002, Danya did a four month work term working for the Environmental Department of the PWGSC Charlottetown office where she was involved with CEAA screenings, EPPs and assisted with a public information session for a wharf replacement and bank enhancement.

RELEVANT PROJECT EXPERIENCE

- Project Manager, Limited Phase II ESA - Ash Street, First Capital Realty Inc, Edmonton, AB, 2010.
- Primary Author, Remedial Excavation – Station 85, Parkland Industries Limited, Edmonton, AB, 2010.
- Project Manager for over 20 Phase II ESA's and Remedial Excavations – downstream oil and gas, various sites AB and SK, various clients, 2008/2009.
- Project Manager, Brownfield Development, former CFB Currie Barracks, Canada Lands Corporation, Calgary, Alberta, 2008/2009.
- Assistant Project Manager and Field Supervisor, Environmental Investigation and Management, East Village Development, Calgary Municipal Land Corporation, Calgary, Alberta, 2008/2009.
- Primary Author, Former Landfill Excavation Program and Groundwater Monitoring, Bowden Refinery, Parkland Industries Limited, Bowden, AB, 2008/2009.
- Project Manager for over 30 groundwater monitoring sites – downstream oil and gas, various sites - AB, SK, MB, BC, Parkland Industries Limited, 2007 to 2009.
- Assistant Project Manager and Report Preparation, Phase I/II Acquisition Portfolio – 18 sites in AB, Parkland Industries Limited, 2006/2007.
- Junior Engineer/Field Supervisor, Excavation and Disposal of PAH Impacted Soil in On-Site Disposal Cell, Department of National Defence, Bedford, Nova Scotia, 2005.
- Junior Engineer for over 30 Phase II/III ESA's and Remedial Excavations for various clients, AB, SK, MB, BC, 2005-2007.
- Junior Engineer/Field Supervisor, Containment Source Assessment (soil, sediment and surface water), Department of National Defence, Bedford, Nova Scotia, 2004/2005.
- Junior Engineer/Field Supervisor, Delineation of PAH Impacted Soil and Sediment, Department of National Defence, Bedford, Nova Scotia, 2004.
- Junior Engineer/Field Personnel, Pilot Scale Dredging and Dewatering Project, Boat Harbour Stabilization Lagoon, Public Works and Government Services Canada Pictou, Nova Scotia, 2004.
- Junior Engineer/Field Personnel, Mold Remediation, S. Allen and Sons, Tatamagouche, Nova Scotia, 2004.
- Junior Engineer/Field Personnel, Residential Fuel Oil Spill, various sites, Nova Scotia, 2003/2004.
- Junior Engineer, Risk Management Plan and Remedial Action Plan Documents, Various Sites, Department of National Defence, Nova Scotia, 2003/2004.

EDUCATION

Dalhousie University; Bachelor of Civil Engineering (2006-2008)
University of Prince Edward Island; Diploma in Engineering (2003-2006)

Primary Areas of Expertise

- **Phase I and II ESA's**
- **Groundwater and Air Quality Monitoring**
- **Remedial System Implementation and Monitoring**
- **Fuel Spill Response**

2 Years Experience
2 Years Experience with Firm

ACCREDITATIONS/TECHNICAL PUBLICATIONS

Engineer in Training (EIT)

ACCOMPLISHMENTS, ACHIEVEMENTS AND AWARDS

Mr. Stetson of Stantec is a junior engineer with Stantec Consulting Ltd. in the Charlottetown office. He has conducted field work related to soil sampling, borehole and monitor well drilling, groundwater exploration, air quality sampling and concrete testing. Mr. Stetson has also been an on-site supervisor and assistant for the installation of remediation equipment, including pump/treat and vapour extraction systems. In addition, he has been involved in the completion of remediation system monitoring including: collection of field data (hydrocarbon vapour levels, dissolved oxygen readings, temperature and product levels), collection of groundwater samples, and analysis of system performance. He has also been involved with soil excavation programs, prepared data sheets and written reports for Phase II ESA and monitoring projects for a number of commercial properties.

RELEVANT PROJECT EXPERIENCE

- Junior Engineer – Environmental Site Closure and Decommissioning, Environmental Sampling, DND-DCC, Slemon Park Armoury, Summerside, PEI, 2010.
- Junior Engineer – Phase II ESA, Environmental Pump and Treat and Sampling, Fuel Spill Remediation, Lower Bedeque, PEI, 2010.
- Junior Engineer - Town of Stratford Groundwater Exploration Program, Stratford Well Field, Stratford, PEI, 2010.
- Junior Engineer – Geotechnical Drilling and Sampling, PWGSC Small Craft Harbour Sites in MacAuley's Shore, Beach Point, Murray River, Montague, Launching Pond, Annandale, Bay Fortune, Savage Harbour, West Point, Miminegash and Seacow Pond, PWGSC, 2009-2010.
- Junior Engineer - City of Charlottetown Groundwater Exploration Program, Winsloe Well Field, Winsloe, PEI, 2009.
- Junior Engineer – Environmental Drilling, Sampling and Site Remediation, Various Shell Sites on PEI, Shell Canada, 2009 – 2010.
- Junior Engineer - Groundwater Sampling, Various Sites on PEI, 2009-2010.
- Junior Engineer – Hazardous Material Assessment sampling and reporting, Kays Building Re-development, Charlottetown, PEI, CADC, 2009.
- Junior Engineer – Environmental and Geotechnical Drilling and Sampling, Various PEITPW Bridge Structures on PEI, PEITPW, 2009-2010.
- Junior Engineer – Environmental Drilling and Groundwater Sampling, PEITPW Decommissioned Landfill Sites in Maple Plains, Belle River and Kingsboro PEI, PEITPW, 2009-2010.
- Junior Engineer – Fuel Spill Response, Soil Sampling and Vapour Extraction System Installation, Various Sites on PEI, 2009-2010.
- Junior Engineer – Environmental Phase I and Phase II reporting, various projects on PEI, 2009-2010.
- Junior Engineer – Environmental Hydraulic Conductivity testing and monitoring for Former Montague Shell site, Montague, PEI, Shell Canada, 2010.
- Junior Engineer – Geotechnical Drilling and sampling, PWGSC Harrington Research Facility Proposed Greenhouse, Harrington, PEI, PWGSC, 2009.
- Junior Engineer – Environmental Water Quality Monitoring, EEM Program, PEITPW Dunedin, Victoria and Tyne Valley Bridge projects, PEITPW, 2009.

EDUCATION

Holland College; Construction Technology Program (1990-1991)

ACCREDITATIONS/TECHNICAL PUBLICATIONS

Certified Engineering Technician (CET)

ACCOMPLISHMENTS, ACHIEVEMENTS AND AWARDS

Primary Areas of Expertise

- **Phase I, II and III ESA's**
- **Hydrogeology**
- **Remedial System Design/Implementation**
- **Fuel Spill Response**

18 Years Experience
18 Years Experience with Firm

Ralph MacLean of Stantec is a senior technician with Stantec Consulting Ltd. in the Charlottetown office. He has conducted field work related to soil sampling, borehole and monitor well drilling, groundwater exploration and air quality sampling. Ralph has also been an on-site supervisor for the installation of remediation equipment, including pump and treat systems and vapour extraction systems. In addition, he has experience in the completion of site and remediation system monitoring including: collection of field data (hydrocarbon vapour levels, dissolved oxygen readings, temperature and product levels), collection of groundwater samples, and analysis of system performance. He has also supervised soil excavation programs and prepared data sheets for Phase II ESA and monitoring reports for a number of commercial properties.

RELEVANT PROJECT EXPERIENCE

- Senior Technician – Phase II ESA, Environmental Drilling and Sampling, West Point, Wood Islands and MacAuley's Shore DFO-SCH, PEI, PWGSC, 2009 – 2010.
- Senior Technician – Phase II ESA, Environmental Sampling, DFO Range Lights Annandale and Hazard Point, PEI, PWGSC, 2009.
- Senior Technician – Phase I & II ESAs for the Brackley Pumphouse, Cavendish Compound and Dalvay Compound, Parks Canada, PEI, 2009.
- Senior Technician – Phase II ESA/RMP/RAP Fort Amherst Park Canada, PEI, 2009.
- Senior Technician – Groundwater Monitoring Program, Harrington Research Farm, Agriculture Canada, PEI, 2009.
- Senior Technician – City of Charlottetown Groundwater Exploration Program, Winsloe Well Field, Winsloe, PEI, 2008-2009.
- Senior Technician - Potable Water Sampling (GOCB Sites) for PWGSC various locations PEI, 2004 - 2009.
- Senior Technician – Water Well Installation and Hydraulic Testing, Dalvay Production Well for Parks Canada, Dalvay – PEI, PWGSC, 2007.
- Senior Technician – Phase II & III ESA, Environmental Drilling and Sampling, Dominion Building, Charlottetown, PEI, PWGSC, 2005 -2 006.
- Senior Technician – Screening Level Risk Assessment/Monitor Well Decommissioning, Environmental Sampling and MW Decommissioning, Agriculture Canada Harrington Research Facility, Harrington, PEI, PWGSC, 2005.
- Senior Technician – Environmental Drilling, Sampling and Site Remediation, Various Shell Sites on PEI, Shell Canada, 1991 - 2008.
- Senior Technician - Drilling monitor wells and supervising remediation, various Multi-national Oil Co. sites on PEI, 1995 - 2008
- Tank Environmental Assessment, Removal and Remediation Program, DFO SCHs, DFO, 2003-2008
- Senior Technician – Phase I, II and III ESAs, Phase II and III ESA Environmental Drilling and Sampling, Various DFO Sites on PEI, PWGSC, 2000 - 2001.
- Senior Technician – Phase II and III ESAs and Site Remediation, Environmental Drilling, Sampling and Site Supervision of Remediation, New GOCB (Jean Canfield Building), Charlottetown, PEI, PWGSC, 2000 - 2004.
- Senior Technician – Phase II & III ESA, Environmental Drilling and Sampling, Correction Services Site, Montague, PEI, PWGSC, 2001.

LIMITED PHASE I/II
ENVIRONMENTAL SITE ASSESSMENT
TECH OFFICER'S BUILDING
(ASSET NO. 05304)
DALVAY COMPOUND, DALVAY
PRINCE EDWARD ISLAND

Prepared For:

Environmental Services
Public Works and Government Services Canada

Prepared by:

MGI Limited
Charlottetown, P.E.I.

June 2005

A member of the Family of Companies

MGI Limited
60 St. Peters Road
Charlottetown, Prince Edward Island
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Tel. 902.368.8858
Fax 902.368.8625
Email mgi.pei@mgi-limited.com
Web www.mgi-limited.com
www.CRAworld.com

June 3, 2005

MGI File: 30231A

Public Works and Government Services Canada
3 Queen Street
Charlottetown, PEI
C1A 7M8

Attention: Pamela L. Walker, B. Civil Eng., EIT
Environmental Officer

Re: **Limited Phase I/II Environmental Site Assessment, Tech Officer's Building (Asset No. 05304) Dalvay Compound, Dalvay, Queens County, Prince Edward Island**

Dear Ms. Walker:

MGI Limited (MGI) is pleased to provide a draft report regarding the above noted Environmental Site Assessment. The Limited Phase I/II Environmental Site Assessment (ESA) was conducted in accordance with the Terms of Reference for CCME Phase I/II/III ESAs and Associated Activities provided by PWGSC dated March 4, 2005, with modifications to limit the scope of work to only the buildings as reflected in the PWGSC RFP *(Request for Proposal – Phase I and Limited Phase II ESA*, March 2005) and MGI's proposal (*Revised Work Plan and Cost Estimate for a Phase I and Optional Limited Phase II ESA for Eight (8) Buildings, Dalvay Compound, April 15, 2005*). The work consisted of a limited historical review of information related to the building, interviews with people knowledgeable of the building's history, a site inspection and a limited building materials sampling program to determine the possible presence of metals in paint, mould and asbestos containing materials.

We trust that this information meets your requirements. Please contact our office should there be questions.

Sincerely,
MGI LIMITED

Steve Sauveur, M.A.Sc., P.Geo.
Operations Manager

Richard MacEwen, B.Sc.Eng., M.Sc.
Environmental Professional

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EXECUTIVE SUMMARY

At the request of Public Works and Government Services Canada (PWGSC), and on behalf of Parks Canada, MGI Limited (MGI) conducted a Limited Phase I/II Environmental Site Assessment (ESA) of the Tech Officer's Building (Asset No. 05304), located at the Dalvay Compound, Dalvay, Queens County, Prince Edward Island.

TABLE 1: SUMMARY OF FINDINGS

Environmental Concern	Report Section #	Comments
Fuel Storage and Handling	2.5.1	A domestic fuel oil tank storage enclosure is located on the exterior of west side of the building.
Chemicals	2.5.2	No concerns observed or known beyond basic household cleaners.
Waste Management	2.5.3	No concerns observed or known.
Spill and Stained Areas	2.5.4	No concerns observed or known.
Mould and Fungus	2.5.5	No concerns observed or known beyond minor water stains observed on the ceiling and around the furnace flue. This could result in mould and fungus problems if the source of water is not remediated.
Lead	2.5.6	The possibility of lead based paint was identified due to the age of the building. A limited sampling program was conducted. Two (2) samples, one from the interior trim and one from the exterior trim, were analyzed and both reported values within the Federal guideline of 5000 mg/kg for liquid coatings.
Mercury	**2.5.7**	**Mercury was observed in a thermostat and should be properly disposed of if removed or replaced.**
Air Emissions	2.5.8	No concerns observed or known beyond emissions from the domestic fuel oil furnace.
Polychlorinated Biphenyl Materials/Equipment	**2.5.9**	**A fluorescent light ballast suspected to contain PCBs was observed and should be disposed of in a proper manner.**
Asbestos Containing Materials (ACMs)	2.5.10	Due to the building's date of construction being circa 1958, asbestos containing materials were identified as a potential concern. One sample was submitted as a screening process from a floor tile. The sample was not found to contain asbestos. While no asbestos was found in the screening sample submitted, the presence of asbestos containing materials can not be ruled out in other materials not submitted for analysis.
Urea Formaldehyde Foam Insulation	2.5.11	No concerns observed, known or anticipated. Insulation observed included white foam insulation.
Ozone Depleting Substances (ODS)	2.5.12	No ODS substances or appliances were observed.
Radon Emissions	2.5.13	Active tests for radon gas were not completed as part of this ESA.
Electromagnetic Fields	2.5.14	No concerns observed or known.
Noise and Vibration	2.5.15	No concerns observed or known.

The Limited Phase I ESA identified the following environmental concerns with respect to the Tech Officer's Building (Asset No. 05304):

- The possible presence of metal within the paint of the building.
- The possible presence of asbestos containing materials.
- The presence of mercury in a thermostat.
- The presence of a fluorescent light ballast suspected to contain PCBs.

Based on the findings of the Limited Phase I ESA, the scope of work for the Limited Phase II ESA consisted of the following:

- Paint samples from two locations – one (1) from the interior and one (1) from the exterior of the Tech Officer's Building – were collected and analyzed for metals.
- One (1) building material sample was submitted for the identification of asbestos.

It is concluded, based on the limited records review, interviews, site visit and limited building materials survey that the subject building has environmental liability. This liability relates to the following:

- The presence of mercury in a thermostat.
- The presence of a fluorescent light ballast suspected to contain PCBs.

In addition to the identified liabilities, the possibility that asbestos containing materials may be present in areas not tested cannot be ruled out.

1.0 INTRODUCTION

MGI Limited (MGI) was retained by Public Works and Government Services Canada (PWGSC), on behalf of Parks Canada, to conduct a Limited Phase I/II Environmental Site Assessment (ESA) at the Tech Officer's Building (Asset No. 05304), located at the Dalvay Compound, Dalvay, Queens County, Prince Edward Island (Figure 1).

1.1 Objectives

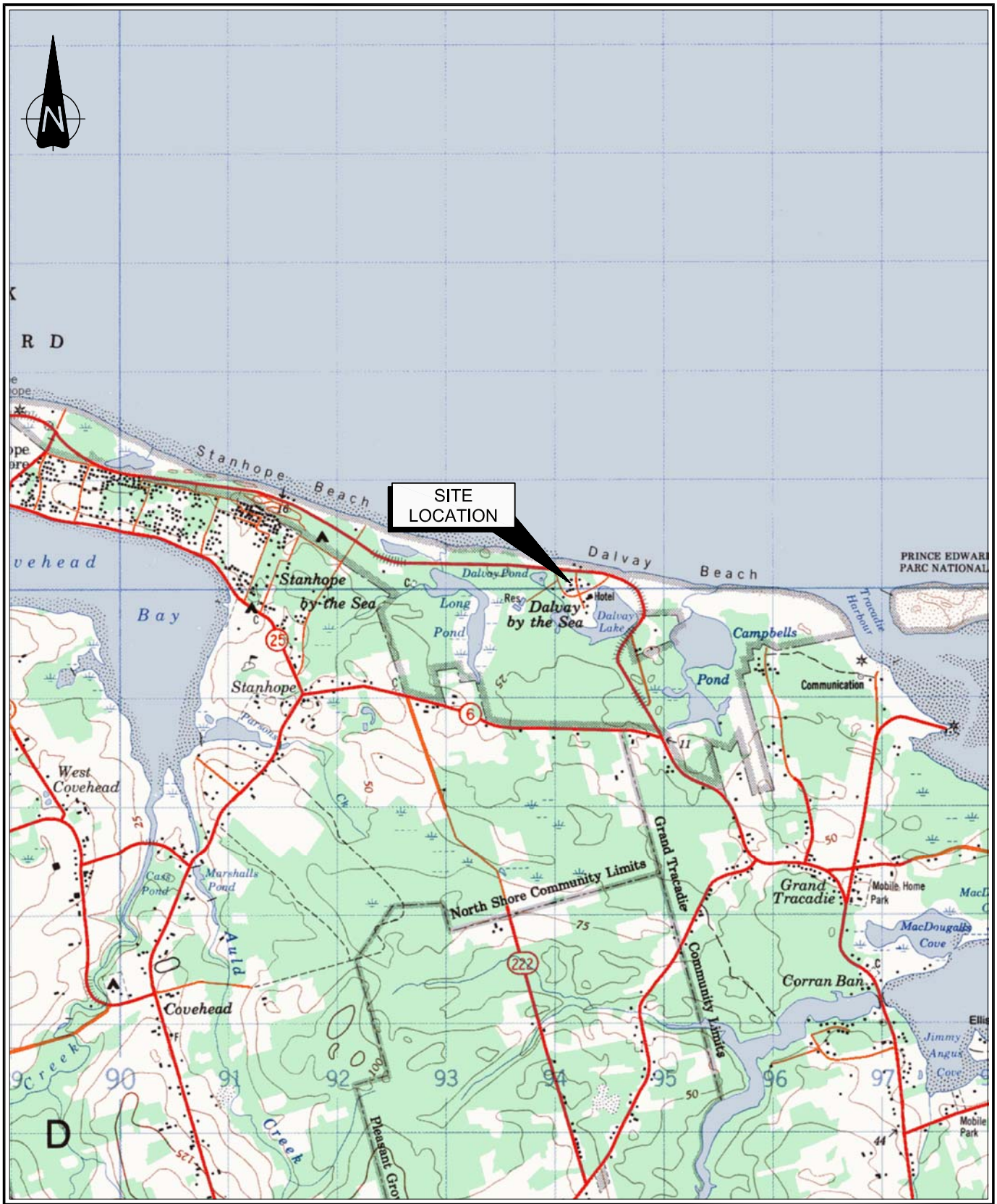
The objectives of the Limited Phase I/II ESA were as follows:

1. Complete a limited historical review, and site inspection of the subject building in order to identify and document the presence of potential materials or conditions of concern.
2. Conduct interviews with persons who have knowledge of past and present activities at the site that are directly related to the building.
3. If warranted, complete a Limited Phase II ESA sampling program to confirm the presence or absence of designated building materials or conditions of concern identified during the historical review or site visit.

It is noted that, in accordance with project terms of reference (TOR), the Limited Phase I review was limited solely to the actual building itself and did not include areas outside of the building, including, but not limited to, soil conditions on the building site. In addition, the hazardous building materials sampling program completed under the Limited Phase II ESA was intended to be a screening for possible materials of concern and is not intended to be a thorough hazardous building materials survey.

1.2 Regulatory Framework

The Limited Phase I/II Environmental Site Assessment (ESA) was conducted in accordance with the Terms of Reference for CCME Phase I/II/III ESAs and Associated Activities provided by PWGSC dated March 4, 2005, with modifications to limit the scope of work to only the buildings as reflected in the PWGSC RFP (Request for Proposal – Phase I and Limited Phase II



MGI A member of the Family of Companies	TITLE: **Site Location**	DATE: May 2005	PROJECT NO.: 30231A
	PROJECT: **Limited Phase I/II Environmental Site Assessment, Dalvay Compound Dalvay, PE**	SCALE: 1:50,000	FIGURE NO.: 1
		DRAWN: CTP	

CADFILE No. 30231AF1.DWG

ESA, March 2005) and MGI's proposal, (Revised Work Plan and Cost Estimate for a Phase I and Optional Limited Phase II ESA for Eight (8) Buildings, Dalvay Compound, April 15, 2005). The Limited Phase I ESA was performed in accordance with the Canadian Standards Association document Z768-01, with the above noted stipulation that the assessment was limited to the building itself and did not include a thorough records review or the assessment of areas outside of the building.

2.0 LIMITED PHASE I ENVIRONMENTAL SITE ASSESSMENT

The following information details the results of the Limited Phase I ESA, which includes limited historical information, observations noted during a site inspection conducted during the week of April 25, 2005 and interviews with people familiar with the subject property.

2.1 Scope of Work

The scope of the study consisted of:

1. A records review of:
    - historical aerial photographs for the site (to verify approximate building age);
    - relevant documents and drawings pertaining to the building and its maintenance; and,
    - documents related to past environmental studies conducted for the building itself.

2. Where possible, interviews with persons knowledgeable of past and present activities at the building.

3. A site visit to:
    - walk around and through the building to document current activities and condition of the building. Exterior observations were limited to the building itself; and,

- where possible, through documentation and visual inspection, note the possible presence of PCB and asbestos containing materials, lead containing paint and piping/solder, mercury containing devices, mould and fungus, UFFI, and other designated substances, excluding radioactive materials in equipment;

2.2 Methodology

2.2.1 Records Review

The initial activity in the Limited Phase I ESA was the review of the provincial aerial photographs for the site. During the on-site visit a review of available maintenance records and previous reports was conducted.

2.2.2 Interviews

An interviews was conducted with the following person as part of this Phase I ESA.

Name	Agency/Location	Phone #
Mr. Greg Shaw	Parks Canada – Maintenance Supervisor	(902) 672-6377

2.2.3 Site Visit

Site visits were completed by Mr. R. MacEwen and Mr. S. Sauveur of MGI Limited (MGI) during the week of April 25, 2005 to conduct a visual inspection of the exterior and interior of the subject building. MGI personnel were accompanied by PWGSC staff during a preliminary visit on April 22, 2005. The weather was variable with sun and rain, 5-10^{o}C and the ground was clear. The qualifications of the assessors are included in Appendix A.

2.3 Subject Building Description

2.3.1 Main Structure Description

The Tech Officer's Building is a single-storey building with a floor area of approximately of 63 square metres (m^2) (675 square feet (ft^2)) and no basement.

Photo 1: East Exterior View

Photo 2: North Exterior View

Photo 3: West Exterior View

Photo 4: South Exterior View

Photo 5: Interior Contents

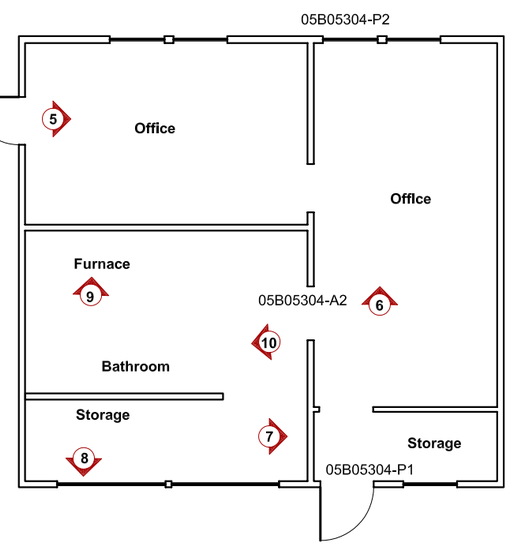
Photo 6: Interior Contents

Photo 7: Flourescent Light Ballast Suspected to Contain PCBs

Photo 8: Water Stains on the Ceiling

Photo 9: Water Stains at Chimney

Photo 10: Three Different Colors of Flooring Tile



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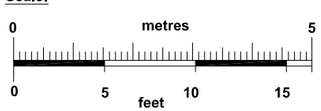

Legend:

Photo Location and Orientation

05B05304-P1 Paint Sample Location

05B05304-A2 Asbestos Sample Location

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TITLE: **Site Plan with Sample Locations and Photographs**		DATE: June 2005	PROJECT NO.: 30231A
PROJECT: **Limited Phase I/II Environmental Site Assessment Tech Officer's Building, Davlay Compound Dalvay, PE**		SCALE: 1:100	FIGURE NO.: 2
		DRAWN: CTP	

CADFILE No. 30231AF2.DWG

The exterior has white vinyl siding over a breathable vapor barrier. The roof is covered with asphalt roofing shingles. The wooden frame walls are filled with white foam insulation. The building has been divided into office and storage spaces as described in the attached floor plan (Figure 2). Interior walls are plywood and the ceiling is drywall. The walls are painted yellow and the ceiling is white. There are three different colors of floor tiles. Window frames are wooden with vinyl storm windows.

2.3.2 Building Fixtures and Features

Exterior features include a metal chimney and metal rain gutters. There is a domestic fuel oil furnace (Duo-Matic Olsen) and an electric hot water heater (John Wood Model JW A 405DE). There are both incandescent and fluorescent light fixtures.

The contents of the building include office supplies, furniture and equipment including, but not limited to, paper, computers, desks and chairs. There were water marks observed on the ceiling along the west wall and at the furnace flue.

2.4 Historical Information

Interviews with site personnel suggest that the Tech Officer's Building was originally constructed in 1958. The building was moved approximately 15 metres (m), renovated and placed on a foundation slab circa 1985. The building has not been used for a period of approximately 4 years.

Aerial photographs from the years 1935, 1958, 1974, 1990 and 2000 were examined. The Tech Officer's Building does not appear to be present in the 1935 or 1958 aerial photographs. The 1974 aerial photograph appears to show a building in the general area of the Tech Officer's Building. The Tech Officer's Building appears to have been moved a short distance in the 1990 aerial photograph. The Tech Officer's Building does not appear to have changed significantly by the time of the 2000 aerial photograph.

The aerial photographs from 1935, 1958, 1974, 1990 and 2000 are presented in Appendix B.

2.5 Site Visit and Evaluation of Findings

2.5.1 Fuel Storage and Handling

A fuel storage enclosure was observed on the west exterior side of the subject building. In accordance with the agreed upon scope of work, no assessment was made of the structure or soil conditions in the vicinity of the enclosure.

2.5.2 Chemicals

No chemicals beyond household cleaning products were observed or are anticipated based on the building's use.

2.5.3 Waste Management

The building is not currently occupied. It is anticipated that wastes would have been limited to typical non-hazardous domestic solid wastes.

2.5.4 Spill and Stained Areas

No significant areas of staining were observed during the site visit. It is noted that an inspection of the exterior grounds was beyond the agreed upon scope of services for the Limited Phase I ESA.

2.5.5 Mould and Fungus

No mould or fungus growth was observed. However, water staining was observed on the ceiling along the west wall and in the area of the furnace flue. If the source of the water marks is not addressed, the moisture could provide an environment favorable to mould and fungus

development.

2.5.6 Lead

Lead based paint was common in buildings constructed in the 1940-50s. Other pigments replaced lead in the 1950s. Homes constructed between 1950 and 1980 may contain small amounts of lead in the paint (Health Canada, 1997). In 1976 the federal government limited the amount of lead in interior paint to 0.5% by weight. Health Canada advisories for lead in paint are provided in Appendix F. The use of lead containing paint is possible both on interior and exterior surfaces of subject building as it was originally constructed circa 1958. There may also be lead based solder on the plumbing connections for the subject building. However, the latter would be of minor concern due to the limited quantity involved. No other sources of lead were noted as a result of the records review, site visit and interviews.

2.5.7 Mercury

The presence of at least one mercury containing electrical thermostat control was observed during the site visits. Any thermostats removed from the building should be inspected to determine the potential that they contain mercury. Any thermostats identified as mercury containing should be disposed of at an approved hazardous waste disposal facility in accordance with local regulations.

2.5.8 Air Emissions

There are no known air emissions associated with the subject building's current activities, beyond those typically associated with a domestic fuel oil furnace.

2.5.9 Polychlorinated Biphenyls (PCBs)

The potential for PCBs to be present in subject building's fluorescent lights ballasts was determined by inspecting the ballasts in selected lights and comparing the manufacturer and

serial numbers with the information provided in Environment Canada's, Environmental Protection Series "Identification of Lamp Ballasts Containing PCBs", Report EPS 2/CC/2 (Revised) August 1991. It should be noted that not every ballast was inspected.

The 1.2 m fluorescent light fixture was inspected and found to contain a Canadian General Electric Ballast, Gold Label 17A128N with a 5605 date stamp. This ballast is identified as a ballast that is suspected to contain PCBs.

2.5.10 Asbestos Containing Materials (ACMs)

Parks Canada staff provided MGI Limited with a letter report (dated December 28, 1995) summarizing the results of an asbestos containing materials survey. A copy of this letter report is provided as Appendix E. The letter was addressed to Mr. Ian Rodd of Rodco Ltd., Charlottetown, P.E.I. The samples were analyzed for asbestos by Polarized Light Microscopy (PLM) by All-Tech Environmental Services Limited of Halifax, N.S. in December 1995. It is believed that samples were collected by Parks Canada staff. The report offers the following information regarding the Tech Officer's Building:

- a sample (Sample ID PCDC-007) was collected from a floor tile and found to be non-asbestos containing; and,
- plywood walls and drywall ceiling.

The letter report implies that the plywood walls and drywall ceiling would not be anticipated to be asbestos-containing, therefore, no samples were collected of these materials. During the Limited Phase I ESA site visit, other potential asbestos contain materials were identified, including floor tiles that may have been of a different color from that previously sampled.

2.5.11 Urea Formaldehyde Foam Insulation (UFFI)

No apparent Urea Formaldehyde foam insulation materials were observed by the assessor, nor was any past UFFI identified during records reviews or interviews. Insulations observed included white foam insulation.

2.5.12 Ozone Depleting Substances (ODS)

No ozone depleting substances were observed.

2.5.13 Radon

Emissions of radon are not known to have occurred at these locations. Active tests for radon gas were not completed as part of this ESA.

2.5.14 Electromagnetic Fields

No sources of electromagnetic fields were identified, during the limited records review or interviews, on the subject or adjacent properties. No testing for electromagnetic fields was completed in association with this assessment.

2.5.15 Noise and Vibration

No sources of noise or vibration were identified as a result of the limited records review, interviews or site visit.

3.0 LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT

3.1 Scope of Work

The Phase I ESA identified the following environmental concerns with respect to the Tech Officer's Building:

- the possible presence of metal within paint;
- the possible presence of asbestos containing building materials;
- the presence of a fluorescent light ballast suspected to contain PCBs; and,
- the presence of mercury in a thermostat.

Based on the findings of the Limited Phase I ESA, the scope of work for the Limited Phase II ESA at the Tech Officer's Building consisted of the following:

- Paint samples were collected from two (2) locations – one (1) from the interior and one (1) from the exterior of the Tech Officer's Building – and submitted for metals analysis.
- One (1) sample was submitted for asbestos containing material identification.

3.2 Methodology

3.2.1 Paint Sampling Program

Paint samples were collected from two (2) locations at the Tech Officer's Building. A sample was collected from the trim at the rear entrance, over an area of 100 square centimetres (cm^2) (Sample ID 05B05304-P1). A sample (05B05304-P2) was collected from the exterior window trim, along the east side of the building, over an area of 200 cm^2. Samples were collected by scraping to the underlying surface with a clean paint scraper and placed in a clean sealable plastic sample bag.

3.2.2 Asbestos Sampling Program

One (1) sample of potential asbestos containing material was collected and submitted for the identification of asbestos as a limited screening process. The sample was collected from the green floor tile (Sample ID 05B05304-A2). The sample was collected by cutting the material with a utility knife and placed in a clean sealable plastic sample bag.

3.2.3 Laboratory Analytical Program

Selected paint samples were submitted to RPC in Fredericton, N.B. Portions of the samples were digested according to EPA Method 3050. The resulting solutions were diluted to volume for trace element analysis by Inductively Coupled Plasma Emission Spectroscopy (ICP-ES).

The selected potential asbestos containing material sample was submitted to RPC in Fredericton, N.B. The sample was analysed according to the National Institute for Occupational Safety and Health (NIOSH) method 9002 for asbestos (bulk).

3.3 QA/QC Program

The quality assurance / quality control (QA/QC) program was designed to ensure that the quality of the samples submitted for analyses are representative of the field conditions without interference from other sources. The QA/QC program also ensures that analytical results are reported accurately and precisely.

Sampling protocols utilized in this investigation included the use of uncontaminated sampling materials and equipment and a minimum of sample handling. The samples were labelled and sealed at the time of collection and promptly shipped to the laboratory.

The analytical QA/QC program consisted of the submission of blind field duplicate samples for trace metals analysis for two of the paint samples collected as a part of the overall Dalvay Compound Assessment. A blind field duplicate sample was also submitted for identification of

asbestos. The laboratory conducted their own QA/QC by preparing duplicates of two of the paint samples submitted by MGI, analyzing reference samples and laboratory blank samples. The laboratory QA/QC samples are appended with the sample data in Appendix C.

4.0 RESULTS OF FIELD INVESTIGATION

4.1 Laboratory Analytical Results for Paint

Two (2) paint samples and a blind field duplicate of one of the samples were submitted to RPC for metals analyses. The trace metals analytical results are presented in Table 2. Laboratory certificates of analysis are provided in Appendix C.

Both samples reported lead concentrations within the Health Canada, Hazardous Products (Liquid Coating Materials) Regulations.

4.2 Laboratory Analytical Results for Asbestos Identification

One (1) sample and a blind field duplicate of the same material was submitted to RPC for asbestos identification. The analytical results are presented in Table 3. Laboratory certificates of analysis are provided in Appendix C.

No asbestos was found in the sample submitted.

While no asbestos was found in the screening sample submitted, the presence of asbestos containing materials cannot be ruled out in other materials not submitted for analysis.

4.3 QA/QC Discussion

As described previously, the analytical QA/QC program consisted of the collection and analysis of field duplicate and laboratory duplicate paint samples. A review of the QA/QC duplicate sample analyzed identified some variation in the analytical results as compared to the analytical results for the original samples. Percentage differences ranged from 0 % to 154 % for the full

TABLE 2: PAINT ANALYTICAL RESULTS – TRACE METALS ANALYSIS (mg/kg)

Analyte	EQL	Health Canada Recommendation (1)	05B05304-P2	05B05304-P1	05B99-P2 (Field Dup of 05B05304-P2)
Aluminum	1	---	6280	3410	6060
Antimony	2	---	< 2	< 2	< 2
Arsenic	1	---	< 1	< 1	< 1
Barium	1	---	15	29	14
Beryllium	1	---	< 1	< 1	< 1
Bismuth	2	---	< 2	< 2	< 2
Boron	2	---	12	34	13
Cadmium	1	---	2	< 1	2
Calcium	5	---	66300	52100	52700
Chromium	1	---	2	85	2
Cobalt	1	---	223	140	249
Copper	1	---	2	5	2
Iron	10	---	461	1530	377
Lead	2	5,000	808	1490	878
Lithium	1	---	5	8	4
Magnesium	1	---	3560	6310	3310
Manganese	1	---	38	65	32
Molybdenum	1	---	< 1	< 1	< 1
Nickel	1	---	2	2	2
Potassium	5	---	1040	392	904
Rubidium	5	---	< 5	< 5	< 5
Selenium	5	---	< 5	< 5	< 5
Silver	5	---	< 5	< 5	< 5
Sodium	1	---	2050	740	1760
Strontium	1	---	32	28	28
Tellurium	2	---	< 2	< 2	< 2
Thallium	1	---	< 1	< 1	< 1
Tin	5	---	< 5	< 5	< 5
Uranium	5	---	< 5	< 5	< 5
Vanadium	1	---	< 1	1	< 1
Zinc	2	---	7880	1260	9410

Notes: **(1)** Hazardous Products (Liquid Coating Materials) Regulations, Item 31 of Part II of Schedule 1, Health Canada.
--- No guideline
EQL Estimated Quantification Limit
Field Dup Field Duplicate QA/QC Sample

TABLE 3: ASBESTOS IDENTIFICATION RESULTS

Sample Identification	Sample Contents
05B05304-A2	Floor Tile - non-fibrous material. No Asbestos was found.
05B99-A1 (Field Duplicate of 05B0504-A2)	Floor Tile - non-fibrous material. No Asbestos was found.

range of metals analyzed. A table of percent difference analysis for field and laboratory duplicate samples is present in Appendix D.

The difference in the results between original and laboratory and field duplicate paint samples are within the typical range of variations seen in heterogeneous paint samples containing multiple layers and colors.

The original and blind field duplicate asbestos samples were identically described and both found not to contain asbestos.

5.0 CONCLUSIONS

It is concluded, based on the limited records review, interviews and site visits that the subject building has environmental liability. This liability relates to the following.

- The presence of a fluorescent light ballast suspected to be PCB containing.
- The presence of mercury was observed in a thermostat.

In addition to the identified liabilities, the possibility that asbestos containing materials may be present in areas not tested cannot be ruled out based on the available information.

6.0 CLOSURE

Our review and assessment was conducted in accordance with CSA and CCME standards and is based on the results acquired using the methodology set out in this report. The opinions in this report are given using generally accepted scientific judgement, principles, and practices; however, because of the inherent uncertainty in this process no guarantee of conclusion is intended or can be given.

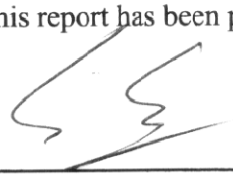
The statements and conclusions presented in this report are professional opinions based upon a review of readily available published information, limited information provided by persons

knowledgeable about past and present activities directly related to the building, visual and olfactory observations made during the execution of the field program in the subject building, interpreting select paint chemical analyses, and a visual inspection of the building and its contents.

This assessment was undertaken exclusively for the purpose outlined herein at the Tech Officer's Building (Asset No. 05304), Dalvay Compound, Dalvay, Queens County, Prince Edward Island. It should be recognized that this assessment was conducted in accordance with the agreed upon scope of work. As such, MGI Limited cannot be held responsible for the environmental conditions between sample locations and in areas not investigated or for information unavailable in the PWGSC/Parks Canada files reviewed or for information not recalled by persons interviewed.

This report was prepared by MGI Limited for PWGSC/Parks Canada. The scope of the services performed may not be appropriate to satisfy the needs of other parties. Any use which another party makes of this report, or any reliance or decisions made based on it, are the sole responsibility of the other party. MGI Limited accepts no responsibility for damages, if any, suffered by any other party as a result of decisions made or actions based on this report.

This report has been prepared by Mr. Richard MacEwen B.Sc.Eng., M.Sc. and reviewed by:



Steve Sauveur, M.A.Sc., P. Geo.
Operations Manager, P.E.I.

APPENDIX A
ASSESSOR QUALIFICATIONS

ASSESSOR QUALIFICATIONS

Name: Richard MacEwen
Position: Environmental Professional
Education: Mr. MacEwen received a B.Sc.Eng. in Chemical Engineering from the University of New Brunswick, and a M.Sc. in Environmental Technology from Imperial College, University of London.

Richard is an environmental professional with the MGI Limited Charlottetown office. While employed at MGI, he has completed Phase I, II, and III ESAs, groundwater monitoring programs, site remediation programs, and technology development, primarily for national petroleum companies and the federal government. In addition, he has experience in environmental issues related to international development through work in Nepal, Ghana and Vanuatu.

Name: Steve Sauveur
Position: Operations Manager, P.E.I.
Education: Bachelor of Science in Geology from Acadia University and Masters of Applied Science in Civil Engineering/Water Resources Studies from DalTech (formerly Technical University of Nova Scotia).

Steve is a Project Manager and Operations Manager for MGI's PEI office. He has 13 years of related research/industry experience involving groundwater supply development, protection and monitoring, groundwater and surface water monitoring, groundwater modelling and environmental site assessments. Steve has been employed with MGI since 1997 and prior to that, he worked for approximately 6 years at the Centre for Water Resources Studies at DalTech. His responsibilities include management of groundwater and surface water monitoring programs, environmental site assessments, risk assessments, remediation projects and environmental compliance audits of commercial, industrial, institutional and federal facilities as well as technical report preparation. Steve has been involved in numerous Phase I to III ESAs and remediation projects at a variety of sites, including commercial, industrial and government sites. Other responsibilities have included risk assessments, remediation projects, municipal water supply development, groundwater monitoring at active and abandoned landfills and groundwater monitoring/modelling at active or proposed mining sites.

APPENDIX B

AERIAL PHOTOGRAPHS

CADFILE No. 30231AFA1.DWG

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TITLE: **Aerial Photograph - 1935**		DATE: May 2005	PROJECT NO.: 30231A
PROJECT: **Limited Phase I/II Environmental Site Assessment, Dalvay Compound Dalvay, Queens County, PEI**		SCALE: NTS	FIGURE NO.: **A1**
		DRAWN: CTP	

CADFILE No. 30231AFA2.DWG

A member of the Family of Companies

TITLE: **Aerial Photograph - 1958**		DATE: May 2005	PROJECT NO.: 30231A
PROJECT: **Limited Phase I/II Environmental Site Assessment, Dalvay Compound Dalvay, Queens County, PEI**		SCALE: NTS	FIGURE NO.: **A2**
		DRAWN: CTP	

CADFILE No. 30231AFA3.DWG

A member of the Family of Companies

TITLE: **Aerial Photograph - 1974**		DATE: May 2005	PROJECT NO.: 30231A
PROJECT: **Limited Phase I/II Environmental Site Assessment, Dalvay Compound Dalvay, Queens County, PEI**		SCALE: NTS	FIGURE NO.: **A3**
		DRAWN: CTP	

CADFILE No. 30231AFA4.DWG

A member of the Family of Companies

TITLE **Aerial Photograph - 1990**		DATE May 2005	PROJECT NO. 30231A
PROJECT **Limited Phase I/II Environmental Site Assessment, Dalvay Compound** **Dalvay, Queens County, PEI**		SCALE NTS	FIGURE NO. **A4**
		DRAWN CTP	

CADFILE No. 30231AFA5.DWG

A member of the Family of Companies

TITLE: **Aerial Photograph - 2000**		DATE: May 2005	PROJECT NO.: 30231A
PROJECT: **Limited Phase I/II Environmental Site Assessment, Dalvay Compound Dalvay, Queens County, PEI**		SCALE: NTS	FIGURE NO.: **A5**
		DRAWN: CTP	

APPENDIX C

LABORATORY ANALYSIS RESULTS

RPC
921 College Hill Rd,
Fredericton, N.B. E3B 6Z9
Report No.: 49073-IAS

MGI Limited
60 St. Peters Road
Charlottetown PE C1A 5N5
Attn: Richard MacEwen
Job No.: 30231A

May 16, 2005

Fax: 902-368-8625

Trace Metals Analysis

RPC ID	49073-14	49073-15
Client ID	05B05304-P2 April 28/05	05B05304-P1 April 28/05
	Concentration (mg/kg)	
Aluminum	6280	3410
Antimony	< 2	< 2
Arsenic	< 1	< 1
Barium	15	29
Beryllium	< 1	< 1
Bismuth	< 2	< 2
Boron	12	34
Cadmium	2	< 1
Calcium	66300	52100
Chromium	2	85
Cobalt	223	140
Copper	2	5
Iron	461	1530
Lead	808	1490
Lithium	5	8
Magnesium	3560	6310
Manganese	38	65
Molybdenum	< 1	< 1
Nickel	2	2
Potassium	1040	392
Rubidium	< 5	< 5
Selenium	< 5	< 5
Silver	< 5	< 5
Sodium	2050	740
Strontium	32	28
Tellurium	< 2	< 2
Thallium	< 1	< 1
Tin	< 5	< 5
Uranium	< 5	< 5
Vanadium	< 1	1
Zinc	7880	1260

30231A
Analytical

rpc

The Technical Solutions Centre

Le centre de solutions techniques

Reference Number: 49073-PET

Date: May 4, 2005

Client: Richard MacEwen
MGI Limited
60 St. Peters Road
Charlottetown, PE C1A 5N5

ASBESTOS IDENTIFICATION

Project No. 30231A

Ten (10) samples were received from MGI Limited on April 29, 2005 for the identification of asbestos. The samples were analysed according to the National Institute for Occupational Safety and Health (NIOSH) method 9002 for asbestos (bulk). The results can be found in the following table.

Sample Identification	Location/Description	Sample Contents
49073-25	05 B05304-A2	Floor tile – non-fibrous material. No Asbestos was found.
49073-26	05 B99-A1	Floor tile – non-fibrous material. No Asbestos was found.

Karla McLellan
Air Quality Assistant

Thelma Green
Air Quality Manager

ISO 9001:2000
Certificate No. 011525

921 ch College Hill Rd
Fredericton NB
Canada E3B 6Z9
Tel: 506.452.1212
Fax: 506.452.1395
www.rpc.ca

Air Quality Services

APPENDIX D

QUALITY ASSURANCE AND QUALITY CONTROL

Quality Assurance and Quality Control Analysis Table

Analyte	EQL	05B05301-P1	05B05301-P1 (Lab Dup)	Percent Relative Difference	05B70-P1	05B70-P1 (Lab Dup)	Percent Relative Difference	05B70-P1	05B70-P1 (Field Dup)	Percent Relative Difference	05B05304-P2	05B05304-P2 (Field Dup)	Percent Relative Difference
Aluminum	10	1350	2240	50	6000	5100	16	6000	5070	17	6280	6060	4
Antimony	2	< 2	< 2	0	9	14	43	9	14	43	< 2	< 2	0
Arsenic	2	7	5	33	< 1	1	-	< 1	< 1	0	< 1	< 1	0
Barium	5	33	42	24	62	89	36	62	89	36	15	14	7
Beryllium	5	< 1	< 1	0	< 1	< 1	0	< 1	< 1	0	< 1	< 1	0
Bismuth		< 2	< 2	0	< 2	3	-	< 2	3	-	< 2	< 2	0
Boron	5	15	16	6	31	22	34	31	23	30	12	13	8
Cadmium	0.3	< 1	< 1	0	< 1	< 1	0	< 1	< 1	0	2	2	0
Calcium		77700	83000	7	26800	29400	9	26800	28200	5	66300	52700	23
Chromium	2	4	7	55	1490	2310	43	1490	2060	32	2	2	0
Cobalt	1	2	2	0	180	108	50	180	110	48	223	249	11
Copper	2	6	6	0	18	4	127	18	4	127	2	2	0
Iron	20	915	2170	81	6830	5520	21	6830	6320	8	461	377	20
Lead	0.5	135000	121000	11	7130	15500	74	7130	16500	79	808	878	8
Lithium		4	5	22	18	12	40	18	12	40	5	4	22
Magnesium		3730	3810	2	19800	14600	30	19800	15400	25	3560	3310	7
Manganese	2	186	187	1	147	135	9	147	141	4	38	32	17
Molybdenum	2	< 1	< 1	0	< 1	< 1	0	< 1	< 1	0	< 1	< 1	0
Nickel	2	2	2	0	14	125	160	14	116	157	2	2	0
Potassium		5780	6120	6	884	1090	21	884	1010	13	1040	904	14
Rubidium		7	8	13	< 5	< 5	0	< 5	< 5	0	< 5	< 5	0
Selenium	2	< 5	< 5	0	< 5	< 5	0	< 5	< 5	0	< 5	< 5	0
Silver	0.5	< 5	< 5	0	< 5	< 5	0	< 5	< 5	0	< 5	< 5	0
Sodium		14000	15600	11	290	312	7	290	332	14	2050	1760	15
Strontium	5	82	103	23	41	38	8	41	37	10	32	28	13
Tellurium		< 2	< 2	0	< 2	< 2	0	< 2	< 2	0	< 2	< 2	0
Thallium	0.1	< 1	< 1	0	< 1	< 1	0	< 1	< 1	0	< 1	< 1	0
Tin		< 5	< 5	0	< 5	13	-	< 5	8	-	< 5	< 5	0
Uranium	0.1	< 5	< 5	0	< 5	< 5	0	< 5	< 5	0	< 5	< 5	0
Vanadium	2	9	9	0	3	3	0	3	3	0	< 1	< 1	0
Zinc	2	142000	127000	11	3700	14100	117	3700	11500	103	7880	9410	18

APPENDIX E

ALL-TECH ENVIRONMENTAL SERVICES ASBESTOS REPORT

30231A Gen

ALL-TECH
ENVIRONMENTAL SERVICES LIMITED

2829 Agricola Street
Halifax, Nova Scotia, B3K 4E5

Bus.: (902) 497-1611
Fax.: (902) 453-6624

December 28, 1995

Mr. Ian Rodd
Rodco Ltd.
2 Bolger Drive
Charlottetown, P.E.I.
C1A 7W2

ATTN: Mr. Rodd:

RE: RESULTS OF THE 110 BULK SAMPLES COLLECTED AND DELIVERED TO ALL-TECH ENVIRONMENTAL SERVICES LIMITED FOR PLM ANALYSIS.

One hundred and ten (110) bulk material samples were collected and presented to **ALL-TECH** Environmental Services Limited on December 18, 1995. These samples were analyzed by the laboratory for asbestos identification, by Polarized Light Microscopy (PLM).

The samples were analyzed and thirty-five were found to contain asbestos, while the remaining contained no asbestos or <1 % asbestos detected.

Attached is the sample description summary.

If you should have any questions regarding this report, please do not hesitate to call me at 497-9911.

Yours truly,

Ken Reeves C.B.I.

Ken Reeves, C.B.I.
Operations Manager
ALL-TECH Environmental Services Limited

Encl.
KWR/jr

DALVAY COMPOUND

SAMPLE #	DESCRIPTION	LOCATION	RESULTS
PCDC-001	Joint Cement	Floor joists above woodstove flue	None Detected
PCDC-002	Wall plaster	Main Floor Bedroom	< 1% Chrysotile in drywall mud
PCDC-003	Linoeleum	Front Entrance	45% Chrysotile Asbestos: 2% Chrysotile in Brown Mastic
PCDC-004	12"x12" floor tile	Basement Rec Room	3% Chrysotile Asbestos
PCDC-005	9"x9" floor tile	Spare Bedroom	2% Chrysotile Asbestos
PCDC-006	Wall Plaster	Basement Stairwell Ceiling	None Detected
PCDC-007	Floor Tile	Engineering Office	None Detected
PCDC-008	Drywall	Kitchen	None Detected
PCDC-009	Red Flooring	Kitchen	None Detected
PCDC-010	Brick Red Flooring	Kitchen	None Detected
PCDC-011	Vinyl Flooring	common in Kitchen, side entrance, upstairs bedroom	45% Chrysotile Asbestos
PCDC-012	Vinyl Flooring	common in front entrance,stairs and landing	None Detected
PCDC-013	Joint cement	Basement piping	65% Chrysotile Asbestos
PCDC-014	Drywall	common throughout	None Detected
PCDC-015	lt. Green/grey floor tile	service Quarters washroom	2% Chrysotile Asbestos
PCDC-016	original plaster	stairway to attic	None Detected

Valley Admin 05301

SAMPLE #	DESCRIPTION	LOCATION	RESULTS
PCDC-017	vinyl flooring under carpet	hallway leading to basement stairs	None Detected
PCDC-018	Vinyl flooring	top of stairway to basement	45% Chrysotile Asbestos
PCDC-019	Joint cement	Basement piping	None Detected
PCDC-020	2'x4' ceiling tile	lumber storage building	None Detected
PCDC-021	Hardboard - similar to material found in the laundramats	lumber storage building under 1"x6" boards	35% Chrysotile Asbestos
PCDC-022	Vinyl flooring	center bay of upper level wood storage	None Detected
PCDC-023	Ceiling Tile	Stores building	None Detected
PCDC-024	9"x9" floor tile	closet behind washroom	2% Chrysotile Asbestos in floor tile: 2% Chrysotile Asbestos in Black Mastic
PCDC-025	Vinyl Flooring	Reception Area	None Detected
PCDC-026	Vinyl Flooring	Bathroom	None Detected
PCDC-027	Joint Cement	Electrical Room - Trades Bldg	65% Chrysotile Asbestos
PCDC-028	Floor Tile	1st Aid Room	None Detected
PCDC-029	Joint cement	1st Aid Room	65% Chrysotile Asbestos
PCDC-030	Suspended Ceiling Tile	Lunch Room	None Detected

OBSERVATIONS

District Wardens House

***Note:** sample #'s PCDC-001,002,003
- f/g attic insulation
- new flooring in kitchen

Staff House #5

***Note:** sample #'s PCDC 004,005,006
- hardboard on floorjoists above water heater in basement
- hardboard on floor joists above woodstove
- cellulose ceiling tile
- fiberglass pipe insulation

Engineering Building

***Note:** sample # PCDC-007
-plywood walls and drywall ceiling
- two outbuildings are of wood construction

Dalvay House

***Note:** sample #'s PCDC-008 to PCDC-010

Kitchen

-drywall walls and ceilings
- newer drywall in stairway to Boiler Room

Service Quarters

***Note:** sample # PCDC-015

Attic

***Note:** sample # PCDC-016
- all pipe runs are insulated with f/g

Boiler Room

- Hardboard behind drywall near side of boiler and also above the drywall on the ceiling
- f/g insulation on pipe runs
- joint cement not seen on mechanical joints in crawlspace

Superintendants House (#16)

***Note:** sample #'s PCDC-011 to PCDC-014

Dalvay Entrance Kiosk

- as others

Dalvay Administration

*Note: sample #'s PCDC-017 to PCDC-019
- older type f/g insulation in dirt crawl space

Interpretive Building

- new ceiling tile in last two years
- drywall walls
- carpet over tile (see sample # PCDC-005)

Emergency Generator Room

- hardboard nailed to ceiling betwee plywood and generator exhaust

Utilities and Ground Maintenance Shop

labourers shop
- asbestos board on ceiling and exterior walls but only in the corner by tool crib (behind new hallway)
f/g pipe insulation with no joint cement

Boiler Room
- hardboard ceiling and exterior wall
- f/g insulation without joint cement

Ground Shop
- hardboard on exterior wall and ceiling but ends where new garage added on

Hallway
- hardboard on ceilings with drywall on walls
***Note:** hardboard may have been covered with plywood or drywall in areas of this building

***Note:** middle section of building that is part labourers shop/ offices/ grounds shop up to the new garage has asbestos hardboard on exterior walls (East) and ceiling.

Park Warden Office

- could not gain access to boiler room
- drywall ceilings and walls
- new vinyl flooring
- garage was of wood construction with drywall divider

Garage (#9)

Office:
-cellulose 9"x9" ceiling tile
- plywood walls
- finished concrete floor

Garage Bays:
- mostly Asbestos hardboard on walls and ceilings

Washroom:
- plywood walls and drywall ceiling

Attic:
- plywood walls

Boiler Room:
- wall between Boiler and garage is drywall
- other walls and ceiling are Asbestos hardboard

Storage building behind garage:
- nothing suspected

Building #26

- wood construction

Warden Storage Garage

- plywood walls and ceilings

Lumber Storage Building

***Note:** sample # 's PCDC-020. 021, 022
- piece of hardboard stored on second floor inside 1st door near the backwall

Stores Building

Reception Area
- 1st office has plwood wall with carpet on floors
- 12"x12" ceiling tiles throughout office section
***Note:** sample # 's PCDC-023 to 026
- carpet in secretaries area with plywood walls
- bathroom has plywood walls and 12"x12" ceiling tiles (cellulose)

Boiler Room (Stores Bldg)
- Asbestos Haardboard predominanton walls and ceilings
- no pipe insulation
- drywall ceiling and wall between storage warehouse and boiler room

Main Storage
- particleboard on walls and ceilings
- finished concrete floor
***Note:** small storage area at the end of the building has Asbestos Hardboard for walls
- adjacent storage area to above has walls of particle board and plywood

Small Storage Shed (at end of stores bldg)
- wood construction
- 9"x9" ceiling tiles front part of ceiling (cellulose)

Trades Building

Electrical Room
***Note:** sample # PCDC-027

Paint Shop
- f/g pipe insulation with joint cement typical with cement used in other parts of building (see sample # PCDC-027)

Carpenters Shop
- as above

1st Aid Room

***Note:** sample # 's PCDC-028, 029

Lunch Room
***Note:** sample PCDC-030
- suspended ceiling is typical of office/ washroom/ 1st aid room/ lunch room
- ceramic tile floor in entrance and hallway

Building #11

- oil storage - block wall and wood construction
- PCB storage - Asbestos Hardboard on ceiling and backwall

RECOMMENDATIONS

The Park Wardens House has floor coverings that contain Asbestos. Should this need to be replaced at some time then it is to be removed by a licensed contractor. It is not considered overly hazardous and does not require strict measures for its removal. These recommendations apply for any floor coverings identified in this survey

The drywall sampled in the Wardens home was taken from a damaged section of the wall. All of the joint compound used during the installation of the drywall should be considered typical to the sampled material. Recommendations for the removal of this material should be obtained from Occupational Health and Safety. Repairs to the damaged areas may be undertaken to prevent further disturbance to the joint compound.

An abatement of the joint cement on any mechanical system should be done prior to any maintenance. The cement is friable and not sealed with a lagging material or paint.

The Asbestos hardboard found in the Boiler Room of Dalvay House is under sheets of drywall. It can be seen from the adjacent storage room. If this material is to remain then it should be painted with several coats of paint. It is not considered dangerous in its present state and the procedures for its removal are not extreme. Apiece of hardboard was found in the lumber storage building. To dispose of this it must be double wrapped with 6 mil. Poly and all seams sealed with duct tape.

The Utilities and Ground Maintenance Shop has a substantial amount of hardboard in its construction. Again this is not deemed dangerous for occupation. The material has had many coats of paint over the years. The danger is if this material is cut, sawn, drilled etc. as it is very dusty and poses a threat of dust contamination.

APPENDIX F

HEALTH CANADA ADVISORIES FOR LEAD IN PAINT

EFFECTS OF LEAD ON HUMAN HEALTH

The Issue

Lead occurs naturally in the environment and has many industrial uses. However, even small amounts of lead can be hazardous to human health.

Background

Everyone is exposed to trace amounts of lead through air, soil, household dust, food, drinking water and various consumer products. The amount of lead in the environment increased during the industrial revolution, and again significantly in the 1920s with the introduction of leaded gasoline. However since the early 1970s, lead exposure in Canada has decreased substantially, mainly because leaded gasoline and lead based paint were phased-out and the use of lead solder in food cans was virtually eliminated.

Health Risks of Lead Exposure

Short-term exposure to high levels of lead can cause vomiting, diarrhea, convulsions, coma or even death. Severe cases of lead poisoning are rare in Canada.

However, even small amounts of lead can be harmful, especially to infants, young children and pregnant women. Symptoms of long-term exposure to lower lead levels may be less noticeable but are still serious. Anaemia is common and damage to the nervous system may cause impaired mental function. Other symptoms are appetite loss, abdominal pain, constipation, fatigue, sleeplessness, irritability and headache. Continued excessive exposure, as in an industrial setting, can affect the kidneys.

Lead exposure is most serious for young children because they absorb lead more easily than adults and are more susceptible to its harmful effects. Even low level exposure may harm the intellectual development, behaviour, size and hearing of infants. During pregnancy, especially in the last trimester, lead can cross the placenta and affect the unborn child. Female workers exposed to high levels of lead have more miscarriages and stillbirths.

If you are concerned about lead exposure, your doctor can conduct a simple blood test to measure your blood lead level. Your doctor will recommend corrective action if the amount is over 10 micrograms per decilitre.

Sources of Lead Exposure

Food
Traces of lead are found in almost all food. Airborne lead falls onto crops or soil and is absorbed by plants. Lead solder used in making cans can also contaminate food, however, in Canada food manufacturers have eliminated the use of lead-soldered cans. Infants can also absorb lead from their mothers' bodies through breast milk.

Air
Lead is released into air through industrial emissions, smelters and refineries. With the introduction of unleaded gasoline in Canada in 1975, lead concentrations in the air have declined significantly, falling 76 per cent between 1973 and 1985. Leaded gasoline in cars was banned in Canada in 1990. Since then levels of lead in the air of most Canadian cities have dropped .

Dust and Soil
Dust and soil can be significant lead exposure sources, especially for young children. Lead in soil can come from the air or from erosion of lead-bearing rocks, and may be carried indoors as dust. Lead dust can also be generated within the home, especially older homes that used lead-based paints or lead solder. Lead dust is especially dangerous for babies and young children, because they tend to put things in their mouths and their breathing zone is closer to floor level.

Drinking Water
In most of Canada, the amount of lead in natural water supplies is very low. However, lead can enter the water supply from lead solder in plumbing, lead service connections or lead pipes in your home. Homes built before 1950 often have leaded distribution lines and service connections. In newer homes, lead may leach from solder for several years until the pipes form a protective oxide layer. Lead is more likely to be found in soft or very acidic water and in very old or very new homes. The National Plumbing Code of Canada does not permit the use of lead solder in new drinking water plumbing or repairs to drinking water supplies. Several provinces also limit the amount of lead solder in drinking water supply lines.

Canada

Lead levels in tap water increase as water stands in pipes. It's a good idea, especially with soft water, to run the cold water first thing in the morning or any other time the system hasn't been used for a number of hours. Use only cold tap water for drinking, cooking and making baby formula, since hot water is likely to contain more lead. Drinking fountains may have higher levels of lead than water from nearby taps, because the water usually sits for a longer time. They may also have more soldered joints.

Paint

Most indoor and outdoor paints produced before 1960 contained substantial amounts of lead. If you strip or sand old paint that contains lead, you could breathe in lead particles. Since 1976, the amount of lead in interior paint has been limited by law. Although the lead content of exterior paint is not regulated, Canadian paint manufacturers have voluntarily ensured that no lead is intentionally added. Exterior paint with lead carries a warning label.

Other Sources of Lead

- Inexpensive, horizontal PVC (plastic) mini-blinds made in Asia or Mexico may contain lead. Health Canada recommends that if you have children 6 years of age or under, you should remove these blinds from your home. They should also be removed from schools and child care centres as lead can cause neurological damage in young children.
- Workers in smelters, refineries and other industries may be exposed to high levels of lead. Lead dust may be breathed in and can also cling to skin, hair, clothing and vehicles, and be carried to the home, exposing workers' families. Most provincial governments require that lead-exposed workers be monitored for blood lead levels.
- Lead can enter food, especially acidic food such as fruit juice, from lead-based glazes on glassware and ceramics. Canadian regulations limit lead content in glazes on glassware and ceramics used in preparing, serving, or storing food. However, pottery or glassware from abroad may contain enough lead to be a hazard to your health.
- Leaded crystal is widely used for serving beverages. When the crystal comes in contact with beverages, especially acidic beverages such as port, wine, fruit juices and soft drinks, some lead dissolves into the liquid. The amount of lead that dissolves depends on the lead content of the crystal, the type of beverage and the length of time they are in contact with each other. Do not serve pregnant women or children drinks in crystal glasses.

Lead fumes or particles can be released when waste oil, coloured newsprint, battery casings or lead-painted wood is burned. Candles that contain lead in their wicks may also release harmful levels of lead when burned. Using lead solder in a hobby, such as in making stained glass, lead shot or lead fishing weights, may expose you or your family to harmful lead vapours.

Government of Canada's Role

The Government of Canada continues to work to reduce the risks of lead exposure to Canadians from all sources. Health Canada is monitoring the results of several large studies in the United States and Europe on the impact of lead on young children.

In Canada, drinking water quality is a responsibility shared among various levels of government. Health Canada works closely with the provinces and territories, through the Federal-Provincial- Territorial Committee on Drinking Water, to establish the Guidelines for Canadian Drinking Water Quality. Each jurisdiction is responsible for setting their own enforceable guidelines or regulations, based on the Canadian guidelines. The Guidelines limit the lead content of drinking water to a Maximum Acceptable Concentration of 0.010 micrograms per litre of water.

Health Canada is also developing a Lead Risk Reduction Strategy to control lead levels in consumer products that children may be exposed to. It proposes to regulate, under the Hazardous Products Act, the lead content of four categories of consumer products that children are likely to come into contact with, such as:

- Products intended to be or likely to be placed in or near the mouth (e.g., pacifiers, baby bottle nipples, crib toys, mouthpieces of musical instruments)
- Children's equipment, furniture, toys and other items intended for use by a child in learning or play (e.g., strollers, high chairs)
- Products intended for use in preparing, serving, or storing food or beverages (e.g., cutlery, tableware, cooking utensils)
- Consumer products intended to be or likely to be melted or burned in enclosed spaces (e.g., candles, fuel for indoor lanterns)

The strategy will serve as the foundation for new lead regulations under the Hazardous Products Act.

Need More Info?

For additional information on lead see:
Health Canada - Lead Information package
http://www.hc-sc.gc.ca/hecs-sesc/toxics_management/publications/leadQandA/toc.htm

Health Canada's warning about potential childrens' lead exposure at:
http://www.hc-sc.gc.ca/english/protection/warnings/2003/2003_82.htm

Health Canada, 1998. Information bulletin - lead and cadmium
http://www.hc-sc.gc.ca/english/media/releases/1998/lead.htm

The Canadian Mortgage and Housing Corporation (CMHC) & Health Canada, 1992. Renovation: Lead in Your Home. Ottawa, Canada: Health Canada.
http://www.cmhc-schl.gc.ca/en/index.cfm
or call: 1-800-668-2642

For more information on Lead see the following It's Your Health fact sheets:
Leaded Paint at:
http://www.hc-sc.gc.ca/english/iyh/products/leadpaint.html

Lead Crystal at:
http://www.hc-sc.gc.ca/english/iyh/products/crystal_lead.html

Additional It's Your Health articles can be found at: www.healthcanada.ca/iyh
You can also call (613) 957-2991

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Canada

Hazardous Materials Survey
Parks Canada
Demolition & Disposal Assets
Prince Edward Island

Project No. 18986

Prepared for:

Coles Associates
6 Prince Street
Charlottetown, PEI
C1A 7L3

Attn: Douglas Coles

January 17, 2014

ALL-TECH
ENVIRONMENTAL SERVICES LIMITED

20 Duke Street, Suite 109
Bedford, NS B4A2Z5
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EXECUTIVE SUMMARY

ALL-TECH Environmental Services Limited was retained by Coles Associates on behalf of Parks Canada to conduct a quantitative hazardous building materials survey for thirteen (13) various buildings within Parks Canada locations as set out in *Parks Canada's Tender Package Preparation - Demolition and Disposal Various Assets, Prince Edward Island Field Unit, December 2013*.
A list of the asset buildings surveyed are noted below in Table A.

Table A - Asset Buildings Surveyed

Asset #	Asset Name	Location
212	Wood Storage (Grounds/Horse Barn) Stanhope Storage Area	Dalvay
223	Tire Shed, Dalvay Compound	Dalvay
7706	Kitchen Shelter, North Rustico	North Rustico
314	2 car garage, Simpson Property	Cavendish
391	Out Building #1, Simpson Property	Cavendish
392	Out Building #2, Simpson Property	Cavendish
393	Out Building #3, Simpson Property	Cavendish
394	Out Building #4, Simpson Property	Cavendish
395	Out Building #5, Simpson Property	Cavendish
396	Out Building #6, Simpson Property	Cavendish
819	Washroom, Cavendish Campground	Cavendish
821	Washroom, Cavendish Campground	Cavendish
829	Old power building, Cavendish Campground	Cavendish

This report has been prepared to document the identities, quantities, usages and locations of any designated substances and hazardous materials identified within the subject buildings.

The purpose of the Hazardous Materials Survey was to identify hazardous materials which may require safe handling procedures and disposal requirements in accordance with their applicable regulations prior to demolition of each structure.

The survey was completed on January 2, 2014. During the assessment hazardous materials including asbestos and lead (paint) were sampled.
Polychlorinated Biphenyls (PCB's) are known to be present in lamp ballasts. During the assessment random identification of ballasts were recorded and referenced to the Environment Canada's "Identification of Lamp Ballasts Containing PCB's."
Other suspect materials including but not limited to mercury, mould (active growth), ozone depleting substances (ODS), Polychlorinated Biphenyls (PCBs), Urea Formaldehyde Foam Insulation (UFFI) and other hazardous materials were visually assessed and reported if identified.

Based on the findings from the Hazardous Materials Assessment, the following summary is presented:

Table B Summary of Hazardous Materials Parks Canada, PEI				
Building ID / Location	**Hazardous Materials**	**Description**	**Approximate Qty**	**Disposal Requirements**
212	Other	Unmarked barrel Pesticide sprayer	1 1	Materials to be disposed of at approved facility (i.e - East Prince Waste Management Facility in Wellington, PEI)
	Concrete & masonry	Floor		Disposal at any approved C&D disposal facility.
223	Other	Various lube / oil / gas cans Oil stained floor boards	36 ft^2	Materials to be disposed of at approved facility (i.e - East Prince Waste Management Facility in Wellington, PEI)
314	CFC's	Refrigerator Air conditioning unit	1 1	Materials to be disposed of at approved facility (i.e - East Prince Waste Management Facility in Wellington, PEI)
	Hydrocarbons	Above ground fuel storage tank	910 L capacity (partial fill)	Materials to be disposed of at approved facility (i.e - East Prince Waste Management Facility in Wellington, PEI)
	Mould	Interior wood framing Printed matter	200 ft^2	Disposal at any approved C&D disposal facility.
	Other	Various lube / oil / gas cans		Hazardous waste disposal
	Concrete & masonry	Floor		Disposal at any approved C&D disposal facility.
391	Lead paint	- White paint on wood siding; - Red/green paint on exterior wood trim	550 ft^2 40 ft^2	Regulatory approval from PEIELJ Materials to be disposed of at approved facility (i.e - East Prince Waste Management Facility in Wellington, PEI)
392	Lead paint	Dark green paint on ext. wood trim	40 ft^2	Regulatory approval from PEIELJ Materials to be disposed of at approved facility (i.e - East Prince Waste Management Facility in Wellington, PEI)
		White paint on exterior wood siding	425 ft^2	Materials to be manifested as Dangerous Goods for transport Material requires disposal at an off island approved facility
393	Lead paint	Dark green paint	10 ft^2	Regulatory approval from

		on ext. wood trim		PEIELJ Materials to be disposed of at approved facility (i.e - East Prince Waste Management Facility in Wellington, PEI)
		White paint on exterior wood siding	600 ft^2	Materials to be manifested as Dangerous Goods for transport Material requires disposal at an off island approved facility
394	Lead paint	Blue paint on metal cylinder	8 ft^2	Paint to be manifested as Dangerous Goods for transport Paint requires disposal at an off island approved facility
		Red paint on metal cylinder	8 ft^2	
		Yellow paint on metal cylinder	8 ft^2	
	Microbial matter	Animal feces		Disposal at any approved C&D disposal facility.
396	Lead paint	White paint on wood siding	600 ft^2	Materials to be manifested as Dangerous Goods for transport Material requires disposal at an off island approved facility
819	Non-friable Asbestos	Transite panels on interior walls & ceiling	1950 ft^2	- Materials to be manifested as dangerous goods during transport - Asbestos notification permit to be obtained by licensed contractor from Safety Matters at Work PEI - Waste disposal permit required from PEIELJ - Disposal at approved landfill and subject to landfill requirements.
	Lead paint	White paint / int. wood trim	20 ft^2	Regulatory approval from PEIELJ Materials to be disposed of at approved facility (i.e - East Prince Waste Management Facility in Wellington, PEI)
		Light green paint/ metal partition	100 ft^2	
		Dark green paint/ wood trim	60 ft^2	
		Red paint / wood door	25 ft^2	Materials to be manifested as Dangerous Goods for transport Material requires disposal at an off island approved facility

	Concrete & masonry	Floor		Disposal at any approved C&D disposal facility.
821	Non-friable Asbestos	Transite panels on interior walls & ceiling	1950 ft^2	- Materials to be manifested as dangerous goods during transport - Asbestos notification permit to be obtained by licensed contractor from Safety Matters at Work PEI - Waste disposal permit required from PEIELJ - Disposal at approved landfill and subject to landfill requirements.
	Lead paint	White paint / int. wood trim	20 ft^2	Regulatory approval from PEIELJ Materials to be disposed of at approved facility (i.e - East Prince Waste Management Facility in Wellington, PEI)
		Light green paint/ metal partition	100 ft^2	
		Dark green paint/ wood trim	60 ft^2	
		Red paint / wood door	25 ft^2	Materials to be manifested as Dangerous Goods for transport Material requires disposal at an off island approved facility
	Mould	Visible mould and walls and ceiling	500 ft^2	Disposal at any approved C&D disposal facility.
	Concrete & masonry	Floor		Disposal at any approved C&D disposal facility.
829	Lead paint	Green paint on metal trim	8	
		Cream colour paint on metal trim	8	Regulatory approval from PEIELJ Materials to be disposed of at approved facility (i.e - East Prince Waste Management Facility in Wellington, PEI)
		White paint on window frames (storage)	35	Materials to be manifested as Dangerous Goods for transport Material requires disposal at an off island approved facility unless TCLP testing confirms otherwise
		Rust colour paint on metal door	40	
		White paint on exterior concrete	320	
	Other	Battery packs (storage)		Hazardous waste disposal
	Concrete &	Floor and walls		Disposal at any approved

	masonry			C&D disposal facility.

This summary should not be used alone. The report must be read in its entirety.

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Larry Koughan, CET, CRSP
Project Principal
ALL-TECH Environmental Services Limited

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APPENDICES

1.0 INTRODUCTION

ALL-TECH Environmental Services Limited was retained by Coles Associates on behalf of Parks Canada to conduct a quantitative hazardous building materials survey for thirteen (13) various buildings within Parks Canada locations as set out in *Parks Canada's Tender Package Preparation - Demolition and Disposal Various Assets, Prince Edward Island Field Unit, December 2013*.
A list of the asset buildings surveyed are noted below in Table 1.

Table 1 - Asset Buildings Surveyed

Asset #	Asset Name	Location
212	Wood Storage (Grounds/Horse Barn) Stanhope Storage Area	Dalvay
223	Tire Shed, Dalvay Compound	Dalvay
7706	Kitchen Shelter, North Rustico	North Rustico
314	2 car garage, Simpson Property	Cavendish
391	Out Building #1, Simpson Property	Cavendish
392	Out Building #2, Simpson Property	Cavendish
393	Out Building #3, Simpson Property	Cavendish
394	Out Building #4, Simpson Property	Cavendish
395	Out Building #5, Simpson Property	Cavendish
396	Out Building #6, Simpson Property	Cavendish
819	Washroom, Cavendish Campground	Cavendish
821	Washroom, Cavendish Campground	Cavendish
829	Old power building, Cavendish Campground	Cavendish

This report has been prepared to document the identities, quantities, usages and locations of any designated substances and hazardous materials identified within the subject buildings.

The purpose of the Hazardous Materials Survey was to identify hazardous materials which may require safe handling procedures and disposal requirements in accordance with their applicable regulations prior to demolition of each structure.

The survey was completed on January 2, 2014. During the assessment hazardous materials including asbestos and lead (paint) were sampled.
Polychlorinated Biphenyls (PCB's) are known to be present in lamp ballasts. During the assessment random identification of ballasts were recorded and

referenced to the Environment Canada's "Identification of Lamp Ballasts Containing PCB's."

Other suspect materials including but not limited to mercury, mould (active growth), ozone depleting substances (ODS), Polychlorinated Biphenyls (PCBs), Urea Formaldehyde Foam Insulation (UFFI) and other hazardous materials were visually assessed and reported if identified.

1.1 Survey Objectives

The scope of the survey was to conduct a semi-destructive assessment to identify any designated substances and hazardous materials within the subject buildings. ALL-TECH inspected both interior and exterior spaces of each of the subject buildings to determine whether designated substances and hazardous materials were present. Representative sampling for asbestos-containing materials (ACMs) and lead and mercury containing paint was conducted as required based on industry standards and the consultants experience.

2.0 REGULATIONS & GUIDELINES

A summary table (Table 2) is provided for the applicable regulations, policies, codes, and / or guidelines of hazardous materials assessed for the purpose of this report. This information was used as reference to assess suspect hazardous materials and make recommendations based on the findings.

Table 2 Summary of Regulatory Framework	
Asbestos	▪ *Occupational Health and Safety Act* R.S.P.E.I. 1988, Cap. O-1.01 General Regulations – Part 49 (Including any amendments to May 2006) ▪ *Environmental Protection Act Chapter E-9 Waste Management Regulations*, Prince Edward Island ▪ Federal Treasury Board of Canada Secretariat Hazardous Substances Directive –II, Section 2.9 ▪ Transportation of Dangerous Goods Act (TDGA)
Lead	▪ Hazardous Products Act ▪ Prince Edward Island Department of Environment, Labour and Justice (PEIELJ) ▪ Transportation of Dangerous Goods Act (TDGA) ▪ US Environmental Protection Agency (EPA)
Mercury	▪ Hazardous Products Act ▪ Canadian Council of Ministers of the Environment (CCME)
Mould	▪ *Occupational Health and Safety Act* R.S.P.E.I. 1988, Cap. O-1.01 General Regulations – Part 11 Ventilation (Including any amendments to May 2006)

Ozone Depleting Substances	▪ *Canadian Environmental Protection Act, Federal Halocarbon Regulation (SOR/99-255)* *Ozone Depleting Substance Regulations, 2003* under the *Environmental Protection Act* (O.C. 2003-222). ▪ Prince Edward Island *Environmental Protection Act E-9 Ozone Layer Protection Regulations*
PCB's	▪ Environmental Contaminants Act, Chlorobiphenyl Regulations ▪ Environment Canada – "Identification of Lamp Ballasts Containing PCB's", report EPS 2/CC/2 (revised) August, 1991
Other Hazardous Materials	▪ Hazardous Products Act

2.1 Asbestos

The province of Prince Edward Island Workers Compensation Board / Occupational Health & Safety Services (WCB/OSH) require that all employers and principal contractors complete an asbestos assessment for the determination of asbestos containing materials prior to renovations or demolition.

For the purposes of management of asbestos containing materials (ACM) during building maintenance, renovation or demolition the owner must conduct an assessment of suspect materials for the determination of asbestos content. An assessment report must be made available in writing which identifies materials for the management and safe handling of the ACM as well as identifying the responsibilities of the owners, employers and employees.

Asbestos materials can be found in one of two forms; friable asbestos or a non-friable type. Friable asbestos material refers to material that when dry, can be crumbled, pulverized or reduced to a powder by hand pressure. This type of asbestos material is hazardous due to its potential to become airborne, if damaged or disturbed.

Friable asbestos building products used that have been used in the past are sprayed acoustic and fire protection insulation which were installed on mechanical room ceilings, building structures, ceiling finishes, etc., and mechanical insulation on piping, tanks, boilers, vessels, etc. Some non-friable building products are vinyl acoustic floor tiles, gaskets, transite panels, piping and shingles.

Non-friable materials if handled improperly during removal or renovations, such as cutting transite panels with an electrical tool, can cause high fibre releases.

Asbestos is classified as a hazardous material under the TDGA and must adhere to specific requirements for transfer including but not limited to waste transfer manifests and proper placards. All asbestos waste must be disposed of at an approved municipal solid waste disposal site.

All work should be carried out by personnel trained and licensed with the provincial department of the Workers Compensation Board / Occupational Health and Safety Division for asbestos abatement.

2.2 Lead

Lead sampling of painted surface coatings was completed to address both safe handling procedures and disposal requirements prior to demolition of the building.

The Surface Coating Materials Regulations under the Consumer Products Safety Act of Canada considers surfaces with a lead content greater than 90 mg/kg as lead containing materials requiring specific handling. Any disturbance or removal of lead based materials which may generate lead dust shall have to conform to the federal and provincial Occupational Health and Safety Act and Regulations. All work should be carried out by personnel trained in the safe handling of lead based paint coatings and shall be trained in the use of respirators and be properly fit tested.

PEIELJ has established guidelines that restrict hazardous materials from municipal landfills and Construction and Demolition (C&D) waste disposal sites which potentially may migrate / leach into groundwater and cause adverse environmental impacts. Lead coated surfaces may leach from their base materials into soil and subsequent groundwater. PEIELJ has established guidelines that materials containing 1000 mg/kg or 0.1% lead by weight shall be classified as lead based paints. If materials are found to be above this guideline and require removal and disposal, then the materials must undergo leachate testing to assess to concentration which could potential leach into the ground soil and groundwater. Presently provincial requirements for lead leachate testing shall not exceed 5 mg/L. Disposal criteria for lead containing paints are based on total and leachable concentrations are as follows:

- Materials with total lead concentrations below the applicable Total guidelines can be disposed of at any C&D disposal site.
- Materials with *total lead concentrations above* the applicable Total guidelines and *leachable lead concentrations below* the applicable Leachate guidelines must be disposed of at an approved municipal solid waste landfill that has a composite liner and leachate collection system (i.e. East Prince Waste Management Facility in Wellington, PEI). A waste generator permit must first be approved and obtained by PEIELJ.
- Materials with total and leachable lead concentrations above provincial guidelines must be transported to an approved hazardous waste disposal site.

Materials with leachable lead concentrations above provincial guidelines must be manifested as dangerous goods during transport under the federal TDGA. Hazardous materials that are being disposed of out of province must comply with

Interprovincial Movement of Hazardous Waste Regulations under the Canadian Environmental Protection Act (CEPA).

2.3 Mercury

The Canadian Council of Ministers of the Environment (CCME) has established a Canada-Wide Standard for Mercury Containing Lamps and a Canada- Wide Standard for Mercury Emissions. The goal of the standards is to reduce the release of mercury into the environment.

The province of Prince Edward Island Workers Compensation Board / Occupational Health & Safety Services follows the American Conference of Governmental Industrial Hygienists (ACGIH) levels when dealing with airborne mercury levels: TLV = 0.025 mg/m^3. These limits represent conditions under which it is believed that nearly all workers can be repeatedly exposed day after day without adverse health effects.

Regulations classify mercury as a hazardous waste and proper handling and disposal is required.

2.4 Mould

There are no specific regulations in P.E.I. addressing mould contamination. However, according to Health Canada and the Canadian Construction Association (CCA) guidelines on assessment and remediation of fungi in indoor environments, building materials supporting mould growth should be remediated *as rapidly as possible* in order to ensure a healthy environment. Remediation of mould growth is based on an approximation of the extent of visible mould growth including the estimated extent of any hidden mould growth.

2.5 Ozone Depleting Substances

In 1994, the federal government filed the Ozone-Depleting Substances (ODS) Regulation to amend controls on production and consumption of chlorofluorocarbons (CFC's), halons, carbon tetrachloride and methyl chloroform. CFC's have been used in refrigeration, air conditioners, heat pumps, cooling systems and fire extinguishing systems for many years. Regulations set forth are intended to prevent CFC gases from escaping into the environment. CFC's are primarily used as a cooling and heating agent inside mechanical units.

2.6 Polychlorinated Biphenyls (PCB's)

In 1976, the Canadian Environment Contaminants Act passed regulations which prohibited the use of PCB's in transformer equipment. Under the same Act, the Chlorobiphenyl Regulations No. 1, states that PCBs cannot be used as a constituent of electrical capacitors, electrical transformers and associated electrical equipment manufactured in or imported into Canada after July 1, 1980.
There is currently no regulatory requirement to remove in-use PCB's from service. However, should suspect PCB containing light ballasts be removed from service, they should be treated as PCB waste or if confirmed to contain PCB oil in excess of 0.5 kg.

3.0 METHODOLOGY

The scope of work for the survey was to visually identify controlled hazardous materials for the safe handling and disposal of hazardous materials prior to demolition of the buildings. Where visual identification of asbestos containing materials and lead based paints were suspected but unable to be determined, samples were collected and sent to an approved laboratory for analysis.

There was limited destructive testing of structural members (i.e. walls, flooring, roof membranes) during the assessment. Where accessible, areas above ceiling cavities and behind walls were visually assessed to identify potentially concealed hazardous materials.

3.1 Asbestos

Using standard bulk sampling methodologies, representative suspect asbestos containing materials were sampled from ceiling & wall finishes, floor coverings, located throughout the building. Samples were placed in sealed plastic bags, labelled and a chain of custody form completed to be forwarded to the laboratory via courier for analysis.

The asbestos assessment involved a visual investigation of suspect materials for the presence of asbestos containing materials. If these materials were suspected to contain asbestos, a bulk sample was collected of the representative material to be analysed with Polarized Light Microscopy.

It should be noted that asbestos containing materials may be present behind unrevealed areas. During demolition of these materials, precautions should be taken such as the use of personal protective equipment in the event of exposing concealed asbestos materials. If suspect materials are revealed, have them tested immediately.

3.2 Lead

During the assessment, suspect lead-based paints were sampled from surfaces as determined by the consultant. Where practical, all layers of paint were removed and placed in sealed plastic bags, labelled and a chain of custody form completed to be forwarded to IATL Laboratory via courier for analysis.
Where possible, sufficient substrate materials were collected and held for possible Toxicity Characteristic Leaching Procedure (TCLP) if total lead concentrations exceeded provincial guidelines.

3.3 Polychlorinated Biphenyls (PCB's)

During the assessment, suspect PCB containing light ballasts were only encountered in building 821. Ballasts were inspected and manufacturers name, date and serial numbers were recorded when visible. The manufacturers identification numbers were then compared to Environment Canada's "Identification of Lamp Ballasts Containing PCB's", Report EPS 2/CC/2 9revised), August 1991.

It should be noted that the assessment did not include the sampling / testing or analysis of the suspect PCB containing materials.

3.4 Other Hazardous Materials

During the assessment, other hazardous materials including, but not limited to, mercury, mould, ozone depleting substances, etc. were visually assessed for the presence within suspect areas or materials. No sampling was carried out for any other noted hazardous materials.

4.0 ASSESSMENT FINDINGS

4.1 Asbestos Containing Materials (ACM)

During the survey, the consultant collected individual bulk material samples of suspect ACM's within each building. Laboratory analysis certificate are presented in Appendix 1 and are itemized in appendix 3 site photos.

Asbestos materials can be found in one of two forms; friable asbestos or a non-friable type.
Asbestos containing materials can be properly managed and left in place depending on their location, condition, and friability. Non-friable materials receive

less attention than friable materials due to the fact that the asbestos fibres in the non-friable material are bound or held tightly together, reducing the chance of fibres becoming airborne. This makes the non-friable products safer and easier to manage.

4.1.1 Friable ACM

Friable asbestos material refers to material that when dry, can be crumbled, pulverized or reduced to a powder by hand pressure thus releasing fibres into the air. This type of asbestos material is hazardous due to its potential to become airborne if damaged or disturbed. Friable asbestos building products used in the past were sprayed acoustic & fire protection insulations, ceiling/wall finishes, drywall joint compounds, mechanical insulations on pipes, tanks, boilers, vessels, etc.

Based on the assessment findings, no friable ACM was reported in any of the buildings.

4.1.2 Non-friable ACM

Non-friable building products used in the past were vinyl floor tiles, gaskets, transite panels, and transite shingles. Non-friable materials if handled improperly during removal or renovations, such as cutting transite panels with an electrical tool, can cause high fibre release. Also, non-friable asbestos products can become friable if damaged through years of aging (water damage, general deterioration of materials, etc.).

Based on the assessment findings, a summary of non friable ACM is tabled below.

Table 3 Summary of Non-Friable ACM

Building ID/ Location	***Sample No.***	***Material Design***	***Asbestos Content (%)***	***Approximate Quantity (ft^2)***
819 / Washroom, Cavendish Campground	821-A-01	Grey transite panel (walls; ceiling)	25 % Chrysotile	1950
821 / Washroom, Cavendish Campground	*V (821-A-01)	Grey transite panel (walls; ceiling)	25 % Chrysotile	1950

**V - visually same as sample ID*

4.2 Lead-based Paints

Based on the age of the buildings, lead based paints were sampled. Laboratory analysis certificate are presented in Appendix 1 and are itemized in appendix 3 site photos.

Based on the assessment findings, a summary of lead based paints and TCLP values are presented in table 4.

Table 4 Summary of Lead-Based Paint Results

Building ID/ Location	*Sample No.*	*Paint description / substrate*	*Total Lead results (% by weight)*	*TCLP Results (mg/L)*	*Approximate area (sq. ft.)*
391					
391 / Out Building #1, Simpson property	391-L-01	White paint on wood siding	**0.2**	1.7	550
	391-L-02	Red/green paint on exterior wood trim	**0.32**	0.5	40
392					
392 / Out Building #2, Simpson property	392-L-01	Dark green paint on ext. wood trim	**2.0**	0.9	40
	392-L-02	White paint on exterior wood siding	**14.0**	**42**	425
393					
393 / Out Building #3, Simpson property	393-L-02	Dark green paint on ext. wood trim	**1.5**	**9.5**	10
	393-L-03	White paint on exterior wood siding	**12.0**	**110**	600
394					
394 / Out Building #4, Simpson property	394-L-01	Blue paint on metal cylinder	**0.77**	ND	8
	394-L-02	Red paint on metal cylinder	**0.35**	ND	8
	394-L-03	Yellow paint on metal cylinder	**17.0**	ND	8
396					
396 / Out Building #6, Simpson property	396-L-01	White paint on wood siding	**1.8**	**54**	720
819					
819 / Washroom, Cavendish Campground	*V (821-L-01)	White paint / int. wood trim	**0.29**	1.2	20
	*V (821-L-02)	Light green paint/ metal partition	**0.59**	ND	100
	*V (821-L-03)	Dark green paint / wood trim	**0.92**	4.7	60
	*V (821-L-05)	Red paint / wood door	**2.3**	ND	25
821					
	821-L-01	White paint / int.	**0.29**	1.2	20

821 / Washroom, Cavendish Campground		wood trim			
	821-L-02	Light green paint/ metal partition	**0.59**	ND	100
	821-L-03	Dark green paint / wood trim	**0.92**	4.7	60
	821-L-05	Red paint / wood door	**2.3**	ND	25
829					
829 / Old power bldg, Cavendish Campground	829-L-02	Green paint on metal trim	**1.1**	< 0.2	8
	829-L-03	Cream color paint on metal trim	**4.6**	ND	8
	829-L-04	White paint on exterior concrete	**1.8**	ND	320
	829-L-05	White paint on window frames (storage)	**0.88**	ND	35
	829-L-06	Rust colour paint on metal door	**0.55**	ND	40

**V - visually same as sample ID*
ND - Not determined
Bold values exceed Provincial Guidelines

4.3 Polychlorinated Biphenyls (PCB's)

Only one building was found to have light fixtures with lamp ballasts. The serial numbers of these lamp ballasts were recorded and compared to the handbook "*Identification of Lamp Ballasts Containing PCB's*", Report EPS 2/CC/2 (revised), August 1991, issued by Environment Canada.

Environment Canada's "*Identification of Lamp Ballasts Containing PCB's*", note that for manufacturers not noted in their guide to assume PCBs are present if the unit is not marked "PCB Free" or not clearly dated 1980 or later. Therefore, all ballasts with these marking must be disposed of in accordance with provincial and federal regulations for handling and disposal.

The only building noted with lamp ballasts was building 821 washroom at Cavendish Campground. The manufacturers label on the ballasts observed were identified as non PCB containing (see appendix 3 photos Bldg 821).
The following is the recorded manufacturers ballast labels identified:

- Advance Mark III R-2S40-1-TP

If lamp ballasts with different serial numbers than those identified above are encountered during demolition activities, it should be determined whether they are PCB-containing and disposed of accordingly.

4.4 Other Hazardous Materials

Other potentially hazardous materials which may be of concern are outlined in their respective subsection below. No other hazardous materials of note were observed or reported at the time of the assessment.

4.4.1 Mould affected areas

Visible mould affected areas were observed in four building and are noted below in table 5.
Given the fact that the buildings are scheduled for demolition, the primary concern with mould contaminated materials is worker protection during abatement / demolition. All work should be conducted as a specification and carried out by personnel trained in the safe handling of mould contaminated materials and shall be trained in the use of respirators and be properly fit tested.

Table 5 Summary of Mould affected building

Building ID/ Location	*Visible mould*	*Materials*	*Approx. Qty. (ft^2)*
314 / 2 car garage, Simpson property	Yes	Wood framing; printed matter; debris	200
393 / Out Building #3, Simpson property	Yes	debris	--
394 / Out Building #4, Simpson property	Yes	Animal feces	--
819 / Washroom, Cavendish Campground	Yes		500

4.4.2 Mercury

No mercury containing devices were noted or reported in the buildings surveyed.

4.4.3Concrete and Masonry – Crystalline Silica

Renovations, demolition, or building maintenance involving work with concrete and masonry products is a ubiquitous activity. Research has identified demolition of concrete or masonry structures as one of the construction activities with potentially

high exposures to respirable crystalline silica[1] . There is consistency among various professionals that total elimination or substitution of silica from the construction process may not be a feasible option. The use of wet methods, local exhaust ventilation and high efficiency particulate air (HEPA) filtration systems attached to work tools or equipment, worker's isolation from dust generating sources by tenting off or use of other physical barriers, respiratory protection, practice of basic hygiene, work practices, and worker training may significantly reduce silica dust in many construction activities. However, these controls when used separately or incompletely may fail to reduce exposure to less than established occupational exposure limits[2].

Five of the buildings envelope has various concrete and masonry finishes that should be noted for upcoming demolition to establish safe work procedures.

When working with concrete/masonry (crystalline silica) products, ceiling tiles (mineral fibres, and potential crystalline silica) or general dust created by working with other building materials such as flooring, gyproc walls, metals, and wood products) during regular building maintenance, renovations, or demolition, hazardous levels of airborne dust can be created.

5.0 SUMMARY OF HAZARDOUS MATERIALS

Based on the findings from the Hazardous Materials Assessment, the following conclusions and recommendations are presented:

Hazardous Materials identified through sampling and identification were;

- Asbestos Containing Materials
- Lead Based Paints

Hazardous Materials identified through visual identification and or referencing;

- CFC's
- Hydrocarbons
- Mould

A summary of the Hazardous Materials identified in each building is provided below in Table 6 based on our assessment. It should be noted that the removal/handling procedures will vary depending upon a number of factors including removal

1 Raila R., 1988 *Ann Occup Hyg 32:215-20*

2 Journal of Physics: Conference Series 151 (2009), *Silica dust control in small-scale building/structure demolition operations using good work practice guidance*

techniques, tools used during removal, quantities, etc. Therefore, detailed specifications and a scope of work should be developed for the handling, removal and disposal of the hazardous materials.

Table 6 Summary of Hazardous Materials
Parks Canada, PEI

Building ID / Location	Hazardous Materials	Description	Approximate Qty	Disposal Requirements
212	Other	Unmarked barrel Pesticide sprayer	1 1	Materials to be disposed of at approved facility (i.e - East Prince Waste Management Facility in Wellington, PEI)
	Concrete & masonry	Floor		Disposal at any approved C&D disposal facility.
223	Other	Various lube / oil / gas cans Oil stained floor boards	36 ft^2	Materials to be disposed of at approved facility (i.e - East Prince Waste Management Facility in Wellington, PEI)
314	CFC's	Refrigerator Air conditioning unit	1 1	Materials to be disposed of at approved facility (i.e - East Prince Waste Management Facility in Wellington, PEI)
	Hydrocarbons	Above ground fuel storage tank	910 L capacity (partial fill)	Materials to be disposed of at approved facility (i.e - East Prince Waste Management Facility in Wellington, PEI)
	Mould	Interior wood framing Printed matter	200 ft^2	Disposal at any approved C&D disposal facility.
	Other	Various lube / oil / gas cans		Hazardous waste disposal
	Concrete & masonry	Floor		Disposal at any approved C&D disposal facility.
391	Lead paint	- White paint on wood siding;	550 ft^2	Regulatory approval from PEIELJ Materials to be disposed of at approved facility (i.e - East Prince Waste Management Facility in Wellington, PEI)
		- Red/green paint on exterior wood trim	40 ft^2	
392	Lead paint	Dark green paint on ext. wood trim	40 ft^2	Regulatory approval from PEIELJ Materials to be disposed of at approved facility (i.e - East Prince Waste Management Facility in Wellington, PEI)
		White paint on exterior wood siding	425 ft^2	Materials to be manifested as Dangerous Goods for transport

				Material requires disposal at an off island approved facility
393	Lead paint	Dark green paint on ext. wood trim	10 ft^2	Regulatory approval from PEIELJ Materials to be disposed of at approved facility (i.e - East Prince Waste Management Facility in Wellington, PEI)
		White paint on exterior wood siding	600 ft^2	Materials to be manifested as Dangerous Goods for transport Material requires disposal at an off island approved facility
394	Lead paint	Blue paint on metal cylinder	8 ft^2	Paint to be manifested as Dangerous Goods for transport Paint requires disposal at an off island approved facility
		Red paint on metal cylinder	8 ft^2	
		Yellow paint on metal cylinder	8 ft^2	
	Microbial matter	Animal feces		Disposal at any approved C&D disposal facility.
396	Lead paint	White paint on wood siding	600 ft^2	Materials to be manifested as Dangerous Goods for transport Material requires disposal at an off island approved facility
819	Non-friable Asbestos	Transite panels on interior walls & ceiling	1950 ft^2	- Materials to be manifested as dangerous goods during transport - Asbestos notification permit to be obtained by licensed contractor from Safety Matters at Work PEI - Waste disposal permit required from PEIELJ - Disposal at approved landfill and subject to landfill requirements.
	Lead paint	White paint / int. wood trim	20 ft^2	Regulatory approval from PEIELJ Materials to be disposed of at approved facility (i.e - East Prince Waste Management Facility in Wellington, PEI)
		Light green paint/ metal partition	100 ft^2	
		Dark green paint/ wood trim	60 ft^2	

		Red paint / wood door	25 ft^2	Materials to be manifested as Dangerous Goods for transport Material requires disposal at an off island approved facility
	Concrete & masonry	Floor		Disposal at any approved C&D disposal facility.
821	Non-friable Asbestos	Transite panels on interior walls & ceiling	1950 ft^2	- Materials to be manifested as dangerous goods during transport - Asbestos notification permit to be obtained by licensed contractor from Safety Matters at Work PEI - Waste disposal permit required from PEIELJ - Disposal at approved landfill and subject to landfill requirements.
	Lead paint	White paint / int. wood trim	20 ft^2	Regulatory approval from PEIELJ Materials to be disposed of at approved facility (i.e - East Prince Waste Management Facility in Wellington, PEI)
		Light green paint/ metal partition	100 ft^2	
		Dark green paint/ wood trim	60 ft^2	
		Red paint / wood door	25 ft^2	Materials to be manifested as Dangerous Goods for transport Material requires disposal at an off island approved facility
	Mould	Visible mould and walls and ceiling	500 ft^2	Disposal at any approved C&D disposal facility.
	Concrete & masonry	Floor		Disposal at any approved C&D disposal facility.
829	Lead paint	Green paint on metal trim	8	
		Cream colour paint on metal trim	8	Regulatory approval from PEIELJ Materials to be disposed of at approved facility (i.e - East Prince Waste Management Facility in Wellington, PEI)
		White paint on window frames (storage)	35	Materials to be manifested as Dangerous Goods for transport Material requires disposal at
		Rust colour paint on metal door	40	

		White paint on exterior concrete	320	an off island approved facility unless TCLP testing confirms otherwise
	Other	Battery packs (storage)		Hazardous waste disposal
	Concrete & masonry	Floor and walls		Disposal at any approved C&D disposal facility.

6.0 DISCLAIMER

This report was prepared by ALL-TECH Environmental Services Limited for the sole benefit of our client Coles Associates and their client, Parks Canada. The information in the report is based on information provided or obtained by ALL-TECH. The report is based on ALL-TECH's best judgement of the information provided at the time of the assessment. Any use of this report by a third party, is the responsibility of that third party. ALL-TECH accepts no liability and/or damages occurred by any third party which uses information obtained in this report.

Larry G. Koughan, CET, CRSP
Senior Project Consultant

ALL-TECH ENVIRONMENTAL SERVICES LIMITED

CANADIAN SOCIETY OF SAFETY ENGINEERING MEMBER

Appendix 1

Laboratory Certificates of analysis
Asbestos PLM samples

IATL International Asbestos Testing Laboratories

9000 Commerce Parkway Suite B Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Svcs.Limited
20 Duke St.,Suite 109
Bedford NS B4A2Z5

Report Date: 1/10/2014
Report No.: 322938
Project: Parks Canada-Bldg #223
Project No.: 18986

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5205619
Client No.: 223-A-01
Description / Location: Black Roof Felt

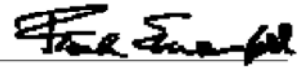
% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	90	Cellulose	10

Accreditations: **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

Analytical Method: EPA 600/R-93/116, by Polarized Light Microscopy

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: E. Smith

Approved By: 

Date: 1/10/2014

Frank E. Ehrenfeld, III
Laboratory Director

IATL **International Asbestos Testing Laboratories**

9000 Commerce Parkway Suite B Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Svcs.Limited
20 Duke St.,Suite 109
Bedford NS B4A2Z5

Report Date: 1/10/2014
Report No.: 322936
Project: Parks Canada-Bldg.#314
Project No.: 18986

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5205621 **Description / Location:** Black Tar Paper
Client No.: 314-A-01 Siding

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	70	Cellulose	30

Lab No.: 5205622 **Description / Location:** Black Roofing Felt
Client No.: 314-A-02

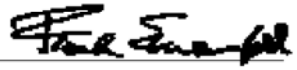
% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	65	Cellulose	35

Accreditations: **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

Analytical Method: EPA 600/R-93/116, by Polarized Light Microscopy

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: E. Smith

Approved By: 

Date: 1/10/2014

Frank E. Ehrenfeld, III
Laboratory Director

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CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Svcs.Limited
20 Duke St.,Suite 109
Bedford NS B4A2Z5

Report Date: 1/10/2014
Report No.: 322935
Project: Parks Canada-Bldg #392
Project No.: 18986

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5205623
Client No.: 392-A-01
Description / Location: Black/Tan Vinyl Sheet Flooring

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	30	Cellulose	70

Accreditations: **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

Analytical Method: EPA 600/R-93/116, by Polarized Light Microscopy

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: E. Smith

Approved By:

Date: 1/10/2014

Frank E. Ehrenfeld, III
Laboratory Director

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CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Svcs.Limited
20 Duke St.,Suite 109
Bedford NS B4A2Z5

Report Date: 1/10/2014
Report No.: 322939
Project: Parks Canada-Bldg #393
Project No.: 18986

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5205613 **Description / Location:** Black Tar Paper
Client No.: 393-A-01 Ext. Siding

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	97	Cellulose	3

Lab No.: 5205614 **Description / Location:** Tan Plaster
Client No.: 393-A-02 Ceiling

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	1	Cellulose	99

Lab No.: 5205615 **Description / Location:** Tan Plaster
Client No.: 393-A-03 Wall

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	1	Cellulose	99

Lab No.: 5205616 **Description / Location:** Tan Plaster
Client No.: 393-A-04 Debris On Floor

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	1	Cellulose	99

Accreditations: **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

Analytical Method: EPA 600/R-93/116, by Polarized Light Microscopy

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: E. Smith

Approved By: Frank E. Ehrenfeld, III
Laboratory Director

Date: 1/10/2014

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CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Svcs.Limited
20 Duke St.,Suite 109
Bedford NS B4A2Z5

Report Date: 1/10/2014
Report No.: 322939
Project: Parks Canada-Bldg #393
Project No.: 18986

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5205617 **Description / Location:** Brown/Black Vinyl Sheet Flooring
Client No.: 393-A-05 In Debris

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	60	Cellulose	40

Lab No.: 5205618 **Description / Location:** Black Roofing Shingle
Client No.: 393-A-06

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	20	Cellulose	80

Accreditations: **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

Analytical Method: EPA 600/R-93/116, by Polarized Light Microscopy

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: E. Smith

Date: 1/10/2014

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CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Svcs.Limited
20 Duke St.,Suite 109
Bedford NS B4A2Z5

Report Date: 1/10/2014
Report No.: 322934
Project: Parks Canada-Bldg #394
Project No.: 18986

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5205624
Client No.: 394-A-01
Description / Location: Black Roofing Felt

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	40	Cellulose	60

Accreditations: **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

Analytical Method: EPA 600/R-93/116, by Polarized Light Microscopy

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: E. Smith

Approved By: Frank E. Ehrenfeld, III
Laboratory Director

Date: 1/10/2014

IATL **International Asbestos Testing Laboratories**

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Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Svcs.Limited
20 Duke St.,Suite 109
Bedford NS B4A2Z5

Report Date: 1/10/2014
Report No.: 322933
Project: Parks Canada-Bldg #395
Project No.: 18986

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5205625
Client No.: 395-A-01
Description / Location: Black Roofing Felt

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	35	Cellulose	65

Accreditations: **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

Analytical Method: EPA 600/R-93/116, by Polarized Light Microscopy

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: E. Smith

Approved By: Frank E. Ehrenfeld, III
Laboratory Director

Date: 1/10/2014

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CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Svcs.Limited
20 Duke St.,Suite 109
Bedford NS B4A2Z5

Report Date: 1/10/2014
Report No.: 322932
Project: Parks Canada-Bldg #396
Project No.: 18986

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5205626
Client No.: 396-A-01
Description / Location: Black Felt
Roofing

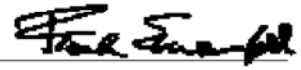
% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	80	Cellulose	20

Accreditations: **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

Analytical Method: EPA 600/R-93/116, by Polarized Light Microscopy

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: E. Smith

Approved By: 

Date: 1/10/2014

Frank E. Ehrenfeld, III
Laboratory Director

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CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Svcs.Limited
20 Duke St.,Suite 109
Bedford NS B4A2Z5

Report Date: 1/10/2014
Report No.: 322930
Project: Parks Canada-Bldg.#819
Project No.: 18986

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5205628 **Description / Location:** Grey Insulation
Client No.: 819-A-01 Parging Cement On Fitting

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	10	Fibrous Glass	90

Lab No.: 5205629 **Description / Location:** Black Tar Paper
Client No.: 819-A-02 On Siding

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	80	Cellulose	20

Lab No.: 5205630 **Description / Location:** Black/Green Roofing Shingle
Client No.: 819-A-03 Felt

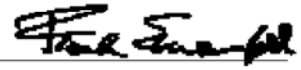
% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	20	Cellulose	80

Accreditations: **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

Analytical Method: EPA 600/R-93/116, by Polarized Light Microscopy

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: E. Smith

Approved By: 

Date: 1/10/2014

Frank E. Ehrenfeld, III
Laboratory Director

IATL International Asbestos Testing Laboratories

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CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Svcs.Limited
20 Duke St.,Suite 109
Bedford NS B4A2Z5

Report Date: 1/10/2014
Report No.: 322940
Project: Parks Canada-Bldg #821
Project No.: 18986

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5205610 **Description / Location:** Grey Transite
Client No.: 821-A-01 Wall

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
25	Chrysotile	None Detected	None Detected	75

Lab No.: 5205611 **Description / Location:** Black Shingle
Client No.: 821-A-02 Roofing

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	20	Cellulose	80

Lab No.: 5205612 **Description / Location:** Grey Insulation
Client No.: 821-A-03 On Fitting

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	15	Fibrous Glass	85

Accreditations: **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

Analytical Method: EPA 600/R-93/116, by Polarized Light Microscopy

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: E. Smith

Approved By: Frank E. Ehrenfeld, III
Laboratory Director

Date: 1/10/2014

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CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Svcs.Limited
20 Duke St.,Suite 109
Bedford NS B4A2Z5

Report Date: 1/10/2014
Report No.: 322931
Project: Parks Canada-Bldg #829
Project No.: 18986

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5205627
Client No.: 829-A-01

Description / Location: Black Felt
Roofing

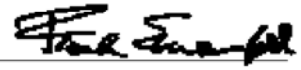
% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	3	Fibrous Glass	82
		15	Cellulose	

Accreditations: **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

Analytical Method: EPA 600/R-93/116, by Polarized Light Microscopy

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: E. Smith

Approved By: 

Date: 1/10/2014

Frank E. Ehrenfeld, III
Laboratory Director

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CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Svcs.Limited
20 Duke St.,Suite 109
Bedford NS B4A2Z5

Report Date: 1/10/2014
Report No: 322937
Project: Parks Canada-Bldg #7706
Project No.: 18986

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 5205620
Client No.: 7706-A-01
Description / Location: Black Felt
Roofing

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	35	Cellulose	65

Accreditation **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

Analytical Method: EPA 600/R-93/116, by Polarized Light Microscopy

Comments: Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analysis Performed By: E. Smith

Approved By: Frank E. Ehrenfeld, III
Laboratory Director

Date: 1/10/2014

Appendix 2

Laboratory Certificates of analysis
Lead Paint samples

IATL International Asbestos Testing Laboratories

9000 Commerce Parkway Suite B Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Svcs.Limited
20 Duke St.,Suite 109
Bedford NS B4A2Z5

Report Date: 1/13/2014
Report Number: 322919
Project: Parks Canada-Bldg #212
Project No.: 18986

LEAD PAINT SAMPLE ANALYSIS SUMMARY

Lab No.	Client No.	Location / Description	Concentration Lead By Weight (%)
5205575	212-L-01	White Wood Trim Paint Ext	<0.0055 ***
5205576	212-L-02	Brown Wood Siding Paint Ext	0.0081 ***

Accreditations: NATIONAL LEAD LABORATORY ACCREDITATION PROGRAM (NLLAP)
AIHA-LAP, LLC No. 100188 NYSDOH-ELAP No. 11021

Analytical Methods: ASTM D3335-85A "Standard Method To Test For Low Concentrations Of Lead In Paint By Atomic Absorption Spectrophotometry"
EPA SW846-(3050B:7000B) "Standard Method To Test For Low Concentrations Of Lead In Soils, Sludges and Sediments By AAS"

Comments: Regulatory limit is 0.5% lead by weight (EPA/HUD guidelines). Recommend multiple sampling for all samples less than regulatory limit for confirmation. All results are based on the samples as received at the lab. IATL assumes that appropriate sampling methods have been used and the data upon which these results are based have been accurately supplied by the client. Method Detection Limit (MDL) per EPA Method 40CFR Part 136 Apendix B. Reporting Limit (RL) based upon Lowest Standard Determined (LSD) in accordance with AIHA-ELLAP policies. LSD=0.2 ppm MDL=0.0044% by weight. RL= 0.010% by weight (based upon 100 mg sampled). * Insufficient sample provided to perform QC reanalysis (<200 mg) ** Not enough sample provided to analyze (<50 mg) *** Matrix / substrate interference possible. Sample results are not corrected for contamination by field or analytical blanks. This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any government agency. This report shall not be reproduced except in full, without written approval of the laboratory.

Date Received: 1/9/2014
Date Analyzed: 1/13/2014
Analyst: C. Shaffer

Approved By: Frank E. Ehrenfeld, III
Laboratory Director

IATL International Asbestos Testing Laboratories

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Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Svcs.Limited
20 Duke St.,Suite 109
Bedford NS B4A2Z5

Report Date: 1/13/2014
Report Number: 322918
Project: Parks Canada-Bldg #223
Project No.: 18986

LEAD PAINT SAMPLE ANALYSIS SUMMARY

Lab No.	Client No.	Location / Description	Concentration Lead By Weight (%)
5205577	223-L-01	White Wood Siding Paint	0.021 ***
5205578	223-L-02	Cream Ext Trim Paint	0.0095 ***

Accreditations: NATIONAL LEAD LABORATORY ACCREDITATION PROGRAM (NLLAP)
AIHA-LAP, LLC No. 100188 NYSDOH-ELAP No. 11021

Analytical Methods: ASTM D3335-85A "Standard Method To Test For Low Concentrations Of Lead In Paint By Atomic Absorption Spectrophotometry"
EPA SW846-(3050B:7000B) "Standard Method To Test For Low Concentrations Of Lead In Soils, Sludges and Sediments By AAS"

Comments: Regulatory limit is 0.5% lead by weight (EPA/HUD guidelines). Recommend multiple sampling for all samples less than regulatory limit for confirmation. All results are based on the samples as received at the lab. IATL assumes that appropriate sampling methods have been used and the data upon which these results are based have been accurately supplied by the client. Method Detection Limit (MDL) per EPA Method 40CFR Part 136 Apendix B. Reporting Limit (RL) based upon Lowest Standard Determined (LSD) in accordance with AIHA-ELLAP policies. LSD=0.2 ppm MDL=0.0044% by weight. RL= 0.010% by weight (based upon 100 mg sampled). * Insufficient sample provided to perform QC reanalysis (<200 mg) ** Not enough sample provided to analyze (<50 mg) *** Matrix / substrate interference possible. Sample results are not corrected for contamination by field or analytical blanks. This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any government agency. This report shall not be reproduced except in full, without written approval of the laboratory.

Date Received: 1/9/2014
Date Analyzed: 1/13/2014
Analyst: C. Shaffer

Approved By: Frank E. Ehrenfeld, III
Laboratory Director

IATL International Asbestos Testing Laboratories

9000 Commerce Parkway Suite B Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Svcs.Limited
20 Duke St.,Suite 109
Bedford NS B4A2Z5

Report Date: 1/13/2014
Report Number: 322923
Project: Parks Canada-Bldg #314
Project No.: 18986

LEAD PAINT SAMPLE ANALYSIS SUMMARY

Lab No.	Client No.	Location / Description	Concentration Lead By Weight (%)
5205573	314-L-01	Green Wood Trim Paint	0.015 ***
5205574	314-L-02	White Wood Siding Paint	<0.0057 ***

Accreditations: **NATIONAL LEAD LABORATORY ACCREDITATION PROGRAM (NLLAP)**
AIHA-LAP, LLC No. 100188 NYSDOH-ELAP No. 11021

Analytical Methods: ASTM D3335-85A "Standard Method To Test For Low Concentrations Of Lead In Paint By Atomic Absorption Spectrophotometry"
EPA SW846-(3050B:7000B) "Standard Method To Test For Low Concentrations Of Lead In Soils, Sludges and Sediments By AAS"

Comments: Regulatory limit is 0.5% lead by weight (EPA/HUD guidelines). Recommend multiple sampling for all samples less than regulatory limit for confirmation. All results are based on the samples as received at the lab. IATL assumes that appropriate sampling methods have been used and the data upon which these results are based have been accurately supplied by the client. Method Detection Limit (MDL) per EPA Method 40CFR Part 136 Apendix B. Reporting Limit (RL) based upon Lowest Standard Determined (LSD) in accordance with AIHA-ELLAP policies. LSD=0.2 ppm MDL=0.0044% by weight. RL= 0.010% by weight (based upon 100 mg sampled). * Insufficient sample provided to perform QC reanalysis (<200 mg) ** Not enough sample provided to analyze (<50 mg) *** Matrix / substrate interference possible. Sample results are not corrected for contamination by field or analytical blanks. This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any government agency. This report shall not be reproduced except in full, without written approval of the laboratory.

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Analyst: C. Shaffer

Approved By: Frank E. Ehrenfeld, III
Laboratory Director

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CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Svcs.Limited
20 Duke St.,Suite 109
Bedford NS B4A2Z5

Report Date: 1/13/2014
Report Number: 322924
Project: Parks Canada-Bldg #391
Project No.: 18986

LEAD PAINT SAMPLE ANALYSIS SUMMARY

Lab No.	Client No.	Location / Description	Concentration Lead By Weight (%)
5205571	319-L-01	White Wood Siding Paint Ext	0.2 ***
5205572	319-L-02	Red/Green Wood Trim Paint Ext	0.32 ***

Accreditations: NATIONAL LEAD LABORATORY ACCREDITATION PROGRAM (NLLAP)
AIHA-LAP, LLC No. 100188 NYSDOH-ELAP No. 11021

Analytical Methods: ASTM D3335-85A "Standard Method To Test For Low Concentrations Of Lead In Paint By Atomic Absorption Spectrophotometry"
EPA SW846-(3050B:7000B) "Standard Method To Test For Low Concentrations Of Lead In Soils, Sludges and Sediments By AAS"

Comments: Regulatory limit is 0.5% lead by weight (EPA/HUD guidelines). Recommend multiple sampling for all samples less than regulatory limit for confirmation. All results are based on the samples as received at the lab. IATL assumes that appropriate sampling methods have been used and the data upon which these results are based have been accurately supplied by the client. Method Detection Limit (MDL) per EPA Method 40CFR Part 136 Apendix B. Reporting Limit (RL) based upon Lowest Standard Determined (LSD) in accordance with AIHA-ELLAP policies. LSD=0.2 ppm MDL=0.0044% by weight. RL= 0.010% by weight (based upon 100 mg sampled). * Insufficient sample provided to perform QC reanalysis (<200 mg) ** Not enough sample provided to analyze (<50 mg) *** Matrix / substrate interference possible. Sample results are not corrected for contamination by field or analytical blanks. This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any government agency. This report shall not be reproduced except in full, without written approval of the laboratory.

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Date Analyzed: 1/13/2014
Analyst: C. Shaffer

Approved By: Frank E. Ehrenfeld, III
Laboratory Director

IATL International Asbestos Testing Laboratories

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CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Svcs.Limited
20 Duke St.,Suite 109
Bedford NS B4A2Z5

Report Date: 1/14/2014
Report Number: 322914
Project: Parks Canada-Bldg #392
Project No.: 18986

LEAD PAINT SAMPLE ANALYSIS SUMMARY

Lab No.	Client No.	Location / Description	Concentration Lead By Weight (%)
5205590	392-L-01	Dk Green Paint On Ext Wood Trim; 1/8/14	2 ***
5205591	392-L-02	White Paint On Ext Wood Siding; 1/8/14	14 ***
5205592	392-L-03	Lt Green Paint On Int Wood Trim; 1/8/14	0.01 ***

Accreditations: NATIONAL LEAD LABORATORY ACCREDITATION PROGRAM (NLLAP)
AIHA-LAP, LLC No. 100188 NYSDOH-ELAP No. 11021

Analytical Methods: ASTM D3335-85A "Standard Method To Test For Low Concentrations Of Lead In Paint By Atomic Absorption Spectrophotometry"
EPA SW846-(3050B:7000B) "Standard Method To Test For Low Concentrations Of Lead In Soils, Sludges and Sediments By AAS"

Comments: Regulatory limit is 0.5% lead by weight (EPA/HUD guidelines). Recommend multiple sampling for all samples less than regulatory limit for confirmation. All results are based on the samples as received at the lab. IATL assumes that appropriate sampling methods have been used and the data upon which these results are based have been accurately supplied by the client. Method Detection Limit (MDL) per EPA Method 40CFR Part 136 Apendix B. Reporting Limit (RL) based upon Lowest Standard Determined (LSD) in accordance with AIHA-ELLAP policies. LSD=0.2 ppm MDL=0.0044% by weight. RL= 0.010% by weight (based upon 100 mg sampled). * Insufficient sample provided to perform QC reanalysis (<200 mg) ** Not enough sample provided to analyze (<50 mg) *** Matrix / substrate interference possible. Sample results are not corrected for contamination by field or analytical blanks. This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any government agency. This report shall not be reproduced except in full, without written approval of the laboratory.

Date Received: 1/9/2014
Date Analyzed: 1/14/2014
Analyst: C. Shaffer

Approved By: Frank E. Ehrenfeld, III
Laboratory Director

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CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Svcs.Limited
20 Duke St.,Suite 109
Bedford NS B4A2Z5

Report Date: 1/14/2014
Report Number: 322916
Project: Parks Canada-Bldg #393
Project No.: 18986

LEAD PAINT SAMPLE ANALYSIS SUMMARY

Lab No.	Client No.	Location / Description	Concentration Lead By Weight (%)
5205583	393-L-01	Cream Color Paint On Plaster; 1/8/14	0.0041 ***
5205584	393-L-02	Green Paint On Ext Wood Trim; 1/8/14	1.5 ***
5205585	393-L-03	White Paint On Ext Wood Siding; 1/8/14	12 ***

Accreditations: NATIONAL LEAD LABORATORY ACCREDITATION PROGRAM (NLLAP)
AIHA-LAP, LLC No. 100188 NYSDOH-ELAP No. 11021

Analytical Methods: ASTM D3335-85A "Standard Method To Test For Low Concentrations Of Lead In Paint By Atomic Absorption Spectrophotometry"
EPA SW846-(3050B:7000B) "Standard Method To Test For Low Concentrations Of Lead In Soils, Sludges and Sediments By AAS"

Comments: Regulatory limit is 0.5% lead by weight (EPA/HUD guidelines). Recommend multiple sampling for all samples less than regulatory limit for confirmation. All results are based on the samples as received at the lab. IATL assumes that appropriate sampling methods have been used and the data upon which these results are based have been accurately supplied by the client. Method Detection Limit (MDL) per EPA Method 40CFR Part 136 Apendix B. Reporting Limit (RL) based upon Lowest Standard Determined (LSD) in accordance with AIHA-ELLAP policies. LSD=0.2 ppm MDL=0.0044% by weight. RL= 0.010% by weight (based upon 100 mg sampled). * Insufficient sample provided to perform QC reanalysis (<200 mg) ** Not enough sample provided to analyze (<50 mg) *** Matrix / substrate interference possible. Sample results are not corrected for contamination by field or analytical blanks. This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any government agency. This report shall not be reproduced except in full, without written approval of the laboratory.

Date Received: 1/9/2014
Date Analyzed: 1/14/2014
Analyst: C. Shaffer

Approved By: Frank E. Ehrenfeld, III
Laboratory Director

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CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Svcs.Limited
20 Duke St.,Suite 109
Bedford NS B4A2Z5

Report Date: 1/14/2014
Report Number: 322915
Project: Parks Canada-Bldg #394
Project No.: 18986

LEAD PAINT SAMPLE ANALYSIS SUMMARY

Lab No.	Client No.	Location / Description	Concentration Lead By Weight (%)
5205586	394-L-01	Blue Paint On Metal Cylinder; 1/8/14	0.77
5205587	394-L-02	Red Paint On Metal Cylinder; 1/8/14	0.35
5205588	394-L-03	Yellow Paint On Metal Cylinder; 1/8/14	17
5205589	394-L-04	White Paint On Ext Wood Siding; 1/8/14	0.0052 ***

Accreditations: NATIONAL LEAD LABORATORY ACCREDITATION PROGRAM (NLLAP)
AIHA-LAP, LLC No. 100188 NYSDOH-ELAP No. 11021

Analytical Methods: ASTM D3335-85A "Standard Method To Test For Low Concentrations Of Lead In Paint By Atomic Absorption Spectrophotometry"
EPA SW846-(3050B:7000B) "Standard Method To Test For Low Concentrations Of Lead In Soils, Sludges and Sediments By AAS"

Comments: Regulatory limit is 0.5% lead by weight (EPA/HUD guidelines). Recommend multiple sampling for all samples less than regulatory limit for confirmation. All results are based on the samples as received at the lab. IATL assumes that appropriate sampling methods have been used and the data upon which these results are based have been accurately supplied by the client. Method Detection Limit (MDL) per EPA Method 40CFR Part 136 Apendix B. Reporting Limit (RL) based upon Lowest Standard Determined (LSD) in accordance with AIHA-ELLAP policies. LSD=0.2 ppm MDL=0.0044% by weight. RL= 0.010% by weight (based upon 100 mg sampled). * Insufficient sample provided to perform QC reanalysis (<200 mg) ** Not enough sample provided to analyze (<50 mg) *** Matrix / substrate interference possible. Sample results are not corrected for contamination by field or analytical blanks. This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any government agency. This report shall not be reproduced except in full, without written approval of the laboratory.

Date Received: 1/9/2014
Date Analyzed: 1/14/2014
Analyst: C. Shaffer

Approved By: Frank E. Ehrenfeld, III
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CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Svcs.Limited
20 Duke St.,Suite 109
Bedford NS B4A2Z5

Report Date: 1/10/2014
Report Number: 322921
Project: Parks Canada-Bldg #396
Project No.: 18986

LEAD PAINT SAMPLE ANALYSIS SUMMARY

Lab No.	Client No.	Location / Description	Concentration Lead By Weight (%)
5205563	396-L-01	White Wood Siding Paint Exterior	1.8***

Accreditations: NATIONAL LEAD LABORATORY ACCREDITATION PROGRAM (NLLAP)
AIHA-LAP, LLC No. 100188 NYSDOH-ELAP No. 11021

Analytical Methods: ASTM D3335-85A "Standard Method To Test For Low Concentrations Of Lead In Paint By Atomic Absorption Spectrophotometry"
EPA SW846-(3050B:7000B) "Standard Method To Test For Low Concentrations Of Lead In Soils, Sludges and Sediments By AAS"

Comments: Regulatory limit is 0.5% lead by weight (EPA/HUD guidelines). Recommend multiple sampling for all samples less than regulatory limit for confirmation. All results are based on the samples as received at the lab. IATL assumes that appropriate sampling methods have been used and the data upon which these results are based have been accurately supplied by the client. Method Detection Limit (MDL) per EPA Method 40CFR Part 136 Apendix B. Reporting Limit (RL) based upon Lowest Standard Determined (LSD) in accordance with AIHA-ELLAP policies. LSD=0.2 ppm MDL=0.0044% by weight. RL= 0.010% by weight (based upon 100 mg sampled). * Insufficient sample provided to perform QC reanalysis (<200 mg) ** Not enough sample provided to analyze (<50 mg) *** Matrix / substrate interference possible. Sample results are not corrected for contamination by field or analytical blanks. This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any government agency. This report shall not be reproduced except in full, without written approval of the laboratory.

Date Received: 1/9/2014
Date Analyzed: 1/10/2014
Analyst: C. Shaffer

Approved By: Frank E. Ehrenfeld, III
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CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Svcs.Limited
20 Duke St.,Suite 109
Bedford NS B4A2Z5

Report Date: 1/10/2014
Report Number: 322920
Project: Parks Canada-Bldg #819
Project No.: 18986

LEAD PAINT SAMPLE ANALYSIS SUMMARY

Lab No.	Client No.	Location / Description	Concentration Lead By Weight (%)
5205564	819-L-01	Lt Green Wood Door Paint Exterior	<0.0067***
5205565	819-L-02	White Wood Siding Paint Exterior	0.047***

Accreditations: NATIONAL LEAD LABORATORY ACCREDITATION PROGRAM (NLLAP)
AIHA-LAP, LLC No. 100188 NYSDOH-ELAP No. 11021

Analytical Methods: ASTM D3335-85A "Standard Method To Test For Low Concentrations Of Lead In Paint By Atomic Absorption Spectrophotometry"
EPA SW846-(3050B:7000B) "Standard Method To Test For Low Concentrations Of Lead In Soils, Sludges and Sediments By AAS"

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Date Received: 1/9/2014
Date Analyzed: 1/10/2014
Analyst: C. Shaffer

Approved By:
Frank E. Ehrenfeld, III
Laboratory Director

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CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Svcs.Limited
20 Duke St.,Suite 109
Bedford NS B4A2Z5

Report Date: 1/10/2014
Report Number: 322925
Project: Parks Canada-Bldg #821
Project No.: 18986

LEAD PAINT SAMPLE ANALYSIS SUMMARY

Lab No.	Client No.	Location / Description	Concentration Lead By Weight (%)
5205566	821-L-01	White Wood Trim Paint Interior	0.29***
5205567	821-L-02	Lt Green Metal Partition Paint	0.59
5205568	821-L-03	Dk Green Wood Trim Paint Exterior	0.92***
5205569	821-L-04	White Wood Siding Paint Exterior	0.012***
5205570	821-L-05	Red Wood Door Paint Exterior	2.3***

Accreditations: NATIONAL LEAD LABORATORY ACCREDITATION PROGRAM (NLLAP)
AIHA-LAP, LLC No. 100188 NYSDOH-ELAP No. 11021

Analytical Methods: ASTM D3335-85A "Standard Method To Test For Low Concentrations Of Lead In Paint By Atomic Absorption Spectrophotometry"
EPA SW846-(3050B:7000B) "Standard Method To Test For Low Concentrations Of Lead In Soils, Sludges and Sediments By AAS"

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Date Analyzed: 1/10/2014
Analyst: C. Shaffer

Approved By:
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Laboratory Director

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CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Svcs.Limited
20 Duke St.,Suite 109
Bedford NS B4A2Z5

Report Date: 1/10/2014
Report Number: 322922
Project: Parks Canada-Bldg #829
Project No.: 18986

LEAD PAINT SAMPLE ANALYSIS SUMMARY

Lab No.	Client No.	Location / Description	Concentration Lead By Weight (%)
5205557	829-L-01	Grey Metal Paint Cabinet	0.041
5205558	829-L-02	Green Metal Trim Paint	1.1***
5205559	829-L-03	Cream Metal Trim Paint	4.6
5205560	829-L-04	White Ext Concrete Paint	1.8
5205561	829-L-05	White Wood Paint Window Frame;Storage	0.88***
5205562	829-L-06	Rust Ext Metal Door Paint	0.55***

Accreditations: NATIONAL LEAD LABORATORY ACCREDITATION PROGRAM (NLLAP)
AIHA-LAP, LLC No. 100188 NYSDOH-ELAP No. 11021

Analytical Methods: ASTM D3335-85A "Standard Method To Test For Low Concentrations Of Lead In Paint By Atomic Absorption Spectrophotometry"
EPA SW846-(3050B:7000B) "Standard Method To Test For Low Concentrations Of Lead In Soils, Sludges and Sediments By AAS"

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Analyst: C. Shaffer

Approved By:
Frank E. Ehrenfeld, III
Laboratory Director

IATL International Asbestos Testing Laboratories

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CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Svcs.Limited
20 Duke St.,Suite 109
Bedford NS B4A2Z5

Report Date: 1/13/2014
Report Number: 322917
Project: Parks Canada-Bldg #7706
Project No.: 18986

LEAD PAINT SAMPLE ANALYSIS SUMMARY

Lab No.	Client No.	Location / Description	Concentration Lead By Weight (%)
5205579	7706-L-01	White Wood Siding Paint Exterior	0.019 ***
5205580	7706-L-02	Grey Wood Trim Paint Interior	<0.0058 ***
5205581	7706-L-03	Cream Wood Trim Paint Exterior	0.076 ***
5205582	7706-L-04	Green Paint; On Ext Wood Frame	0.011 ***

Accreditations: NATIONAL LEAD LABORATORY ACCREDITATION PROGRAM (NLLAP)
AIHA-LAP, LLC No. 100188 NYSDOH-ELAP No. 11021

Analytical Methods: ASTM D3335-85A "Standard Method To Test For Low Concentrations Of Lead In Paint By Atomic Absorption Spectrophotometry"
EPA SW846-(3050B:7000B) "Standard Method To Test For Low Concentrations Of Lead In Soils, Sludges and Sediments By AAS"

Comments: Regulatory limit is 0.5% lead by weight (EPA/HUD guidelines). Recommend multiple sampling for all samples less than regulatory limit for confirmation. All results are based on the samples as received at the lab. IATL assumes that appropriate sampling methods have been used and the data upon which these results are based have been accurately supplied by the client. Method Detection Limit (MDL) per EPA Method 40CFR Part 136 Apendix B. Reporting Limit (RL) based upon Lowest Standard Determined (LSD) in accordance with AIHA-ELLAP policies. LSD=0.2 ppm MDL=0.0044% by weight. RL= 0.010% by weight (based upon 100 mg sampled). * Insufficient sample provided to perform QC reanalysis (<200 mg) ** Not enough sample provided to analyze (<50 mg) *** Matrix / substrate interference possible. Sample results are not corrected for contamination by field or analytical blanks. This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any government agency. This report shall not be reproduced except in full, without written approval of the laboratory.

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Analyst: C. Shaffer

Approved By: Frank E. Ehrenfeld, III
Laboratory Director

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CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Svcs.Limited
20 Duke St.,Suite 109
Bedford NS B4A2Z5

Report Date: 1/16/2014
Report Number: 323451
Project: Parks Canada Bldg #391
Project No.: 18986

LEAD TCLP SAMPLE ANALYSIS SUMMARY

Lab No.	Client No.	Location / Description	Total Lead (mg / kg)	TCLP Lead (mg / L)
145205571	391-L-01	White Paint On Ext Wood Siding	2000	1.7
145205572	391-L-02	Red/Green Paint On Ext Wood Trim	3200	0.50

NATIONAL LEAD LABORATORY ACCREDITATION PROGRAM (NLLAP)

NYSDOH-ELAP 11021

Analysis Method: EPA SW846-(1311) TCLP "Toxicity Characteristic Leaching Procedure"
EPA SW846-(7000B) "Standard Method To Test For Low Concentrations Of Lead In Soils, Sludges And Sediments By AAS"

Comments: IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client. Method Detection Limit (MDL) per EPA Method 40 CFR Part 136 Appendix B. Reporting Limit (RL) based upon Lowest Standard Determined (LSD) in accordance with AIHA-ELLAP policies. LSD=0.2 ppm MDL=3.2 mg/kg RL=10 mg/kg (based upon 1000 mg sampled). Mg/kg=ppm Sample results are not corrected for contamination by field or analytical blanks.

* Samples containing 100 ppm total lead or more require TCLP analysis (Ref. 1311 Sec 1.2). TCLP threshold value is 5.0 mg / L.

Date Received: 1/10/2014
Date Analyzed: 1/16/2014
Analyst: C. Shaffer

Approved By: _____
Frank E. Ehrenfeld, III
Laboratory Director

IATL International Asbestos Testing Laboratories

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CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Svcs.Limited
20 Duke St.,Suite 109
Bedford NS B4A2Z5

Report Date: 1/16/2014
Report Number: 323448
Project: Parks Canada-Bldg #392
Project No.: 18986

LEAD TCLP SAMPLE ANALYSIS SUMMARY

Lab No.	Client No.	Location / Description	Total Lead (mg / kg)	TCLP Lead (mg / L)
145205590	392-L-01	Dk Green Paint On Ext Wood Trim	20000	0.90
145205591	392-L-02	White Paint On Ext Wood Siding	140000	42

NATIONAL LEAD LABORATORY ACCREDITATION PROGRAM (NLLAP)

NYSDOH-ELAP 11021

Analysis Method: EPA SW846-(1311) TCLP "Toxicity Characteristic Leaching Procedure"
EPA SW846-(7000B) "Standard Method To Test For Low Concentrations Of Lead In Soils, Sludges And Sediments By AAS"

Comments: IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client. Method Detection Limit (MDL) per EPA Method 40 CFR Part 136 Appendix B. Reporting Limit (RL) based upon Lowest Standard Determined (LSD) in accordance with AIHA-ELLAP policies. LSD=0.2 ppm MDL=3.2 mg/kg RL=10 mg/kg (based upon 1000 mg sampled). Mg/kg=ppm Sample results are not corrected for contamination by field or analytical blanks.

* Samples containing 100 ppm total lead or more require TCLP analysis (Ref. 1311 Sec 1.2). TCLP threshold value is 5.0 mg / L.

Date Received: 1/10/2014
Date Analyzed: 1/16/2014
Analyst: C. Shaffer

Approved By: _____
Frank E. Ehrenfeld, III
Laboratory Director

IATL International Asbestos Testing Laboratories

9000 Commerce Parkway Suite B Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Svcs.Limited
20 Duke St.,Suite 109
Bedford NS B4A2Z5

Report Date: 1/16/2014
Report Number: 323449
Project: Parks Canada-Bldg #393
Project No.: 18986

LEAD TCLP SAMPLE ANALYSIS SUMMARY

Lab No.	Client No.	Location / Description	Total Lead (mg / kg)	TCLP Lead (mg / L)
145205584	393-L-02	Green Paint On Ext Wood Trim	15000	9.5
145205585	393-L-03	White Paint On Ext Wood Siding	120000	110

NATIONAL LEAD LABORATORY ACCREDITATION PROGRAM (NLLAP)

NYSDOH-ELAP 11021

Analysis Method: EPA SW846-(1311) TCLP "Toxicity Characteristic Leaching Procedure"
EPA SW846-(7000B) "Standard Method To Test For Low Concentrations Of Lead In Soils, Sludges And Sediments By AAS"

Comments: IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client. Method Detection Limit (MDL) per EPA Method 40 CFR Part 136 Appendix B. Reporting Limit (RL) based upon Lowest Standard Determined (LSD) in accordance with AIHA-ELLAP policies. LSD=0.2 ppm MDL=3.2 mg/kg RL=10 mg/kg (based upon 1000 mg sampled). Mg/kg=ppm Sample results are not corrected for contamination by field or analytical blanks.

* Samples containing 100 ppm total lead or more require TCLP analysis (Ref. 1311 Sec 1.2). TCLP threshold value is 5.0 mg / L.

Date Received: 1/10/2014
Date Analyzed: 1/16/2014
Analyst: C. Shaffer

Approved By: _____
Frank E. Ehrenfeld, III
Laboratory Director

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9000 Commerce Parkway Suite B Mt. Laurel, NJ 08054
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CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Svcs.Limited
20 Duke St.,Suite 109
Bedford NS B4A2Z5

Report Date: 1/16/2014
Report Number: 323453
Project: Parks Canada-Bldg #396
Project No.: 18986

LEAD TCLP SAMPLE ANALYSIS SUMMARY

Lab No.	Client No.	Location / Description	Total Lead (mg / kg)	TCLP Lead (mg / L)
145205563	396-1-01	White Paint On Ext Wood Siding	18000	54

NATIONAL LEAD LABORATORY ACCREDITATION PROGRAM (NLLAP)

NYSDOH-ELAP 11021

Analysis Method: EPA SW846-(1311) TCLP "Toxicity Characteristic Leaching Procedure"
EPA SW846-(7000B) "Standard Method To Test For Low Concentrations Of Lead In Soils, Sludges And Sediments By AAS"

Comments: IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client. Method Detection Limit (MDL) per EPA Method 40 CFR Part 136 Appendix B. Reporting Limit (RL) based upon Lowest Standard Determined (LSD) in accordance with AIHA-ELLAP policies. LSD=0.2 ppm MDL=3.2 mg/kg RL=10 mg/kg (based upon 1000 mg sampled). Mg/kg=ppm Sample results are not corrected for contamination by field or analytical blanks.

* Samples containing 100 ppm total lead or more require TCLP analysis (Ref. 1311 Sec 1.2). TCLP threshold value is 5.0 mg / L.

Date Received: 1/10/2014
Date Analyzed: 1/16/2014
Analyst: C. Shaffer

Approved By: _____
Frank E. Ehrenfeld, III
Laboratory Director

IATL International Asbestos Testing Laboratories

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CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Svcs.Limited
20 Duke St.,Suite 109
Bedford NS B4A2Z5

Report Date: 1/16/2014
Report Number: 323452
Project: Parks Canada Bldg #821
Project No.: 18986

LEAD TCLP SAMPLE ANALYSIS SUMMARY

Lab No.	Client No.	Location / Description	Total Lead (mg / kg)	TCLP Lead (mg / L)
145205566	821-L-01	White Paint On Int Wood Trim	2900	1.2
145205568	821-L-03	Dk Cream Paint On Ext Wood Trim	9200	4.7

NATIONAL LEAD LABORATORY ACCREDITATION PROGRAM (NLLAP)

NYSDOH-ELAP 11021

Analysis Method: EPA SW846-(1311) TCLP "Toxicity Characteristic Leaching Procedure"
EPA SW846-(7000B) "Standard Method To Test For Low Concentrations Of Lead In Soils, Sludges And Sediments By AAS"

Comments: IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client. Method Detection Limit (MDL) per EPA Method 40 CFR Part 136 Appendix B. Reporting Limit (RL) based upon Lowest Standard Determined (LSD) in accordance with AIHA-ELLAP policies. LSD=0.2 ppm MDL=3.2 mg/kg RL=10 mg/kg (based upon 1000 mg sampled). Mg/kg=ppm Sample results are not corrected for contamination by field or analytical blanks.

* Samples containing 100 ppm total lead or more require TCLP analysis (Ref. 1311 Sec 1.2). TCLP threshold value is 5.0 mg / L.

Date Received: 1/10/2014
Date Analyzed: 1/16/2014
Analyst: C. Shaffer

Approved By: _____
Frank E. Ehrenfeld, III
Laboratory Director

IATL International Asbestos Testing Laboratories

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Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client:	ALL-TECH Env'l Svcs.Limited			**Report Date:**	1/16/2014
	20 Duke St.,Suite 109			**Report Number:**	323450
	Bedford	NS	B4A2Z5	**Project:**	Parks Canada Bldg #829
				Project No.:	18986

LEAD TCLP SAMPLE ANALYSIS SUMMARY

Lab No.	Client No.	Location / Description	Total Lead (mg / kg)	TCLP Lead (mg / L)
145205558	829-L-02	Green Paint On Metal Trim	11000	<0.20

NATIONAL LEAD LABORATORY ACCREDITATION PROGRAM (NLLAP)

NYSDOH-ELAP 11021

Analysis Method: EPA SW846-(1311) TCLP "Toxicity Characteristic Leaching Procedure"
EPA SW846-(7000B) "Standard Method To Test For Low Concentrations Of Lead In Soils, Sludges And Sediments By AAS"

Comments: IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client. Method Detection Limit (MDL) per EPA Method 40 CFR Part 136 Appendix B. Reporting Limit (RL) based upon Lowest Standard Determined (LSD) in accordance with AIHA-ELLAP policies. LSD=0.2 ppm MDL=3.2 mg/kg RL=10 mg/kg (based upon 1000 mg sampled). Mg/kg=ppm Sample results are not corrected for contamination by field or analytical blanks.

* Samples containing 100 ppm total lead or more require TCLP analysis (Ref. 1311 Sec 1.2). TCLP threshold value is 5.0 mg / L.

Date Received: 1/10/2014

Date Analyzed: 1/16/2014

Analyst: C. Shaffer

Approved By: _____

Frank E. Ehrenfeld, III
Laboratory Director

Appendix 3

Site Photographs

List of Photos - Hazardous Materials Assessment

Building ID:	Building No. 212 - Stanhope Storage Area (grounds / horse barn)

Photo No.	Description / Location	Site Photo
P1	Exterior of building 212	
P2	Interior view - wood framing / metal roof, no membrane	

P3	Concrete floor	
P4	Asphalt bags (storage)	
P5	Unmarked barrel (storage)	

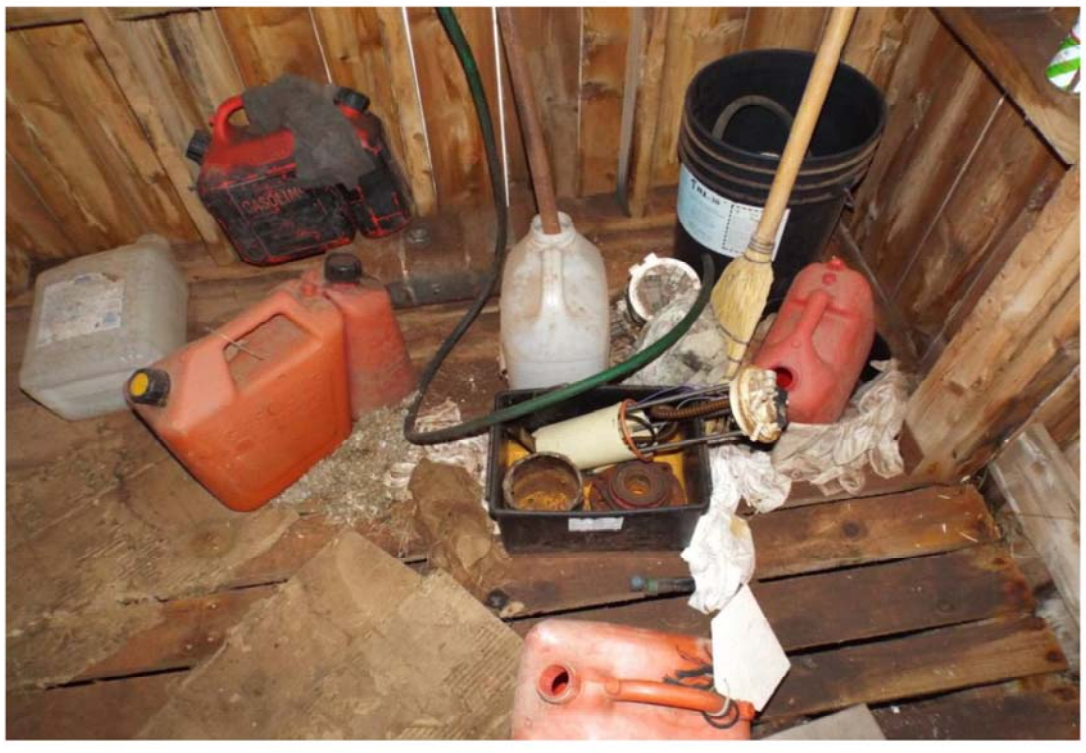
P6	salt (storage)	
P7	Various tires and C&D waste	
P8	Pesticide application sprayer	

P9	Sample 212-L-01 White paint on ext. wood trim (Results - < 0.0055% lead by weight)	
P10	Sample 212-L-02 Brown paint on ext. wood siding (Results - 0.0081% lead by weight)	

List of Photos - Hazardous Materials Assessment

Building ID:	Building No. 223 - Dalvay Compound (tire shed)

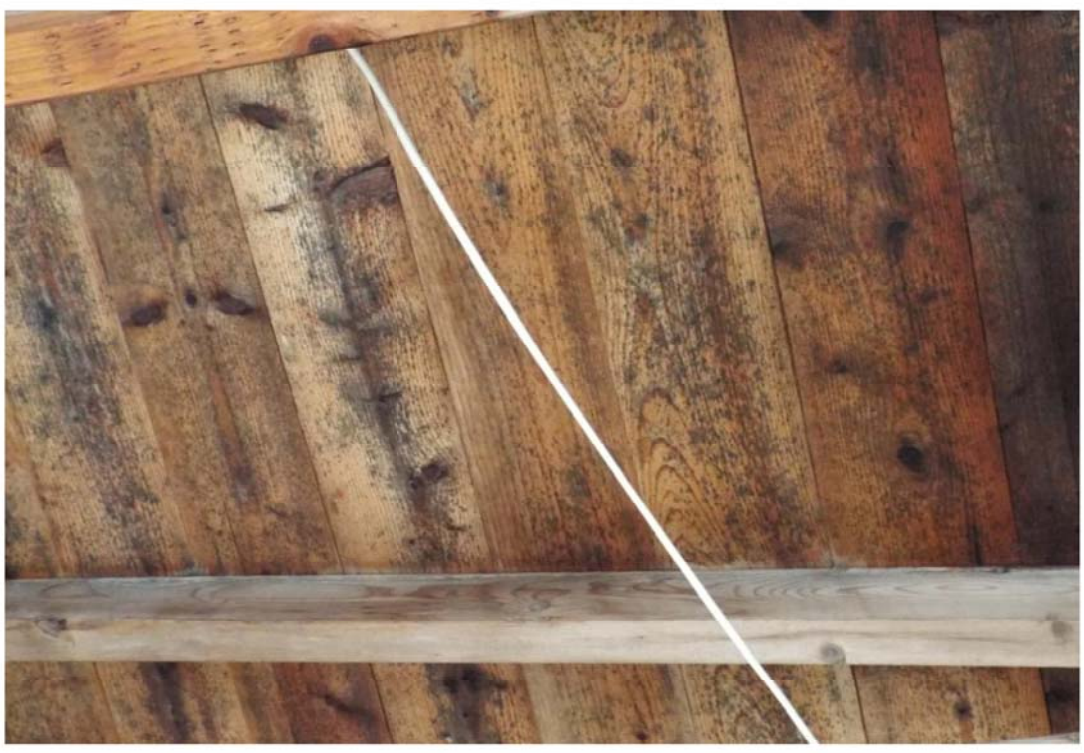
Photo No.	Description / Location	Site Photo
P1	Exterior view of building 223	
P2	Sample 223-A-01 Black roofing felt No asbestos detected	

P3	Sample 223-L-01 White paint on ext. Wood siding (Results - 0.021% lead by weight)	
P4	Sample 223-L-02 Cream colour paint on ext. wood trim (Results - 0.0095% lead by weight)	
P5	Various gas / oil cans with staining on wood floor	

P6	Interior framing unfinished - wood only	
P7	Various gas / lube oil containers	

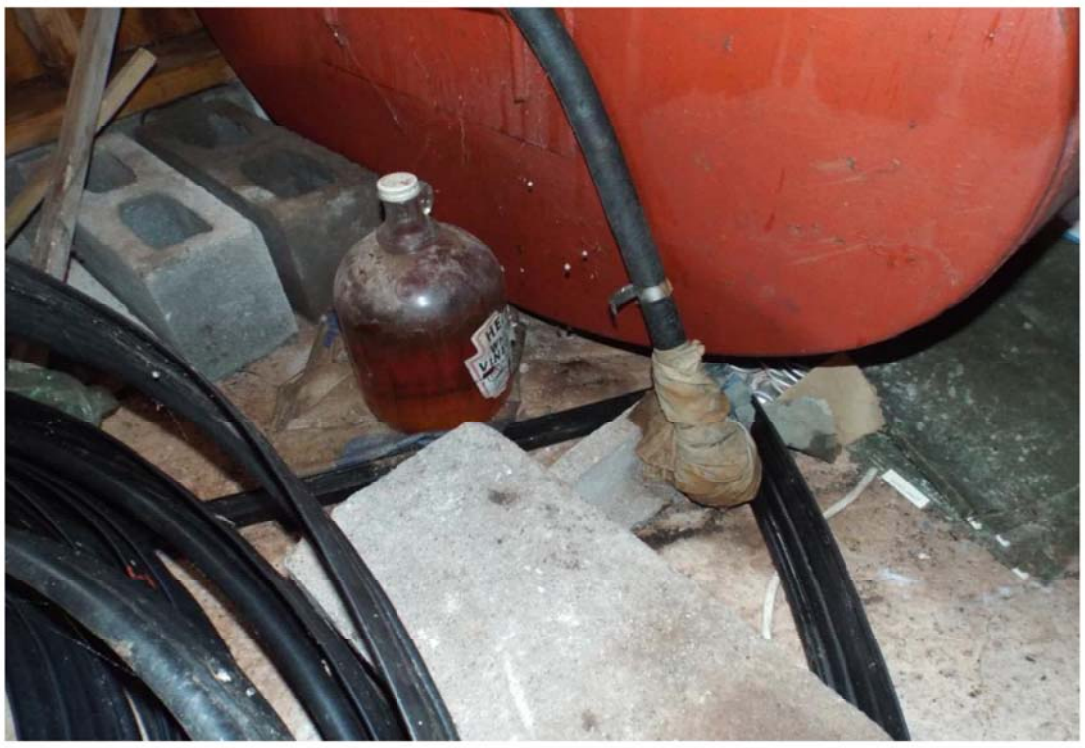
List of Photos - Hazardous Materials Assessment

Building ID:	Building No. 314 - Simpson Property (2 car garage)

Photo No.	Description / Location	Site Photo
P1	Exterior front view of building 314	
P2	Visible mould on interior wood framing	

P3	Electrical panel box	
P4	Incandescent lighting	
P5	Older refrigerator in storage - suspect CFC containing	

P6	Printed matter and other miscellaneous items with visible mould	
P7	Air conditioning unit - suspect CFC containing	
P8	Petroleum storage tank - staining on tank	

P9	non marked - suspect petroleum product in storage bottle	
P10	Various oil and antifreeze containers partially filled	
P11	Sample 314-L-01 Exterior green trim paint (Results - 0.015% lead by weight)	

P12	Sample 314-L-02 Exterior white siding paint (Results - < 0.0057% lead by weight)	
P13	Sample 314-A-01 Black tar paper under siding No asbestos detected	
P14	Sample 314-A-02 Black roofing felt No asbestos detected	

List of Photos - Hazardous Materials Assessment

Building ID:	Building No. 391 - Simpson Property (out building #1)

Photo No.	Description / Location	Site Photo
P1	Exterior front view of building 391	
P2	Interior wood - non insulated or finished	

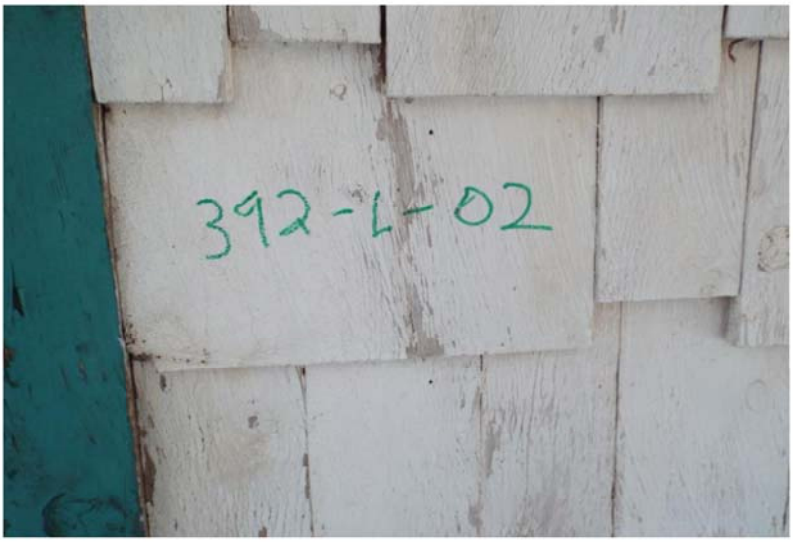
P3	Miscellaneous C&D debris on ground	
P4	Sample 391-L-01 Exterior white siding paint (Results - 0.2% lead by weight - 1.7 mg/L TCLP)	
P5	Sample 391-L-02 Exterior red trim paint (Results - 0.32% lead by weight- 0.5 mg/L TCLP)	

List of Photos - Hazardous Materials Assessment

Building ID:	Building No. 392 - Simpson Property (out building #2)

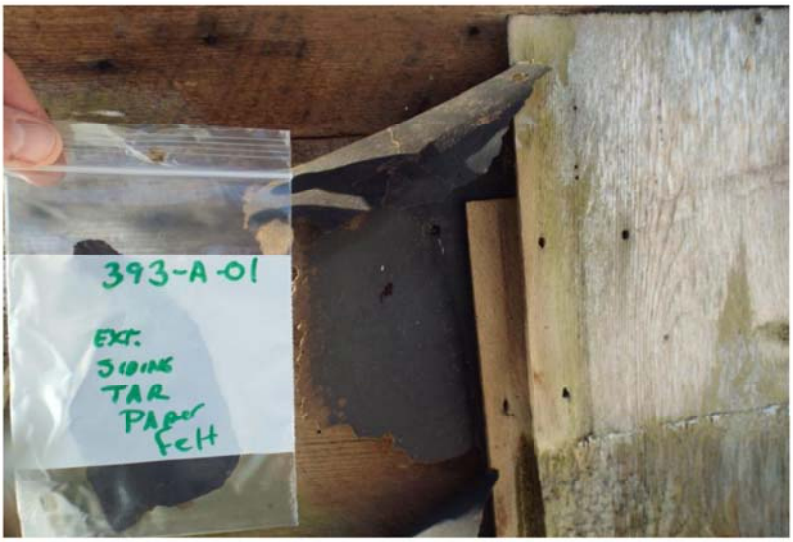
Photo No.	Description / Location	Site Photo
P1	Exterior front view of building 392	
P2	Sample 392-A-01 Vinyl sheet flooring No asbestos detected	

P3	Interior of building. Miscellaneous C&D debris.	
P4	No roofing membrane. Wood only	
P5	Sample 392-L-01 Exterior green paint on wood trim (Results - 2.0% lead by weight - 0.9 mg/L TCLP)	

P6	Sample 392-L-02 Exterior white paint on wood siding (Results - 14.0% lead by weight- 42 mg/L TCLP)	
P7	Sample 392-L-03 Interior light green paint on wood trim (Results - 0.01% lead by weight)	

List of Photos - Hazardous Materials Assessment

Building ID:	Building No. 393 - Simpson Property (out building #3)

Photo No.	Description / Location	Site Photo
P1	Exterior front view of building 393	
P2	Sample 393-A-01 Exterior siding tar paper No asbestos detected	

P3	Sample 393-A-02 Ceiling plaster No asbestos detected	
P4	Sample 393-A-03 Wall plaster No asbestos detected	
P5	Sample 393-A-04 Composite plaster sample from debris No asbestos detected	

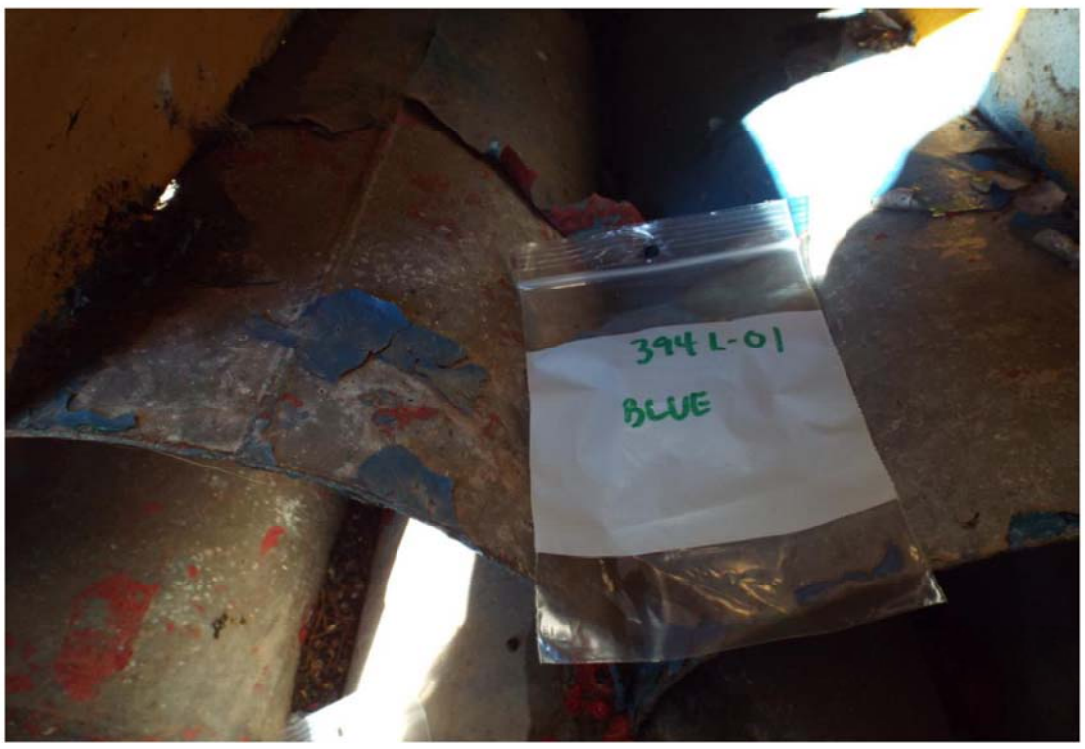
P6	Sample 393-A-05 Vinyl sheet flooring in debris No asbestos detected	
P7	Sample 393-A-06 Roofing felt paper No asbestos detected	
P8	Sample 393-L-01 Interior cream colour paint on plaster (Results - 0.0041% lead by weight)	

P9	Sample 393-L-02 Green paint on ext. Wood trim (Results - 1.5% lead by weight - 9.5 mg/L TCLP)	
P10	Sample 393-L-03 White paint on ext. Wood siding (Results - 12.0% lead by weight - 110 mg/L TCLP)	

List of Photos - Hazardous Materials Assessment

Building ID:	Building No. 394 - Simpson Property (out building #4)

Photo No.	Description / Location	Site Photo
P1	Exterior view of building 394	
P2	Interior view of building 394. Wood framing. No finish coat or insulation	

P3	Exterior roof of outbuilding #4 Sample 394-A-01 Roofing Tar Felt	
P4	Sample 394-L-01 Blue paint on metal cylinder (Results - 0.77% lead by weight)	
P5	Sample 394-L-02 Red paint on metal cylinder (Results - 0.35% lead by weight)	

P6	Sample 394-L-03 Yellow paint on metal cylinder (Results - 17.0% lead by weight)	
P7	Sample 394-L-04 White paint on ext. Wood siding (Results - 0.0052% lead by weight)	
P8	Accumulation of animal feces in floor space	

List of Photos - Hazardous Materials Assessment

Building ID:	Building No. 395 - Simpson Property (out building #5)

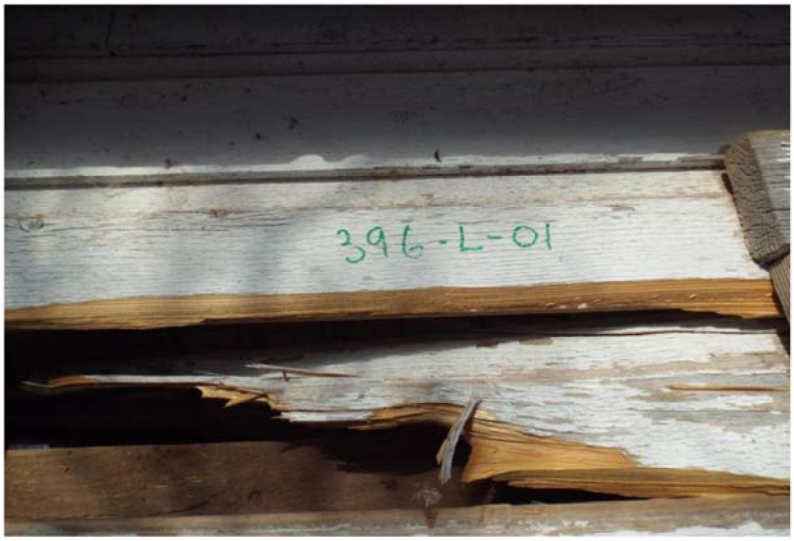
Photo No.	Description / Location	Site Photo
P1	Exterior view of building 395	
P2	Sample 395-A-01 Roofing felt paper No asbestos detected	

List of Photos - Hazardous Materials Assessment

Building ID:	Building No. 396 - Simpson Property (out building #6)

Photo No.	Description / Location	Site Photo
P1	Exterior view of building 396	
P2	Interior view of building non finish / non insulated	

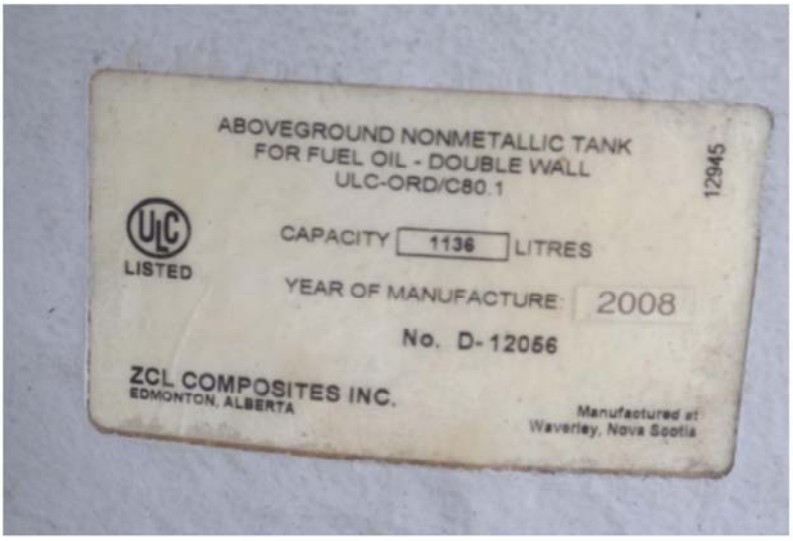
P3	Various C&D debris	
P4	Empty oil barrel inside building	
P5	Underneath floor boards. Non insulated. Construction lumber	

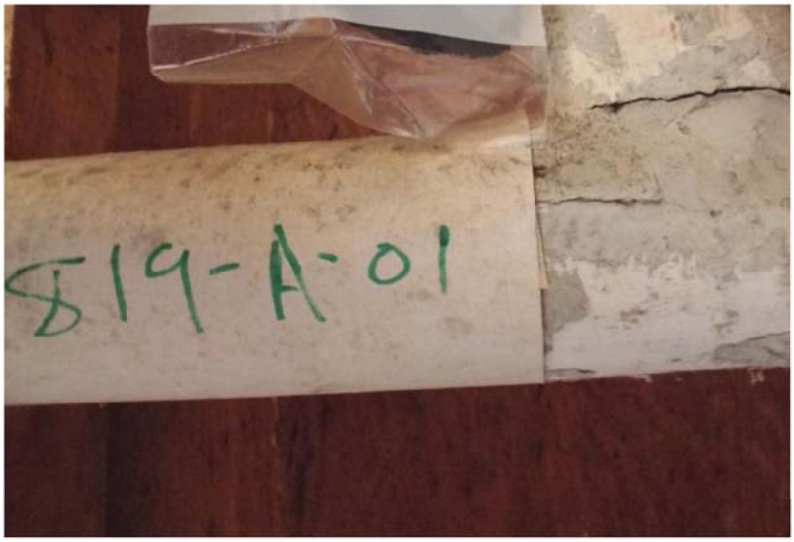
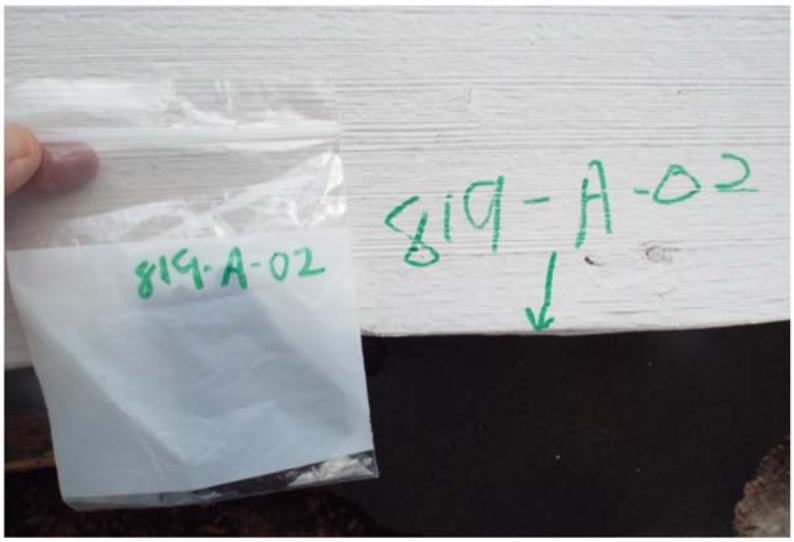
P6	Sample 396-A-01 Roofing felt paper No asbestos detected	
P7	Sample 396-L-01 White paint on wood siding (Results - 1.8% lead by weight - 54 mg/L TCLP)	

List of Photos - Hazardous Materials Assessment

Building ID:	Building No. 819 - Cavendish Campground (washrooms)

Photo No.	Description / Location	Site Photo
P1	Exterior view of building 819	
P2	Asbestos transite panels on ceiling and walls. (25% chrysotile asbestos) Incandescent lighting	

P3	Oil fired hot water heater	
P4	1136 L - fibreglass Above ground fuel storage tank disconnected outside of the building. Not part of scope	
P5	Fuel storage tank ID label 2008	

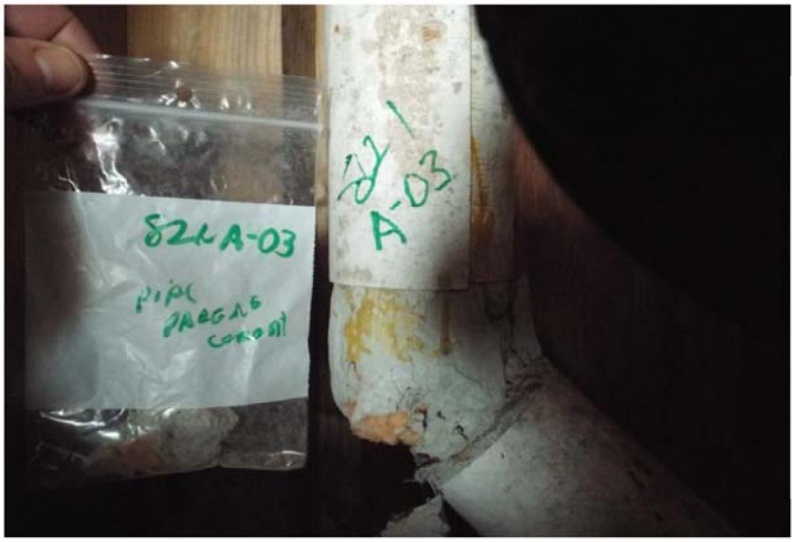
P6	Fuel storage tank gauge showing 1/4 full	
P7	Sample 819-A-01 Grey parging cement on mechanical pipe fitting No asbestos detected	
P8	Sample 819-A-02 Black tar paper under siding No asbestos detected	

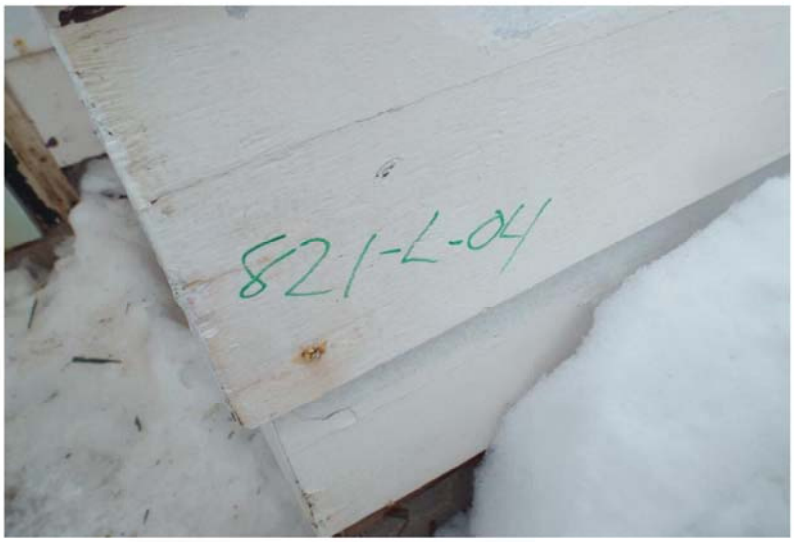
P9	Sample 819-A-03 Roofing felt paper No asbestos detected	
P10	Sample 819-L-01 Light green paint on wood door (Results - < 0.0067% lead by weight)	
P11	Sample 819-L-02 White paint on ext. Wood siding (Results - < 0.047% lead by weight)	

List of Photos - Hazardous Materials Assessment

Building ID:	Building No. 821 - Cavendish Campground (washrooms)

Photo No.	Description / Location	Site Photo
P1	Exterior view of building 821	
P2	Sample 821-A-01 Transite panel on wall 25% Chrysotile asbestos	

P3	Sample 821-A-02 Roofing felt paper No asbestos detected	
P4	Sample 821-A-03 Grey parging cement on mechanical pipe fitting No asbestos detected	
P5	Sample 821-L-01 White paint on int. wood trim (Results - 0.29% lead by weight - 1.2 mg/L TCLP)	

P6	Sample 821-L-02 Light green paint on metal partition wall (Results - 0.59% lead by weight)	
P7	Sample 821-L-03 Dark green paint on ext. wood trim (Results - 0.92% lead by weight - 4.7 mg/L TCLP)	
P8	Sample 821-L-04 White paint on ext. wood siding (Results - < 0.012% lead by weight)	

P9	Sample 821-L-05 Red paint on wood door / trim (Results - 2.3% lead by weight)	
P10	Oil fired hot water heater	
P11	Disconnected oil line to building	

P12	1136 L - fibreglass Above ground fuel storage tank disconnected outside of the building. Not part of scope.	
P13	Oil line and filter. No staining observed	
P14	Advance Mark III lamp Ballast - Serial No R-2S40-1-TP Non PCB marking	

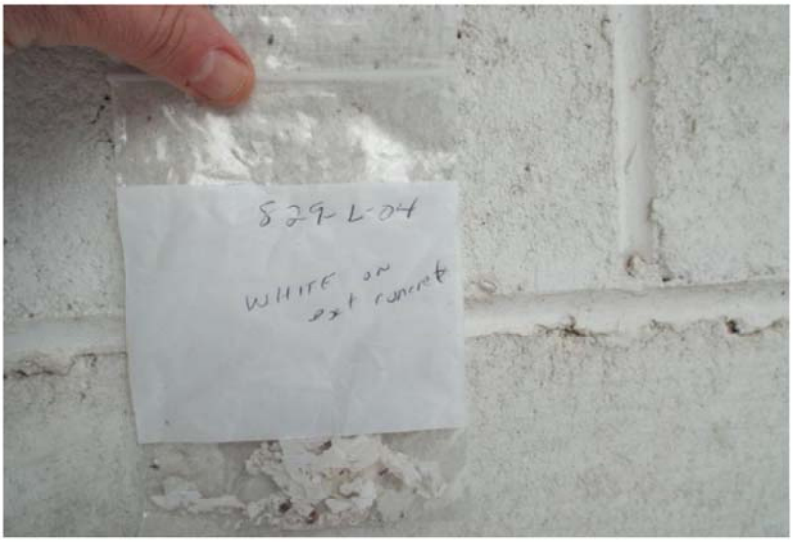
P15	Visible mould on interior partition walls	
P16	Visible mould on interior ceiling asbestos transite panels	

List of Photos - Hazardous Materials Assessment

Building ID:	Building No. 829 - Cavendish Campground (old power building)

Photo No.	Description / Location	Site Photo
P1	Exterior view of building 829	
P2	Interior view of building - concrete. Incandescent lighting	

P3	Sample 829-A-01 Roofing felt paper No asbestos detected	
P4	Sample 829-L-01 Grey paint on metal cabinet (Results - 0.041% lead by weight)	
P5	Sample 829-L-02 Green paint on metal trim (Results - 1.1% lead by weight - < 0.2 mg/L TCLP)	

P6	Sample 829-L-03 Cream colour paint on metal trim (Results - 4.6% lead by weight)	
P7	Sample 829-L-04 White paint on ext. concrete (Results - 1.8% lead by weight)	
P8	Sample 829-L-05 White paint on wood window frame (storage) (Results - 0.88% lead by weight)	

P9	Sample 829-L-06 Rust colour paint on metal door (Results - 0.55% lead by weight)	
P10	Battery packs (storage)	
P11	Battery packs (storage)	

P12	Static power converter (storage)	
P13	Phase converter (storage)	

List of Photos - Hazardous Materials Assessment

Building ID:	Building No. 7706 - North Rutstico (kitchen shelter)

Photo No.	Description / Location	Site Photo
P1	Exterior front view of building 7706	
P2	Exterior back view of building 7706	

P3	Sample 7706-A-01 Black roofing felt No asbestos detected	
P4	Sample 7706-L-01 Exterior white siding paint (Results - 0.019% lead by weight)	
P5	Sample 7706-L-02 Interior grey paint on wood trim (Results - < 0.0058% lead by weight)	

P6	Sample 7706-L-03 Exterior cream colour paint on wood trim (Results - < 0.076% lead by weight)	
P7	Sample 7706-L-04 Exterior green paint on wood trim (Results - < 0.011% lead by weight)	
P8	Interior wood framing / plywood