

National Capital Commission
601, chemin du Lac Meech Rd, Chelsea
Appendix B - Photos

Asa Meech – 601, chemin du Lac Meech, Chelsea



1. – South Elevation / Façade Sud



2. – South Elevation / Façade Sud



3. – East Elevation / Façade Est



4. – East Elevation / Façade Est



5. – North Elevation / Façade Nord



6. – West Elevation / Façade Ouest



7. – Ground floor / Rez-de-chaussée



8. – Ground floor / Rez-de-chaussée



9. – Ground floor / Rez-de-chaussée



10. – Ground floor / Rez-de-chaussée



11. – Ground floor / Rez-de-chaussée



12. – Ground floor / Rez-de-chaussée



13. – Ground floor / Rez-de-chaussée



14. – Wall thickness / Épaisseur du mur



15. – Ground floor / Rez-de-chaussée



16. – Ground floor / Rez-de-chaussée



17. – Ground floor / Rez-de-chaussée



18. – Ground floor / Rez-de-chaussée



19. – Cracked beam (ground floor) / Poutre fissurée (rez-de-chaussée)



20. – Ground floor / Rez-de-chaussée



21. – Ground floor / Rez-de-chaussée



22. – Ground floor / Rez-de-chaussée



23. – Ground floor / Rez-de-chaussée



24. – Ground floor / Rez-de-chaussée



25. – Stairs crawl space / Escalier vers le sous-sol



26. – Furnace crawl space / Fournaise sous-sol



27. – Oil tank crawl space / Réservoir d'huile sous-sol



28. – Oil tank crawl space / Réservoir d'huile sous-sol



31. – First floor / 1^{er} étage



32. – First floor / 1^{er} étage



33. – First floor / 1^{er} étage



34. – First floor / 1^{er} étage



35. – First floor / 1^{er} étage



36. – First floor / 1^{er} étage



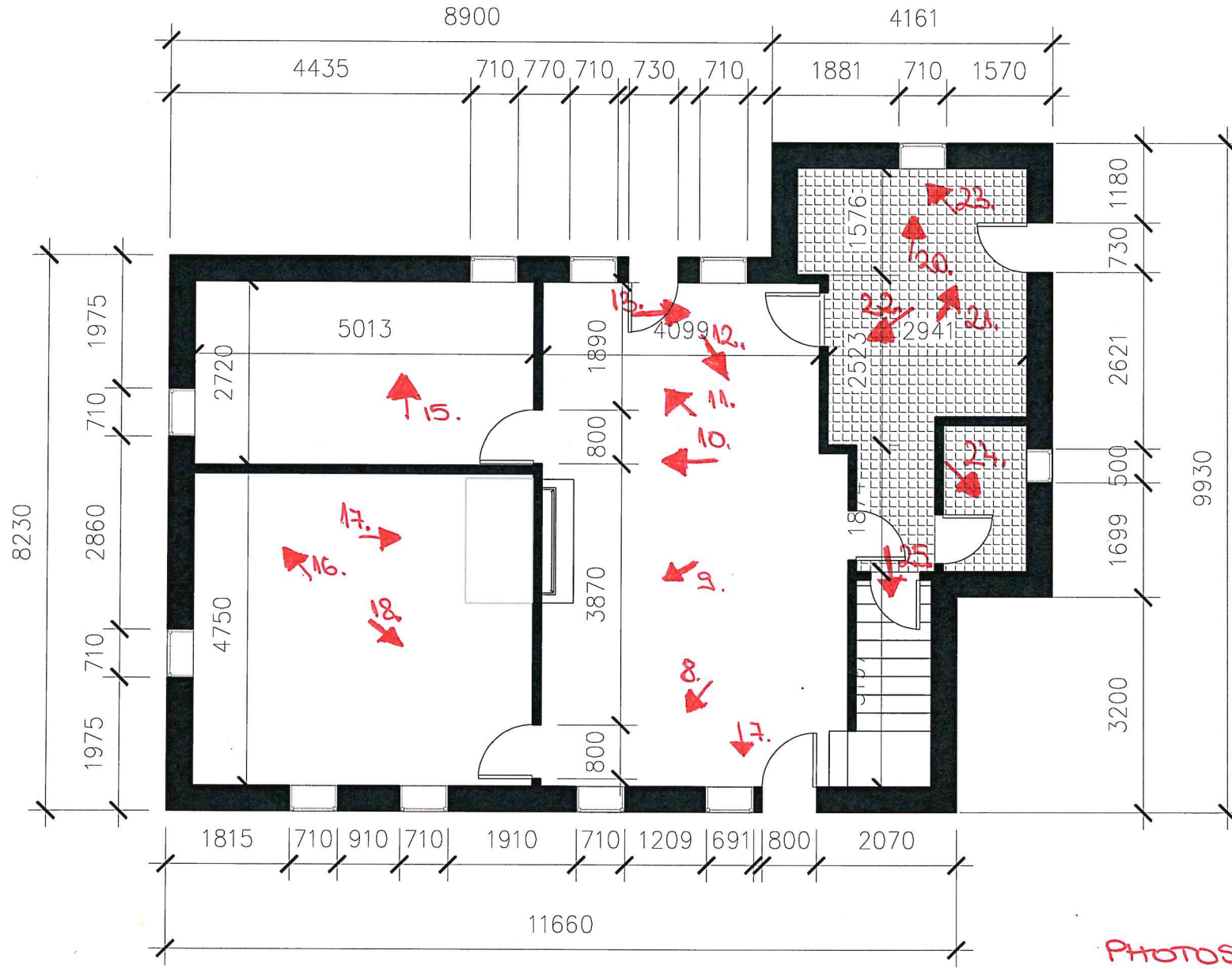
37. – First floor / 1^{er} étage



38. – Storm shutter / Volet tempette

601, chemin du Lac Meech Rd.
Chelsea, QC

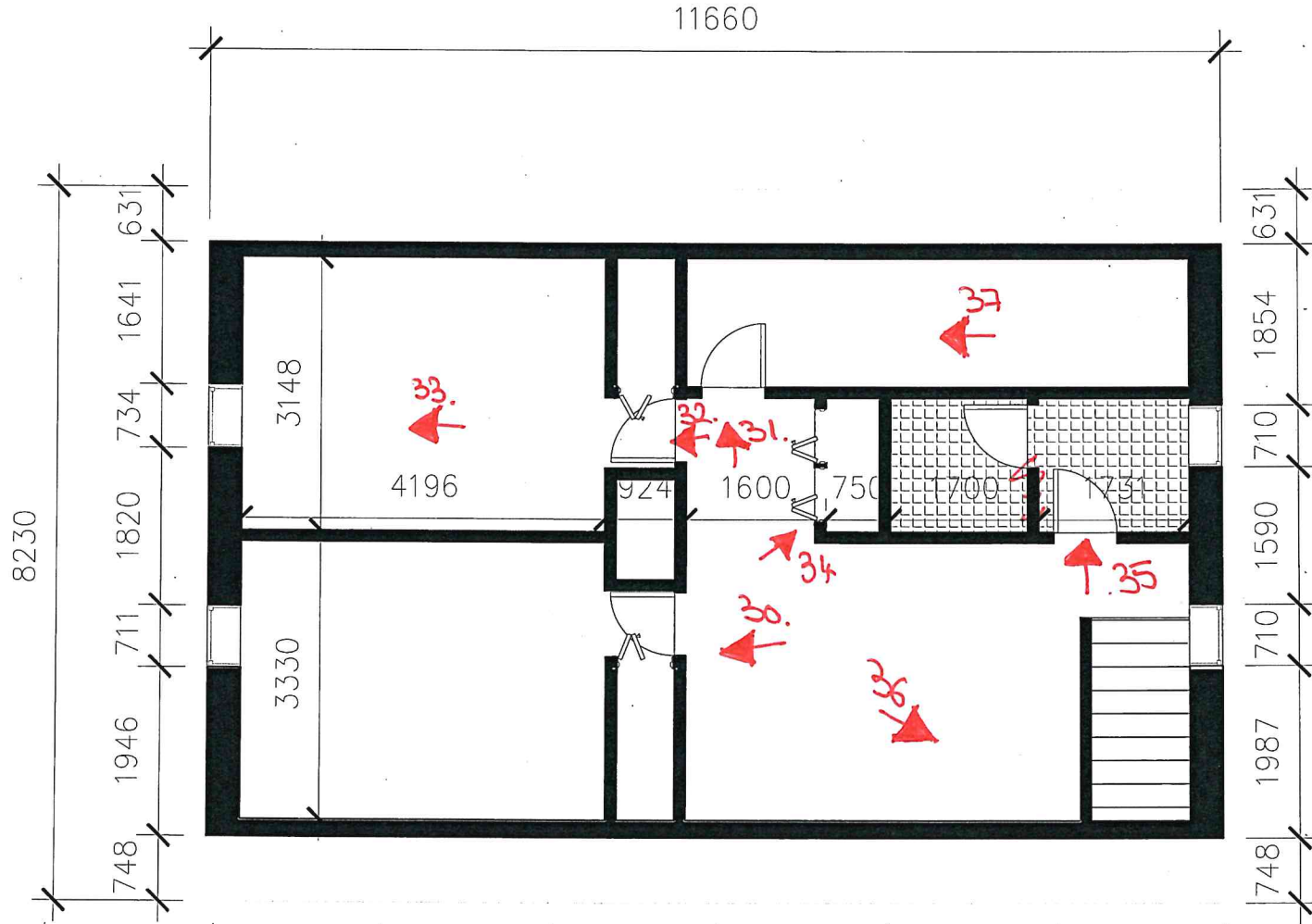
GROUND FLOOR
REZ-DE-CHAUSSEE



PHOTOS' LOCATION
EMPLACEMENT DES PHOTOS

601, chemin du Lac Meech Rd.
Chelsea, QC

FIRST FLOOR
1^{er} ÉTAGE



PHOTOS LOCATION
EMPLACEMENT DES PHOTOS



This *final* report titled:

Asa Meech House

Meech Lake, Gatineau Park, Quebec

Heritage Summary

Prepared for:

Real Estate Management
National Capital Commission

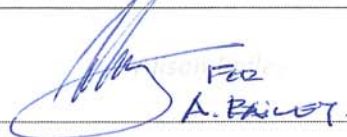
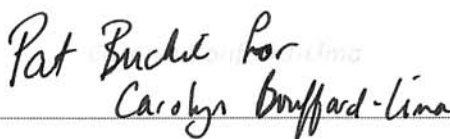
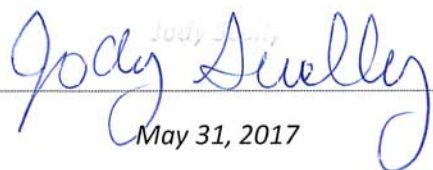
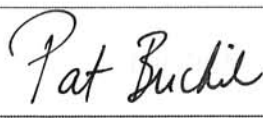
Prepared by:

Heritage Conservation Services
Public Services and Procurement Canada

Date: May 2017

HCS Project Number: R. 090451.001

has been reviewed by the following HCS Team Members in accordance with the following criteria:

<p>Team Leader - I confirm that:</p> <ul style="list-style-type: none"> • This document addresses the scope of work as outlined in our formal agreement with the Client; and, • The work has been carried out in such a way as to ensure accuracy of findings, results and/or recommendations. 	 <p>May 31, 2017</p>
<p>Quality Reviewer - I have reviewed this document myself or in conjunction with colleagues to ensure:</p> <ul style="list-style-type: none"> • Clarity of message and content including language, drawings and/or illustrations; and • That appropriate technical and conservation advice and/or recommendations are made. 	 <p>May 31, 2017</p>
<p>Publishing Coordinator - I have reviewed this document to ensure that:</p> <ul style="list-style-type: none"> • The most up-to-date template has been used and that the content is formatted as per office standards; and, • That images, illustrations and appendices are all clearly organized and identified. 	 <p>May 31, 2017</p>
<p>Service Delivery Coordinator - I confirm that:</p> <ul style="list-style-type: none"> • These deliverables have been prepared and reviewed in accordance with HCS's internal Quality Management System. 	 <p>May 31, 2017</p>

Asa Meech House – Heritage Summary

Heritage Summary

The Asa Meech House is a significant cultural resource due to its historical, architectural and environmental values. It was evaluated by the Federal Heritage Buildings Committee in 1984, but was not designated as a Federal Heritage Building. Based on the FHBRO Building Report, produced for the heritage evaluation, this outcome can be attributed to the lack of evidence at that time on its age, remaining original elements and evidence for its association with Asa Meech himself. As such, a FHBRO Heritage Character Statement does not exist for this asset. Oral history claims that the existing building contains the original 1821 frame, however this was not adequately proven at the time of evaluation. Heritage Conservation Services (formerly HCD) completed an investigation in July, 2016 that provided physical evidence to support the oral history of the frame as original, circa 1821. Based on this evidence, the farmhouse of Asa Meech, is assumed to be one of, if not the oldest extant dwellings remaining in Gatineau Park.¹ As such, the Asa Meech House holds significant heritage value, and interventions should be guided by the *Standards and Guidelines for the Conservation of Historic Places in Canada* (second edition).

This document is a Property Management tool that is intended to provide guidance until the asset is formally re-evaluated by the Federal Heritage Building Committee. Included in the Heritage Summary is a building description, an outline of the heritage value, and list of key elements. This document does not replace a FHBRO-issued Heritage Character Statement. Please note that contemporary elements are not described in detail within this document, as they are not considered as heritage character-defining for the heritage value of the house. This document focusses on the building and as such, guidance for future interventions on the site should include research on the evolution and history of the landscape.

¹ *Heritage Conservation Advice Report*, dated July 12, 2016.

Asa Meech House – Heritage Summary



Image 1: The Asa Meech House, Gatineau Park. Source: HCS, 2017

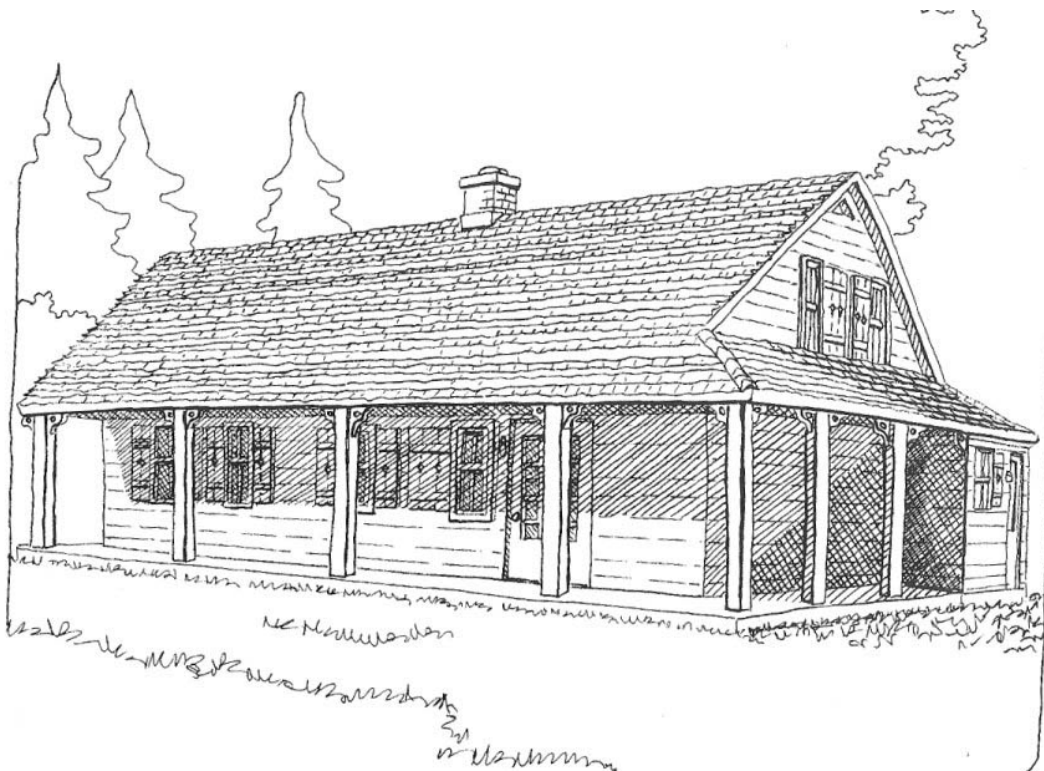


Image 2: An illustration of the Asa Meech House. Source: unknown

Asa Meech House – Heritage Summary

LOCATION	
Address:	601 chemin du Lac Meech, Gatineau Park, Quebec
DESIGNATION AND CUSTODIAN	
FHBRO Bldg No. & Designation:	84-010; non-designated
Other Heritage Designation(s):	None
Custodian Department:	National Capital Commission
USE	
Current Use:	Vacant
Tenant(s):	N/A
HISTORY	
Alternate Name(s):	N/A
Date of construction:	Assumed 1821
Architect/Designer(s):	Originally erected by Asa Meech; Major renovations by Noffke, Morin & Sylvester, Ottawa in 1930
<i>Standards and Guidelines</i> website:	http://www.historicplaces.ca/media/18072/81468-parks-s+g-eng-web2.pdf

Building Description

The Asa Meech House is situated slightly southeast of Meech Lake, within Gatineau Park, Quebec. It is currently unoccupied and in a deteriorated condition, with deteriorated and damaged materials as well as the presence of hazardous substances (lead paint, asbestos, mold). Significant alterations to suit needs over the years have resulted in limited remaining original features and, ultimately an uncertain building chronology. To fully understand the original floor plan of the house and potentially date additions or changes such as the locations of wall, window and door openings, an investigation while the interior gypsum board walls are removed is recommended. It is, however evident that the house dates from the early nineteenth century (1821) and that two major renovations were completed in the twentieth century (1930 and 1969-1973). As concluded in the investigation completed by HCS in 2016, "...an early log structure was clearly visible along with diagnostic artifacts, namely machine cut nails."² The morphology of the nails dates these elements from between 1820 and 1830, supporting the original construction time frame of the house.³

The Asa Meech House is a one-and-a-half storey wood frame structure with a low pitched, cedar shingled gable roof. It is a modest dwelling of small massing and simple, straightforward design which sits in a large, treed lot, a short drive off of chemin du Lac Meech. A single red brick chimney is located slightly off-centre, within the roof's peak. The house is sheathed in painted wood clapboard and features limited decorative elements. A covered verandah sits at both the North and South entrances to the house. The decorative elements include the non-functional painted wood shutters and verandah roof bracketing. The exterior is painted white with green accents.

² *Heritage Conservation Advice Report*, dated July 12, 2016.

³ *Heritage Conservation Advice Report*, dated July 12, 2016.

Asa Meech House – Heritage Summary

There are three (3) entrances at the ground level: the main entrance with a wide door and two secondary entrances (one giving to the living room and the other to the kitchen). There are fifteen (15) windows: eleven (11) on the ground floor and four (4) on the second floor.

The interior consists mostly of contemporary finishes, except for the flooring and ceiling. Wide planked, wood flooring is present, in both painted and exposed finishes. The ceilings are white painted, bevelled tongue and groove wood planks, complete with exposed wood ceiling beams.

In the 1930 major renovation, the following aspects of the house experienced significant alterations:

- Overall floor plan;
- Interior detailing, such as wood panelling;
- Main fireplace and chimney (the 1930 drawings identify the mantel as having cupboards);
- Kitchen, bathroom and stairway area on ground floor;
- Verandahs (1930 drawings identify these as screened porches); and,
- Superstructure (the extent is unknown).⁴

It should be noted that Mr. Brian O'Brien, whom lived at the Asa Meech House from 1930 to 1964, stated that the frame, upstairs floor and floor of one bedroom on the main floor sustained the renovations of 1930 and remained as original elements.⁵

In the 1969-1973 major renovation, the following significant alterations were made:

- The removal of the fieldstone foundation and ground floor posts and replacement with concrete footings and foundation;
- Repairs to the roof; and,
- The replacement of joists and beams.⁶

As a result of these interventions, minimal heritage fabric is left at the Asa Meech House. It is, however evident that much of the original structure remains and this exemplifies the building's history. Original wooden elements that remain at the house include: corner posts; band-sewn old growth exterior sheathing; and, rough-hewn ridge beam and rafters tied with wooden pegs.⁷

It remains important to acknowledge that despite the numerous changes over time, the building strongly reflects a consistency in overall original design intent, which emphasizes the vernacular and the use of local materials with traditional craftsmanship. Generally, changes over time adhered to the tenants of this style, through respectful use of materials and compatible new additions.

⁴ *FHBRO Building Report 84-10.*

⁵ *Asa Meech Homestead*, FHBRO, pg. 2.

⁶ *FHBRO Building Report 84-10.*

⁷ *Heritage Conservation Advice Report*, dated July 12, 2016.

Asa Meech House – Heritage Summary



Image 3: The Asa Meech House, as seen it stands in the spring of 2017. Source: HCS, 2016

Heritage Value

Historical Value

Originally constructed by Asa Meech, the house is associated with Mr. Asa Meech, his involvement in the community, and the region's historical settlement. Mr. Meech (or Reverend Asa Meech) has been noted as a farmer, doctor, intellect and spiritual teacher. He was considered to be a natural leader and influential to the people of Hull, Chelsea and Aylmer.⁸ The house remained in the possession of the Meech family until 1901, when John Meech (Asa's son) died, and the property was sold. The property subsequently passed through multiple owners until it was acquired by J. Ambrose O'Brien. In 1930, the house was then renovated as a summer cottage for Brian O'Brien (J. Ambrose's son).⁹ These changes were completed to the designs of Ottawa-based and well-known architect, Noffke, Morin & Sylvester.¹⁰ It is worth noting that the O'Brien family is also well-known in the community and that Ambrose O'Brien is recognized as a person of national significance who later built a much larger cottage on Meech Lake, the O'Brien House, designed by Noffke, which is now a "Recognized" Federal Heritage Building.

As part of the 277 acre J. Ambrose O'Brien estate, the Asa Meech House was acquired by the National Capital Commission in 1964. It was rented out as a house in 1973, however has seized occupation for many years now.¹¹ The house is still closely associated with the nearby, prominent O'Brien House today, however the Asa Meech House predates the O'Brien House and estate.

The following features are associated with the Asa Meech House's Historical Value:
<ul style="list-style-type: none">• The location within Gatineau Park, as part of the greater Hull, Chelsea and Aylmer community (Refer to Image 4).• The evolutionary history and subsequent interventions to the house (as constructed for the Meech family and adapted for the O'Brien family).• The visual relationship with the O'Brien House, including a clear view between the two places (Refer to Image 5).

⁸ *Asa Meech (Paper Given by Miss M.A. Meech to the Historical Society of the Gatineau).*

⁹ *FHBRO Building Report 84-10.*

¹⁰ *Meech Lake, Que. for Mr. J.A. O'Brien.*

¹¹ *FHBRO Building Report 84-10.*

Asa Meech House – Heritage Summary



Image 4: The Asa Meech House is located within the Gatineau Park, adjacent to Meech Lake. Source: Google Maps, 2017)



Image 5: The O'Brien House is visible from the Asa Meech House site. Source: HCS, 2017

Architectural Value

The house displays a unique combination of a nineteenth century farmhouse frame, combined with typical rural summer retreat architectural elements.¹² This arrangement exemplifies the structure's evolution in ownership and function from a home (Meech family) to a cottage (O'Brien family). Overall, the Asa Meech House can be described as expressing a Vernacular Style. This is the adaptation of a building's design based on local conditions; defined as, "A mode of building based on regional forms and materials."¹³ This can be interpreted as a specific architectural style modified for use of local materials, or a regional style based upon climate requirements.¹⁴

The Asa Meech House articulates the Vernacular Style in its construction based on the needs of the user and available resources (material and craftsmanship) of the time and location. This includes the overall design, and use of lumber, fieldstone (since removed), and simple detailing.

The following features are associated with the Asa Meech House's Architectural Value:
<ul style="list-style-type: none">• The use of local materials and craftsmanship as seen in the wood elements, including: framing, exterior cladding, roof shingles, flooring, ceiling, baseboards, trim and decorative elements. Although not all elements can be identified as original, the use of the material contributes to the heritage character of the house and its expression of Vernacular Style (Refer to Image 6).• The simple decorative detailing, as seen in the shutters and verandah roof bracketing (Refer to Image 7).• The fireplace, chimney and irregular elevations, including the unbalanced placement of windows relating to common cottage designs of the 1930s. This style would have also included the use of fieldstone which has since been removed. (Refer to Image 8).

¹² *FHBRO Building Report 84-10.*

¹³ *Illustrated Dictionary of Historic Architecture*, pg. 564

¹⁴ <http://www.ontarioarchitecture.com/vernacular.htm>

Asa Meech House – Heritage Summary



Image 6: The use of local materials and craftsmanship is visible in the use of wood elements.
Source: HCS, 2016



Image 7: The simple detailing, as expressed in the limited decorative elements, such as the shutters and verandah roof brackets. Source: HCS, 2017



Image 8: The irregular elevations and placement of windows expresses the cottage designs of the 1930s. Source: HCS, 2016

Environmental Value

The house's design appears to reflect the desire for the building to express a relationship with the surrounding site. This relationship with the associated landscape is seen in multiple buildings within Gatineau Park, and is a reflection of the house's use as a cottage during the 1930s. Most notably, however, the Asa Meech House has strong environmental significance as one of, if not the oldest remaining house within Gatineau Park.

The following features are associated with the Asa Meech House's Environmental Value:

- The picturesque location and setting within the natural landscape (refer to Image 9).
- The dual verandahs, creating an interstitial space between the interior and exterior, thus enhancing the relationship between the house and its setting (refer to Image 10).
- The exterior colour palette; creating a relationship with the surrounding landscape. The accent and trim colour for the regional style is typically a "mossy" green. This shade is visible under the peeling current layer of green paint. It is also visible underneath the white paint in trim locations. Often the field colour is more of a grey than a pure white, to be less harsh against the surrounding site (refer to Images 11-13).
- The age of the structure within the Gatineau Park; as exemplified in the original remnants, such as the structure (refer to Image 14).

Asa Meech House – Heritage Summary



Image 9: The picturesque location and setting within the natural landscape. Source: HCS, 2017



Image 10: The verandahs create an interstitial space between the interior and exterior. Source: HCS, 2016



Image 11: The exterior colour palette creates a relationship between the surrounding landscape. Source: HCS, 2016



Image 12: The “mossy” green paint layer is visible underneath the current green. Source: HCS, 2017



Image 13: The trim and accent colours were previously green, but some areas have been painted over with white. Source: HCS, 2017



Image 14: The remaining original elements represent the age; quite possibly as the oldest existing dwelling in Gatineau Park. Source: HCS, 2016

Key Elements

The Asa Meech House has undergone many modifications and changes since its erection in 1821 by Asa Meech. Original elements define the house, distinguishing its association with Asa Meech, the surrounding areas and its significance as a remaining artifact within Gatineau Park. However, identified interventions from the 1930s by the O'Brien family have contributed to the heritage value of the house as a cottage and thus, have become key elements in their own right. The features of the Asa Meech House described below (both dating from its original construction and those that have become valuable over time) are key elements that should be protected in perpetuity. As mentioned above, an investigation of the house while the gypsum board is removed will assist in dating additions and/or changes. This investigation may lead to the removal and/or addition of character-defining elements, and, as such this list should be updated accordingly.

Key Elements of the Exterior

1. **Roof:** low-pitched, gable roof; cedar shingles.
2. **Windows:** irregularly placed windows; double-hung, wide sill, painted wood with a single muntin (single and double paned), simple rectangular framed. Assumed to be non-original but are compatible with the character of the house (dating required).
3. **Chimney:** location of the chimney.
4. **Verandahs:** two verandahs; wooden flooring, planked ceiling and decorative column supports. These were outlined to be screened porches in the 1930 drawings, and as such would further their status as interstitial spaces between the exterior and interior.
5. **Exterior Wall Material:** horizontal clapboard; painted wood. Although likely non-original, it contributes to the character of the house.
6. **Shutters:** non-functional shutters; painted wood, simple craftsmanship and detailing, complete with a diamond shaped cut-out.
7. **Doors:** exterior doors; painted wood with glazed panels, both standard and wide widths.
8. **Landscape:** the appearance of a relationship with the natural surroundings; viewscapes, relatively untouched and non-manicured setting without formal paths, orientation of the house on the site, colour palette, interstitial spaces between exterior and interior, including the location of entrances.

Key Elements of the Interior

- 1. Interior Window Elements:** windows, sills and trim; painted wood, simple detailing, wide sill with squared trim.
- 2. Doors:** interior doors; painted wood with six panels. Assumed to be non-original but are compatible with the character of the house.
- 3. Fireplace:** granite fireplace; square-cut pink granite stone with cement mortar, stone hearth and wood mantle. Assumed to be non-original and does not coincide with the 1930 drawings, however the use of local material (pink granite) is compatible with the heritage character of the house.
- 4. Baseboards & Trim:** wood baseboards and trim; painted wood, tall and standard heights, simple detailing.
- 5. Floor Material:** pine wood plank; both painted and unpainted, varied widths but generally wide planks.
- 6. Ceiling Material:** wood plank; bevelled tongue and groove plank, painted wood.
- 7. Ceiling Beams:** exposed wood beams; hand hewn and replicas, both painted and unpainted.
- 8. Structure:** 1.5 storey wooden structure; corner posts, band-sawn old growth exterior sheathing, rough-hewn ridge beam and rafters, tied with wooden pegs at the ridge.
- 9. Form:** The shape of the upper level ceilings, based upon the gabled pitch of the roof, including the horizontal beam at the meeting point between the angle and flat ceiling.
- 10. Floor Plan:** The functional arrangement of spaces, such as the location of the utilitarian rooms (kitchen) at the rear of the house with the living space at the immediate entrance.
- 11. Stairs:** The main staircase; simple and utilitarian nature.

Please refer to the photographs below for each key element.

Key Elements of the Exterior - Photos



1. Roof

Of Note: shape, material

2. Windows

Of Note: design, material, colour palette, detailing

Asa Meech House – Heritage Summary



3. Chimney

Of Note: location



4. Verandahs

Of Note: design, material



5. Exterior Wall Material
Of Note: material, colour palette



6. Shutters

Of Note: design, material, colour palette, detailing

Asa Meech House – Heritage Summary



7. Doors

Of Note: design, material



8. Landscape

Of Note: relationship with house, viewsapes

Key Elements of the Interior - Photos



1. Interior Window Elements

Of Note: design, material

2. Doors

Of Note: design, material



3. Fireplace
Of Note: material



4. Baseboards & Trim
Of Note: material, detailing



5. Flooring Material

Of Note: design, material



6. Ceiling Material

Of Note: design, material, detailing



Original hand hewn



Replica hand hewn

7. Ceiling Beams

Of Note: design, material, detailing



8. Structure

Of Note: design, material, detailing

Asa Meech House – Heritage Summary



9. Form
Of Note: design

10. Floor Plan
Of Note: design



11. Stairs

Of Note: design

Bibliography

- (NCC), Hazen Sise. "Asa Meech Homestead." unknown.
- . "Asa Meech Photographs." 1969.
- Conestoga-Rovers & Associates. "Designated Substance Survey." 2009.
- Blair, Gladys. "Asa Meech House." (n.d.).
- Heritage Conservation Directorate. "Asa Meech House Heritage Recording 2016-2017." 2016.
- . "Heritage Conservation Advice Report." 2016.
- Harris, Cyril M. *Illustrated Dictionary of Historic Architecture*. New York: Dover Publications, Inc., 1977.
- Hope, Ethel Penman. "Early Settlement of Meech Lake." unknown.
- Humphreys, B.A. *Meach Cottage*. Manotick, Ontario, 1969.
- Inter-Plan Inc. "Rapport D'Installation Septique." 1996.
- National Home Inspection. "Inspection Report #29: Meach Lake Road." 1993.
- Johnson, Dana. "FHBRO Building Report 84-10: Asa Meech House." 1984.
- Kyles, Shannon. *Vernacular*. n.d. January 2017. <<http://www.ontarioarchitecture.com/vernacular.htm>>.
- Minto Management Services (#1) Limited. "Project Approval-601 Meech Road-Asset 727-Pre-Lease." 2009.
- Meech, M.A. "Asa Meech (Paper Given by Miss M.A. Meech to the Historical Society of the Gatineau)." 1964.
- Noffke, Morin & Sylvester. "Meach Lake, Que. for Mr. J.A. O'Brien." *Drawings*. n.d.
- Federal Heritage Buildings Review Office. "Asa Meech Homestead." unknown.
- . "Asa Meech Photographs." 1984.
- . "Building Evaluation Record." 2005.
- "The Rustic Style in Canada's National Parks." n.d. *Canada's Historic Places*. January 2017. <http://www.historicplaces.ca/en/pages/20_rustic_architecture.aspx>.



DESIGNATED SUBSTANCE SURVEY

601 MEECH ROAD
CHELSEA, QUEBEC

Prepared For:
Minto Management Services Ltd.

DISCLAIMER:
SOME FORMATTING CHANGES MAY HAVE OCCURRED WHEN
THE ORIGINAL DOCUMENT WAS PRINTED TO PDF; HOWEVER,
THE ORIGINAL CONTENT REMAINS UNCHANGED.

JANUARY 2009
REF. NO. 048885 (132)

Prepared by:
**Conestoga-Rovers
& Associates**

179 Colonnade Rd., Suite 400
Ottawa, Ontario
Canada K2E 7J4

Office: (613) 727-0510
Fax: (613) 727-0704

web: <http://www.CRAworld.com>

TABLE OF CONTENTS

	<u>Page</u>
1.0 INTRODUCTION	1
2.0 SCOPE OF WORK	2
3.0 DESIGNATED SUBSTANCE SURVEY	3
3.1 VINYL CHLORIDE	3
3.2 MERCURY	3
3.3 BENZENE	4
3.4 ARSENIC	4
3.5 LEAD	5
3.6 ACRYLONITRILE	5
3.7 SILICA	5
3.8 ISOCYANATES	6
3.9 COKE OVEN EMISSIONS	6
3.10 ETHYLENE OXIDE	7
3.11 ASBESTOS	7
4.0 SURVEY OF POTENTIAL PCB-CONTAINING EQUIPMENT	8
4.1 GENERAL	8
4.2 IDENTIFIED PCB-CONTAINING EQUIPMENT	8
5.0 SURVEY OF EQUIPMENT POTENTIALLY CONTAINING OZONE DEPLETING SUBSTANCES (ODS)	9
5.1 GENERAL	9
5.2 OBSERVATIONS	9
6.0 LEAD BASED PAINT SAMPLING ACTIVITIES	10
6.1 GENERAL	10
6.2 ANALYTICAL RESULTS	10
7.0 ASBESTOS CONTAINING MATERIAL (ACM) SAMPLING ACTIVITIES	12
7.1 GENERAL	12
7.2 ROOM-BY-ROOM ASBESTOS SURVEY	12
7.3 ANALYTICAL RESULTS	13
7.4 SUMMARY OF FRIABLE ASBESTOS CONTAINING MATERIALS	13
7.5 SUMMARY OF NON-FRIABLE ASBESTOS	13
7.6 DAMAGED ASBESTOS CONTAINING MATERIALS	14
8.0 ADDITIONAL OBSERVATIONS	15
8.1 MOULD	15
8.2 UREA FORMALDEHYDE FOAM INSULATION (UFFI)	15
8.3 FECAL WASTE	15
8.4 RADIOACTIVE SMOKE DETECTORS	15

9.0 LIMITATIONS.....16

10.0 RECOMMENDATIONS.....17

LIST OF FIGURES
(Following Text)

FIGURE 1	DESIGNATED SUBSTANCE SURVEY - CRAWL SPACE
FIGURE 2	DESIGNATED SUBSTANCE SURVEY - FIRST FLOOR PLAN
FIGURE 3	DESIGNATED SUBSTANCE SURVEY - SECOND FLOOR PLAN

LIST OF TABLES
(Following Text)

TABLE 1	SUMMARY OF LEAD PAINT SAMPLES
TABLE 2	SUMMARY OF BULK ASBESTOS SAMPLES

LIST OF APPENDICES

APPENDIX A	LABORATORY REPORTS
------------	--------------------

1.0 INTRODUCTION

Conestoga-Rovers & Associates (CRA) was retained by Minto Management Services Ltd. (Minto) as property management agent to the National Capital Commission (NCC) to conduct a Designated Substance Survey (DSS) of the building located at 601 Meech Road in Chelsea, Quebec (Site). CRA understands that the DSS was commissioned, as a measure of due diligence. The objective of the DSS was to quantify designated substances and other potentially hazardous materials including ozone-depleting equipment, polychlorinated biphenyl (PCB) containing equipment and other potential environmental and health related concerns associated with the building's structure.

The house located at 601 Meech Road is a two-storey house built on a concrete block foundation. The exterior of the house is finished with wood siding and with a pitched asphalt shingled roof. The interior walls and ceilings are finished with drywall and wood panelling. The flooring in the house is comprised of carpeting, vinyl sheet, and hardwood flooring.

2.0 SCOPE OF WORK

In general, the purpose of the DSS at the Site was to:

- identify and confirm through sampling and analysis potential designated substances at the Site;
- identify potential PCB containing equipment at the Site;
- identify potential ozone depleting substances (ODS) at the Site;
- identify mould and other potential environmental and health related concerns associated with the building; and
- prepare an inventory of designated substances and hazardous materials identified at the Site.

3.0 DESIGNATED SUBSTANCE SURVEY

In the Province of Quebec, the Occupational Health and Safety Act has a list of over 400 chemicals for which threshold concentrations in air have been determined. However, the government has not adopted a specific Designated Substance list for which pre-construction surveys are mandatory. Under the Safety Code for Construction Work, a pre-construction survey is mandatory only prior to Asbestos Abatement.

As a good management practice, for pre-construction surveys conducted in the province of Quebec, the substances identified under the Ontario OHS Designated Substances list are all considered.

The following section of this report provides an overview of the primary characteristics of such designated substances, their potential health effects and the potential presence of such substances at the Site identified during the Survey, which was undertaken December 2, 2008.

3.1 VINYL CHLORIDE

Vinyl chloride is a colorless, flammable gas at normal temperatures with a mild, sweet odour. It is used in the manufacturing of polyvinyl chloride (PVC), which is used in many plastic products including plastic pipes, wire and cable coatings and furniture upholstery.

Exposure to vinyl chloride occurs mainly in workplaces where it is used to manufacture plastic. Breathing high levels of vinyl chloride for short periods of time can cause dizziness, sleepiness, unconsciousness, and, at extremely high levels, can cause death. Prolonged exposure may cause liver damage, immune reactions, nerve damage and cancer.

Based on the examination of the Site, it is not expected that vinyl chloride is present. There is, however, the potential for release of and exposure to vinyl chloride if PVC pipes and wire coatings found in the house are burnt.

3.2 MERCURY

Mercury is a naturally occurring metal. At normal temperatures it is a shiny, silver-white odourless liquid. When heated it becomes a colourless, odourless gas.

Mercury is used to produce caustic soda and also is used in thermometers, dental fillings and batteries.

The nervous system is very sensitive to all forms of mercury; however, vapour is especially harmful as it directly reaches the brain. Exposure to high levels of mercury may permanently damage the brain, kidneys and a developing fetus. Short-term exposure may cause lung damage, nausea, vomiting, skin rashes and eye irritation.

During DSS inspection, CRA observed a mercury-containing thermostat in the living room at the Site.

3.3 BENZENE

Benzene is a colorless liquid with a sweet odour. It is widely used in North America to make other chemicals, which are used to make plastic, resin, nylon, rubber, lubricants, detergents, drugs and pesticides. Benzene is also a natural component of crude oil and gasoline.

Breathing benzene may cause dizziness, drowsiness and unconsciousness. Long-term exposure may result in anemia, leukemia and damage to bone marrow.

There is a potential that benzene-containing products (glues, paints, detergents, etc.) may have been used at the Site in the past, however, the probability of elevated levels of benzene being present is remote.

3.4 ARSENIC

Arsenic is a silver-gray, brittle, crystalline solid. Arsenic compounds are used as wood preservatives, insecticides, herbicides and in alloys of copper and lead.

Arsenic is a powerful poison and at high levels may cause cancer, nerve damage, stomach damage, intestinal damage, skin damage and death. At lower levels it may cause nausea, diarrhea, decreased production of red and white blood cells, and abnormal heart rhythm.

Based on CRA observations during DSS, no material was observed at the Site that may potentially contain arsenic.

3.5 LEAD

Lead is a naturally occurring bluish-gray metal. Lead is used in the production of batteries, ammunition, solder, paint and pipes.

The routes of exposure to lead are limited to inhalation and ingestion of lead, with the highest risk of lead exposure being the inhalation of lead containing dust. Lead can damage the nervous system, kidneys and the immune system.

A lead based paint sampling program was conducted by CRA as part of this DSS. Information regarding the sampling program and analytical results can be found in Section 6.0 of this report.

3.6 ACRYLONITRILE

Acrylonitrile is a colorless to pale-yellow, mobile liquid with an unpleasant odour. It is used in the manufacture of synthetic fibres, rubber, coatings and adhesives.

It is toxic by inhalation and by skin exposure. Low level exposure to acrylonitrile may cause eye and skin irritation, headaches, nausea and vomiting. High level or prolonged exposure may result in damage to the heart, liver, kidneys and central nervous system as well as being a known carcinogen.

Based on CRA observations during the DSS, acrylonitrile is not likely to be present at the Site.

3.7 SILICA

Silica is a transparent to gray odourless powder or crystal. It occurs widely in nature as sand, quartz, flint and diatomite. It is used in the manufacture of glass, ceramics, abrasives, water treatment products, cosmetics, insecticides, paint and foods as well as in the drying of glassware and as a preservative for plant samples. Crystalline silica is also used in the production of cement, concrete, acoustic ceiling tiles, and ceramic tiles which are used for construction purposes.

The routes of exposure include inhalation and skin/eye contact. Exposure may cause irritation to the lungs, skin and eye, and pneumoconiosis. Chronic inhalation can lead to silicosis.

Crystalline silica is present in the drywall, concrete, ceramic, and asphalt observed at the Site. As such, there is a potential for silica dust to be generated by the grinding, cutting or demolition of any of the aforementioned building materials.

3.8 ISOCYANATES

Isocyanates are a group of organic compounds formed by treating diamines with phosgene. It is used in the production of polyurethane foam and resins.

The routes of exposure include inhalation, ingestion, skin and/or eye contact. Exposure may cause irritation of the eyes, skin, nose and throat, nausea, abdominal pain and bronchitis. High level exposure can cause asthma, conjunctivitis, pulmonary edema and cancer.

Based on CRA observations during the DSS, it is not likely that any isocyanate-containing substances are present at the Site.

3.9 COKE OVEN EMISSIONS

Coke oven emissions are the airborne constituents of the by-product created by destructive distillation of coal and petroleum. The emissions are a result of the production of steel, petroleum products and lining of high temperature furnaces.

Exposure to coke oven emissions is a potential cause of lung cancer. Although it does not cause a large number of skin cancer cases, dermal contact with coke oven emissions should be avoided.

Based on CRA observations during the DSS, it is not likely that coke oven emissions are present at the Site.

3.10 ETHYLENE OXIDE

Ethylene oxide is a colorless gas at room temperature, which becomes a liquid at 12°C. It is used in the manufacture of ethylene glycol, surfactants, fumigants, fungicides and petroleum demulsifiers.

Exposure routes include inhalation, ingestion, skin and/or eye contact. Exposure may cause irritation of the eyes, skin, nose and throat, headaches, nausea and drowsiness. Exposure to high concentrations may cause frostbite, reproductive effects, convulsions, liver and kidney damage and cancer.

Based on CRA observations during the DSS and historical use of the Site, it is not likely that ethylene oxide is present in this location.

3.11 ASBESTOS

Asbestos is the name used for a group of fibrous minerals that occur naturally in soil and rock in some areas. Asbestos fibres were formerly used in roofing shingles, ceiling tiles, floor tiles, asbestos cement products, gaskets, insulation, and paper products.

Asbestos mainly affects the lungs. Inhalation of asbestos may result in the build-up of scar-like tissue resulting in cancer of the lungs and the surrounding membrane.

CRA completed a room-by-room asbestos containing material (ACM) survey and sampling program as part of the DSS. The results of the ACM sampling program are discussed in Section 7.0.

4.0 SURVEY OF POTENTIAL PCB-CONTAINING EQUIPMENT

4.1 GENERAL

CRA personnel performed a survey of potential PCB-containing material on December 2, 2008. The survey consisted of examining potential PCB containing equipment including fluorescent light ballasts, electrical transformers, and capacitors. During the DSS CRA recorded all information including the type of equipment, manufacturer, serial numbers, date stamps, electrical specifications and locations of any potential PCB containing equipment. The information was then researched using the Internet, telephone interviews with company representatives and published documents.

4.2 IDENTIFIED PCB-CONTAINING EQUIPMENT

Based on CRA observations during the DSS and subsequent information review, no PCB-containing equipment was observed during the survey.

5.0 SURVEY OF EQUIPMENT POTENTIALLY CONTAINING OZONE DEPLETING SUBSTANCES (ODS)

5.1 GENERAL

A survey of the (ODS) containing equipment was conducted on December 2, 2008. During the course of the survey CRA examined all potential ODS-containing equipment inside 601 Meech Road. The following section provides information on the findings of the ODS survey.

5.2 OBSERVATIONS

Based on CRA observations during the DSS, no ODS containing equipment was present at the Site.

6.0 LEAD BASED PAINT SAMPLING ACTIVITIES

6.1 GENERAL

The lead based paint sampling program activities were performed in accordance with standard industry practice whereby a utility knife is used to remove a paint chip (all layers of paint on a surface). The paint chip is then placed in a sealable bag with a unique identification and sent to the laboratory for analysis to prevent cross contamination between the collections of each sample, the sampler changes his/her disposable latex gloves and wipes the blade of the knife using a disposable wet wipe.

As part of this lead based paint survey, CRA collected ten representative samples from homogeneous painted surfaces for potential lead identification. The painted surfaces sampled included walls, siding, trim, ceiling, and floors. It should be noted that lead may be found in the solder of the copper piping observed at the Site. This material was not sampled.

The samples were submitted under Chain-of-Custody protocol to EMSL Analytical Laboratories Inc. in Indianapolis, Indiana for analysis of lead content by use of the Flame Atomic Absorption (FAA) method. A summary of the samples collected by CRA during the survey, along with the reported analytical results, is presented in Table 1. Copies of the laboratory analytical reports prepared for CRA by EMSL are included in Appendix A.

6.2 ANALYTICAL RESULTS

The analytical results of paint chip sampling indicate that four of the ten samples collected contained elevated concentrations of lead. The following paint chip samples were reported to contain elevated concentrations of lead by weight:

- green coloured floor paint collected from bedroom 1 was reported to contain 24 percent lead;
- brown coloured floor paint collected from the lounge area was reported to contain 22 percent lead;
- grey coloured exterior porch paint was reported to contain 1.4 percent lead; and
- green coloured exterior trim paint was reported to contain 1.6 percent lead.

Lead was detected in low concentrations in two of the collected paint chip samples. Lead was not detected in four of the collected paint chip samples.

No guidelines exist in the Province of Quebec which define when a coating is considered to be a lead based coating with regards to a specific concentration. However, the Regulation Respecting The Quality of the Work Environment S2.1, r.15 stipulates that workers are not to be exposed to airborne lead levels in exceedance of the TWAE or STEL values outlined in the regulation. It is the responsibility of building owners and contractors to ensure that workers are not exposed to elevated levels of airborne lead during construction, renovation or demolition activities. CRA recommends that the measures outlined in the Ontario Ministry of Labour's Guideline for Lead on Construction Projects (December 2004) be put into place to control potential lead dust hazard during any work which involves the disturbance of a painted surface.

It should be noted that paint sampling procedures involved the collection of samples to depth of original surface in order to ensure that previously painted surfaces were sampled in addition to the present finished surface. The color of paint described in Table 1 is representative of the surface layer only.

7.0 ASBESTOS CONTAINING MATERIAL (ACM) SAMPLING ACTIVITIES

7.1 GENERAL

Under the Canadian Hazardous Products Act, as of April 24, 1980, the use of asbestos was prohibited in most consumer products where dust particles are generated during normal use. Prior to this Act, materials such as thermal insulation around mechanical pipes, as well as, sprayed-on fireproofing, occasionally contained asbestos-laden products. It should be noted that, prior to 1980, asbestos was also included in a wide range of construction materials such as plaster, cement, etc., which are not visible to the naked eye.

In Quebec, asbestos containing material is defined as a product containing greater than 0.1 percent asbestos by weight. The Quebec Workers' Health and Safety Commission (*Commission de la Santé et la Sécurité au Travail* [CSST]) regulates asbestos in the workplace. As asbestos is only considered a hazard when fibres become airborne, different types of ACM may remain on Site and in use indefinitely, provided the ACM is adequately maintained, and not allowed to release fibres into the air under normal use. Friable ACM products present more potential danger for airborne fibre release. Precautions may be required when renovating or demolishing areas that contain non-friable ACM.

Potential ACM sampling was conducted on December 2, 2008. Sampling activities were performed in accordance with bulk asbestos sampling procedures outlined in the document entitled "Designated Substances in the Workplace: A Guide to the Asbestos Regulation for Construction Projects, Buildings and Repair Operations", Ontario Ministry of Labour (MOL), April 1987. In areas where finished surfaces required partial removal to inspect hidden materials (i.e. surface coverings on pipe insulation), small openings were made by CRA to allow for inspection of the underlying materials. Following inspection, all openings were repaired to encapsulate the underlying material. CRA also visually inspected all readily available areas above the ceilings (areas where lay-in ceiling tiles existed) for the presence of thermal, acoustic or mechanical insulation, which could potentially contain asbestos.

7.2 ROOM-BY-ROOM ASBESTOS SURVEY

The purpose of the potential ACM sampling program was to confirm the presence or absence of asbestos in certain suspect building materials. As requested, CRA attempted to limit unnecessary analysis and put a stop positive clause in the analytical work.

As part of the potential ACM asbestos survey, CRA collected fourteen samples from four distinct types of building materials, which were suspected to contain asbestos. Potential ACM sampled included texture coat, vinyl sheet flooring, and drywall compound. Summaries of the potential ACM samples collected along with the analytical results are presented in Table 2.

All potential ACM samples were submitted under chain of custody to EMSL in Indianapolis, Indiana for analysis. The samples of potential friable asbestos were analyzed for type and percent fibre content using Polarized Light Microscopy (PLM). PLM samples that were reported to contain less than 1 percent chrysotile were re-analyzed using a more accurate analytical method (1000 point count). Samples of potential non-friable asbestos were analyzed for type and percent fibre content using Transmission Electron Microscopy (TEM). Copies of the laboratory analytical reports prepared for CRA by EMSL are included in Appendix A.

7.3 ANALYTICAL RESULTS

As indicated in Table 2, results of the sample analysis indicate that asbestos was detected at the provincial criteria of 0.1 percent in sampled heat shield debris and duct insulation.

7.4 SUMMARY OF FRIABLE ASBESTOS CONTAINING MATERIALS

Based on the results of the laboratory analysis and observations during the designated substance survey no friable materials were found to contain asbestos.

7.5 SUMMARY OF NON-FRIABLE ASBESTOS

The following describes the non-friable ACM that exceeds the provincial criteria of 0.1 percent asbestos by weight:

- light heat shield debris was reported to contain to contain 50 percent Chrysotile. Less than 1 square foot of this material was observed on the floor in the main stairwell; and
- duct insulation was reported to contain 60 percent Chrysotile. Approximately 40 square feet of this material was observed in the crawlspace.

7.6 DAMAGED ASBESTOS CONTAINING MATERIALS

Based on CRA observations during the DSS, asbestos containing heat shield debris was noted on the floor of the main stair well.

8.0 ADDITIONAL OBSERVATIONS

As part of the DSS, CRA also identified other areas of the Site that may potentially contain urea formaldehyde foam insulation, fecal waste, and radioactive smoke detectors.

8.1 MOULD

Based on CRA observations during the DSS, mould contaminated building materials were not observed at the Site.

8.2 UREA FORMALDEHYDE FOAM INSULATION (UFFI)

Based on CRA observations during the DSS, UFFI was not observed at the Site.

8.3 FECAL WASTE

Based on CRA observations during the DSS, rodent fecal waste was observed in the basement, bedroom one and in the attic.

8.4 RADIOACTIVE SMOKE DETECTORS

Based on CRA observations during DS, no smoke detectors that contain radioactive isotopes were present at the Site.

9.0 LIMITATIONS

The DSS that was conducted by CRA during December 2, 2008, was a non-destructive survey. This survey does not account for any potential designated substances or other potential environmental and health related concerns as identified in Section 1.0 of this report which may be present within walls, below the flooring, within ceiling cavities, or in any other area, which was not accessible at the time of the DSS.

CRA does not collect samples of building materials if said collection might compromise the integrity of the building or its components. These building materials include roofing materials, interior of fire doors, refractory materials within boilers, gasket materials, and window caulking. In addition, CRA does not sample energized equipment due to the inherent electrical hazards. These include components or wiring within motors, high voltage wiring, elevators (including brakes), lights or other electrical equipment and fixtures.

This DSS was conducted in a manner consistent with the level of care and skill exercised by members of the profession, and was based upon information made available to CRA representatives at the time of this survey. CRA has analyzed and evaluated the information collected during this investigation using applicable engineering and industrial hygiene techniques and principles.

Reliance or use of this report by any third party without explicit authorization from CRA, NCC and Minto does not make said third party a third party beneficiary to CRA 's contract with NCC or Minto. Any such unauthorized reliance on or use of this report, including any of its information or conclusions, will be at the third party's risk. For the same reasons, no warranties or representations, expressed or implied in this report, are made to any such third party.

As applicable, the owner/operator of the subject Site is responsible for corrective or remedial action required and disclosure of any information obtained during this assessment or information contained in this report.

10.0 RECOMMENDATIONS

The following recommendations are based on the results of the Designated Substance Survey conducted at the Site on December 2, 2008.

1. The building owner should notify as best management practice all employees and contractors involved with building maintenance and building renovations of the presence of all designated substances present. A copy of this DSS Report should be made available for review (upon request) by any employee, building maintenance personnel or outside contractors working in the common areas of the building. As a good management practice, the building owner should maintain a record of this notification.
2. Contractors must not use a torch to remove PVC piping or soldered joints of copper piping as the heat source may release hazardous constituents into the atmosphere.
3. Best management procedures would include taking measures to control the silica dust hazard when demolishing, renovating, altering, or disturbing silica-containing building materials.
4. Best management procedures would include taking measures to control the lead dust hazard when demolishing any painted surface. These measures are particularly important when dealing painted surfaces, which exhibited, elevated concentrations of lead.
5. Section 5 of the Regulation Respecting the Quality of the Work Environment regulated by The Quebec Workers' Health and Safety Commission (*Commission de la Santé et la Sécurité au Travail* [CSST]) requires that workers not be exposed to harmful levels of certain substances including asbestos.
6. The Quebec Safety Code for the Construction Industry (S-2.1, r.6) (Section No. 3.23) applies to any construction site where work is liable to produce asbestos dust emissions.
7. Section No. 3.23.3.2 of the Quebec Safety Code for the Construction Industry requires that asbestos containing materials be removed prior to demolition.
8. Section 3.23 of the Quebec Safety Code for the Construction Industry defines different types of abatement procedures, depending on the risk level of Asbestos airborne emissions. For each risk level identified, there is a work abatement procedure to follow.
9. Asbestos abatement should be conducted by a competent asbestos abatement contractor as defined in Section No. 3.23.7 of the Quebec Safety Code for the Construction Industry. The contractor should be able to show proof of adequate

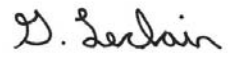
experience, employee training, workers compensation documentation, and asbestos liability insurance.

10. A competent asbestos abatement contractor in accordance with Quebec Safety Code for the construction Industry should abate the asbestos containing heat shield debris.
11. All asbestos wastes generated by asbestos abatement operations must be packaged in accordance in Section No. 3.23.10, 3.23.11, and 3.23.13 of the Quebec Safety Code for the Construction Industry. Asbestos waste may be disposed of at any municipal landfill approved to accept this type of waste pending notification to the landfill operator. Although a waste manifest is not required for the transportation or disposal of asbestos waste, it is good management practice to keep a record of the amount removed and sent to landfill. An asbestos waste management procedure should be prepared.

CRA trusts the enclosed to be acceptable. Should you have any questions or comments regarding this report, please feel free to contact our office.

All of Which is Respectfully Submitted

CONESTOGA ROVERS & ASSOCIATES



Geoff LeClair, A.Sc.T.



Myles Carter, M.Sc., P.G.

LEGEND

- ▲ BAS-00A BULK ASBESTOS SAMPLE LOCATION
- LBP-00 LEAD PAINT CHIP SAMPLE LOCATION
- ASBESTOS CONTAINING INSULATION



APPROXIMATE SCALE

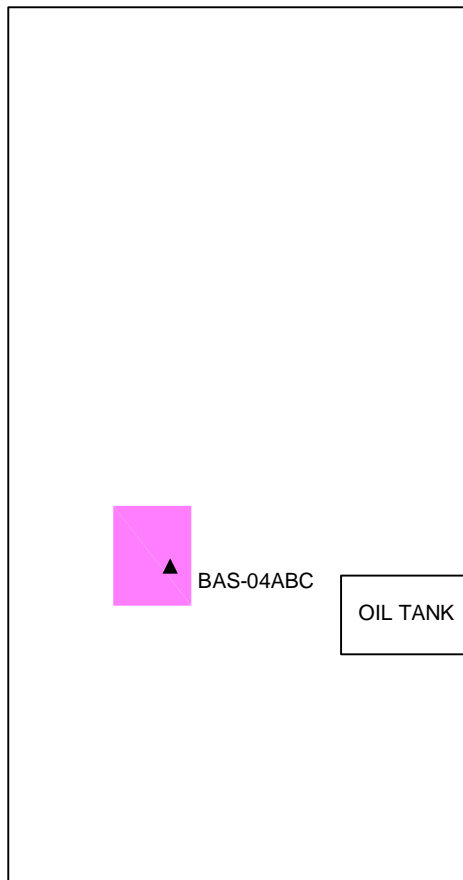


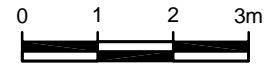
figure 1

DESIGNATED SUBSTANCE SURVEY
CRAWL SPACE
601 MEECH RD., CHELSEA QUEBEC
Minto Properties



LEGEND

- ▲ BAS-00A BULK ASBESTOS SAMPLE LOCATION
- LBP-00 LEAD PAINT CHIP SAMPLE LOCATION



APPROXIMATE SCALE

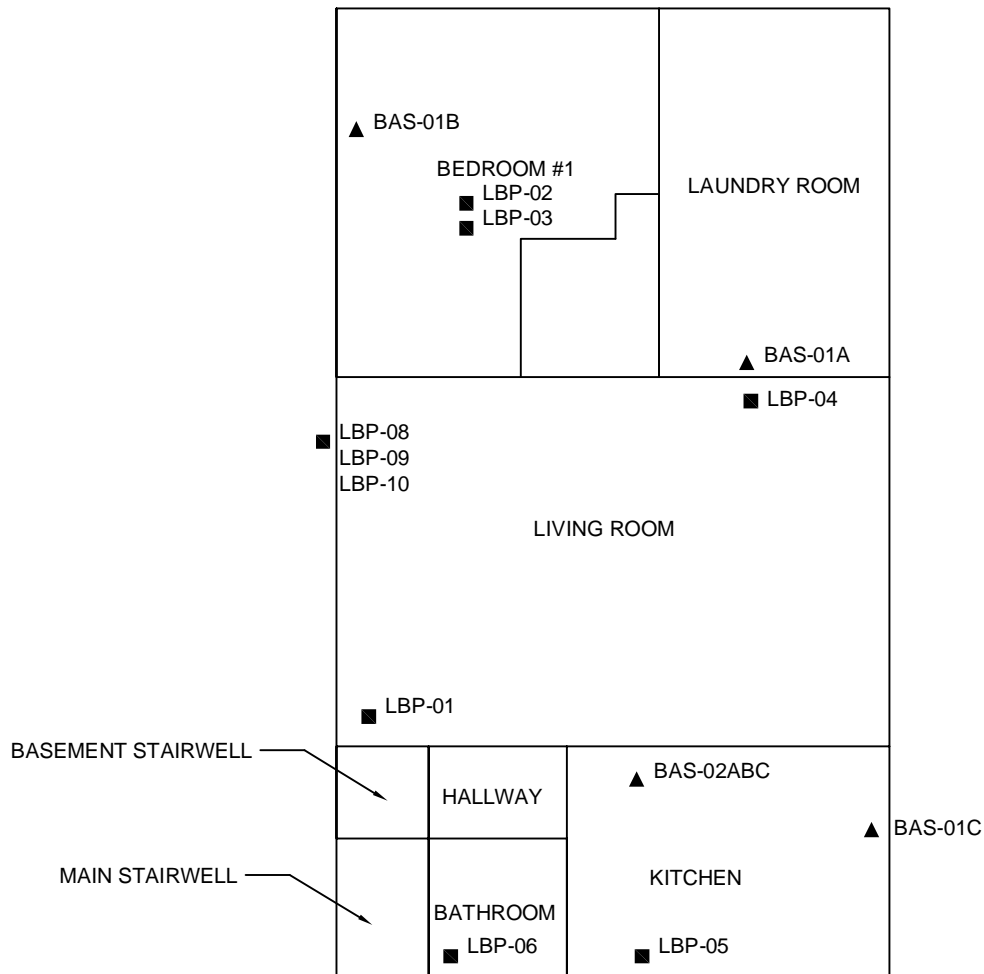


figure 2

DESIGNATED SUBSTANCE SURVEY
FIRST FLOOR
601 MEECH RD., CHELSEA QUEBEC
Minto Properties

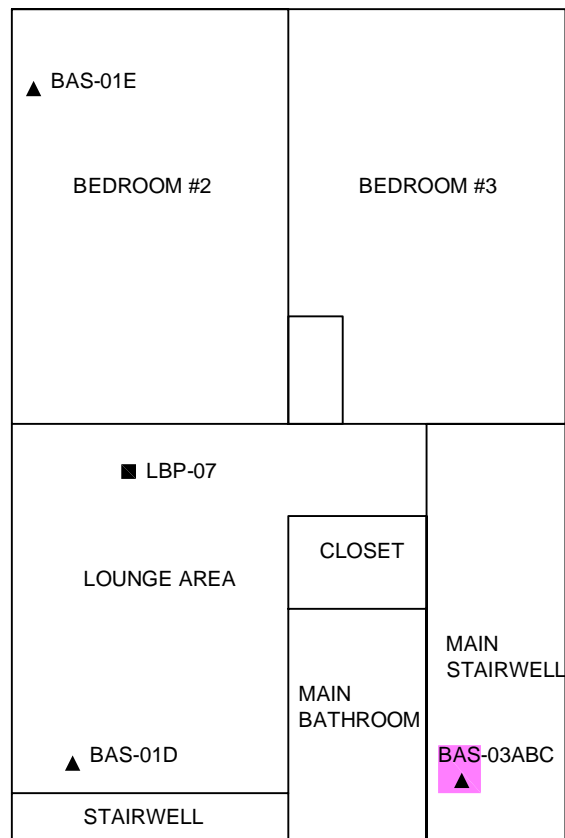


LEGEND

- ▲ BAS-00A BULK ASBESTOS SAMPLE LOCATION
- LBP-00 LEAD PAINT CHIP SAMPLE LOCATION
- ASBESTOS CONTAINING INSULATION



APPROXIMATE SCALE



1C

figure 3

DESIGNATED SUBSTANCE SURVEY
SECOND FLOOR
601 MEECH RD., CHELSEA QUEBEC
Minto Properties



**SUMMARY OF LEAD PAINT SAMPLES
601 MEECH ROAD
CHELSEA, QUEBEC**

Sample Identification	Location	Surface	Description	RDL	Lead Concentration % wt
601-LBP-120208-01	Living Room	Trim	White	0.014	<0.014
601-LBP-120208-02	Bedroom 1	Ceiling	White	0.028	0.035
601-LBP-120208-03	Bedroom 1	Floor	Green	0.010	24
601-LBP-120208-04	Living Room	Wall	Beige	0.012	<0.012
601-LBP-120208-05	Kitchen	Wall	Orange	0.20	<0.20
601-LBP-120208-06	Ground Floor	Wall	Green	0.024	<0.024
601-LBP-120208-07	Lounge	Floor	Brown	0.020	22
601-LBP-120208-08	Site Exterior	Porch	Grey	0.011	1.4
601-LBP-120208-09	Site Exterior	Siding	White	0.012	0.37
601-LBP-120208-10	Site Exterior	Trim	Green	0.014	1.6

TABLE 2

**SUMMARY OF BULK ASBESTOS SAMPLE ANALYSIS
601 MEECH ROAD
CHELSEA, QUEBEC**

Sample Identification	Location	Material Sampled	Description	Asbestos Content % and type
601-AS-120208-01A	Laundry Room	Drywall Compound	Joint Compound	< 1% Chrysotile/None Detected
601-AS-120208-01B	Bedroom 1	Drywall Compound	Joint Compound	< 1% Chrysotile/None Detected
601-AS-120208-01C	Kitchen	Drywall Compound	Joint Compound	< 1% Chrysotile/< 0.1% Chrysotile
601-AS-120208-01D	Lounge	Drywall Compound	Joint Compound	< 1% Chrysotile/None Detected
601-AS-120208-01E	Bedroom 2	Drywall Compound	Joint Compound	< 1% Chrysotile/None Detected
602-AS-120208-02A	Kitchen	Vinyl Sheet Flooring	Square Pattern	None Detected
602-AS-120208-02B	Kitchen	Vinyl Sheet Flooring	Square Pattern	None Detected
602-AS-120208-02C	Kitchen	Vinyl Sheet Flooring	Square Pattern	None Detected
603-AS-120208-03A	Main Stairwell	Insulation	Heat Sheild Debris	50% Chrysotile
603-AS-120208-03B	Main Stairwell	Insulation	Heat Sheild Debris	Not Analyzed
603-AS-120208-03C	Main Stairwell	Insulation	Heat Sheild Debris	Not Analyzed
604-AS-120208-04A	Crawlspace	Insulation	Duct	50% Chrysotile
604-AS-120208-04B	Crawlspace	Insulation	Duct	Not Analyzed
604-AS-120208-04C	Crawlspace	Insulation	Duct	Not Analyzed

**SUMMARY OF BULK ASBESTOS SAMPLE ANALYSIS
601 MEECH ROAD
CHELSEA, QUEBEC**

Sample Identification	Location	Material Sampled	Description	Asbestos Content % and type
--------------------------	----------	---------------------	-------------	--------------------------------

NOTES:

None Detected - Asbestos was not detected in the sample

Not Analyzed- Laboratory was directed to use the positive stop method, whereby each sample in a set of samples is analyzed until asbestos is detected. If or when asbestos is detected no other samples in that set are analyzed.

<1%/None Detected and/or % asbestos - Asbestos fibers were observed in the sample below the accuracy detection limit of 1%, however re-analysis using the more sensitive 1000 point count method indicated that asbestos is not present and/or is present at the % indicated.

APPENDIX A
LABORATORY REPORTS



EMSL Analytical

2001 East 52nd St., Indianapolis, IN 46205

Phone: (317) 803-2997 Fax: (317) 803-3047 Email: indianapolislaboratory@emsl.com

Attn: **Jennifer Balkwill**
Conestoga-Rovers & Associates, Ltd.
651 Colby Drive
Waterloo, ON, CN N2V1C2

Customer ID: CRAC22
Customer PO:
Received: 12/04/08 10:00 AM
EMSL Order: 160818222
EMSL Proj: 48885
Analysis Date: 12/10/2008
Report Date: 12/11/2008

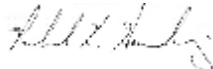
Fax: (519) 725-1394 Phone: (519) 884-0510
Project: **048885-132**

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
601-AS-120208-01A <i>160818222-0001</i>		White Non-Fibrous Homogeneous		100% Non-fibrous (other)	<1% Chrysotile
601-AS-120208-01B <i>160818222-0002</i>		White Non-Fibrous Homogeneous		100% Non-fibrous (other)	<1% Chrysotile
601-AS-120208-01C <i>160818222-0003</i>		White Non-Fibrous Homogeneous		100% Non-fibrous (other)	<1% Chrysotile
601-AS-120208-01D <i>160818222-0004</i>		White Non-Fibrous Homogeneous		100% Non-fibrous (other)	<1% Chrysotile
601-AS-120208-01E <i>160818222-0005</i>		White Non-Fibrous Homogeneous		100% Non-fibrous (other)	<1% Chrysotile
601-AS-120208-03A <i>160818222-0006</i>		White Fibrous Homogeneous	20% Cellulose	30% Non-fibrous (other)	50% Chrysotile
601-AS-120208-03B <i>160818222-0007</i>					Stop Positive (Not Analyzed)
601-AS-120208-03C <i>160818222-0008</i>					Stop Positive (Not Analyzed)

Analyst(s)

Craig Nixon (7)



Richard Harding, Laboratory Manager
or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. The limit of detection as stated in the method is 1%. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted. This report must not be used to claim product endorsement by NVLAP or any agency of the U.S. Government.
ACCREDITATION: NVLAP Lab Code 200188-0



EMSL Analytical

2001 East 52nd St., Indianapolis, IN 46205

Phone: (317) 803-2997 Fax: (317) 803-3047 Email: indianapolislaboratory@emsl.com

Attn: **Jennifer Balkwill**
Conestoga-Rovers & Associates, Ltd.
651 Colby Drive
Waterloo, ON, CN N2V1C2

Customer ID: CRAC22
Customer PO:
Received: 12/04/08 10:00 AM
EMSL Order: 160818222
EMSL Proj: 48885
Analysis Date: 12/10/2008
Report Date: 12/11/2008

Fax: (519) 725-1394 Phone: (519) 884-0510
Project: **048885-132**

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
601-AS-120208-04A <i>160818222-0009</i>		Gray Fibrous Homogeneous	20% Cellulose	20% Non-fibrous (other)	60% Chrysotile
601-AS-120208-04B <i>160818222-0010</i>					Stop Positive (Not Analyzed)
601-AS-120208-04C <i>160818222-0011</i>					Stop Positive (Not Analyzed)

Analyst(s) _____

Craig Nixon (7)

Richard Harding, Laboratory Manager
or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. The limit of detection as stated in the method is 1%. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted. This report must not be used to claim product endorsement by NVLAP or any agency of the U.S. Government.
ACCREDITATION: NVLAP Lab Code 200188-0



EMSL Analytical

2001 East 52nd St., Indianapolis, IN 46205

Phone: (317) 803-2997 Fax: (317) 803-3047 Email: indianapolislaboratory@emsl.com

Attn: **Jennifer Balkwill**
Conestoga-Rovers & Associates, Ltd.
651 Colby Drive
Waterloo, ON, CN N2V1C2

Customer ID: CRAC22
Customer PO:
Received: 12/04/08 10:00 AM
EMSL Order: 160818213

Fax: (519) 725-1394 Phone: (519) 884-0510
Project: **048885-132**

EMSL Proj:
Report Date: 12/10/2008

Lead in Paint Chips by Flame AAS (SW 846 3050B and 7420*)

Lab ID:	Analyzed	RDL	Lead Concentration	Notes
0001	12/9/2008	0.014 % wt	<0.014 % wt	
Client Sample 601-LBP-120208-01				Collected: 12/2/2008
0002	12/9/2008	0.028 % wt	0.035 % wt	
Client Sample 601-LBP-120208-02				Collected: 12/2/2008
0003	12/9/2008	0.010 % wt	24 % wt	
Client Sample 601-LBP-120208-03				Collected: 12/2/2008
0004	12/9/2008	0.012 % wt	<0.012 % wt	
Client Sample 601-LBP-120208-04				Collected: 12/2/2008
0005	12/9/2008	0.20 % wt	<0.20 % wt	
Client Sample 601-LBP-120208-05				Collected: 12/2/2008
0006	12/9/2008	0.024 % wt	<0.024 % wt	
Client Sample 601-LBP-120208-06				Collected: 12/2/2008
0007	12/9/2008	0.020 % wt	22 % wt	
Client Sample 601-LBP-120208-07				Collected: 12/2/2008
0008	12/9/2008	0.011 % wt	1.4 % wt	
Client Sample 601-LBP-120208-08				Collected: 12/2/2008
0009	12/9/2008	0.012 % wt	0.37 % wt	
Client Sample 601-LBP-120208-09				Collected: 12/2/2008
0010	12/9/2008	0.014 % wt	1.6 % wt	
Client Sample 601-LBP-120208-10				Collected: 12/2/2008

Doug Wiegand, Laboratory Manager
or other approved signatory

Reporting limit is 0.01 % wt. The QC data associated with these sample results included in this report meet the method quality control requirements, unless specifically indicated otherwise. Unless noted, results in this report are not blank corrected. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities.

* slight modifications to methods applied Samples received in good condition unless otherwise noted. Quality Control Data associated with this sample set is within acceptable limits, unless otherwise noted

ACCREDITATIONS: AIHA ELLAP 157245



EMSL Analytical

2001 East 52nd St., Indianapolis, IN 46205

Phone: (317) 803-2997 Fax: (317) 803-3047 Email: indianapolislab@emsl.com

Attn: **Jennifer Balkwill**
Conestoga-Rovers & Associates, Ltd.
651 Colby Drive
Waterloo, ON, CN N2V1C2

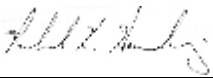
Customer ID: CRAC22
Customer PO:
Received: 12/04/08 10:00 AM
EMSL Order: 160818222
EMSL Proj: 48885
Analysis Date: 12/10/2008
Report Date: 12/11/2008

Fax: (519) 725-1394 Phone: (519) 884-0510
Project: **048885-132**

Asbestos Analysis of Bulk Material via EPA 600/R-93/116. Quantitation using the 1,000 Point Count Procedure

Sample	Location	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
601-AS-120208-01A <small>160818222-0015</small>		White Non-Fibrous Homogeneous			None Detected
601-AS-120208-01B <small>160818222-0016</small>		White Non-Fibrous Homogeneous			None Detected
601-AS-120208-01C <small>160818222-0017</small>		White Non-Fibrous Homogeneous			<0.1% Chrysotile
601-AS-120208-01D <small>160818222-0018</small>		White Non-Fibrous Homogeneous			None Detected
601-AS-120208-01E <small>160818222-0019</small>		White Non-Fibrous Homogeneous			None Detected

Analyst(s)
Craig Nixon (5)


Richard Harding, Laboratory Manager
or other approved signatory

Disclaimer: Some samples may contain asbestos fibers present in dimensions below PLM resolution limits. The limit of detection as stated in the method is 0.1%. EMSL Analytical Inc suggests that samples reported as <0.1% or none detected undergo additional analysis via TEM. The above test report relates only to the items tested. This report may not be reproduced, except in full, without written approval EMSL Analytical Inc. This test report must not be used by the client to claim product endorsement by NVLAP or any agency of the United States Government. EMSL Analytical Inc. bears no responsibility for sample collection activities, analytical method limitations, or the accuracy of results when requested to separate layered samples. EMSL Analytical Inc liability is limited to the cost of sample analysis. The test results contained within this report meet the requirements of NELAC unless otherwise noted. Samples received in good condition unless otherwise noted.

ACCREDITATION: NVLAP Lab Code 200188-0



EMSL Analytical

2001 East 52nd St., Indianapolis, IN 46205

Phone: (317) 803-2997 Fax: (317) 803-3047 Email: indianapolislaboratory@emsl.com

Attn: **Jennifer Balkwill**
Conestoga-Rovers & Associates, Ltd.
651 Colby Drive
Waterloo, ON, CN N2V1C2

Fax: (519) 725-1394 Phone: (519) 884-0510
Project: **048885-132**


Customer ID: CRAC22
Customer PO:
Received: 12/04/08 10:00 AM
EMSL Order: 160818222
EMSL Proj: 48885
Analysis Date: 12/11/2008
Report Date: 12/11/2008

Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
601-AS-120208-02A 160818222-0012		Gray Fibrous Homogeneous	100.0	None	No Asbestos Detected
601-AS-120208-02B 160818222-0013		Gray Fibrous Homogeneous	100.0	None	No Asbestos Detected
601-AS-120208-02C 160818222-0014		Gray Fibrous Homogeneous	100.0	None	No Asbestos Detected

Analyst(s)

Susan Harding (3)



Richard Harding, Laboratory Manager
or other approved signatory

This laboratory is not responsible for % asbestos in total sample when the residue only is submitted for analysis. The above report relates only to the items tested. This report may not be reproduced, except in full, without written approval by EMSL Analytical, Inc. Samples received in good condition unless otherwise noted.
Analysis performed by EMSL Indianapolis (NVLAP Lab Code 200188-0)

April 18, 2018

Project No. 1898323

Iulia Madularu, P.Eng., ing., Ph.D., Chief Project Management

National Capital Commission

40, Elgin Street

Ottawa, Ontario

K1P 1C7

LIMITED SAMPLING AND ANALYSIS OF SUSPECTED LEAD-CONTAINING MATERIALS LOCATED AT NATIONAL CAPITAL COMMISSION (NCC) RESIDENTIAL BUILDING LOCATED AT 601, CHEMIN DE LAC MEECH, CHELSEA, QUEBEC

Dear Ms. Madularu

Golder Associates Ltd. (Golder) was retained by the National Capital Commission (NCC) (the “Client”) to perform limited sampling and analysis of suspected lead-containing materials (LCMs) at a NCC residential building located at 601, chemin du Lac Meech, in Chelsea, Quebec (the “Site”).

Based on the information provided by the NCC, repair operations are planned for the Site and confirmation of lead content of 16 paints by Flame Atomic Absorption Spectroscopy (FAAS) and four (4) paints (along with associated building materials) for lead in accordance with the EPA Method 1311, Toxic Characteristic Leaching Procedure (TCLP) were requested. It was understood that the NCC would also like to be provided with recommendations in regard to the appropriate handling and disposal of the materials, based on the analytical results.

Scope of Work

Golder’s scope of work was limited to the following:

- Preparation of a project-specific health and safety plan for the Site.
- Collecting up to 16 suspected lead-containing paint (LCP) samples at the Site and submitting these to an independent accredited laboratory for 5-day laboratory turn-around time (TAT) analysis for lead content by FAAS;
- Collecting up to four (4) suspected LCP samples (along with substrates) for lead analysis in accordance with the EPA Method 1311 for TCLP at a third party accredited lab in Quebec for comparison with Article 3 of the Quebec *Regulation respecting hazardous materials*, chapter Q-2, r.32, made under the Quebec *Environment Quality Act*; and,
- Providing a letter report outlining the results of sample analyses and recommendations regarding the appropriate handling and disposal of the materials, based on the analytical results.

Regulations

While the U.S. Hazardous Products Act (HPA) classifies lead-based paint as paints containing 0.5% lead by weight tested by chemical analysis and the U.S. Department of Housing and Urban Development (HUD) classifies lead-based paint as any paint application containing at least 0.5% by weight (5,000 mg/kg) or 1.0 milligrams of lead per square centimetre of surface area (mg/cm²) as measured by XRF, Quebec regulation currently does not include criteria for classification of lead-based paint, and allows for no minimum concentrations of lead in paint to be acceptable as non-lead-containing. Therefore, Golder considers in these circumstances that paints with any detectable presence of lead, as determined by FAAS or Inductively Coupled Argon Plasma-Atomic Emission Spectroscopy (ICAP-AES) laboratory testing methods or any other recognized chemical analysis, to be a lead-containing paint/coating.

In 2003, the “Commission des normes, de l'équité, de la santé et de la sécurité du travail” (CNESST) published its “Lead exposures” prevention guidelines (CNESST guidelines), to raise the awareness of employers and workers in regard to the hazards posed by lead and the measures and procedures that should be taken to control those hazards. While this document was originally prepared mainly for industries that used lead in their processes and not specifically for the construction industry, inspectors from the CNESST will refer to this document should they have concerns regarding workers exposure to lead during construction activities. Worker exposures to lead during construction activities must remain below the regulated Occupational Exposure Limits (OELs) for lead. The “Lead exposures” prevention guide can be of use to ensure that these requirements are met and to ensure appropriate handling and exposure control procedures when dealing with lead.

In compliance with the *Regulations respecting hazardous materials* (L.R.Q. c. Q-2, r. 32) (RRHM), leachate testing may be required to ensure that materials with LCPs do not leach above the regulated criteria before they are disposed of and to ensure they are disposed of at the appropriate waste facility. The maximum allowable concentration of lead leachate from a solid material is 5 milligrams per litre (mg/L).

Methodology

Bulk Paint Sample Analyses

Suspected LCP samples were collected in sealed and labelled bags and sent under chain-of-custody to an independent accredited laboratory for lead analysis following US EPA method SW 846 3050B/7000B. Each sample is digested, diluted and analyzed by FAAS.

Bulk Material Sample Analyses by TCLP

Suspected LCP samples with substrates were collected in sealed and labelled bags and sent under chain-of-custody to an independent accredited laboratory for TCLP analysis, in accordance with the *Méthode d'analyse approuvée (MA.) 100 – Lix.com. 1.1 – Protocole de lixivation pour les espèces inorganiques* for lead only.

Results

Golder was accompanied by a NCC representative, Ms. Iulia Madularu, to conduct the initial site reconnaissance. Based on discussions with the NCC, the assessed areas of the limited sampling of suspected LCPs of the Site included the interiors of the first and second floors as well as the accessible exterior areas of the residence. The majority; 15 of the 16 sampled suspected LCPs, were observed to be in fair to poor condition. All of the suspected LCPs with substrates were observed to be in poor condition.

Bulk Paint Sample Analyses

A total of 16 suspected LCPs were identified at the Site which may be disturbed during repair operations.

Based on the analytical results, the lead concentrations of 13 out of the 16 collected paints were found to be higher than the laboratory reporting detection limit (RDL) and are, therefore, considered to be lead-containing

The analytical laboratory results of the suspect LCP samples are summarized within Appendix A (Table A.1) and the Laboratory Test Report is included within Appendix B.

Bulk Material Sample Analyses by TCLP

A total of four (4) suspected LCPs with substrates were identified at the Site, which the NCC indicated may be removed for disposal during repair operations, including painted window and door frames and ceramic flooring.

Based on the analytical results, the concentrations of lead leachate from all four (4) sampled solid materials were below the maximum allowable concentration of 5 mg/L.

The analytical laboratory results of the suspect LCPs with substrates are summarized within Appendix A (Table A.2) and the Laboratory Test Report is included within Appendix B.

Recommendations

Lead-Containing Materials

Based on the findings, the following recommendations are made with respect to suspect LCMs at the Site:

- 1) If additional materials that may contain lead are identified during repair activities (e.g., cable wrapping or batteries), they should be treated as lead-containing until tested and proven otherwise; and
- 2) Disturbance of LCMs during repair activities must be conducted in accordance the Quebec *Regulation respecting occupational health and safety* (RROHS) and the CNESST guidelines. Worker exposures to lead during construction activities must remain below the regulated OELs for lead and the CNESST guidelines should be used to ensure that these requirements are met and to ensure appropriate handling and exposure control procedures when dealing with LCMs.
- 3) Disposal of lead must be conducted in accordance with the requirements of the RRHM.

Lead Worker Precautions Overview

Precautions against lead exposure during disturbance of the identified LCMs will be required during renovation and repair activities. Disturbance of these materials should be conducted in general accordance with the RROHS and the applicable CNESST guidelines. These guidelines should be reviewed in detail and the following points should be considered:

- 1) Dust suppression techniques, such as water misting, adequate ventilation, should be used to minimize the spread of dusts;
- 2) Workers required to disturb LCPs should be trained in the hazards of lead exposure and respiratory protection. Workers should be fit tested for the respirator worn and, at a minimum, use half-face respirators equipped with P100 particulate filter cartridges. Further protection may be required depending on the method of disturbance and the CNESST guidelines should be consulted;

- 3) A work area should be defined where appropriate respiratory protection and protective clothing is required such that the area outside the work area is not anticipated to be affected by dust generated during the work. Appropriate signage should be displayed around the perimeter of the work area indicating the hazards of lead and access should be restricted to trained and protected workers only;
- 4) The use of vacuums equipped with High Efficiency Particulate Air (HEPA) filtered exhaust should be used to clean surfaces during work and thoroughly after work is complete and to clean any other potentially contaminated equipment or building components; and,
- 5) A wash station should be provided for worker decontamination and access to water. Workers should be instructed on good personal hygiene and given on-site access to wash their hands and face prior to eating and drinking and exiting the work area.

Note that the above is not an extensive list. The above mentioned recommendations should be read in conjunction with the CNESST guidelines.

Limitations

This report was prepared for the exclusive use of the NCC. This report is based on samples and information collected during the Site visit conducted by Golder Associates Ltd. on March 19th, 2018 and is based solely on Site conditions encountered at the time of the sampling, as described in this report.

The recommendations contained in this report are based upon professional opinions with regard to the subject matter. These opinions are in accordance with currently accepted environmental assessment standards and practices applicable to these locations and are subject to the following inherent limitations.

The data and findings presented in this report are valid as of the date of the investigation. The passage of time, manifestation of latent conditions or occurrence of future events may warrant further exploration at the properties, analysis of the data, and re-evaluation of the findings, observations, and conclusions expressed in this report.

The findings and observations expressed by Golder Associates Ltd. in this report are not, and should not be considered, an opinion concerning compliance of any past or present owner or operator of the building with any federal, provincial or local laws or regulations.

Although efforts were made to expose and identify all potential LCMs within the specified areas at the Site, there is a possibility that additional LCMs may be present in concealed areas or other areas not included as part of this assessment.

As such, if additional and suspected LCMs are encountered during renovation activities that are not included in this report, it is recommended that a further investigation be conducted at that time. As such, in the case that suspected LCMs cannot be tested, they must be treated as LCMs until proven otherwise.

Closure

We trust that this report meets your requirements and current needs. If you have any questions regarding the content of this report or require any further information, please do not hesitate to contact the undersigned at (613) 592-9600. Thank you for the opportunity to be of service. We look forward to working with you again

Sincerely

Golder Associates Ltd.



Anne Yee, B.Sc.
EHS Consultant, Project Manager



Tim Seabert, M.Sc., CRSP
EHS Practice Leader

AY/TAS/ca




<https://golderassociates.sharepoint.com/sites/p18983232/deliverables/report/rpt - 1898323 - ncc - 601 ch du lac meech - lead assessment.docx>


Attachments: Attachment A: Spreadsheet of Findings
Attachment B: Laboratory Test Report

ATTACHMENT A

Spreadsheet of Findings




Table A.1: Summary of Paints Sampled for Lead Analysis

Location	Description	Condition	Concentration of Lead (ppm)	Sample Number	Lead-Containing Paint (Yes/No)	Image
Exterior	Grey paint on porch	Poor	<89	LP-001	No	
Exterior	White paint on exterior surfaces	Poor	980	LP-002	Yes	
Exterior	Green paint on shutters/windows	Poor	42,000	LP-003	Yes	

Location	Description	Condition	Concentration of Lead (ppm)	Sample Number	Lead-Containing Paint (Yes/No)	Image
First floor – Main entrance	Brown paint/stain on 4 x 4 beams along the ceiling	Fair	680	LP-004	Yes	
First floor – Main entrance	White paint on ceiling	Poor	4,300	LP-005	Yes	
First Floor – Kitchen	Medium brown/orange paint on floor	Poor	23,000	LP-006	Yes	




Location	Description	Condition	Concentration of Lead (ppm)	Sample Number	Lead-Containing Paint (Yes/No)	Image
First floor – Family room	Green/orange paint on floor	Poor	92,000	LP-007	Yes	
First floor – Kitchen and family room	Light blue paint on window frames	Poor	150	LP-008	Yes	
Stairwell between first and second floors	Red paint on stairs	Poor	47,000	LP-009	Yes	


Location	Description	Condition	Concentration of Lead (ppm)	Sample Number	Lead-Containing Paint (Yes/No)	Image
First floor – Dining room	Light brown paint/stain on floor and walls	Fair	<85	LP-010	No	
Second floor – First bedroom	Grey/orange paint on floor	Poor	91,000	LP-011	Yes	
Second floor – Common Area	Dark brown/orange paint on floor	Poor	110,000	LP-012	Yes	

Location	Description	Condition	Concentration of Lead (ppm)	Sample Number	Lead-Containing Paint (Yes/No)	Image
Second floor – Washroom	Light brown paint on floor	Poor	330,000	LP-013	Yes	
Second floor – Storage room	Orange paint on floor	Poor	470	LP-014	Yes	
Stairwell between first and second floors	Beige paint along stairwell wall	Poor	35,000	LP-015	Yes	
First Floor- Office / bathroom area	Light green paint on fiberboard wall	Good	24,000	LP-016	Yes	

Notes: When the result is preceded with "<", the result is lower than the analytical reporting detection limit (RDL)

Table A.2: Summary of Materials Sampled for Toxicity Characteristics Leaching Procedure (TCLP) for Lead

Location	Description	Condition	Concentration of Lead Leached (mg/L)	Sample Number	Considered a Characteristic Hazardous Waste (Yes/No)	Image
Exterior/ Interior	Green paint on wooden doors and window frames	Poor	0.67	TCLP-001	No	
Interior	Light blue paint on wooden window frames	Poor	0.22	TCLP-002	No	
Exterior/ Interior	White paint on wooden doors and window frames	Poor	0.52	TCLP-003	No	

Location	Description	Condition	Concentration of Lead Leached (mg/L)	Sample Number	Considered a Characteristic Hazardous Waste (Yes/No)	Image
First Floor Bathroom	2cm X 2cm Grey and brown decorative ceramic floor tiles	Poor	<0.010	TCLP-004	No	

Notes: When the result is preceded with "<", the result is lower than the analytical method limit of detection (LOD)

[https://golderassociates.sharepoint.com/sites/p18983232/deliverables/report/appendix a - spreadsheet of findings - 601 chemin de lac meech .docx](https://golderassociates.sharepoint.com/sites/p18983232/deliverables/report/appendix%20a%20-%20spreadsheet%20of%20findings%20-%20601%20chemin%20de%20lac%20meech%20.docx)

ATTACHMENT B

Laboratory Test Report



Lead (Pb) Chain of Custody EMSL Order ID (Lab Use Only):

551803320

EMSL CANADA, INC.
2756 SLOUGH ST,
MISSISSAUGA, ON L4T 1G3
PHONE: (289) 997-4602
FAX: (289) 997-4607

Company: Golder Associates		EMSL-Bill to: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different If Bill to is Different note instructions in Comments**	
Street: 1931 Robertson Rd		Third Party Billing requires written authorization from third party	
City: Ottawa	State/Province: ON	Zip/Postal Code: K2H 5B7	Country: Canada
Report To (Name): Kyle Heagle		Telephone #: 613-592-9600	
Email Address: kyle_heagle@golder.com		Fax #:	Purchase Order:
Project Name/Number: 1898323		Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email	
U.S. State Samples Taken:		CT Samples: <input type="checkbox"/> Commercial/Taxable <input type="checkbox"/> Residential/Tax Exempt	

Turnaround Time (TAT) Options* - Please Check

3 Hour
 6 Hour
 24 Hour
 48 Hour
 72 Hour
 96 Hour
 1 Week
 2 Week

*Analysis completed in accordance with EMSL's Terms and Conditions located in the Price Guide

Matrix	Method	Instrument	Reporting Limit	Check
Chips <input type="checkbox"/> % by wt. <input type="checkbox"/> mg/cm ² <input checked="" type="checkbox"/> ppm	SW846-7000B	Flame Atomic Absorption	0.01%	<input type="checkbox"/>
Air	NIOSH 7082	Flame Atomic Absorption	4 µg/filter	<input type="checkbox"/>
	NIOSH 7105	Graphite Furnace AA	0.03 µg/filter	<input type="checkbox"/>
	NIOSH 7300 modified	ICP-AES/ICP-MS	0.5 µg/filter	<input type="checkbox"/>
Wipe* ASTM <input type="checkbox"/> non ASTM <input type="checkbox"/> *if no box is checked, non-ASTM Wipe is assumed	SW846-7000B	Flame Atomic Absorption	10 µg/wipe	<input type="checkbox"/>
	SW846-6010B or C	ICP-AES	1.0 µg/wipe	<input type="checkbox"/>
	SW846-7000B/7010	Graphite Furnace AA	0.075 µg/wipe	<input type="checkbox"/>
TCLP	SW846-1311/7000B/SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
	SW846-1131/SW846-6010B or C	ICP-AES	0.1 mg/L (ppm)	<input type="checkbox"/>
Soil	SW846-7000B	Flame Atomic Absorption	40 mg/kg (ppm)	<input type="checkbox"/>
	SW846-7010	Graphite Furnace AA	0.3 mg/kg (ppm)	<input type="checkbox"/>
	SW846-6010B or C	ICP-AES	2 mg/kg (ppm)	<input type="checkbox"/>
Wastewater Unpreserved <input type="checkbox"/> Preserved with HNO ₃ pH < 2 <input type="checkbox"/>	SM3111B/SW846-7000B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
	EPA 200.9	Graphite Furnace AA	0.003 mg/L (ppm)	<input type="checkbox"/>
	EPA 200.7	ICP-AES	0.020 mg/L (ppm)	<input type="checkbox"/>
Drinking Water Unpreserved <input type="checkbox"/> Preserved with HNO ₃ pH < 2 <input type="checkbox"/>	EPA 200.9	Graphite Furnace AA	0.003 mg/L (ppm)	<input type="checkbox"/>
	EPA 200.8	ICP-MS	0.001 mg/L (ppm)	<input type="checkbox"/>
TSP/SPM Filter	40 CFR Part 50	ICP-AES	12 µg/filter	<input type="checkbox"/>
	40 CFR Part 50	Graphite Furnace AA	3.6 µg/filter	<input type="checkbox"/>
Other:				<input type="checkbox"/>

Name of Sampler: **Kyle Heagle** Signature of Sampler: _____

Sample #	Location	Volume/Area	Date/Time Sampled
LP - 01	Grey exterior paint on porch		March 19, 2018
LP - 02	White exterior paint on house and porch		March 19, 2018
LP - 03	Green exterior paint on shutters		March 19, 2018
LP - 04	Brown interior paint/stain on 4" x 4" wood beams		March 19, 2018
LP - 05	White interior paint on ceiling		March 19, 2018

Client Sample #'s: **2-1-LP#1 -** Total # of Samples: **1**

Relinquished (Client):	Kyle Heagle	Date:	Feb 1, 2016	Time:	1:30 pm
Received (Lab):		Date:		Time:	
Comments:					



LEAD (Pb) CHAIN OF CUSTODY
EMSL ORDER ID (Lab Use Only):

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	Location	Volume/Area	Date/Time Sampled
LP - 06	Medium brown/ orange interior floor paint - Kitchen area		March 19, 2018
LP - 07	Green/orange interior floor paint - Family room		March 19, 2018
LP - 08	Light blue paint on interior window frames - Kitchen and family room		March 19, 2018
LP - 09	Red interior paint on stairs		March 19, 2018
LP - 10	Light brown interior floor paint/stain - Dining Room		March 19, 2018
LP - 11	Grey/orange interior floor paint - Upstairs bedroom		March 19, 2018
LP - 12	Dark brown/ orange interior floor paint - Upstairs common area		March 19, 2018
LP - 13	Light brown interior floor paint - Upstairs bathroom		March 19, 2018
LP - 14	Orange interior floor paint - Upstairs storage room		March 19, 2018
LP - 15	Beige interior wall paint - Stairwell		March 19, 2018
LP - 16	Light green interior wall paint on fiberboard - Office area		March 19, 2018
Comments/Special Instructions:			

**EMSL Canada Inc.**

2756 Slough Street, Mississauga, ON L4T 1G3

Phone/Fax: 289-997-4602 / (289) 997-4607

<http://www.EMSL.com>torontolab@emsl.com

EMSL Canada Or 551803320

CustomerID: 55GOLA78

CustomerPO: 1898323

ProjectID:

Attn: **Kyle Heagle**
Golder Associates, Ltd.
1931 Robertson Road
Ottawa, ON K2H 5B7

Phone: (613) 592-9600
 Fax: (613) 592-9601
 Received: 03/21/18 9:53 AM
 Collected: 3/19/2018

Project: **1898323****Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)***

<i>Client Sample Description</i>	<i>Lab ID</i>	<i>Collected</i>	<i>Analyzed</i>	<i>Weight</i>	<i>Lead Concentration</i>
LP-01 Site: Grey exterior paint on porch	551803320-0001	3/19/2018	3/27/2018	0.2251 g	<89 ppm
LP-02 Site: White exterior paint on house and porch	551803320-0002	3/19/2018	3/27/2018	0.2300 g	980 ppm
LP-03 Site: Green exterior paint on shutters	551803320-0003	3/19/2018	3/27/2018	0.2339 g	42000 ppm
LP-04 Site: Brown interior paint/stain on 4" x 4" wood beam	551803320-0004	3/19/2018	3/27/2018	0.2241 g	680 ppm
LP-05 Site: White interior paint on ceiling	551803320-0005	3/19/2018	3/27/2018	0.2318 g	4300 ppm
LP-06 Site: Medium brown/ orange interior floor paint Kitchen area	551803320-0006	3/19/2018	3/27/2018	0.2394 g	23000 ppm
LP-07 Site: Green/orange interior floor paint - Family room	551803320-0007	3/19/2018	3/27/2018	0.2440 g	92000 ppm
LP-08 Site: Light blue paint on interior window frames - Kitchen and family room	551803320-0008	3/19/2018	3/27/2018	0.2400 g	150 ppm
LP-09 Site: Red interior paint on stairs	551803320-0009	3/19/2018	3/27/2018	0.2319 g	47000 ppm
LP-10 Site: Light brown Interior floor paint/stain - Dining Room	551803320-0010	3/19/2018	3/27/2018	0.2364 g	<85 ppm
LP-11 Site: Grey/orange interior floor paint -Upstairs bedroom	551803320-0011	3/19/2018	3/27/2018	0.2318 g	91000 ppm
LP-12 Site: Dark brown/ orange interior floor paint Upstairs common area	551803320-0012	3/19/2018	3/27/2018	0.2275 g	110000 ppm
LP-13 Site: Light brown interior floor paint - Upstairs bathroom	551803320-0013	3/19/2018	3/27/2018	0.2379 g	330000 ppm
LP-14 Site: Orange interior floor paint - Upstairs storage room	551803320-0014	3/19/2018	3/27/2018	0.2303 g	470 ppm
LP-15 Site: Beige interior wall paint - Stairwell	551803320-0015	3/19/2018	3/27/2018	0.2426 g	35000 ppm

Rowena Fanto, Lead Supervisor
 or other approved signatory

*Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.010 % wt based on the minimum sample weight per our SOP. Unless noted, results in this report are not blank corrected. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities. Samples received in good condition unless otherwise noted. "<" (less than) result signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. The QC data associated with the sample results included in this report meet the recovery and precision requirements unless specifically indicated otherwise. Definitions of modifications are available upon request.

Samples analyzed by EMSL Canada Inc. Mississauga, ON A2LA Accredited Environmental Testing Cert #2845.08

Initial report from 03/27/2018 17:51:52



EMSL Canada Inc.

2756 Slough Street, Mississauga, ON L4T 1G3

Phone/Fax: 289-997-4602 / (289) 997-4607

<http://www.EMSL.com>

torontolab@emsl.com

EMSL Canada Or	551803320
CustomerID:	55GOLA78
CustomerPO:	1898323
ProjectID:	

Attn: **Kyle Heagle**
Golder Associates, Ltd.
1931 Robertson Road
Ottawa, ON K2H 5B7

Phone: (613) 592-9600
 Fax: (613) 592-9601
 Received: 03/21/18 9:53 AM
 Collected: 3/19/2018

Project: **1898323**

Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)*

<i>Client Sample Description</i>	<i>Lab ID</i>	<i>Collected</i>	<i>Analyzed</i>	<i>Weight</i>	<i>Lead Concentration</i>
LP-16	551803320-0016	3/19/2018	3/27/2018	0.2408 g	24000 ppm
Site: Light green interior wall paint on fiberboard - Office area					

Rowena Fanto, Lead Supervisor
or other approved signatory

*Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.010 % wt based on the minimum sample weight per our SOP. Unless noted, results in this report are not blank corrected. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities. Samples received in good condition unless otherwise noted. "<" (less than) result signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. The QC data associated with the sample results included in this report meet the recovery and precision requirements unless specifically indicated otherwise. Definitions of modifications are available upon request.

Samples analyzed by EMSL Canada Inc. Mississauga, ON A2LA Accredited Environmental Testing Cert #2845.08

Initial report from 03/27/2018 17:51:52

Your P.O. #: ANNUELLE 2018
 Your Project #: 1898323
 Site Location: CHELSEA, QUEBEC
 Your C.O.C. #: N/A

Attention: Kyle Heagle

GOLDER ASSOCIATES LTD
 1931 Robertson Road
 Ottawa, ON
 Canada K2H 5B7

Report Date: 2018/03/26
 Report #: R2359904
 Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B809594

Received: 2018/03/21, 11:30

Sample Matrix: SOLID
 # Samples Received: 4

Analyses	Quantity	Date		Laboratory Method	Primary Reference
		Extracted	Analyzed		
Metals - Leached*	4	2018/03/23	2018/03/24	STL SOP-00006	MA.200-Mét. 1.2 R5 m
Toxicity Charact. Leach. Proc.(EPA 1311)*	4	2018/03/22	2018/03/23	STL SOP-00024	MA100-Lixcom1.1 R1 m

Remarks:

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

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

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

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

Results relate to samples tested.

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

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

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

* Maxxam is accredited as per the MDDELCC program.

Your P.O. #: ANNUELLE 2018
Your Project #: 1898323
Site Location: CHELSEA, QUEBEC
Your C.O.C. #: N/A

Attention: Kyle Heagle

GOLDER ASSOCIATES LTD
1931 Robertson Road
Ottawa, ON
Canada K2H 5B7

Report Date: 2018/03/26
Report #: R2359904
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B809594

Received: 2018/03/21, 11:30

Encryption Key

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

Kathie Quevillon, B.Sc., Chemist, Project Manager

Email: KQuevillon@maxxam.ca

Phone# (514)448-9001 Ext:6281

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

Maxxam Job #: B809594
Report Date: 2018/03/26

GOLDER ASSOCIATES LTD
Client Project #: 1898323
Site Location: CHELSEA, QUEBEC
Your P.O. #: ANNUELLE 2018
Sampler Initials: KH

METALS-LAB LEACHATE (SOLID)

Maxxam ID			FD8971	FD8972	FD8973	FD8974		
Sampling Date			2018/03/19 08:00	2018/03/19 08:00	2018/03/19 08:00	2018/03/19 08:00		
	Units	RMD	TCLP-01- GREEN EXTERIOR/ INTERIOR PAINT ON DOORS AND WINDOW FRAMES	TCLP-02- LIGHT BLUE INTERIOR PAINT ON WINDOW FRAMES	TCLP-03- WHITE EXTERIOR/INTERIOR PAINT ON DOORS AND WINDOW FRAMES	TCLP-04- GREY AND BROWN 2 CM X 2 CM DECORATIVE CERAMIC FLOOR TILES	RDL	QC Batch

METALS								
Lead (Pb)	mg/L	5.0	0.67	0.22	0.52	<0.010	0.010	1887131

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B809594
Report Date: 2018/03/26

GOLDER ASSOCIATES LTD
Client Project #: 1898323
Site Location: CHELSEA, QUEBEC
Your P.O. #: ANNUELLE 2018
Sampler Initials: KH

TCLP-EPA 1311 (SOLID)

Maxxam ID		FD8971	FD8972	FD8973	FD8974	
Sampling Date		2018/03/19 08:00	2018/03/19 08:00	2018/03/19 08:00	2018/03/19 08:00	
	Units	TCLP-01- GREEN EXTERIOR/ INTERIOR PAINT ON DOORS AND WINDOW FRAMES	TCLP-02- LIGHT BLUE INTERIOR PAINT ON WINDOW FRAMES	TCLP-03- WHITE EXTERIOR/INTERIOR PAINT ON DOORS AND WINDOW FRAMES	TCLP-04- GREY AND BROWN 2 CM X 2 CM DECORATIVE CERAMIC FLOOR TILES	QC Batch
Leachates						
Weight of sample (g)	n/a	75.4	75.6	86.1	20.1	1886931
pH Deionized water	n/a	5.73	5.73	5.73	5.73	1886931
pH end of leaching	n/a	3.20	3.10	3.22	4.33	1886931
Volume extracting fluid 2 (ml)	n/a	1510	1510	1720	400	1886931
QC Batch = Quality Control Batch						

Maxxam Job #: B809594
Report Date: 2018/03/26

GOLDER ASSOCIATES LTD
Client Project #: 1898323
Site Location: CHELSEA, QUEBEC
Your P.O. #: ANNUELLE 2018
Sampler Initials: KH

GENERAL COMMENTS

All results are calculated on a dry weight basis except where not applicable.

RMD: Maximum concentration of a contaminant in liquids or in leachates from solid material as per article 3 of the Regulation respecting hazardous materials (Q-2, r.15.2).

These criteria references are shown for visual aid only, and should not be interpreted otherwise.

- = This parameter is not part of the regulation.

TCLP-EPA 1311 (SOLID)

Please note the deviation from our standardized operating procedure regarding the matrix for the leachate analysis of the following samples:

FD8971: pieces of dark green painted wood with a granulometry above 9.5 mm.

FD8972: pieces of light green painted wood with a granulometry above 9.5 mm.

FD8973: pieces of white painted wood with a granulometry above 9.5 mm.

FD8974: pieces of bricks with a granulometry above 9.5 mm.

The pre-test was not done and the most aggressive fluid was used due to the nature of the samples but the ratio 1:20 was respected.

Results relate only to the items tested.

Maxxam Job #: B809594
Report Date: 2018/03/26

GOLDER ASSOCIATES LTD
Client Project #: 1898323
Site Location: CHELSEA, QUEBEC
Your P.O. #: ANNUELLE 2018
Sampler Initials: KH

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units
1886931	LD2	Method Blank	pH Deionized water	2018/03/23	5.73		n/a
			pH end of leaching	2018/03/23	2.85		n/a
			Volume extracting fluid 2 (ml)	2018/03/23	400		n/a
1887131	AK5	LEACH. BLANK	Lead (Pb)	2018/03/24	<0.010		mg/L
1887131	AK5	Spiked Blank	Lead (Pb)	2018/03/24		91	%

Leachate Blank: A blank matrix containing all reagents used in the leaching procedure. Used to determine any process contamination.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Maxxam Job #: B809594
Report Date: 2018/03/26

GOLDER ASSOCIATES LTD
Client Project #: 1898323
Site Location: CHELSEA, QUEBEC
Your P.O. #: ANNUELLE 2018
Sampler Initials: KH

VALIDATION SIGNATURE PAGE

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



Amel Ammar Khodja, Internship



Dochka Koleva Hristova, B.Sc., Chemist

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.

889 Montée de Liesse, Ville St-Laurent (Québec) H4T 1P5 Téléphone: (514) 448-9001 Télécopieur: (514) 448-9
 2690 Avenue Dalton, Sainte-Foy (Québec) G1P 3S4 Téléphone: (418) 656-5784 Télécopieur: (418) 658-6
 737 boul. Barette, Chicoutimi (Québec) G7J 4C4 Téléphone: (418) 543-3788 Télécopieur: (418) 543-8

Information facturation				Information rapport				Information projet				Délai d'analyse requis			
Compagnie: GOLDER ASSOCIATES				Compagnie: _____				# soumission: B70729				<input checked="" type="checkbox"/> 5 jours régulier			
Attention de: KYLE HEAGLE				Adresse: _____				Commande: Annuelle 2018				SVP aviser votre chargé de projets de toutes demandes de détails rapide			
Adresse: 1931 ROBERTSON ROAD				Tél: _____				# projet: 1898323				Délai rapide (Surcharges applicables)			
OTTAWA, ONTARIO K2H 5B7				Courriel: _____				Localisation du site: Chelsea, Quebec				<input type="checkbox"/> 8h (même jour) <input type="checkbox"/> 48h			
Tél: 613-295-1391				Tél: _____				# site: _____				<input type="checkbox"/> 24h <input type="checkbox"/> 72h			
Courriel: kyle_heagle@golder.com				Courriel: _____				Échantillonneur: Kyle Heagle				Date requise: _____			
Critères/Règlement applicable				Analyses requises				# confirmation-délai rapide:							
<input type="checkbox"/> Guide d'intervention(PSRTC) <input type="checkbox"/> RQEP -formulaire MDDELCC requis <input type="checkbox"/> RMD (Mat. lixiviable) <input type="checkbox"/> CMM 2008-47 <input type="checkbox"/> Qualité de l'eau de surface <input type="checkbox"/> CCME <input type="checkbox"/> Dir. 019 (Minier) <input checked="" type="checkbox"/> Autre (spécifier): See Kathie Quevillon				<input type="checkbox"/> Filtration au labo. Requête (O/N) <input type="checkbox"/> BTEX <input type="checkbox"/> COV <input type="checkbox"/> F2-F4 <input type="checkbox"/> H&G totales <input type="checkbox"/> H&G minérales <input type="checkbox"/> Phenols 4AAP <input type="checkbox"/> GC/MS <input type="checkbox"/> C10-C50 <input type="checkbox"/> NO ₂ <input type="checkbox"/> NO ₃ +NO _x <input type="checkbox"/> Cl <input type="checkbox"/> SO ₄ <input type="checkbox"/> F <input type="checkbox"/> pH <input type="checkbox"/> Conductivité <input type="checkbox"/> Turbidité <input type="checkbox"/> Métaux extractibles (PSRTC) - sols (Ag, As, Ba, Cd, Cr, Cu, Sn, Mn, Mo, Ni, Pb, Zn, Se) <input type="checkbox"/> Hg <input type="checkbox"/> P-total <input type="checkbox"/> Métaux dissous (PSRTC)-eaux souterraines (Al, Sb, Ag, As, Ba, Cd, Cr, Co, Cu, Mn, Mo, Ni, Pb, Se, Na, Zn) <input type="checkbox"/> Bore <input type="checkbox"/> Uranium <input type="checkbox"/> C ₆ H ₆ <input type="checkbox"/> DCO <input type="checkbox"/> DBO5 <input type="checkbox"/> MES <input type="checkbox"/> Colif (f/c) <input type="checkbox"/> Colif (tot) <input type="checkbox"/> E.coli <input type="checkbox"/> Leaching 1311 TCLP_5 <input type="checkbox"/> METALS METMS_LIX (PB)				Réservé au laboratoire Scellé légal O / N Températures des glacières Présen Intact Réfrigérant présent: O / N Instructions spéciales							
Matrice				# contenants											
Eau Souterraine (S) Eau Captage (C) Sol (Sol) Climat (Clim) Eau Surface (Sur) Lixiviât naturel (LN) Sédiment (Sed) Huile (H) Eau Usée (EU) Déchet liquide (DL) Solide (SL) Frottis (F) Eau Potable (P) Boue (B) Matière résiduelle (MR)				Autre (spécifier): _____											
Identification de l'échantillon		Date prélèvement (AAAA/MM/JJ)	Heure prélèvement (HH:MM)	Matrice											
1	TCLP - 01 - Green exterior/interior paint on doors and window frames	3/19/2018	8:00 AM	SL	1					X	X				
2	TCLP - 02 - Light blue interior paint on window frames	3/19/2018	8:00 AM	SL	1					X	X				
3	TCLP - 03 - White exterior/interior paint on doors and window frames	3/19/2018	8:00 AM	SL	1					X	X				
4	TCLP - 03 - Grey and brown 2 cm x 2 cm decorative ceramic floor tiles	3/19/2018	8:00 AM	SL	1					X	X				
5															
6															
7															
8															
9															
10															
Dessais par: (Signature/ lettres mouillées)		Date: (AAAA/MM/JJ)	Heure: (HH:MM)	Reçu par: (Signature/ lettres mouillées)		Date: (AAAA/MM/JJ)	Heure: (HH:MM)	# dossier Maxxam							
Kyle Heagle		20018/03/20	13:30	<i>Kathie Quevillon</i>		20018/03/20	11:30	B-10 seul 10							



21-Mar-18 11:30
 Kathie Quevillon
 B809594
 SBH

Sauf accord contraire passé par écrit, les services compris dans cette chaîne de responsabilité sont soumis aux conditions générales standard de Maxxam. Par la signature de cette chaîne de responsabilité, vous confirmez que vous avez pris connaissance des conditions générales et que vous les acceptez telles qu'elles se présentent au <http://maxxam.ca/fr/terms>.
 COC-1023 (11/2017) STL FCD-00782/1

**Phase I Environmental Site Assessment
NCC Property Asset Number 727
601 Meech Lake Road, Chelsea, Québec**

Prepared for:

National Capital Commission
202-40 Elgin Street
Ottawa, Ontario K1P 1C7

Trow Associates Inc.

154 Colonnade Road South
Ottawa, Ontario K2E 7J5
Telephone: (613) 225-9940
Facsimile: (613) 225-7337
E-mail: ottawa@trow.com
Web Site: www.trow.com

OTEN00016602C
November, 2003

Executive Summary

Trow Associates Inc. (Trow), was retained by the National Capital Commission (NCC) to carry out a Phase I Environmental Site Assessment (ESA) for a property located at 601 Meech lake Road, in Chelsea, Québec (NCC Property Asset # 727). The objective of this investigation was to characterize the likelihood, types and locations of contamination, hazardous building materials and designated substances that may be present at the property. In addition, the assessment was undertaken in order to determine whether there are any conditions or activities at the site that may be of concern with respect to pertinent environmental legislation.

The following are the significant conclusions resulting from our investigation.

Surface/Subsurface Contamination

No actual sources of surface/subsurface contamination that were noted on the subject property.

The following lists the potential sources of surface/subsurface contamination that were noted on the subject property:

- There are potential environmental concerns with respect to the former and current presence of a heating oil AST in the basement of the main house, that lies directly on the soil surface.

As a preliminary measure, Trow recommends the following courses of action be implemented:

1. *As the historic and current ASTs in the house have been situated on exposed ground surface, there is a potential that historic spills may have adversely impacted the subject site. It is therefore recommended as a precautionary measure that a borehole investigation be undertaken to assess the quality of the adjacent soil and/or groundwater regimes.*

Hazardous / Designated Substances

No actual hazardous/designated substances were noted at the subject property.

The following lists the potential hazardous/designated substances that were noted on the subject property:

- Lead may be present on the exterior and interior painted surfaces; and
- A minor amount of black discolouration was observed to be present on the ceiling of the bathroom of the main house. The discolouration may indicate the presence of surface mould.

Prior to performing renovations or other work which would disturb the materials listed above which may contain lead, sampling and laboratory analysis is recommended and/or appropriate

precautions should be taken during the work and the disposal of the materials. Building maintenance personnel or officials should inspect the black discolouration observed in the bathroom of the mainhouse to determine its nature and/or a future course of action (i.e., cleaning, mould assessment).

Compliance/Housekeeping Issues

The following lists the compliance/housekeeping issues that were noted on the subject property:

- The vent pipe for the basement fuel oil tank at the main house is less than 2 metres above ground level, and is therefore non-compliant with Section 6.9.1.7 of *B139-00 Installation Code for Oil Burning Equipment*, adopted by reference under the *TSSA Act, 2000*, which requires vent pipes adjacent to buildings to be terminated in open air, at least 2 metres above ground level.

The height of the vent pipes for the fuel oil tank should be upgraded to comply with the B139-00 Installation Code for Oil Burning Equipment.

Based on the results of this investigation, further work in the form of a Limited Phase II ESA is recommended to assess the quality of the soil and/or groundwater regimes adjacent to the AST located in the crawlspace of the home. The investigation would consist of hand drilling three shallow boreholes in the immediate vicinity of the heating oil AST and submitting one sample from each borehole for laboratory analysis of petroleum hydrocarbons (C₁₀ to C₅₀) and benzene, toluene, ethylbenzene, and xylenes. The lump sum cost to perform the above noted tasks is \$820 plus GST.

Table of Contents

Executive Summary	I
1.0 Introduction	1
1.1. Purpose.....	1
1.2. Methodology.....	1
2.0 Site Description	2
2.1. Site Location.....	2
2.2. Site and Vicinity Characteristics.....	2
3.0 Records Review	3
3.1. Standard Environmental Information Sources.....	3
3.1.1. Fire Insurance Plans.....	3
3.1.2. Historical Aerial Photographs.....	3
3.1.3. Property Use Directories and Land Titles Search.....	3
3.2. Other Information Sources – Physical Setting.....	3
3.2.1. Bedrock and Surficial Geology Maps.....	3
3.3. Other Information Sources – Historical Information.....	4
3.3.1. Regulatory Requests.....	4
3.3.2. Property Management Review.....	4
4.0 Site Reconnaissance and Interviews	5
4.1. Site Reconnaissance and Interviews.....	5
4.2. Structure Inspection.....	5
4.3. Chemical/Fuel Storage Inspection.....	5
4.4. Materials Handling and Waste Management Inspection.....	5
4.5. Underground Structures and Utilities.....	5
4.6. Physical Setting and Analysis.....	6
4.6.1. Building and Site Drainage.....	6
4.6.2. Pits and Lagoons.....	6
4.6.3. Presence of Fill.....	6
4.6.4. Topographic, Geologic and Hydrogeologic Conditions.....	6
4.7. Adjacent Sites.....	6

5.0 Designated Substances Audit and Other Materials of Concern	7
6.0 Compliance Review	8
6.1. Compliance Issues	8
6.2. Housekeeping Issues.....	8
6.3. Best Management Practices	8
7.0 Conclusions and Recommendations	9
8.0 Qualifications of Assessor	11
9.0 Limitations	12

Appendices

Appendix A: Figures

Appendix B: Regulatory Information

Appendix C: Site Photographs

1.0 Introduction

1.1. Purpose

Trow Associates Inc. (Trow), was retained by the National Capital Commission (NCC) to carry out a Phase I Environmental Site Assessment (ESA) for a property located at 601 Meech Lake Road, in Chelsea, Québec (NCC Property Asset # 727). The site location is presented in Figure 1 of Appendix A. The objective of this investigation was to characterize the likelihood, types and locations of contamination, hazardous building materials and designated substances that may be present at the property. In addition, the assessment was undertaken in order to determine whether there are any conditions or activities at the site which may be of concern with respect to pertinent environmental legislation.

1.2. Methodology

This investigation was completed in accordance with the scope of work as defined in the NCC Terms of Reference dated May 14, 2003, which included: i) a review of historic and current records pertaining to the site, ii) a visual inspection of the site, buildings, and surrounding properties, and iii) interviews with person(s) having knowledge of past and present site activities. The results of the assessment were compiled in a report format suitable to meet the requirements of the current CSA Standard Z768-01, Phase I Environmental Site Assessment. In addition, the scope of work was expanded to include a Designated Substances Survey (DSS) and an Environmental Compliance Audit (ECA).

The DSS was performed to identify the presence of any potentially hazardous and/or harmful materials listed under the Occupational Health and Safety Act of Ontario (i.e. acrylonitrile, arsenic, asbestos, benzene, coke oven emissions, ethylene oxide, isocyanates, lead, mercury, silica and vinyl chloride), other hazardous substances (i.e. polychlorinated biphenyls, ozone-depleting substances, faecal waste, urea formaldehyde foam insulation) and environmental moulds (interior survey).

The ECA focussed on potential issues of non-compliance which could adversely impact environmental conditions. The site was assessed with respect to federal, provincial and municipal laws and regulations pertaining to storage tank operations, effluent/wastewater discharge, hazardous materials and hazardous waste management practices and chemical storage/handling/disposal.

2.0 Site Description

2.1. Site Location

The NCC owned site is located at 601 Meech Lake Road. The site location is presented in Figure 1 of Appendix A.

2.2. Site and Vicinity Characteristics

The subject site is rectangular in shape, occupies an area of approximately 4 hectares, and is comprised of a 110 square metre, two-storey, timber frame residential dwelling, a small, workshop shed, a chicken coop, and another small shed. The remainder of the site consists of grassed and treed areas.

3.0 Records Review

3.1. Standard Environmental Information Sources

3.1.1. Fire Insurance Plans

No Fire Insurance Plans were found for the subject site.

3.1.2. Historical Aerial Photographs

Aerial Photographs were reviewed at the National Air Photo Library for the years 1946, 1953, 1960, 1966, 1967, 1968, 1969, 1972, and 2001. Limitations such as scale and shading were encountered during the review process.

Based on the aerial photo review, the historical land use on the subject site is generally the same as present day. The same buildings were observed on the subject site in each photo during the aerial photograph review.

In summary, no areas of potential environmental concern were identified from the review of the historic aerial photographs.

3.1.3. Property Use Directories and Land Titles Search

Historical property use directories were not available for the subject site. A land titles search was not conducted as sufficient information was obtained from other historical sources.

3.2. Other Information Sources – Physical Setting

3.2.1. Bedrock and Surficial Geology Maps

The following information source was reviewed to determine the nature of the subsurface materials of the site.

Surficial Materials and Terrain Features – Ottawa-Hull, Ontario-Quebec; Geological Survey of Canada, Map 1425A. Scale 1:125,000, 1974.

A review of the map revealed that the study area is underlain by bedrock which consists of :Pre-Cambrian-aged syenite and monzonite. Unconsolidated sediments may also be present (up to two metres in thickness) in select areas.

3.3. Other Information Sources – Historical Information

3.3.1. Regulatory Requests

Information from provincial sources pertaining to the above areas of concern was requested from the Ministère de L'Environnement du Québec (MENV) and Ministère des Ressources Naturelles du Québec (MRN) (Appendix B).

The MENV and the MRN had no records on file for the subject site.

3.3.2. Property Management Review

Trow conducted a review of property management records on September 11, 2003. No potentially environmentally significant information was obtained from the review process.

4.0 Site Reconnaissance and Interviews

4.1. Site Reconnaissance and Interviews

A site visit was conducted on September 15, 2003. The results of the site reconnaissance are discussed below. Photographs from the site visit can be found in Appendix C.

Ms. Joyce Cameron-Kay, current site tenant, was interviewed in-person on September 15, 2003 in order to gain some background knowledge on observed site conditions. Ms. Joyce Cameron-Kay has been a tenant at the site for approximately 5 years. No potentially environmentally significant information was obtained from the interview process.

4.2. Structure Inspection

The subject site is comprised of a 110 square metre, two-storey, timber frame residential dwelling, a small, workshop shed, a chicken coop, and another small shed. A minor amount of black discolouration was observed to be present on the ceiling of the bathroom of the main house. The discolouration may indicate the presence of surface mould.

4.3. Chemical/Fuel Storage Inspection

A 900 litre above ground storage tank (AST) was observed in the basement crawl space in the main house. The AST, recently installed in 2000, was situated on a dirt floor, with no secondary containment noted. No staining was observed in the vicinity of the AST. Ms. Kay informed Trow that a former AST was formerly situated in the same location as the current one.

As the historic and current ASTs in the house have been situated on an exposed ground surface in the basement crawl space, there is a potential that historic spills may have adversely impacted the subject site. It is therefore recommended as a precautionary measure that a borehole investigation be undertaken to assess the quality of the adjacent soil and/or groundwater regimes.

4.4. Materials Handling and Waste Management Inspection

No waste materials were encountered on the subject property during the site visit. As such, issues relating to materials handling and waste management were not identified during the site visit.

4.5. Underground Structures and Utilities

No underground structures or utilities were observed on the subject property.

4.6. Physical Setting and Analysis

4.6.1. Building and Site Drainage

As previously mentioned, no building drainage systems were apparent during the site visit. As such, site drainage is directed downwards by way of infiltration in the overburden and horizontally by overland flow towards the north to northwest.

4.6.2. Pits and Lagoons

No pits or lagoons were observed on the subject property during the site visit.

4.6.3. Presence of Fill

Significant amounts of fill were not observed on the subject site. Ms. Kay could not recall fill being placed on the property.

4.6.4. Topographic, Geologic and Hydrogeologic Conditions

The site slopes towards the northwest. The structures are located on a relatively flat area. No significant geologic or hydrogeologic features were noted on this site. Based on site topography, the local groundwater flow direction is assumed to be north to northwest, towards Meech Lake.

4.7. Adjacent Sites

The site is surrounded by vacant, undeveloped lands in all directions. Adverse environmental impacts associated with the adjacent properties are not anticipated.

5.0 Designated Substances Audit and Other Materials of Concern

No actual hazardous/designated substances were noted at the subject property.

The following lists the potential hazardous/designated substances that were noted on the subject property:

- Lead may be present on the exterior painted surfaces.

Prior to performing renovations or other work which would disturb the materials listed above which may contain lead, sampling and laboratory analysis is recommended and/or appropriate precautions should be taken during the work and the disposal of the materials.

6.0 Compliance Review

6.1. Compliance Issues

The following lists the compliance/housekeeping issues that were noted on the subject property:

- The vent pipe for the basement fuel oil tank at the main house is less than 2 metres above ground level, and is therefore non-compliant with Section 6.9.1.7 of *B139-00 Installation Code for Oil Burning Equipment*, adopted by reference under the *TSSA Act, 2000*, which requires vent pipes adjacent to buildings to be terminated in open air, at least 2 metres above ground level.

The height of the vent pipes for the fuel oil tank should be upgraded to comply with the B139-00 Installation Code for Oil Burning Equipment.

6.2. Housekeeping Issues

No housekeeping issues were noted at the subject site.

6.3. Best Management Practices

As no compliance or housekeeping issues were identified, best management practices are not recommended for the subject site.

7.0 Conclusions and Recommendations

The following are the significant conclusions resulting from our investigation.

As a preliminary measure, Trow recommends the following courses of action be implemented:

1. *As the historic and current ASTs in the house have been situated on exposed ground surface, there is a potential that historic spills may have adversely impacted the subject site. It is therefore recommended as a precautionary measure that a borehole investigation be undertaken to assess the quality of the adjacent soil and/or groundwater regimes.*

Hazardous / Designated Substances

No actual hazardous/designated substances were noted at the subject property.

The following lists the potential hazardous/designated substances that were noted on the subject property:

- Lead may be present on the exterior and interior painted surfaces; and
- A minor amount of black discolouration was observed to be present on the ceiling of the bathroom of the main house. The discolouration may indicate the presence of surface mould.

Prior to performing renovations or other work which would disturb the materials listed above which may contain lead, sampling and laboratory analysis is recommended and/or appropriate precautions should be taken during the work and the disposal of the materials. Building maintenance personnel or officials should inspect the black discolouration observed in the bathroom of the mainhouse to determine its nature and/or a future course of action (i.e., cleaning, mould assessment).

Compliance/Housekeeping Issues

The following lists the compliance/housekeeping issues that were noted on the subject property:

- The vent pipe for the basement fuel oil tank at the main house is less than 2 metres above ground level, and is therefore non-compliant with Section 6.9.1.7 of *B139-00 Installation Code for Oil Burning Equipment*, adopted by reference under the *TSSA Act, 2000*, which requires vent pipes adjacent to buildings to be terminated in open air, at least 2 metres above ground level.

The height of the vent pipes for the fuel oil tank should be upgraded to comply with the B139-00 Installation Code for Oil Burning Equipment.

Based on the results of this investigation, further work in the form of a Limited Phase II ESA is recommended to assess the quality of the soil and/or groundwater regimes adjacent to the AST

located in the crawlspace of the home. The investigation would consist of hand drilling three shallow boreholes in the immediate vicinity of the heating oil AST and submitting one sample from each borehole for laboratory analysis of petroleum hydrocarbons (C₁₀ to C₅₀) and benzene, toluene, ethylbenzene, and xylenes. The lump sum cost to perform the above noted tasks is \$820 plus GST.

8.0 Qualifications of Assessor

Trow Associates Inc., provides a full range of environmental services through a full-time Environmental Services Group. Trow's Environmental Services Group has developed a strong working relationship with clients in both the private and public sectors and has developed a positive relationship with Ontario Ministry of the Environment. Personnel in the numerous branch offices form part of a large network of full-time dedicated environmental professionals in the Trow organisation.

Mark McCalla, B.Sc., P.Geo., acted as the Team Leader for this assessment. He has been responsible for numerous Environmental Site Assessments, Hazardous and Designated Substance surveys, and Environmental Compliance Audits in his career.

Pamela Cushing, B.Sc.(Eng) acted as the Site Assessor for this assessment. She is responsible for conducting Phase I, II and III Site Assessments for residential, industrial, commercial and institutional properties with Trow.

9.0 Limitations

The information presented in this report is based on information provided by others and visual observations as identified herein. This type of limited investigation is designed to provide information to support an overall Phase I ESA of the current environmental conditions of the subject site. Sampling and analysis of soils, groundwater, and other material, however, were not carried out as part of this investigation. The investigation did not involve the removal of fixed items within any structures (i.e. fluorescent light fixtures, etc.). The findings cannot be extended to portions of the subject site, which were unavailable for direct observation at the time of Trow's investigation.

Achieving the objectives stated in this report has required us to arrive at conclusions based upon the best information presently known to us. No investigative method can completely eliminate the possibility of obtaining partially imprecise or incomplete information; it can only reduce the possibility to an acceptable level. Professional judgement was exercised in gathering and analyzing the information obtained and in the formulation of the conclusions. Like all professionals rendering advice, we do not act as absolute insurers of the conclusions we reach, but we commit ourselves to care and competence in reaching those conclusions.

It should also be noted that current environmental guidelines and regulations are subject to change, and such changes, when put into effect, could alter the conclusions and recommendations noted throughout this report.

The conclusions and recommendations noted throughout this report reflect existing site conditions with respect to the current environmental condition of the subject site at the time of this assessment. Compliance of past owners with applicable environmental regulations was not within the scope of this Phase I ESA.

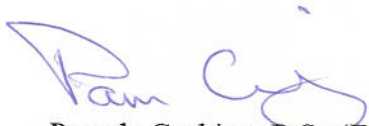
It is possible that unexpected environmental conditions may be encountered on the subject site which have not been explored within the scope of this Phase I ESA. Should such an event occur, Trow should be immediately notified in order that we may determine if modifications to our conclusions are necessary.

This report has been prepared for the exclusive use of the NCC in accordance with accepted environmental study and/or engineering practices for a Phase I ESA (CSA Standard Z768-01). No other warranties, either expressed or implied, are made as to the professional services provided under the terms of the Phase I ESA and included in this report. Any use which a third party makes of this report, or any part hereof, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. Trow accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

We trust this report is satisfactory for your purposes. If you have any questions regarding our submission, please do not hesitate to contact this office.

Respectfully submitted,

Trow Associates Inc.

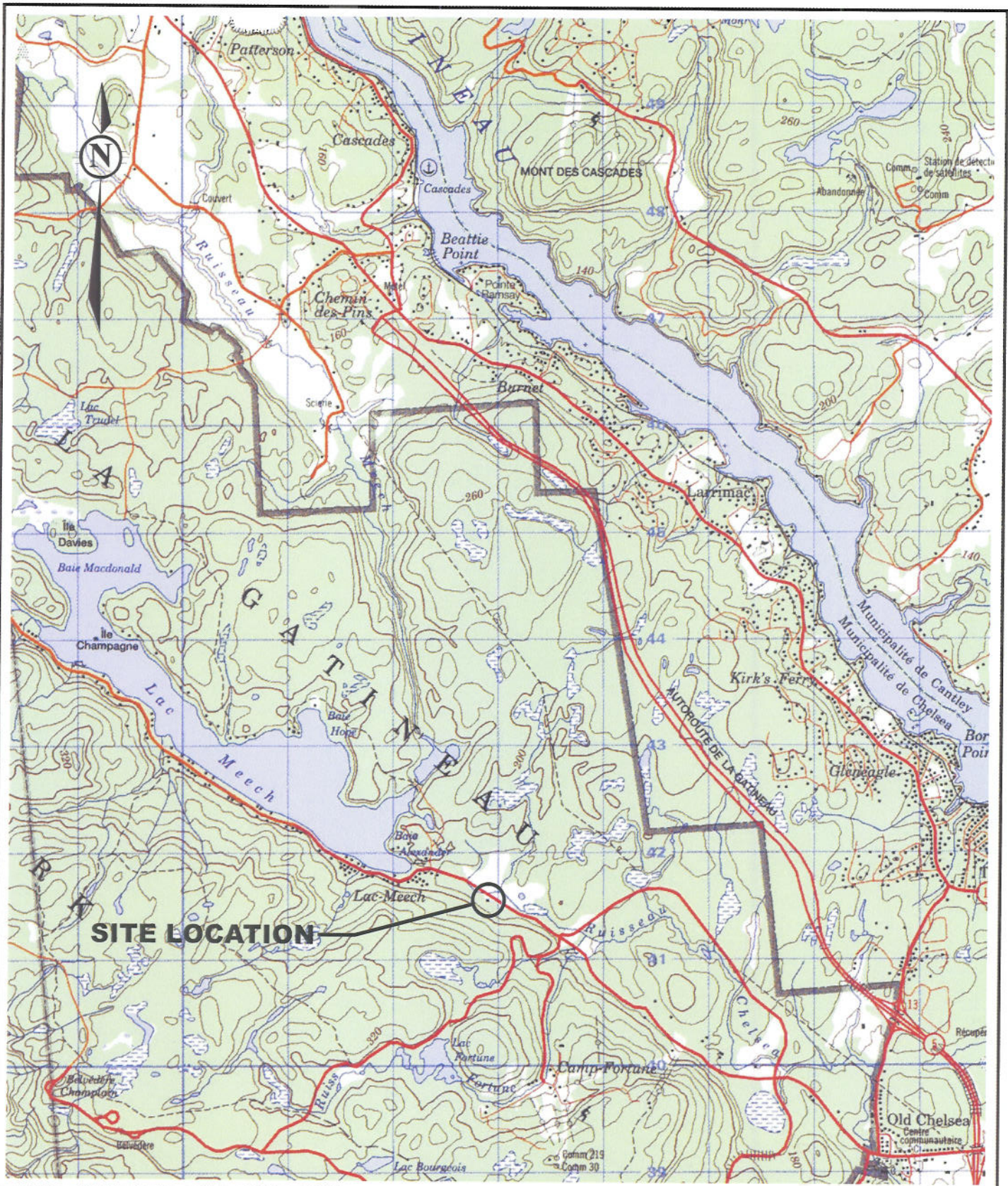


Pamela Cushing, B.Sc.(Eng)
Intermediate Environmental Scientist
Environmental Science & Engineering Services



Mark McCalla, B.Sc., P.Geol.
Senior Project Manager
Environmental Science & Engineering Services

Appendix A: Figures




 **Trow Associates Inc.**

154 Colonnade Road South,
Ottawa, Ontario K2E 7J5

Tel: (613) 225-9940
Fax: (613) 225-7337



SCALE 1:50,000	CLIENT  National Capital Commission	Commission de la capitale nationale	JOB No. OTEN00016602C
DATE NOV 2003	TITLE SITE LOCATION PLAN NCC PROPERTY ASSET N°727		FIG 1
DRAWN RG			

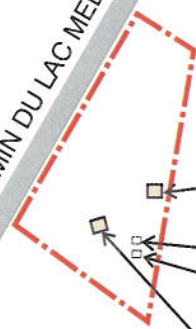


TO OLD CHELSEA

UNDEVELOPED

UNDEVELOPED

CHEMIN DU LAC MEECH



- GARAGE (FORMER BARN)
- FORMER SHED
- FORMER \ CHICKEN COOP
- HOUSE 601 CHEMIN DU LAC MEECH

UNDEVELOPED

UNDEVELOPED

TO MEECH LAKE



154 Colonnade Road South, Ottawa, Ontario K2E 7J5 Tel: (613) 225-9940 Fax: (613) 225-7337



SCALE 1:5,000	CLIENT  National Capital Commission Commission de la capitale nationale	JOB No. OTEN00016602C
DATE NOV 2003	TITLE SITE LAYOUT NCC PROPERTY ASSET N°727	FIG 2
DRAWN RG		

Appendix B: Regulatory Information

Ministère des
Ressources naturelles,
de la Faune
et des Parcs

Québec

Bordereau de télécopie

Date:	2003-09-30	Nombre total de pages:	1
Destinataire	Nom: Pam Cushing	Organisme:	Trouw Associates inc.
	Adresse:		
	Téléphone:	Télécopieur:	613-225-7337
Expéditeur	Nom: Josée LeBreux	Unité administrative:	Direction du développement des hydrocarbures
	Téléphone: (418) 627-6385, poste 8200 1 800-767-1420	Télécopieur:	(418) 528-0690

Message:

Madame, Monsieur,

Nous avons bien reçu votre requête en date du 25 septembre 2003 relative à votre demande d'information concernant l'adresse mentionnée ci-dessous.

Cependant, nous ne pouvons vérifier le site mentionné puisque nous avons besoin d'adresse civique complète. Notre système informatique retrace les dossiers à partir d'adresse de site précise.

Pour de plus amples informations, n'hésitez pas à me contacter.

Votre référence: OTEW0016602C

Aucun dossier sur le chemin Lac Meech

(Politique de confidentialité)

Ce document est destiné à l'usage exclusif du destinataire et contient de l'information privilégiée et confidentielle. Si le lecteur de ce message n'est pas le destinataire, il est prié d'en aviser immédiatement l'expéditeur et de détruire le document par la suite.

5700, 4^e Avenue Ouest, A-401
Charlebourg (Québec) G1H 6R1



PAR TÉLÉCOPIEUR

Gatineau, le 30 septembre 2003

Madame Pam Cushing, B.Sc.
Trow Associates inc.
154 Colonnade Road South
Ottawa (Ontario) K2P 7J5

OBJET : Accès à l'information / Municipalité de Chelsea,
propriétés situées aux :

- P24B, rang XI, canton Hull;
- P24B, rang XI, canton Hull (abri pour bateaux);
- 761, chemin du Lac Meech;
- P21A & 22A, rang 10 et P21B & P22B, rang 10,
canton Hull;
- 601, chemin du Lac Meech;

Madame,

La présente fait suite à votre lettre reçue le 25 septembre 2003 par laquelle vous demandez accès à des documents concernant le dossier cité en rubrique.

Nous vous informons que nous n'avons retrouvé aucun dossier correspondant à votre demande à la Direction régionale de l'Outaouais du ministère de l'Environnement.

...2

Direction régionale de l'Outaouais
98, rue Loïs
Gatineau (Québec) JBY 3R7

Téléphone : (819) 772-3434
Télécopieur : (819) 772-3952
Internet : <http://www.mde.m.gouv.qc.ca>
Courriel : dr07@menv.gouv.qc.ca

Je vous prie de recevoir, Madame, mes salutations distinguées.

Le répondant régional,

Madeline Larose

Park Serge Provencher

SP/ml

Appendix C: Site Photographs



Photo 1: Home on subject site looking northwest.



Photo 2: Former Barn, current garage (storage) looking south from laneway.

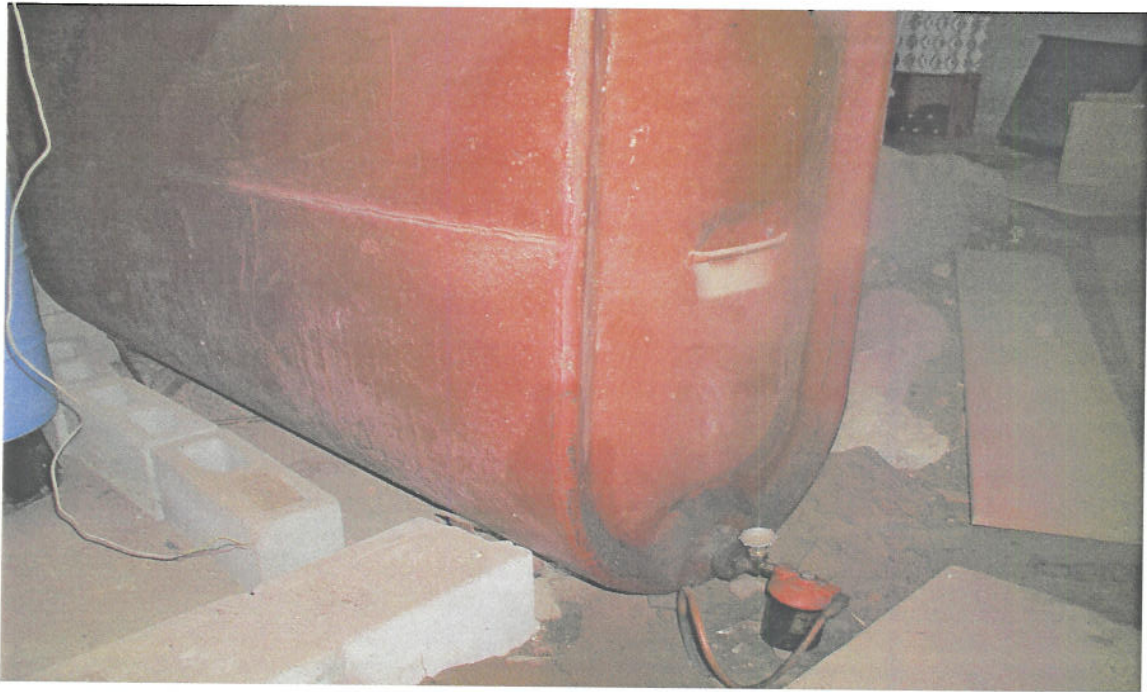


Photo 3: AST located in crawlspace of basement.

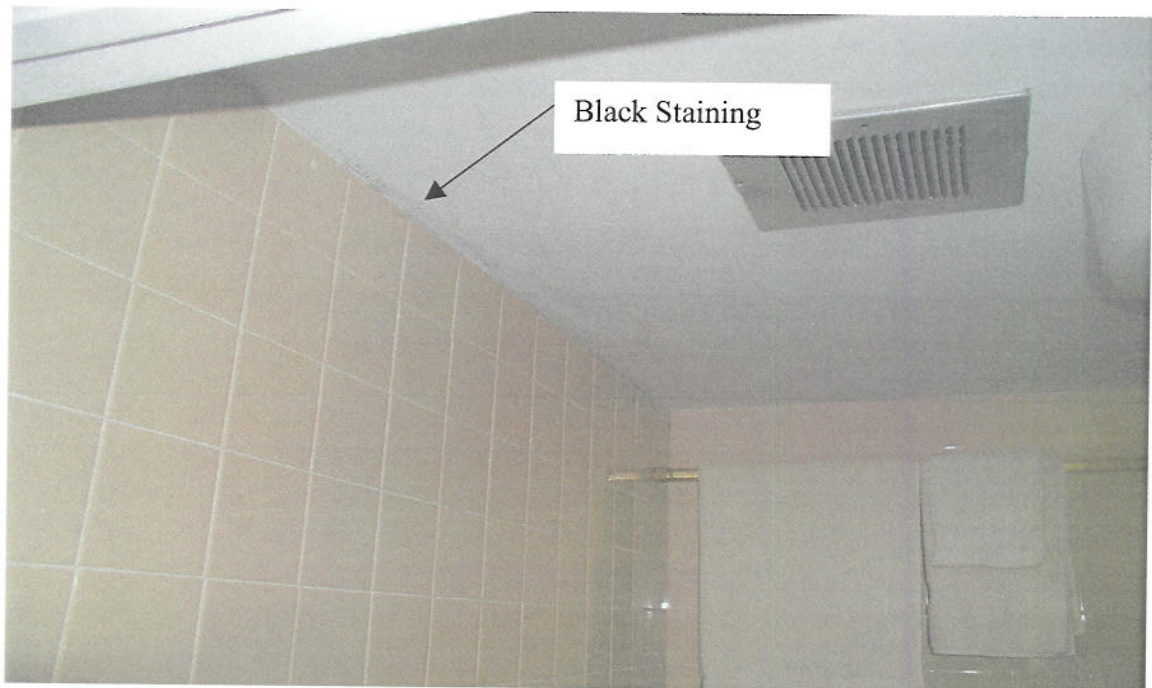


Photo 4: Minor black staining indicating potential mould along ceiling in bathroom.



National Capital
Commission

Commission
de la capitale nationale

Canada

COMMISSION DE LA CAPITALE NATIONALE
Services de l'environnement
40, rue Elgin,
Ottawa (Ontario) K1P 1C7

Évaluation environnementale de site
Phase II

601, Meech Lake Road - Chelsea, Québec
No. de propriété CCN: # 727
No. dossier CCN: CP2200-848-248



Novembre 2004
N/Réf. : 54252

747, 5e Rue
Shawinigan (Québec)
G9N 1G2
Téléphone : (819) 536-5652
Télécopieur : (819) 536-7170
Courriel : courrier-sh@muni-ims.qc.ca

1350, rue Royale, bur. 700
Trois-Rivières (Québec)
G9A 4J4
Tél. : (819) 694-1874
Télec. : (819) 694-7738
Courriel : courrier-cap@muni-ims.qc.ca

500, St-Martin Ouest, bureau 350
Laval (Québec)
H7M 3Y2
Téléphone : (514) 353-6861
Télécopieur : (514) 333-5187
Courriel : courrier-mtl@muni-ims.qc.ca



National Capital
Commission

Commission
de la capitale nationale

Canada

Commission de la Capitale nationale
Services de l'environnement
40, rue Elgin
Ottawa (Ontario) K1P 1C7

Évaluation environnementale de sites – Phase II

Rapport final

N/Réf. IMS : 54252

V/Réf. CCN : CP2200-848-248

Site :
No. de propriété CCN 727
601 Meech Lake Road, Chelsea (Québec)

Préparé par : _____
Agathe De La Chaise

Révisé par : _____
Martin Magnan, ing., M.Sc.A.

Approuvé par : _____
Jean-François Thibeault, ing.



1350, rue Royale, bur. 700
Trois-Rivières (Québec)
G9A 4J4
Tél. : (819) 694-1874
Télec. : (819) 694-7738

747, 5^e Rue
Shawinigan (Québec)
G9N 1G2
Tél. : (819) 536-5652
Télec. : (819) 536-7170

500, St-Martin Ouest, bur. 350
Laval (Québec)
H7M 3Y2
Tél. : (514) 353-6861
Télec. : (514) 333-5187



Novembre 2004



TABLE DES MATIÈRES

1.0	INTRODUCTION	2
1.1	DESCRIPTION DU SITE	2
1.2	PROBLÉMATIQUE SOULEVÉE PAR L'ÉTUDE DE PHASE I.....	4
1.3	OBJECTIFS.....	4
1.4	CADRE RÉGLEMENTAIRE.....	4
2.0	MÉTHODOLOGIE DES TRAVAUX DE TERRAIN	5
2.1	PHOTOGRAPHIES DU SITE	5
2.2	PROTOCOLE D'ÉCHANTILLONNAGE.....	5
	2.2.1 <i>Échantillonnage des sols</i>	5
2.3	ÉTIQUETAGE DES ÉCHANTILLONS :	6
2.4	SÉLECTION DES PARAMÈTRES ANALYTIQUES	7
2.5	CONSERVATION DES ÉCHANTILLONS	7
2.6	CONTRÔLE DE LA QUALITÉ EN LABORATOIRE	7
2.7	INTERPRÉTATION DES RÉSULTATS D'ANALYSE	8
2.8	CONTRÔLE DE LA QUALITÉ DES DONNÉES OBTENUES.....	8
3.0	PRÉSENTATION DES RÉSULTATS	8
3.1	DESCRIPTION DU SITE, MATÉRIAUX RENCONTRÉS ET TOPOGRAPHIE	8
3.2	INTERPRÉTATION DES RÉSULTATS DES SOLS	9
4.0	CONCLUSIONS ET RECOMMANDATIONS.....	11
5.0	UTILISATION DU RAPPORT	12

LISTE DES ANNEXES :

ANNEXE I -	Photographies du site
ANNEXE II -	Plans du site et d'échantillonnage
ANNEXE III -	Certificats d'analyses
ANNEXE IV -	Bibliographie

LISTE DES TABLEAUX :

TABLEAU I -	Tableau des résultats d'analyses des sols
--------------------	---

1.0 INTRODUCTION

Suite à l'obtention d'une offre de service permanente de services d'évaluation environnementale de sites avec la Commission de la Capitale nationale, IMS Experts-Conseils a été mandatée afin de réaliser une évaluation environnementale de phase II du site # 727 – 601 Meech Lake Road, Chelsea (Québec). Les travaux de phase II se sont déroulés le 9 août 2004.

Ce rapport contient une description de la méthodologie utilisée pour effectuer les travaux de terrain, une description des travaux réalisés, les résultats et l'interprétation de ceux-ci ainsi qu'une conclusion et des recommandations.

Tous les dossiers utilisés à la réalisation de ce rapport sont fournis en annexe, incluant les photographies du site, les plans de localisation et d'échantillonnage, les certificats d'analyses, la stratigraphie des sols ainsi que les documents de référence.

1.1 Description du site

Le site visé portant le numéro de propriété 727 est situé au 601 du chemin du Lac Meech, dans la ville de Gatineau, secteur Chelsea, à la latitude 45° 31' 30" N et la longitude 75° 51' 36" O dans le feuillet du Système national de Référence cartographique du Canada [1 :20 000] : 31G12-200-0101

Les figures à la page suivante, provenant de la carte topographique, montrent la localisation du site.

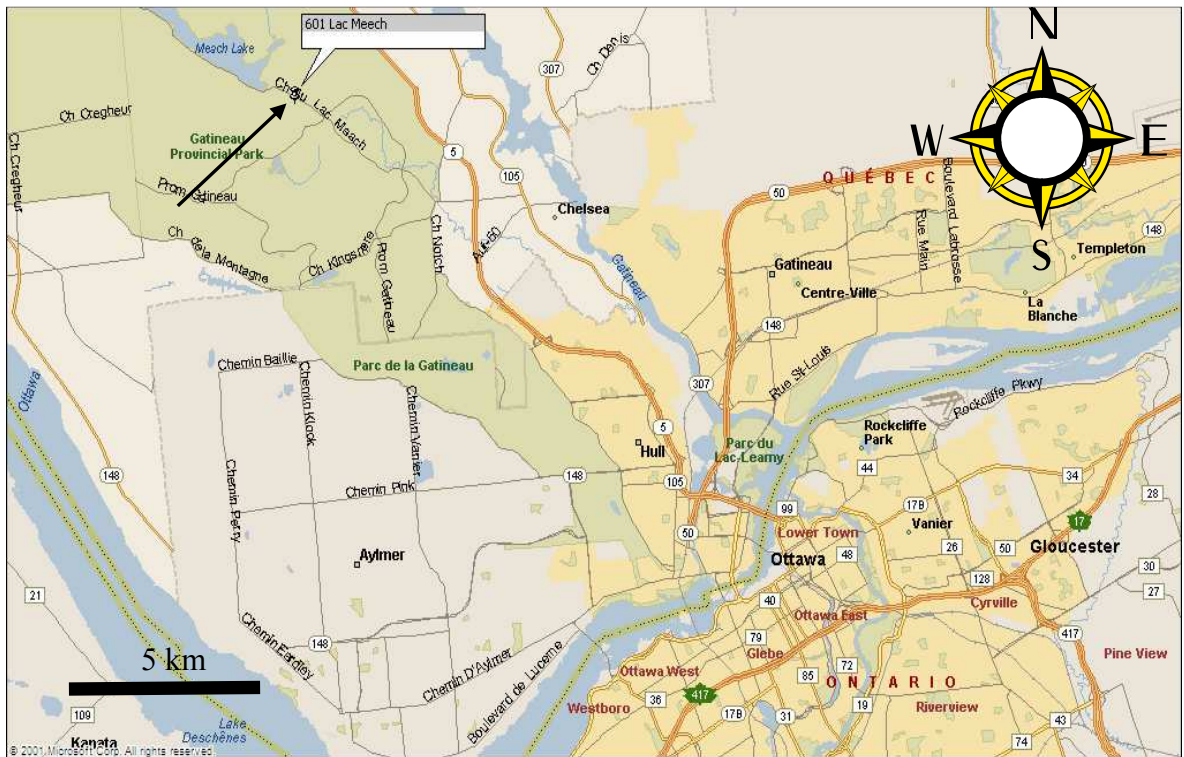


Figure 1 : Localisation du site 727. Extrait de la carte routière.

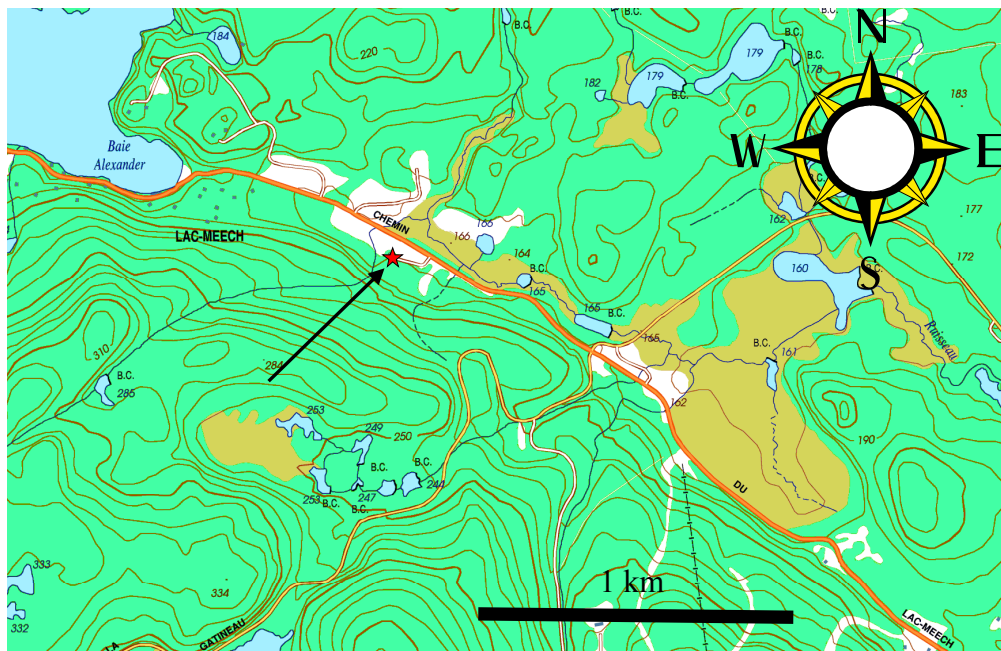


Figure 2 : 601 chemin du lac Meech dans le Parc de la Gatineau.

1.2 Problématique soulevée par l'étude de phase I

En novembre 2003, Trow Associate Inc. a effectuée une étude de phase I. Cette étude a identifié l'élément suivant comme source potentielle de contamination :

- Présence d'un réservoir d'hydrocarbures hors-sol actuellement à l'emplacement des anciens réservoirs hors-sol.

1.3 Objectifs

L'objectif des travaux de la phase II est de détecter la présence éventuelle de contamination et, le cas échéant, de préciser la nature, l'étendue et la sévérité de celle-ci. Pour cela, nous échantillonnerons manuellement les sols autour du réservoir ainsi que directement sous la valve du réservoir.

Si nécessaire, une solution de réhabilitation sera proposée avec un coût budgétaire.

1.4 Cadre réglementaire

Le présent rapport de caractérisation a été réalisé selon les prescriptions de la Loi sur la qualité de l'environnement (L.R.Q., c. Q-2), section IV.2.1, de la Politique de protection des sols et de réhabilitation des terrains contaminés (juin 1998) ainsi que sur le Règlement sur l'enfouissement des sols contaminés (Q-2, r6.01). Les critères génériques pour les sols de l'annexe 2 de la politique ont servi à établir le niveau de contamination (A, B, C). Ces critères peuvent être définis comme suit :

Niveau A : Teneurs de fond pour les paramètres inorganiques et limite de quantification pour les paramètres organiques.

Niveau B : Limite maximale acceptable pour des terrains à vocation résidentielle, récréative et institutionnelle. Sont également inclus les terrains à vocation commerciale situés dans un secteur résidentiel.

Niveau C : Limite maximale acceptable pour des terrains à vocation commerciale, non situés dans un secteur résidentiel et pour des terrains à usage industriel.

La jurisprudence a démontré qu'à défaut de règlement fixant les niveaux de contamination, les critères génériques peuvent être interprétés à titre de règlement.

Également pour les sols, les Standards pancanadiens relatifs aux hydrocarbures pétroliers dans les sols (SPC-HCP, CCME, 2001) sont appliqués.

2.0 MÉTHODOLOGIE DES TRAVAUX DE TERRAIN

Les travaux d'échantillonnage manuel des sols se sont déroulés selon les règles environnementales de l'art, tel que mentionné dans le « *Guide d'échantillonnage à des fins d'analyses environnementales, Cahier 5, Échantillonnage des sols* ». L'ensemble des travaux a été complété le 9 août 2004.

2.1 Photographies du site

Lors de la visite du site, les interventions effectuées ont été documentées avec des photographies prises à l'aide d'un appareil photo numérique. De plus, des photos ont également été prises aux abords immédiats du réservoir. Les documents photographiques représentatifs du site ont été insérés dans le rapport à l'annexe I. Toutes les photos seront incluses dans le fichier informatique présenté avec le rapport final.

La nomenclature des photos au niveau informatique respectera le format dicté dans les termes de référence du présent rapport. Par contre, afin de faciliter la compréhension dans le présent rapport ainsi qu'à l'annexe II, les photos ont été nommées comme suit : Photo 1, Photo 2, etc. Pour mieux comprendre la nomenclature des photos, le tableau ci-dessous indique les diverses sections composant le numéro de la photo.

Identification d'une photo

Numéro du site	# de la photo	Mois de la prise de la photo	Année de la prise de la photo	Fichier
727	01	08	2004	jpg

Par exemple, nous écrivons : 727-01-08-2004.jpg

2.2 Protocole d'échantillonnage

2.2.1 Échantillonnage des sols

Les échantillons de sols ont été prélevés manuellement. Les outils de prélèvement ont été nettoyés avant chaque prise d'échantillons, conformément aux prescriptions du ministère de l'Environnement du Québec, présentées dans son guide : « *Guide d'échantillonnage à des fins environnementales, cahier 5, Échantillonnage des sols, avril 1995* », soit à l'eau savonneuse, à l'eau distillée, à l'acétone, à l'hexane, à l'acétone puis finalement à l'eau distillée.

La surface de la paroi ou du fond a été grattée avant la prise de l'échantillon pour éviter que le mouvement des outils puisse transporter de la contamination d'une strate à une autre.

Les eaux de lavage des équipements ont été stockées dans un seau et ont été disposées hors site.

Lors de cette campagne, quatre (4) sondages manuels ont été effectués afin de déterminer la présence de contamination aux endroits suivants ou provenant de ces endroits :

- sous la valve du réservoir d'huile à chauffage;
- sous la conduite transportant l'huile vers la chaudière;
- aux alentours de la valve.

(Voir photo 727-01-08-2004)

Les échantillons seront conservés pour de possibles analyses futures dans le but de pouvoir circonscrire la contamination des zones analysées.

La localisation et la provenance de ces échantillons sont présentées sur le plan de caractérisation à l'annexe II.

2.3 Étiquetage des échantillons :

Le nom des échantillons apparaissant sur les étiquettes est construit comme suit :

- XXXX-SO-01-000-030 où XXXX représente le numéro de site transmis par la CCN.
- Deux lettres correspondant au type d'échantillon (SO= sol, PO= eau souterraine, ES= eau de surface, SE= sédiment).
- Un numéro séquentiel composé de deux (2) chiffres pour numéroter l'échantillon.
- Cette série alphanumérique sera suivie, après un trait d'union, par six (6) chiffres séparés par un trait d'union en deux (2) groupes de trois (3) chiffres indiquant la profondeur minimale et maximale, par rapport au sol, de la prise de l'échantillon. Ainsi, aucune erreur d'identification ne pourra se glisser durant les travaux.

Afin de mieux comprendre la nomenclature des échantillons, le tableau ci-dessous indique les diverses sections composant le numéro d'échantillon.

Identification de l'échantillon pour les sols

Numéro du site	Provenance SO=sol	Forage #	Profondeur minimale (cm)	Profondeur maximale (cm)
727	SO	01	000	010

Par exemple, nous écrivons : 727-SO-01-000-010

2.4 Sélection des paramètres analytiques

Nous avons fait la sélection des paramètres analytiques en fonction des conclusions de la phase I qui identifient les contaminants les plus susceptibles d'être rencontrés sur le site et selon la liste des contaminants potentiels par secteur d'activité, industrielle et commerciale, susceptibles de contaminer les sols et les eaux souterraines provenant du *Guide de caractérisation des terrains*.

Nous avons donc choisi d'analyser les BETEX (Benzène, Toluène, Éthylbenzène, o-xylènes, p,m-xylènes), les HAP (Hydrocarbures Aromatiques Polycycliques), les C₁₀-C₅₀, les hydrocarbures pétroliers par fractions (SPC-HCP, CCME 2001) ainsi que les métaux (Cd, Cr, Cu, Ni, Pb, Zn).

2.5 Conservation des échantillons

Les échantillons sont conservés à 4°C. Les délais de conservation sont respectés en tout temps selon les paramètres analytiques.

Tous les échantillons sont conservés au laboratoire pour une période maximum de 3 mois pour les C₁₀-C₅₀ et HAP et de 6 mois pour les métaux. Après cette période, ils seront détruits puisque les délais de conservation prescrits par le guide d'échantillonnage seront dépassés.

2.6 Contrôle de la qualité en laboratoire

Le laboratoire retenu pour effectuer les analyses de sols est le Laboratoire d'Environnement S.M. inc. Afin de vérifier la fiabilité des résultats, des duplicata des échantillons ont été effectués à une fréquence de dix pour cent (10 %) respectivement aux échantillons analysés et ont été envoyés à des laboratoires indépendants, soit PSC Services Environnementaux, Services Analytiques pour les C₁₀-C₅₀ et métaux et chez Maxxam pour les HAP étant donné que Philips effectue les analyses de HAP en sous-traitance pour le Laboratoire d'Environnement S.M. Le laboratoire principal, quant à lui, effectue des duplicata d'analyse à une fréquence de dix pour cent (10 %) des échantillons analysés, et ce, pour tous les paramètres.

Ces laboratoires sont accrédités auprès du ministère de l'Environnement pour les paramètres requis pour les analyses des échantillons prélevés dans le cadre de cette étude.

2.7 Interprétation des résultats d'analyse

L'interprétation des résultats des analyses chimiques des échantillons prélevés a été effectuée en comparant les résultats obtenus aux critères du ministère de l'Environnement du Québec (1998 révisé en 1999-2000 et 2001) et avec ceux du Gouvernement Fédéral, soit le CCME résidentiel/Parc pour les sols (mis à jour en décembre 2003). De plus, le volet I des SPC-HCP a été appliqué.

2.8 Contrôle de la qualité des données obtenues

Afin d'assurer la qualité des données obtenues sur le terrain, l'ensemble des données était vérifié avant de quitter le site d'échantillonnage :

- les photos du site étaient chargées dans un ordinateur et visionnées;
- les échantillons à prélever ainsi que les paramètres à analyser étaient vérifiés;
- les formulaires et fiches étaient remplis avant de quitter le site afin de s'assurer que toutes les données pouvant être obtenues sur le terrain avaient été collectées.

3.0 PRÉSENTATION DES RÉSULTATS

La section suivante présente les résultats sous forme de tableau. Les certificats d'analyses se trouvent à l'annexe III.

3.1 Description du site, matériaux rencontrés et topographie

Le site étudié est situé dans le sous-sol d'une maison résidentielle située dans le Parc de la Gatineau. La maison se trouve dans le bois, elle surplombe la route asphaltée de quelques mètres.

Dans les sondages, les matériaux rencontrés sont essentiellement du sable et des gros blocs de roche (jusqu'à plus 30 cm de diamètre).

Échantillon	Profondeur	Matériaux	Contamination visuelle	Odeur
727-SO-01	000-010	Sable, roches	Moyenne	Légère
	010-030	Sable, roches	Non observée	Non observée
727-SO-02, -03, -04	000-030	Sable, roches	Non observée	Non observée

Suite à ces observations, nous avons fait analyser l'échantillon 727-01-000-010 par le Laboratoire d'Environnement S.M. Le tableau complet des résultats d'analyse est présenté à la page suivante.

3.2 Interprétation des résultats des sols

Le site étudié étant résidentiel, les sols doivent répondre aux critères de la catégorie B du MENV et à ceux imposés pour les résidences et parcs par le CCME. A l'analyse des résultats présentés au tableau I, nous constatons les éléments suivants :

- La comparaison aux critères du MENV met en évidence un dépassement des limites de la catégorie B pour le 2,3,5-Triméthylnaphtalène et les C₁₀-C₅₀.
- La comparaison aux critères du CCME met en évidence un dépassement des limites de la Résidence-Parcs pour le plomb et le zinc.
- Pour l'application du standard pancanadien relatif aux hydrocarbures pétroliers (SPC HCP), nous utilisons les seuils recommandés au volet 1 pour l'inhalation puisque les sols sont situés à l'intérieur, au sous-sol de la résidence. Il n'y a pas de dépassement de ce critère pour les fractions analysées.
- Seules les fraction F2 et F3 ont des teneurs dépassant la limite analytique.

Les autres échantillons n'ont pas été analysés mais ne présentaient aucun indice de contamination. La contamination présente au site de l'échantillon 727-SO-01 est restreinte à une épaisseur de 10 cm. Le volume estimé de sols contaminés est inférieur à 2 500 cm³ ou 25 litres.

Tableau I – Résultats d'analyses des sols

Identification échantillon IMS 727-SO-01-000-010			Critères		
			MENV		CCME
Analyse	Résultat	Unité	B	C	RÉS./PARC
Benzène	<0,1	mg/kg	0,5	5	0,5
Éthylbenzène	<0,1	mg/kg	3	30	0,8
p,m-xylènes	<0,1	mg/kg	5	50	1,2
o-xylènes	<0,2	mg/kg	5	50	1
Toluène	<0,2	mg/kg	5	50	1
Naphtalène	<0,03	mg/kg	5	50	0,6
Méthyl-2 naphtalène	<0,03	mg/kg	1	10	NA
Méthyl-1 naphtalène	<0,05	mg/kg	1	10	NA
1,3- DiméthylNaphtalène	0,15	mg/kg	1	10	NA
HAP(b)Acénaphthylène	<0,03	mg/kg	10	100	NA
HAP(b)Acénaphène	<0,03	mg/kg	10	100	NA
2,3,5-Triméthylnaphtalène	1,2	mg/kg	1	10	NA
Fluorène	<0,31	mg/kg	10	100	NA
Phénanthrène	0,57	mg/kg	5	50	NA
Anthracène	0,11	mg/kg	10	100	NA
Fluoranthène	0,09	mg/kg	10	100	NA
Pyrène	0,55	mg/kg	10	100	10

Identification échantillon IMS			Critères		
727-SO-01-000-010			MENV		CCME
Analyse	Résultat	Unité	B	C	RÉS./PARC
Benzo (c) phénanthrène	<0,03	mg/kg	1	10	NA
Benzo (a) anthracène	<0,03	mg/kg	1	10	1
Chrysène	0,06	mg/kg	1	10	NA
7,12-Diméthylbenzo (a) anthracène	<0,03	mg/kg	1	10	NA
Benzo(b,k,j) fluoranthène	<0,08	mg/kg	1	10	1
Benzo(a)pyrène	<0,04	mg/kg	1	10	0,7
Méthyl-3 cholanthrène	<0,05	mg/kg	1	10	NA
HAP(h)Indeno (1,2,3-cd) pyrène	<0,07	mg/kg	1	10	1
Dibenzo (a,h) anthracène	<0,07	mg/kg	1	10	1
Benzo (g,h,i) pérylène	<0,07	mg/kg	1	10	NA
Dibenzo (a,l) pyrène	<0,05	mg/kg	1	10	NA
Dibenzo (a,i) pyrène	<0,04	mg/kg	1	10	NA
Dibenzo (a,h) pyrène	<0,05	mg/kg	1	10	NA
C10-C50	1710	mg/kg	700	3500	NA
Cadmium	<1	mg/kg	5	20	10
Chrome	15	mg/kg	250	800	64
Cuivre	16	mg/kg	100	500	63
Nickel	<10	mg/kg	500	1000	140
Plomb	85	mg/kg	100	500	50
Zinc	370	mg/kg	500	1500	200
HCP F1- C6-C10	<10	mg/kg			50*
HCP F2 - C10-C16	160	mg/kg			240*
HCP F3 - C16-C34	1300	mg/kg			SO*
HCP F4 - C34-C50	<10	mg/kg			SO*

* Volet 1 de SPC HCP (CCME 2001). Seuils recommandés pour le mode d'exposition par inhalation pour les sols grossiers.

Légende :

- Paramètre dépassant les critères du MENV
- Paramètre dépassant les critères du CCME

4.0 CONCLUSIONS ET RECOMMANDATIONS

L'évaluation environnementale phase II a été effectuée le 9 août 2004 au site #727 – 601 Chemin du lac Meech, Chelsea (Québec) – Parc de la Gatineau. L'objectif était de préciser la nature, l'étendue et la sévérité de la contamination dans le sous-sol de la bâtisse, en raison de la présence d'un réservoir d'hydrocarbures depuis de longues années.

Lors de la campagne d'échantillonnage, une contamination de surface en C₁₀-C₅₀ dans la plage B-C du MENVQ a été observée sous la valve du réservoir, conséquence probable de fuites répétées lors des purges ou autres manipulations du réservoir.

Des mesures préventives peuvent être mises en place pour éviter de nouveaux événements de contamination.

- L'étanchéité de la valve actuelle doit être vérifiée et celle-ci remplacée en cas de défectuosité.
- Prévenir tout déversement accidentel en disposant un récipient étanche sous cette même valve.
- S'assurer de l'étanchéité de toute la tuyauterie transportant du carburant.
- Mettre des produits absorbants à la disposition des occupants.

Puisque le volume de sols contaminés est faible (environ 25 litres), nous recommandons l'excavation de ce petit périmètre et le remplacement des matériaux contaminés par du sable propre. Cette excavation peut être réalisée manuellement et les sols chargés dans un ou plusieurs contenants de 20 litres. Les résidus de l'excavation devront être disposés dans le site autorisé le plus proche.

5.0 UTILISATION DU RAPPORT

Les données factuelles, les interprétations et les recommandations contenues dans ce rapport se rapportent au projet spécifique décrit dans ce rapport et ne s'appliquent à aucun autre projet ou site.

L'interprétation des données, les commentaires et les recommandations contenus dans ce document sont fondés, au meilleur de notre connaissance, sur les politiques, les critères et les règlements environnementaux en vigueur. Si ces politiques, critères et règlements sont différents de ceux présumés ou s'ils sont changés après la soumission du rapport, **IMS Experts-Conseils** devrait alors être consultée pour réviser les recommandations à la lumière de ces changements.

Les niveaux de conformité du site décrit correspondent à ceux détectés à l'endroit et à la date d'observation mentionnés dans le rapport. Ces conditions peuvent varier suivant les saisons ou à la suite d'activités sur le site à l'étude ou sur des sites adjacents.

Annexe I

Photographies du site



Photo 1: Vue du réservoir avec filtre. (727-01-08-2004.JPG)



Photo 2: Vue de l'installation autour du réservoir. (727-02-08-2004.JPG)



Photo 3: Vue de l'installation autour du réservoir. (727-06-08-2004.JPG)



Photo 4: Vue de la fournaise. (727-03-08-2004.JPG)

Annexe II

Plans du site et d'échantillonnage

Annexe III

Certificats d'analyses



Laboratoires d'analyses S.M. inc.

1471, boul. Lionel-Boulet, suite 10, Varennes (Québec) J3X 1P7
Téléphone: (450) 652-6151 - Télécopieur: (450) 652-6451

No de rapport : 65345

Rapport d'analyse

04-09-21 (A/M/J)

Votre no. de bon de commande : CS-101-309

Client: IMS EXPERT-CONSEILS

M. Pierre Désaulniers

747, 5ième Rue

Shawinigan, Québec

G9N 1G2

No de client: 2581

No de projet: 1265

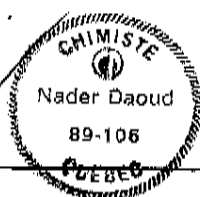
Tél : 1,(819) 536-5652

Ext :

Fax : 1,(819) 536-7170

Analyse	Méthode analytique	No d'instruction de travail
BTEX - Benzène	Purge & trap GCMS	ILCE-022
BTEX - Éthylbenzène	Purge & trap GCMS	ILCE-022
BTEX - m & p-Xylènes	Purge & trap GCMS	ILCE-022
BTEX - o-Xylène	Purge & trap GCMS	ILCE-022
BTEX - Sommeation	Purge & trap GCMS	ILCE-022
BTEX - Toluène	Purge & trap GCMS	ILCE-022
Cadmium	digestion acide/ICP	ILCE-024
Chrome	digestion acide/ICP	ILCE-025
Cuivre	digestion acide/ICP	ILCE-029
Hydrocarbures pétroliers C10 à C50	extr. à l'hexane/GC-FID	ILCE-033
Nickel	digestion acide/ICP	ILCE-025
Plomb	digestion acide/ICP	ILCE-025
Zinc	Digestion acide et ICP	ILCE-025

- Les échantillons sont conservés pour une période de 60 jours après la date de réception ou pour le délai de conservation maximum spécifique à chaque analyse. À moins d'indication contraire, nous disposerons donc des échantillons après ces délais.
- Ce rapport ne doit pas être reproduit sinon en entier, sans l'autorisation écrite des Laboratoires d'analyses S.M. Inc..



Nader Daoud, Chimiste, B.Sc.

Daniel Tremblay
Daniel Tremblay, Chimiste, B.Sc.





Laboratoires d'analyses S.M. inc.

1471, boul. Lionel-Boulet, suite 10, Varennes (Québec) J3X 1P7
Téléphone: (450) 652-6151 - Télécopieur: (450) 652-6451

No de rapport : 65345

Rapport d'analyse

04-09-21 (A/M/J)

Votre no. de bon de commande : CS-101-309

Client: IMS EXPERT-CONSEILS

M. Pierre Désaulniers

747, 5ième Rue

Shawinigan, Québec

G9N 1G2

No de client: 2581

No de projet: 1265

Tél : 1,(819) 536-5652

Ext :

Fax : 1,(819) 536-7170

Date de prélèvement: 04-08-09 (A/M/J)

Date de réception: 04-08-13 (A/M/J)

Prélevé par: C. Roy

Nature de l'échantillon Sol

Description : 54252

Analyses environnementales

No ECH	Identification Client	Analyse	Résultat	Dupl.	% Rec.	Unité	Date d'analyse	Note
162643	727-SO-01-000-010	BTEX - Benzène	<0.10			mg/Kg	04-08-18	
		BTEX - Éthylbenzène	<0.10			mg/Kg	04-08-18	
		BTEX - m & p-Xylènes	<0.10			mg/Kg	04-08-18	
		BTEX - o-Xylène	<0.10			mg/Kg	04-08-18	
		BTEX - Sommation	<0.20			mg/Kg	04-08-18	
		BTEX - Toluène	<0.20			mg/Kg	04-08-18	
		Cadmium	<1.0			mg/Kg	04-08-19	
		Chrome	15			mg/Kg	04-08-19	
		Cuivre	16			mg/Kg	04-08-19	
		HAP	annexe					*
		Hydrocarbures pétroliers C10 à C50	1 710	1 980		mg/Kg	04-08-17	
		Hydrocarbures pétroliers SPC-HCP	annexe			mg/Kg		*
		Nickel	<10			mg/Kg	04-08-19	
		Plomb	85			mg/Kg	04-08-19	
		Zinc	370			mg/Kg	04-08-20	

Note : * Cette analyse a été effectuée en sous-traitance.

Nader Daoud, Chimiste, B.Sc.

Daniel Tremblay, Chimiste, B.Sc.

ANNEXE 1
RÉSULTATS DE
HAP ET DE
HYDROCARBURES PÉTROLIERS SPC-HCP

PSC

SERVICES ANALYTIQUES

Certificat d'analyses

No. de certificat: 4H0557(E)**CLIENT**

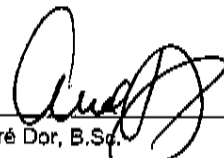
Attention: Daniel Tremblay
Compagnie: LAB. D'ANALYSES S.M. INC.
Adresse: 1471, boul. Lionel-Boulet, suite 10
Varenes (Québec)
J3X 1P7
Télécopieur: 450-652-6451
Téléphone: 450-652-6151

LABORATOIRE

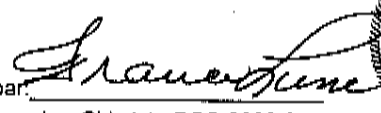
Chargé(e) de projet: André Dor
Projet: AN040024
Date de réception: 2004/08/18
Date du rapport: 2004/08/24
Date de révision : 2004/09/09
Révision no. 2
Nombre de pages: 5

Projet: -
Description: B.C.: L-10089
Prélevé par: Non disponible

Approuvé par:


André Dor, B.Sc.
Chargé de projet

Vérfié par:


Stephan Obarewicz, Chimiste OCQ 2002-058
Directeur Haute-Résolution / Organique



PSC Services Analytiques

Toutes les analyses incluses dans ce rapport ont été effectuées selon les règles de l'art incluant les procédures d'assurance et de contrôle de la qualité à moins d'entente écrite conclue au préalable avec le client. La responsabilité financière reliée à la responsabilité professionnelle est limitée à une valeur n'excédant pas le coût des analyses effectuées. Les échantillons seront conservés pour une période de 6 semaines à partir de la date de réception, à moins d'indication contraire convenue préalablement. Ce certificat d'analyses ne peut être reproduit, sinon en entier, sans l'autorisation écrite de PSC Services Analytiques. Tous les résultats des matériaux de référence (MR) sont statistiquement sous contrôle sauf indication contraire. Les normes et les critères lorsqu'inclus dans ce certificat, le sont à titre indicatif seulement. En cas de disparité entre les normes et les critères indiqués et ceux officiels de la réglementation, ces derniers ont priorité.

Les analyses organiques ne sont pas corrigées en fonction de la récupération de l'étalon analogue (sauf dioxines/furannes et BPC par congénères).
Prière de contacter le ou la chargé(e) de projet pour toutes informations supplémentaires.
La description des méthodes analytiques internes et la confirmation des analyses, incluant l'identification des paramètres par les sous-traitants, sont jointes en annexe.
Les dates d'analyses et de préparation des paramètres sous-traités sont inscrites lorsque disponibles; dans le cas contraire, la date de réception du certificat par télécopieur est rapportée.
Les méthodes utilisées par PSC Services Analytiques proviennent de publications telles que "Standard Methods for the examination of Water and Wastewater" 20e éd., ou toutes autres publications reconnues par des organismes tels que MENV, EPA, etc.(voir annexe).

Notes:

- = Non Analysé

NA = Non Applicable

ND = Non Détecté

LDR = Limite de détection rapportée

<= Résultats obtenus inférieurs à la limite de détection rapportée

Pour les échantillons de sol, de solide et de déchet, les résultats sont exprimés en poids sec (sauf indication contraire).

Commentaires:

Rév #2: Sont incluses dans ce certificat les sections A, B, C, D et E à la demande du client.

PSC Services Analytiques
Résultats d'analyses

No. du Client: 162643
No. du Labo: 031852 04
Date d'échantillonnage:

Matrice: SOL
Paramètre **LDR** **Unités**
Humidité 0.5 (%) 8.9

CCME

Benzène	0.02	mg/kg	<
Toluène	0.02	"	<
Éthyl Benzène	0.02	"	<
mp-Xylenes	0.04	"	<
o-Xylènes	0.02	"	<
CCME F1 (C6-C10)	10	"	<
CCME F2 (C10-C16)	10	"	160
CCME F3 (C16-C34)	10	"	1300
CCME F4 (C34-C50)	10	"	<

PSC Services Analytiques
Résultats d'analyses

No. du Client: 162643
No. du Labo: 031852 04
Date d'échantillonnage:

Paramètre	Matrice:		SOL
	LDR	Unités	
HAP			
Naphtalène	0.03	mg/kg	<
2-Méthylnaphtalène	0.03	"	<
1-Méthylnaphtalène	0.05	"	<
1,3-Diméthylnaphtalène	0.03	"	0.15
Acénaphthylène	0.03	"	<
Acénaphtène	0.03	"	<
2,3,5-Triméthylnaphtalène	0.03	"	1.2
Fluorène	0.04	"	<0.31
Phénanthrène	0.03	"	0.57
Anthracène	0.03	"	0.11
Fluoranthène	0.03	"	0.09
Pyrène	0.03	"	0.55
Benzo(c)phénanthrène	0.03	"	<
Benzo(a)anthracène	0.03	"	<
Chrysène	0.03	"	0.06
1,2-Benzanthracène-7,12-diméthyl	0.03	"	<
Benzo (b+k+j) fluoranthène	0.08	"	<
Benzo (a) pyrène	0.04	"	<
3-Méthylcholanthrène	0.05	"	<
Indeno (1,2,3-cd) pyrène	0.07	"	<
Dibenzo(ah)anthracène	0.07	"	<
Benzo (g,h,i) pérylène	0.07	"	<
Dibenzo(a,l)pyrène	0.05	"	<
Dibenzo(a,i)pyrène	0.04	"	<
Dibenzo(a,h)pyrène	0.05	"	<
Récupération		%	
d10-1-Méthylnaphtalène	40-120	"	94
d10-Fluorène	40-120	"	93
d10-Fluoranthène	40-120	"	95
d12-Benzo(a)pyrène	40-120	"	90
d14-Dibenzo(a,h)anthracène	40-120	"	93

PSC Services Analytiques
Corrélation des no. de lot avec les échantillons

No. de lot: 0819IS01
Humidité etc. 031852 04
Date d'analyse: 2004/08/20
Date de préparation: 2004/08/19

No. de lot: 0826BARR
Benzène etc. 031852 04
Date d'analyse: 2004/08/26
Date de préparation: 2004/08/26

No. de lot: 0819PN03
Naphtalène etc. 031852 04
Date d'analyse: 2004/08/20
Date de préparation: 2004/08/19

No. de lot: 0819PN03
1,2-Benzanthracène-7,12-diméthyl etc. 031852 04
Date d'analyse: 2004/08/20
Date de préparation: 2004/08/19

Annexe IV

Bibliographie

Bibliographie

- ❑ November 2003, Trow Associate inc., Phase I Environmental Site assessment, NCC Property Asset Number 727, 601 Meech Lake road, Chelsea, Québec
- ❑ *Loi sur la qualité de l'environnement*
- ❑ *Loi 72 sur les sols contaminés*
- ❑ *Politique de protection des sols et de réhabilitation des terrains contaminés, MENV, 2003*
- ❑ *Guide d'échantillonnage à des fins d'analyses environnementales, cahier 1, Généralités*
- ❑ *Guide d'échantillonnage à des fins d'analyses environnementales, cahier 5, Échantillonnage des sols*
- ❑ *Guide technique, terrains contaminés, mesure de contrôle à effectuer lors des travaux d'excavation des sols contaminés*
- ❑ *Ligne directrice d'intervention, caractérisation et décontamination des sols lors de l'enlèvement de réservoirs souterrains ayant contenu des produits pétroliers*
- ❑ *Standards pancanadiens relatifs aux hydrocarbures pétroliers dans les sols (SPC-HPS, CCME 2001)*
- ❑ *Installation de piézomètres à l'aide de foreuses et de pelles mécaniques, et caractérisation des eaux souterraines, selon le Guide d'échantillonnage à des fins d'analyses environnementales, échantillonnage des eaux souterraines*

Formulaire d'évaluation des effets environnementaux (EEE) pour les autres projets

Les autorités doivent utiliser ce formulaire pour déterminer l'importance des effets environnementaux négatifs potentiels d'un autre projet de même que pour décrire les mesures d'atténuation connexes.

Section A : Identification du projet

Nom du projet :	Projet de rénovation intérieure et extérieure de la maison située au 601, chemin Meech (maison Asa meech)
Emplacement du projet :	Chelsea, Québec
Autorité principale :	Commission de la capitale nationale
Personne-ressource :	Iulia Madularu
Titre :	Chef, gestion de projets
N° de téléphone :	613-239-5678 poste 5743
Courriel :	Iulia.Madularu@ncc-ccn.ca
Personne-ressource :	Jocelyne Jacob
Titre :	Biologiste principale, Terrains urbains du Québec et parc de la Gatineau
N° de téléphone :	613-239-5678 poste 6018
Courriel :	Jocelyne.Jacob@ncc-ccn.ca
Autre(s) autorité(s) :	Nom de l'organisme ou des organismes
Coordonnées (au besoin) :	Donner au besoin des renseignements pertinents comme le nom de la personne-ressource, son n° de téléphone, etc., comme ci-dessus.

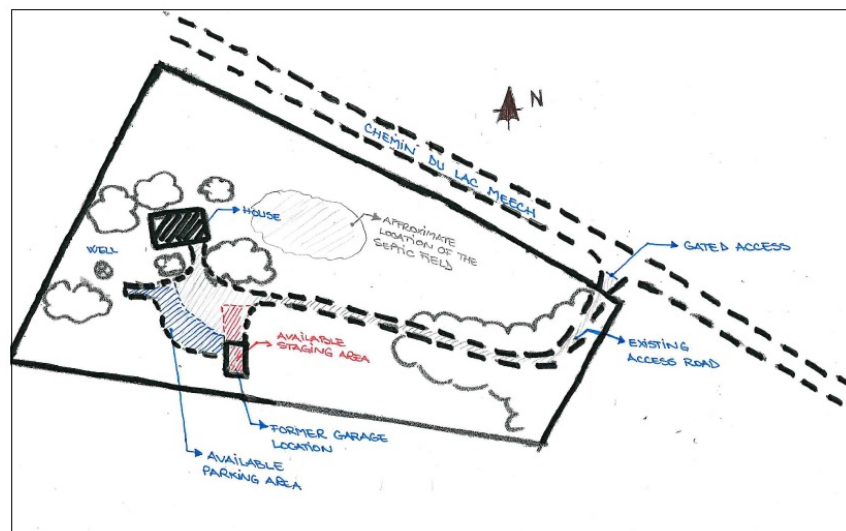
Section B : Description du projet et de l'environnement

Description du projet :	<p>La CCN désire rénover la maison Asa Meech, située au 601, chemin du lac Meech à Chelsea, pour la louer comme hébergement. La maison n'a pas été occupée depuis 2008 et s'est continuellement dégradée. Le gypse et l'isolant ont été enlevés de la maison dans le cadre d'un projet réalisé en 2017. Le garage s'est effondrée à l'été 2017 et les débris ont été sortis du site pour des raisons de santé et sécurité.</p> <p>Les interventions identifiées pour la restauration de la maison Asa Meech sont les suivantes :</p> <ol style="list-style-type: none">1) Travaux intérieurs :<ol style="list-style-type: none">a. L'enlèvement des vieux équipements mécaniques (fournaise, réservoir d'huile, réservoir d'eau chaude) situés présentement dans le vide sanitaire. Installation des nouveaux équipements mécaniques performants dans le vide sanitaire. Les conduites de ventilation seront nettoyées et réutilisées.b. L'enlèvement du vieux panneau électrique au rez-de-chaussée et réinstallation d'un nouveau panneau électrique. Enlèvement du câblage existant et installation du câblage selon les nouvelles prescriptions du code du bâtiment.
--------------------------------	---

- c. L'installation de l'isolant (minimum R-20, remplir les cavités des murs), de la membrane pare-vapeur et du gypse dans les murs extérieurs.
 - d. L'enlèvement des fenêtres et des portes extérieures existantes et leur remplacement par des nouvelles fenêtres et portes en bois qui correspondent aux existantes.
 - e. Garder les planchers en bois existants, les nettoyer et les peindre. Installer des planchers en céramique dans les salles de bain et la cuisine.
 - f. Installer des nouvelles armoires dans la cuisine.
 - g. Nettoyer et peindre les portes intérieures existantes.
 - h. Réparations structurales (le linteau au-dessus de la porte extérieure de la façade sud et les poutrelles endommagées au rez-de-chaussée) et travaux structurales occasionnés par l'enlèvement des murs intérieurs au rez-de-chaussée.
 - i. L'installation des équipements de plomberie.
 - j. L'installation du système de traitement d'eau.
- 2) Travaux extérieurs :
- a. L'enlèvement de la vieille toiture et l'installation d'une nouvelle toiture en cèdre.
 - b. Le nettoyage et la peinture de l'extérieur de la maison.
 - c. Le remplacement de la trappe du regard existant.
 - d. L'émondage des arbres pour que leurs branches ne touchent plus la toiture

Les travaux nécessiteront l'utilisation d'équipement léger (manuel), motorisé et de la machinerie lourde. Il y aura présence de génératrices et aussi utilisation de produits pétroliers. Le site d'entreposage des matériaux sera localisé à l'emplacement du vieux garage (voir Carte 1).

À noter que le champ septique a été vérifié par Arrow Service le 16 juin 2017 et il fonctionne correctement. **Le rapport se trouve dans l'annexe A du présent document.** Également, l'ancien puits a été désaffecté. Par conséquent, ces deux éléments ne font pas partie de la présente évaluation des effets environnementaux.



Carte 1 : Aire d'entreposage pour les travaux de rénovation de la maison Asa Meech.

Remplir le tableau présenté ci-dessous en adoptant un degré de détail proportionnel à la complexité et au risque d'effets environnementaux reliés à chaque phase du projet. Présenter si possible les phases du projet dans l'ordre. Ajouter autant de lignes que nécessaire.

Phase du projet	Activités/composantes (principales et secondaires) du projet
Construction	<ol style="list-style-type: none"> 1. Date de début de la construction, le 16 avril 2018; 2. Travaux de démolition à l'intérieur de la maison et l'enlèvement de la toiture existante; 3. Refaire la toiture et réparation structurale à l'intérieur de la maison; 4. Installation de l'isolant et des murs en gypse; 5. Installation des armoires; 6. Peinture; 7. Fin de la construction, le 15 juin 2018.
Exploitation	<ol style="list-style-type: none"> 1. La maison sera louée à partir de juillet 2018.

Description de l'environnement (s'il y a lieu) :

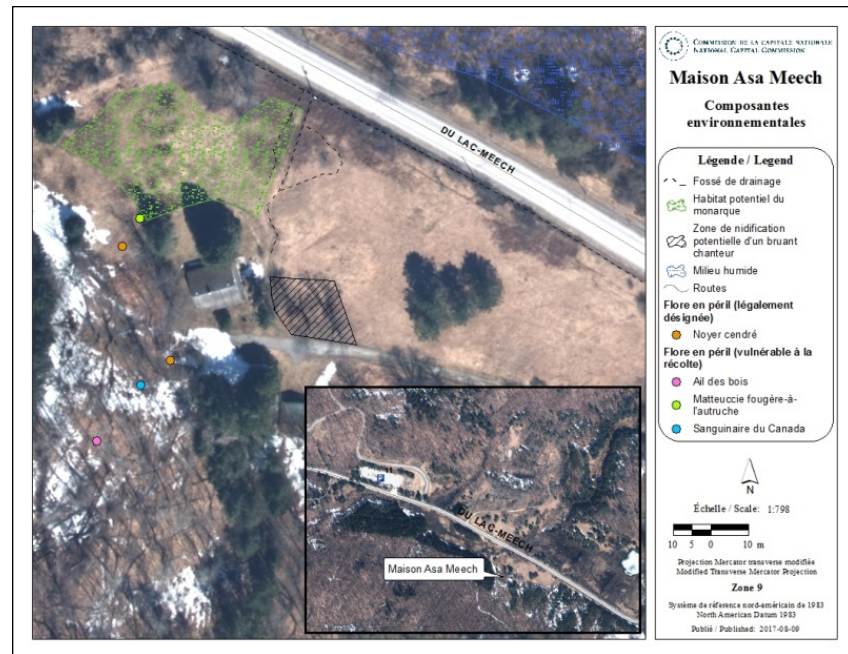
COMPOSANTES PARTICULIÈRES DU MILIEU NATUREL

Voici les résultats des suivis des éléments sensibles menés au printemps et à l'été 2017, sur le site de la propriété :

- Un noyer cendré (*Juglans cinerea*) mort, espèce désignée en voie de disparition au Canada, est situé à une douzaine de mètres au nord-ouest de la maison, dans le champ. Un second noyer cendré mort fut observé à une douzaine de mètres au sud-ouest, entre la maison et le champ septique.
- Neuf plants de sanguinaire du Canada (*Sanguinaria canadensis*) et 36 plants d'ail des bois (*Allium tricoccum*) furent dénombrés sur le site.
- Diverses espèces d'oiseaux ont été observées en vol (carouge à épaulettes (*Agelaius phoeniceus*), paruline couronnée (*Seiurus aurocapilla*), paruline masquée (*Geothlypis trichas*), bruant chanteur (*Melospiza melodia*). Aucun site de nidification n'a été repéré. Un bruant chanteur niche potentiellement dans le champ à droite de la maison.
- Le décompte des chauves-souris a été réalisé en juin 2017 selon le protocole du Ministère des Forêts, de la Faune et des Parcs (MFFP, 2014) Station fixe et bâtiment). Selon les résultats du suivi, il est peu probable que la maison Asa Meech soit fréquentée en tant que maternité par les chauves-souris. L'observation d'une chauve-souris entrant dans la cheminée indique par contre qu'elle peut servir d'abri occasionnel pour cet individu. Aucun guano n'a cependant été observé sur le bâtiment.
- Le champ derrière la maison Asa Meech (côté nord) s'est avéré être un habitat potentiel pour le monarque (*Danaus plexippus*). Par contre, aucun œuf, larve ni adulte ne fut observé sur les plants d'asclépiades.
- À l'été 2017, des suivis pour valider la présence potentielle de la rainette faux-grillon de l'ouest (une espèce menacée au Canada), de tortues en péril, du martinet ramoneur (une espèce menacée au Canada) et de couleuvres en péril ont été effectués. Aucune de ces espèces n'a été entendue ou observée.
- Quelques branches d'arbres qui pendent au-dessus de la toiture ou qui s'appuient sur les parois de la maison seront coupées ou élaguées. Après validation sur le site par une biologiste PG-TUQ, aucune espèce en péril n'est présente sur le pourtour de la maison.



Milieu humide et cours d'eau : En raison de la portée limitée des travaux qui sont identifiés pour ce projet, aucune délimitation ni caractérisation des milieux humides ou des cours d'eau n'a été effectuée. Les mesures d'atténuation standards qui s'appliquent sont connues.



Carte 2. Composantes environnementales d'importance sur le site de la maison du 601, chemin Meech.

AUTRES COMPOSANTES BIOPHYSIQUES

Quantité et qualité de l'eau potable (eau du puits)

Les besoins en eau potable de la résidence Asa Meech seront comblés par le nouveau puits foré en 2017 par Forage Downing.

Les résultats de l'échantillonnage d'eau réalisé à l'automne 2017 ont indiqué des dépassements pour les concentrations maximales acceptables fédérales pour le plomb 210, soit une concentration brute de 2,2 Bq / L pour le nouveau puits foré. Étant donné que les résultats de l'activité alpha brute ont dépassé de plus de 4 fois la valeur de dépistage (0,5 Bq / L) identifiée dans les *Recommandations pour la qualité de l'eau potable au Canada*, des tests supplémentaires d'analyse de l'uranium sont requis. De plus, des analyses d'eau pour les coliformes totaux, les coliformes fécaux, *E. coli*, la turbidité, les nitrates, le dioxyde de chlore et les autres paramètres de la santé humaine sont requis, selon les *Recommandations pour la qualité de l'eau potable au Canada* et les paramètres des normes de qualité de l'eau potable du *Règlement sur la qualité de l'eau potable (RQEP)* au Québec. Le plus strict de ces deux documents devrait être suivi en cas de conflit. **Les résultats de l'analyse d'eau se trouvent à l'annexe B du présent document.**

Qualité de l'air

Des tests de radon ont été effectués dans la maison Asa Meech dans le passé. Les résultats ont montré qu'il y avait du radon dans l'air, dépassant les lignes directrices canadiennes de Santé Canada et les lignes directrices de l'Organisation mondiale de la santé. En 2008, un système de réduction du radon a été installé et un test de suivi du radon a été effectué en 2009. Le ventilateur de réduction du radon est allumé en tout temps. Par ailleurs, un test de radon à court terme a été effectué pour confirmer que les concentrations de radon sont toujours inférieures aux lignes directrices de Santé Canada. **Le rapport se trouve à l'annexe C du présent document.**

À noter que les résultats du test de radon à court terme seront envoyés à Leslie Scott MacLennan (leslie.scott-maclennan@ncc-ccn.ca) afin qu'elle puisse fournir des conseils.

Qualité des sols

Des évaluations environnementales de sites de phase I (Trow Associates Inc, novembre 2003) et de phase II (IMS Experts-Conseils, novembre 2004) ont été entreprises pour le site. La phase II de l'évaluation environnementale du site a indiqué que certains sols du sous-sol de la maison étaient contaminés. La source de contamination était le réservoir d'huile de chauffage. Le réservoir d'huile de chauffage sera enlevé de la maison. **Les rapports se trouvent à l'annexe D du présent document.**

COMPOSANTES SOCIO-ÉCONOMIQUES

Patrimoine

Voici certaines précisions liées à la valeur patrimoniale de la maison (*extrait d'un échange de courriels CCN – 30-01-2018*) :

- The lintel above the door which is in an advanced state of decay will be replaced. The cracked beam will also be replaced. Other structural work required to open up the ground floor doesn't affect the old structure.
- If during the removal, some of the old nails will be removed, we will keep them. The ceilings and the hand-hewn beams will be visible after the renovation. The old cedar shingles will be replaced with new cedar shingles.
- The intention is to go back to the original colours (white and green).
- The addition of bug screens is not considered under the current project.
- There is no landscape work considered under the current project. We will prune the branches of the trees next to the house because this is one of the reasons the moss grew on the house.

Le rapport sur la valeur patrimoniale de la maison se trouve à l'annexe E.

Archéologie

La maison située au 601, chemin Meech et ses environs a un potentiel archéologique pré-contact élevé.

Santé humaine et sécurité – substances désignées

Un inventaire complet des substances désignées a été réalisé par Conestoga-Rovers & Associates (CRA) en janvier 2009. Les travaux réalisés par CRA ont révélés la présence des substances désignées suivantes : amiante, plomb, excréments d'animaux. **Le rapport de CRA se trouve à l'annexe F.**

L'amiante a été trouvé dans l'isolation et les débris de bouclier thermique sur la cage d'escalier.

L'isolant a été enlevé lors d'un projet réalisé en 2017. Les débris de bouclier thermique sur la cage d'escalier seront enlevés dans le cadre de ce projet de réhabilitation. De même, un relevé de l'amiante et du plomb a été réalisé par Golder en mars 2018. **Le rapport de Golder se trouve à l'annexe G.**

Usagers du parc de la Gatineau

Le sentier 36 du parc de la Gatineau, qui débute au stationnement de la plage O'Brien et se dirige vers le nord puis ensuite vers l'ouest et les rives du lac Meech, passe dans les environs de la propriété du 601, chemin Meech.

Section C : Consultation et participation

Le public a-t-il soulevé des préoccupations relativement à ce projet?

Oui Non

Le projet ne suscite pas de préoccupations du public

Le public a-t-il été consulté?

Oui Non

Le public n'a pas été consulté car il s'agit de la réparation d'une maison résidentielle existante. L'Association des propriétaires du lac Meech sera avisée.

Les peuples autochtones ont-ils été mobilisés pour participer?

Oui Non

Le projet ne suscite pas de préoccupations des peuples autochtones.

Des experts/autres instances ont-ils été consultés?

Oui Non

Le projet ne nécessite pas la consultation des ministères fédéraux ou provinciaux ou d'autres instances.

Comment avez-vous abordé les préoccupations qui ont été soulevées?

Ne s'applique pas.

Section D : Détermination des effets environnementaux

Remplir les tableaux suivants afin de déterminer les effets environnementaux négatifs potentiels pertinents. Les effets pour lesquels la réponse est « Oui, et ces effets peuvent être gérés au moyen de mesures d'atténuation efficaces et établies » doivent être abordés à la section E. Les effets pour lesquels la réponse est « Oui, mais ces effets doivent être gérés au moyen d'autres mesures d'atténuation » doivent être abordés à la section F. Consulter l'[orientation relative à l'article 5](#) pour de plus amples renseignements.

Effets biophysiques : Le projet risque-t-il :	NON	Oui, et ces effets peuvent être gérés au moyen de mesures d'atténuation efficaces et établies	Oui, mais ces effets doivent être gérés au moyen d'autres mesures d'atténuation
de détériorer, de perturber ou de détruire des caractéristiques naturelles vulnérables?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
de rejeter une substance polluante dans la terre, l'eau ou l'air?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
de modifier des caractéristiques du paysage (p. ex. extraction des ressources, déboisement, enlèvement de la végétation)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
de toucher les oiseaux et les espèces sauvages (flore et faune), y	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

compris les espèces en péril et leur habitat essentiel?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d'altérer les niveaux d'eau, la qualité, le régime d'écoulement ou de gestion d'un plan d'eau, ou d'entraîner d'autres changements importants dans les eaux de surface ou les ressources souterraines (y compris l'eau de puits)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d'entraîner des perturbations sensorielles comme du bruit et/ou des vibrations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d'entraîner tout autre changement à l'environnement sur un territoire domanial ou accessoire à une décision fédérale? Dans ce cas, définir ces changements :	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Effets socio-économiques (peuples autochtones) : Le projet risque-t-il d'entraîner des changements à l'environnement pouvant toucher les peuples autochtones, plus précisément :	NON	Oui, et ces effets peuvent être gérés au moyen de mesures d'atténuation efficaces et établies	Oui, mais ces effets doivent être gérés au moyen d'autres mesures d'atténuation
les conditions sanitaires et socio-économiques (p. ex. impact sur la pêche autochtone découlant d'un changement dans la population de poissons);	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
le patrimoine naturel et culturel;	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l'utilisation actuelle des terres et des ressources à des fins traditionnelles (p. ex. la chasse et la cueillette);	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
une construction, un emplacement ou une chose d'importance sur le plan historique, archéologique, paléontologique ou architectural.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Effets socio-économiques (population en général) : Le projet risque-t-il de causer un changement à l'environnement découlant d'une décision fédérale connexe (attributions conférées) pouvant entraîner des impacts sur :	NON	Oui, et ces effets peuvent être gérés au moyen de mesures d'atténuation efficaces et établies	Oui, mais ces effets doivent être gérés au moyen d'autres mesures d'atténuation
les conditions sanitaires et socio-économiques (p. ex. impact sur la pêche commerciale découlant d'un changement dans la population de poissons);	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
le patrimoine naturel et culturel;	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
une construction, un emplacement ou une chose d'importance sur le plan historique, archéologique, paléontologique ou architectural.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section E : Mesures d'atténuation efficaces et établies

Donner un résumé des effets environnementaux négatifs potentiels ainsi que des mesures d'atténuation efficaces et établies connexes qui seront mises en œuvre si le projet est réalisé. Déterminer si les effets environnementaux sont de nature biophysique (BP) et/ou socio-économique (SE) en cochant la case correspondante pour chaque ligne remplie. Consulter l'étape 3a – Remplir le formulaire de mesures d'atténuation (FMA) pour les projets de base du Guide (Projets Proposés sur un Territoire Domanial - Prendre une décision en vertu de l'article 67 de la Loi canadienne sur l'évaluation environnementale (2012)) pour obtenir de l'aide dans la détermination des effets biophysiques et socio-économiques. Ajouter autant de lignes que nécessaire.

Effet environnemental	BP	SE	Mesure d'atténuation efficace et établie
<u>OISEAUX MIGRATEURS</u> Atteinte potentielle aux oiseaux migrateurs et à des nids actifs, incluant les espèces d'oiseaux en péril	<input type="checkbox"/>	<input type="checkbox"/>	Puisque les travaux seront réalisés pendant la saison de nidification des oiseaux (14 avril au 28 août), les mesures suivantes devront être mises en œuvre : <ul style="list-style-type: none"> • Installer une toile protectrice pour empêcher les oiseaux de faire des nids sous la toiture de la galerie. • Effectuer une vérification afin de valider la présence de nids actifs dans l'aire des travaux. Si des nids d'oiseaux actifs sont observés

Effet environnemental	BP	SE	Mesure d'atténuation efficace et établie
			<p>avant ou pendant les travaux, les environs immédiats du nid doivent être évités et les travaux arrêtés conformément à la <i>Loi sur la convention concernant les oiseaux migrateurs</i> et le <i>Règlement sur les oiseaux migrateur</i>. Les biologistes du Parc doivent être contactées afin de discuter des prochaines étapes à suivre.</p> <ul style="list-style-type: none"> • Privilégier un éclairage extérieur ambre, sans composante bleue du type à défilement total. • L'éclairage intérieur et extérieur de la maison O'Brien et du site ainsi que du paysage doit être minimisé, efficace et promouvoir un ciel sombre. • Les fenêtres de tous les bâtiments seront traitées de façon à créer suffisamment de marqueurs visuels pour que les oiseaux les perçoivent.
<p><u>ATTEINTE POTENTIELLE À DES ESPÈCES À STATUT PARTICULIER ET LEURS HABITATS</u> Noyers cendrés</p> <p>Chauves-souris en péril au Canada et menacées ou vulnérables au Québec</p> <p>Reptiles en péril au Canada et menacées ou vulnérables au Québec</p>			<p>NOTE : Comme le bâtiment n'est pas utilisé comme site de maternité et puisque les travaux se concentrent principalement à l'intérieur et sur l'enveloppe extérieure du bâtiment (à l'exception de la coupe et de l'élagage de certains arbres et arbustes non en péril), aucune mesure d'atténuation particulière ne s'applique pour les espèces fauniques à statut particulier.</p> <ul style="list-style-type: none"> • Installer une clôture temporaire autour des deux noyers cendrés, à la projection de la cime au sol, afin de s'assurer que ces derniers ne soient pas endommagés par la machinerie. • S'il y avait observation d'une espèce faunique en péril sur le site des travaux, arrêter immédiatement les travaux pouvant avoir un effet négatif significatif sur l'espèce.
<p>Perturbation potentielle de la végétation – coupe ou élagage</p>			<ul style="list-style-type: none"> • Limiter la coupe de la végétation au strict minimum, soit : les branches qui pendent sur la toiture; la végétation qui endommage la maison; la végétation qui nuit à la réalisation des travaux de rénovation extérieurs. Avant les activités de coupe, une biologiste du Parc devra valider les espèces à couper et donner son approbation. • Les branches qui endommagent le toit et les murs des côtés nord et ouest de la maison peuvent être émondées (voir photos à la section B). • Les semis et arbustes situés en bordure de la galerie du côté nord de la maison peuvent être coupés (voir photos à la section B). • Les branches doivent être émondées selon les "Normes en horticulture ornementale" (NQ-0605-200-IV) du BNQ. • Les résidus de coupe peuvent être éparpillés dans la forêt environnante, en prenant soins de ne pas endommager le sous-bois. • Il est interdit d'émonder, couper ou autrement endommager une espèce en péril (vivante ou morte) protégée par les lois fédérales et/ou provinciales sans un permis d'Environnement et Changement climatique Canada (ECCC) et/ou le Ministère du Développement durable,

Effet environnemental	BP	SE	Mesure d'atténuation efficace et établie
			<p>Environnement et Lutte contre les changements climatiques (MDDELCC) du Québec. Toutes les espèces à statut fédéral ou provincial doivent être protégées afin de s'assurer qu'elles ne soient pas endommagées ou coupées. Ceci comprend les 2 noyers cendrés (<i>Juglans cinerea</i>) situés près de la maison (voir carte à la section B).</p> <ul style="list-style-type: none"> • Les sites perturbés pendant les travaux doivent être réhabilités à la fin des travaux. • La restauration de la végétation doit être réalisée le plus tôt possible, à une période propice pour la reprise de la végétation. • Réhabiliter les sites perturbés avec de la terre végétale et semer avec le mélange approuvé : <ul style="list-style-type: none"> ○ 50% <i>Phleum pratense</i> (Phléole des prés); ○ 25% <i>Poa trivialis</i> (Pâturin rude); ○ 10% <i>Agrostis alba</i> (Agrostide blanche); ○ 8% <i>Trifolium repens</i> (Trèfle blanc); ○ 7% <i>Medicago lupulina</i> (Luzerne lupuline)
Perturbation potentielle de la faune en général			<ul style="list-style-type: none"> • Maintenir le site des travaux propre. • Permettre à un animal se trouvant sur le site des travaux de s'éloigner de lui-même. • Ne pas laisser de déchets ou de restes de nourriture qui risqueraient d'attirer les animaux ou modifier leur comportement. • Rapporter à un biologiste du PG-TUQ, toute situation particulière liée à la présence de la faune sur le site de travaux. Des actions seront prises, si la situation l'exige.
Contamination potentielle du sol ou de l'eau, accident ou déversement potentiel			<ul style="list-style-type: none"> • Puisque le volume de sols contaminés est faible (environ 25 litres), les matériaux contaminés seront excavés et remplacés par du sable propre. Cette excavation sera réalisée manuellement et les sols chargés dans un ou plusieurs contenants de 20 litres. Les résidus de l'excavation seront disposés hors Parc, dans le site autorisé le plus proche, selon les procédures établies. L'entrepreneur doit fournir à la CCN le billet de disposition remis par le propriétaire du site d'enfouissement. • Seulement des matériaux propres et exempts de contaminants doivent être utilisés (par ex., pierres, sol, etc.). • S'assurer que la machinerie est propre et exempte de fuites, d'espèces envahissantes et de mauvaises herbes nuisibles à son arrivée sur le site et la maintenir dans cet état par la suite. • Suivre le protocole de nettoyage de l'équipement « Clean Equipment Protocol for Industry – Summary » (voir l'annexe 7). • Effectuer le plein de carburants, l'entretien et les réparations de la machinerie à une distance minimale de 60 mètres du cours d'eau. Placer une toile sous la machinerie si un remplissage de carburants, d'huiles ou autres produits s'avère nécessaire. • L'entrepreneur doit prévoir l'instauration et l'application d'un plan d'urgence, connu des travailleurs, en cas d'un déversement

Effet environnemental	BP	SE	Mesure d'atténuation efficace et établie
			<ul style="list-style-type: none"> accidentel. • Une trousse d'urgence de récupération des produits pétroliers devra être disponible en permanence sur le site. • En cas d'accident ou de déversement, l'entrepreneur doit immédiatement appliquer le plan d'urgence en vigueur. Il doit aviser le Service d'urgence de la CCN (613-239-5353) et, dès que possible, le superviseur du chantier ou le gestionnaire de projet de la CCN, ainsi qu'Urgence environnement Québec (1- 866-694-5454), si requis. • Les hydrocarbures et les sols contaminés seront récupérés par une firme spécialisée dans ce domaine.
Érosion et sédimentation, déplacement et compaction des sols potentiels			<ul style="list-style-type: none"> • Planifier les travaux près des fossés de manière à empêcher les matériaux comme la peinture, les apprêts, les abrasifs de décapage, les solvants antirouille, les dégraisseurs, le coulis de ciment, le béton coulé ou tout autre produit chimique et toxiques de se retrouver dans les eaux de surface. • S'il y a lieu, ameubler les sols compactés par la machinerie avant qu'ils ne soient renaturalisés.
<p>Atteinte potentielle à la santé humaine – substances désignées</p> <p>NOTE : Les effets environnementaux liés au radon dans l'air et à la qualité de l'eau potable sont inclus au tableau de la section F.</p>			<ul style="list-style-type: none"> • Si la peinture au plomb est enlevée ou dérangée, des procédures appropriées doivent être mises en place pour s'assurer que les travailleurs ne sont pas exposés à la poussière contenant du plomb. Le document de la Commission des normes de l'équité de la santé et de la sécurité du travail (CNESST) intitulé: <i>Guide de Prévention - L'exposition au plomb</i> devrait être suivi. De même, la directive de la santé et de la sécurité au travail (SST) du ministère du Travail de l'Ontario a publié le document intitulé: <i>Ligne directrice: Plomb sur les projets de construction</i>. Le plus strict de ces deux documents devrait être suivi en cas de conflit. • Les débris de bouclier thermique devront être enlevés et éliminés conformément aux règlements du Québec avant la démolition La perturbation des matériaux contenant de l'amiante dans les projets de construction et de démolition au Québec est régie par la <i>Loi sur la santé et la sécurité du travail</i> (LRQ, chapitre S-2.1), le <i>Code de sécurité dans l'industrie de la construction. Émissions de poussière d'amiante</i> (LRQ de Québec, chapitre S-2.1, r.4, section 3.23) et <i>Règlement sur la santé et la sécurité du travail</i> (LRQ, chapitre S-2.1, r.13).
Atteinte potentielle à la santé humaine – bruits et vibrations			<ul style="list-style-type: none"> • Un programme de contrôle du bruit sera mis en œuvre afin de garder les niveaux sonores sous un seuil acceptable pour les résidents et les usagers du parc de la Gatineau situés à proximité de la zone des travaux. • Le moteur de tout équipement à essence non utilisé devra être coupé afin de diminuer le niveau de bruit généré par les travaux. De même, tous les systèmes de contrôle du bruit

Effet environnemental	BP	SE	Mesure d'atténuation efficace et établie
			(par exemple, silencieux) devront être en état de marche et fonctionnel.
Atteinte potentielle à des vestiges archéologiques ou restes humains			<ul style="list-style-type: none"> • Un archéologue qualifié doit être présent lors des travaux d'excavation au sous-sol de la maison, s'il y a lieu. • Si des ressources archéologiques ou des restes humains sont découvertes pendant les travaux, tous les travaux à l'endroit concerné doivent être suspendus immédiatement et le Programme du patrimoine de la CCN doit être avisé dans les plus brefs délais (Archaeology-Archeologie@ncc-ccn.ca). Les travaux ne pourront pas reprendre à cet endroit tant que les mesures pour la protection de ces ressources ou ces restes n'auront pas été mises en place.

Section F : Autres effets environnementaux et mesures d'atténuation

Remplir le tableau suivant relativement aux effets environnementaux potentiels et aux mesures d'atténuation connexes qui ne répondent pas à la définition de mesures efficaces et établies. Consulter l'étape 3b – Effectuer une Évaluation des Effets Environnementaux (EEE) Pour les Autres Projets du Guide (Projets Proposés sur un Territoire Domanial - Prendre une décision en vertu de l'article 67 de la Loi canadienne sur l'évaluation environnementale (2012)) pour obtenir de l'aide dans la détermination des effets environnementaux. Copier-coller le tableau autant de fois que nécessaire.

Effet environnemental négatif potentiel	Mesure d'atténuation proposée
Risque potentiel à la santé humaine en raison des niveaux de radon supérieurs aux recommandations de Santé Canada détectés au sous-sol de la maison	<ul style="list-style-type: none"> • Le niveau de radon dans l'air doit être réduit en dessous des lignes directrices canadiennes de 200 Becquerel par mètre cube (Bq / m³) de Santé Canada en tout temps • Des essais à long terme pour le radon dans l'air doivent être effectués une fois les rénovations du bâtiment terminées, peu importe les résultats de l'essai à court terme. • Un entretien occasionnel du système d'atténuation du radon sera effectué et des tests de la qualité de l'air effectués au moins une fois par an afin d'assurer le bon fonctionnement du système d'atténuation du radon. • Les systèmes de ventilation devraient être vérifiés une fois l'an par un professionnel du chauffage, de la ventilation et de la climatisation pour s'assurer que la circulation de l'air est toujours bien calibrée. Les VRC utilisés pour abaisser les concentrations devraient fonctionner en permanence.

Ampleur des effets résiduels	Réversibilité des effets résiduels	Étendue géographique des effets résiduels	Durée des effets résiduels	Fréquence des effets résiduels
Faible	Réversible	Immédiate	Long terme	Continu
Effets résiduels	Négligeables			
Surveillance	<ul style="list-style-type: none"> Un programme de suivi spécifique pour vérifier la quantité de radon dans l'air dans la maison Asa Meech sera entrepris par une personne qualifiée dans ce domaine. Si des mesures correctives doivent être effectuées pour corriger la quantité de radon dans l'air, un entrepreneur certifié par le Programme national de compétence sur le radon au Canada (PNCR-C) devra effectuer les travaux. Idéalement, la mesure de suivi du radon devrait se faire à l'endroit où les mesures ont été prises initialement pour tester le système d'atténuation du radon après sa mise en marche. Le promoteur devra s'assurer qu'un test d'une durée de trois mois sera réalisé au cours de l'automne ou de l'hiver suivant la mise en marche du système d'atténuation du radon afin de confirmer que les concentrations moyennes de radon au cours d'une année ont diminué sous la ligne directrice canadienne. Pour éviter tout conflit d'intérêt, le test ne devrait pas être exécuté par l'entreprise qui a installé le système d'atténuation du radon. 			
Commentaires				

Effet environnemental négatif potentiel	Mesure d'atténuation proposée
Risque potentiel à la santé humaine en raison de la qualité de l'eau potable provenant du puits	<ul style="list-style-type: none"> Il ne sera pas permis à des locataires d'occuper cette résidence jusqu'à ce que des mesures d'atténuation acceptables soient mises en place pour l'eau potable. Le nouveau puits foré en 2017 doit respecter les paramètres de qualité et de quantité d'eau potable du MDDELCC du Québec et doit respecter les paramètres de qualité de l'eau potable recommandés pour la santé humaine selon les <i>Recommandations pour la qualité de l'eau potable au Canada</i> publiées par Santé Canada. Un système de traitement de l'eau sera installé afin d'assurer la fourniture d'eau potable à la maison Asa Meech. Si l'eau pour consommation après traitement dépasse les <i>Recommandations pour la qualité de l'eau potable au Canada</i> (Santé Canada, 2017), la CCN fournira de l'eau potable embouteillée au locataire. Des affiches indiquant que l'eau n'est pas potable devront être installées à tous les robinets du bâtiment. L'eau du puits devra être échantillonnée et analysée au moins une fois par année (maison privée) pour savoir s'il y a des enjeux par rapport aux recommandations fédérales et aux normes provinciales. Aucun entreposage en hydrocarbures ou autres produits dangereux, aucun ravitaillement en essence et l'entretien et les réparations de machineries et équipements requis ne sera permis à moins de 30 mètres du puits existant. Placer une bâche sous la machinerie si un remplissage de carburants, d'huiles ou autres produits s'avère nécessaire. La localisation des aires d'entreposage devra être

			préalablement autorisée par la CCN. À la fin des travaux, remettre ces sites dans leur état initial.	
Ampleur des effets résiduels	Réversibilité des effets résiduels	Étendue géographique des effets résiduels	Durée des effets résiduels	Fréquence des effets résiduels
Faible	Réversible	Immédiate	Long terme	Continu
Effets résiduels	Négligeables			
Surveillance	<ul style="list-style-type: none"> Il ne sera pas permis à des locataires d'occuper cette résidence jusqu'à ce que des mesures d'atténuation acceptables soient mises en place pour l'eau potable. Si l'eau demeure non-potable en raison de dépassements des normes bactériologiques ou physico-chimiques, la CCN assurera un suivi de l'eau pour consommation humaine pendant que la maison est occupée par un locataire. L'eau devra être échantillonnée et analysée au moins une fois par année (maison privée) afin de détecter si l'eau potable dépasse les <i>Recommandations pour la qualité de l'eau potable au Canada</i> (Santé Canada, 2017) et les normes du Québec (MDDELCC). En cas de dépassements, la CCN devra informer les locataires des mesures de précaution à prendre. 			
Commentaires				

Section G : Décision

Compte tenu de la mise en œuvre des mesures d'atténuation énoncées dans l'analyse, ce projet :

<input checked="" type="checkbox"/>	N'est pas susceptible d'entraîner des effets environnementaux négatifs importants.
<input type="checkbox"/>	Est susceptible d'entraîner des effets environnementaux négatifs importants.

Section H : Signature et approbation

Rempli par : Lulia Madularu, chef, gestion de projets

Commentaires : <i>Inscrire tout autre commentaire que vous jugez justifié.</i>		
Commission de la capitale nationale		Inscrire la date
	Signature	Date

Rempli par : Jocelyne Jacob, biologiste principale, Terrains urbains du Québec et parc de la Gatineau

Commentaires : <i>Inscrire tout autre commentaire que vous jugez justifié.</i>		
Commission de la capitale nationale		Inscrire la date
	Signature	Date

Copier-coller le tableau présenté ci-dessous pour chaque autorité, le cas échéant, qui approuve les renseignements et les décisions présentés dans ce formulaire.

Signature et approbation : Services environnementaux

Commentaires : <i>Inscrire tout autre commentaire que vous jugez justifié.</i>		
Commission de la capitale nationale		Inscrire la date
	Signature	Date

				préalablement autorisée par la CCN. À la fin des travaux, remettre ces sites dans leur état initial.
Ampleur des effets résiduels	Réversibilité des effets résiduels	Étendue géographique des effets résiduels	Durée des effets résiduels	Fréquence des effets résiduels
Faible	Réversible	Immédiate	Long terme	Continu
Effets résiduels	Négligeables			
Surveillance	<ul style="list-style-type: none"> Il ne sera pas permis à des locataires d'occuper cette résidence jusqu'à ce que des mesures d'atténuation acceptables soient mises en place pour l'eau potable. Si l'eau demeure non-potable en raison de dépassements des normes bactériologiques ou physico-chimiques, la CCN assurera un suivi de l'eau pour consommation humaine pendant que la maison est occupée par un locataire. L'eau devra être échantillonnée et analysée au moins une fois par année (maison privée) afin de détecter si l'eau potable dépasse les <i>Recommandations pour la qualité de l'eau potable au Canada</i> (Santé Canada, 2017) et les normes du Québec (MDDELCC). En cas de dépassements, la CCN devra informer les locataires des mesures de précaution à prendre. 			
Commentaires				

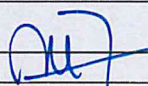
Section G : Décision

Compte tenu de la mise en œuvre des mesures d'atténuation énoncées dans l'analyse, ce projet :

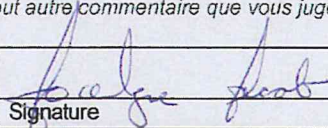
<input checked="" type="checkbox"/>	N'est pas susceptible d'entraîner des effets environnementaux négatifs importants.
<input type="checkbox"/>	Est susceptible d'entraîner des effets environnementaux négatifs importants.

Section H : Signature et approbation

Rempli par : Iulia Madularu, chef, gestion de projets

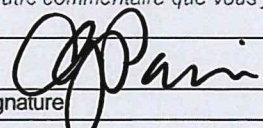
Commentaires : <i>Inscrire tout autre commentaire que vous jugez justifié.</i>		
Commission de la capitale nationale	Signature	Inscrire la date
		Date 12/04/2018

Rempli par : Jocelyne Jacob, biologiste principale, Terrains urbains du Québec et parc de la Gatineau

Commentaires : <i>Inscrire tout autre commentaire que vous jugez justifié.</i>		
Commission de la capitale nationale	Signature	Inscrire la date
		Date 28/03/2018

Copier-coller le tableau présenté ci-dessous pour chaque autorité, le cas échéant, qui approuve les renseignements et les décisions présentés dans ce formulaire.

Signature et approbation : Services environnementaux

Commentaires : <i>Inscrire tout autre commentaire que vous jugez justifié.</i>		
Commission de la capitale nationale	Signature	Inscrire la date
		Date 2018-04-04

Annexe : Ressources et références

Ressources	Commentaires
<ul style="list-style-type: none">• Sandra Cook, biologiste, Terrains urbains du Québec et parc de la Gatineau• Kate-Issima Francin, architecte, Design et utilisation du sol• Éric Soulard, chef, Services des projets environnementaux• Ian Badgley, archéologue• Données SIG, à jour mars 2018.• Voir les références des documents en annexe	

Annexe A - Rapport de vérification du système septique

Rapport de vérification

INFORMATION SUR LE CLIENT :

Client + No : Arrow Service

Adresse de l'installation : 601 Chemin du lac Meech, Chelsea

Adresse de facturation : 601 Chemin du lac Meech, Chelsea

No de téléphone : 613-489-3652

Courriel : ptwilley@arrow-service.ca

Date et heure job : 16 juin 2017 10h00 am

RAPPORT EFFECTUÉ POUR CAUSE DE :

Entretien/réparation Changement de propriétaire Autre .

Détailler SVP :
Fosse 750 gallons

CONDITION MÉTÉO :

Ensoleillé Pluvieux Neige
 Nuageux

ÉTAT DU SOL :

Sec/ déshydraté Humide Trempé
 Enneigé Autre : _____

NOTES GÉNÉRALES DU SITE :

Arbres, arbustes géants ou racines à moins de 2 mètres du système septique:

Oui Non N/A

Objets lourd sur le système septique (Voiture, cabanon, remise, patio, etc.)

Oui Non N/A

Signe apparent de défectuosité :

Oui Non N/A

Odeurs :

Oui Non N/A

Rapport de vérification

Accumulation d'eau autour des installations septiques :

Oui Non N/A

Résurgence apparente autour du champ d'épuration :

Oui Non N/A

DÉTAIL DE LA FOSSE

Type de fosse :

Ciment Plastique Métal
 Puisard Autre : .

Capacité de la fosse : 750 / Gallons Profondeur de la fosse : 10 pouces
 Distance de la résidence : 10 pieds

État du couvercle 1 :

Solide

Excellente Convenable A remplacer
 Aucun Inaccessible Autre : .

État du couvercle 2 :

Liquide

Excellente Convenable A remplacer
 Aucun Inaccessible Autre : .

Cloison interne:

Plastique

Excellente Convenable A remplacer
 Aucun Inaccessible Autre : .

Défecteur d'entrée :

Excellente Convenable A remplacer
 Aucun Inaccessible Autre : .

Défecteur de sortie :

Excellente Convenable A remplacer
 Aucun Inaccessible Autre : .

État Pré-filtre :

Excellente Convenable A remplacer
 Aucun Inaccessible Autre : .

Rapport de vérification

Niveau du liquide :

- Haut
 Bas
 Normal
 Autre : .

État conduite d'amenée :

- Excellente
 Convenable
 A remplacer
 Aucun
 Inaccessible
 Autre : .

État tuyau de sortie :

- Excellente
 Convenable
 A remplacer
 Aucun
 Inaccessible
 Autre : .

Remarque sur la fosse : La fosse est en très bonne état. Il y aurait un couvercle à changer.

INSPECTION PAR CAMÉRA :

- Conduite d'amenée Oui Non
 Tuyau de sortie Oui Non

STATION DE POMPAGE :

- Non

Pompe fonctionnelle :

- Oui
 Non
 N/A

Unité de mesure de la pompe:

- Gallon
 Litres
 N/D
 Autre : .

Matériaux utilisés :

- Plastique
 Ciment
 Métal
 Autre : .

Rapport de vérification

Fissure ou infiltration dans la station de pompage :

Oui Non Autre : .

Spécifier SVP :

.

Valve anti-retour :

Oui Non N/A

Alarme :

Oui Non Recommandée

Alarme fonctionnelle :

Oui Non N/A

Portion électricité de l'alarme (Connexion, filage etc.):

Excellente Bon À remplacer

Station serait à nettoyer :

Oui Non N/A

ÉLÉMENTS ÉPURATEUR:

Type :

Conventionnelle Écoflo Bionest
 Enviro septique Bio-B Puisard
 Puit absorbant Hydro-Kinetic Autre : Cliquez ici pour taper du texte.

Distance de la fosse vers l'élément épurateur :

45 pieds Inconnue

Rapport de vérification

Tuyau :

 Tuile

 Plastique

 Autre : .

Pierres concassées

 Bon état
 N/A

 Convenable, moyen

 Mauvais ou à remplacer

Niveau d'eau

 Normal

 Élevé

Présence de résidus (biomasse) dans l'élément épurateur :

 Oui
 N/A

 Non

 Épaisseur de la biomasse : .
 +/-4mm

Épaisseur de sol au dessus de l'élément épurateur :

Profondeur de l'élément épurateur constatée : 12 pouces

Profondeur de la fosse sous la surface : 10 pouces

Norme en vigueur :

 24 Pouces
 60 CM
 Autre : .
 N/A

Puits :

Distance entre champ épurateur et le puits : N/A

 Type de puits : [Cliquez ici pour taper du texte.](#)

Rapport de vérification

RÉSULTATS :

- Le système fonctionne correctement.
- Le système a une saturation au niveau du champ d'épuration.
- Le système comporte des dommages structurels qui pourraient affecter la durée de vie du champ.
- Refoulement d'eau de l'élément épurateur.
- Dû à la condition du système ou par manque d'informations, le résultat de l'inspection n'est pas concluant.
- Accumulation ou écoulement d'eau anormale autour de l'élément épurateur
- Accumulation de déchets organiques et de racines et ou terre dans les tuyaux du champ d'épuration.
- Autre : .

Remarque sur le système septique :

La fosse ainsi que le système épurateur sont en très bonne état.

RECOMMANDATIONS :

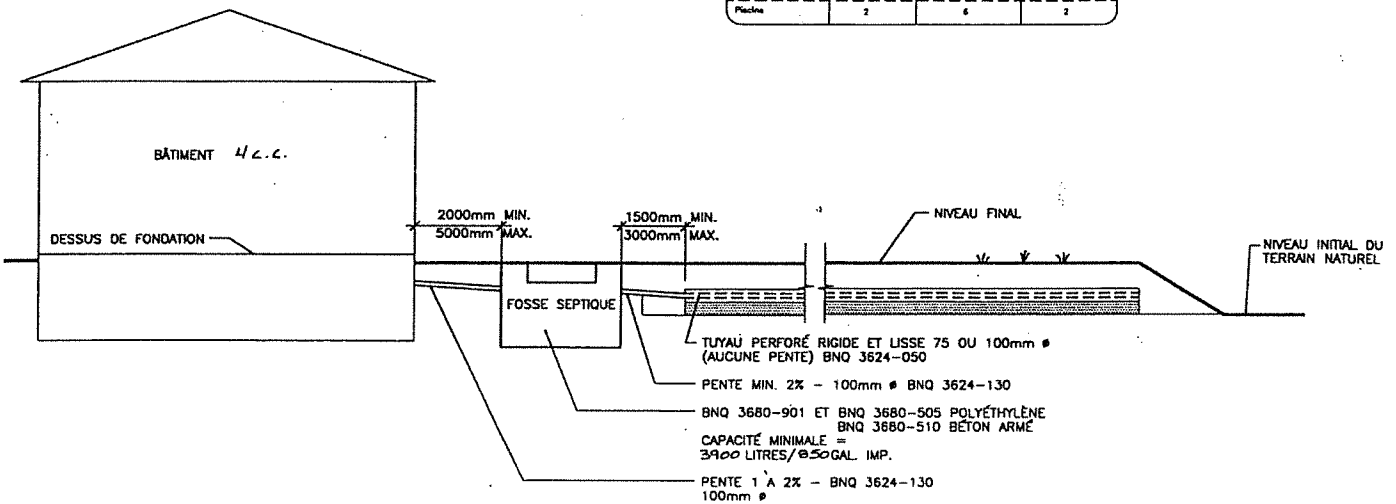
- Remplacement de la conduite d'amenée.
- Remplacement du déflecteur de sortie
- Remplacement du déflecteur d'entrée.
- Installation d'extensions (sur la fosse) Dimension des couvercles : Cliquez ici pour taper du texte.
- Réparer la cloison transversale (Fosse de plastique).
- Remplacer le(s) couvercle(s)
- Nettoyer les tuyaux de l'élément épurateur dans le but d'éliminer la biomasse.
- Installation d'un préfiltre
- Changer la fosse
- Consulter un ingénieur en système septique afin de remplacer le système
- Aération du champ afin de décompacter l'élément épurateur.

(601 MEECH)

- UNE FOSSE SEPTIQUE DE DÉCANTATION EST REQUISE SI LES EAUX SONT ACHÉMINÉES PAR POMPAGE (DU SOUS SOL) OU SI UN BROYEUR À DÉCHETS EST UTILISÉ.
- LA FOSSE SEPTIQUE DOIT ÊTRE VIDANGÉE AU MOINS UNE FOIS TOUTS LES DEUX ANS. ELLE NE DOIT EN AUCUN TEMPS ÊTRE SUBMERGÉE.
- TOUTE CONDUITE D'AMENÉE OU TUYAU DE RACCORDEMENT DONT LA LONGUEUR EXCÈDE LE MAXIMUM INDICÉ DOIT ÊTRE PROTÉGÉ DU GEL À L'AIDE D'ISOLANT DE POLYSTYRÈNE EXTRUDÉ, 50mm D'ÉPAIS (SM BLEU).

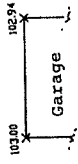
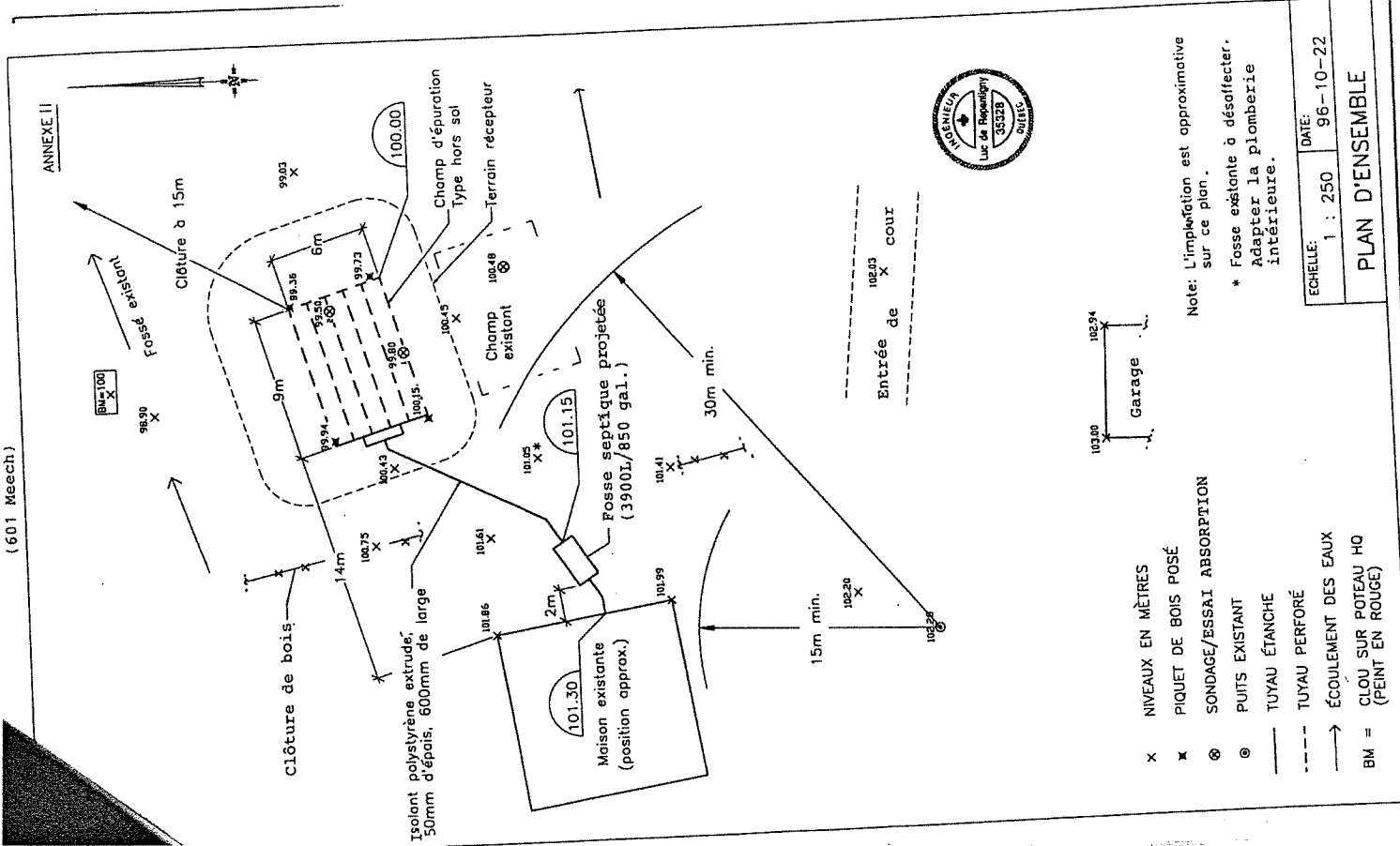
LOCALISATION			
Les marges de recul minimales à respecter sont les suivantes:			
	Fosse septique (m)	Champ d'épuration (m)	Équipements connexes
Puits	15	30	15
Lac, cours d'eau, sources élarg	11	15	11
Tout bâtiment	2	6	2
Limite de propriété	3	3	3
Arbre	n/s	3	n/s
Conduite d'eau de consommation	3	3	3
Conduite de drainage	n/s	6	n/s
Placée	2	6	2

ANNEXE IV



SANS ÉCHELLE

COUPE LONGITUDINALE
FILTRE À SABLE HORS-SOL



- X NIVEAUX EN MÈTRES
- ⊗ PIQUET DE BOIS POSÉ
- ⊙ SONDAGE/ESSAI ABSORPTION
- ⊙ PUIXS EXISTANT
- TUYAU ÉTANCHE
- TUYAU PERFORÉ
- ÉCOULEMENT DES EAUX
- BM = CLOU SUR POTEAU HQ (PEINT EN ROUGE)

Note: L'implémentation est approximative sur ce plan.

* Fosse existante à désaffecter. Adapter la plomberie intérieure.

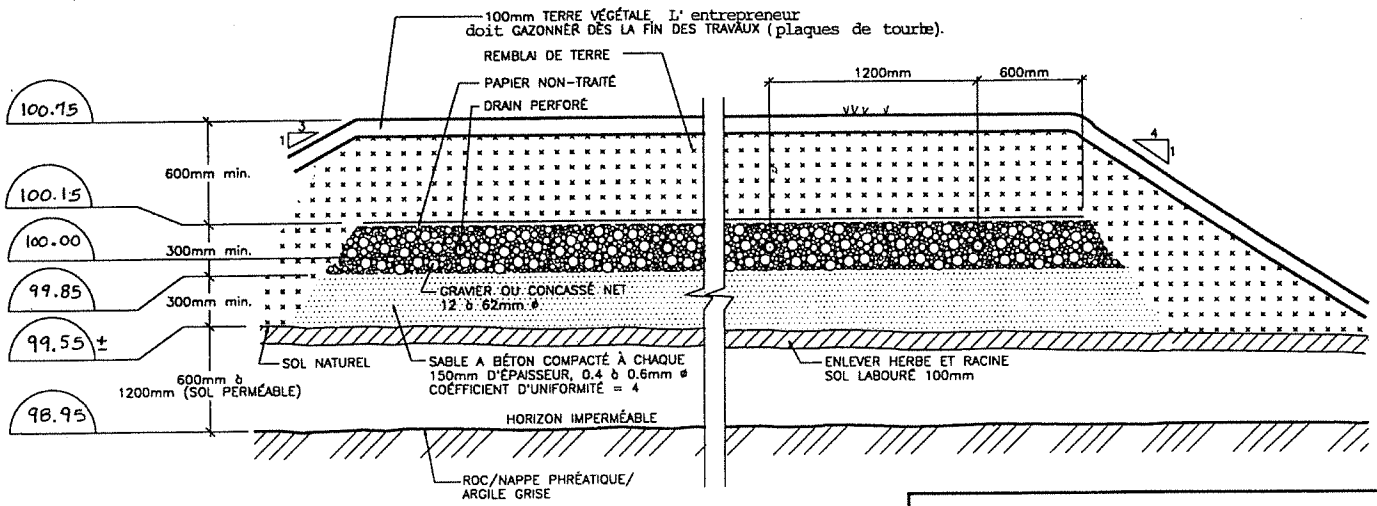
ECHELLE: 1 : 250 DATE: 96-10-22

PLAN D'ENSEMBLE

(601 MEECH)

ANNEXE III

- AUCUN VÉHICULE NE DOIT CIRCULER SUR L'ÉLÉMENT ÉPURATEUR.
- LE SOL DOIT ÊTRE NIVELLÉ ET DRAINÉ DE FAÇON À ÉLOIGNER LES EAUX DE SURFACE DE L'ÉLÉMENT ÉPURATEUR.



SANS ÉCHELLE

COUPE TRANSVERSALE
FILTRE À SABLE HORS-SOL

Annexe B - Résultats de l'analyse d'eau

TABLE 1		CLIENT: Nelson Water Inc.		
PARACEL LABORATORIES LTD.		ATTENTION: Dave Villeneuve		
WORKORDER: 1812614		PROJECT: NCC Well Water Test		
REPORT DATE: 03/29/2018		REFERENCE: #17-435 - NCC Well Water Quality Monitoring		
Parameter	Units	MDL	Regulation	Sample
				Raw Water 1812614-01
Sample Date (m/d/y)			Select Reg	03/22/2018 05:15 PM
Calculated Parameters				
Anion Sum	mEq/L	0.01	REGS	9.00
Cation Sum	mEq/L	0.01	REGS	8.50
Ion Balance	%	0.1	REGS	-2.6
Solids, total dissolved - calc.	mg/L	10.0	REGS	561
Langlier Index	S.I.	0.01	REGS	0.43
Saturation pH	pH Units	0.10	REGS	7.50
Microbiological Parameters				
E. Coli	CFU/100 mL	1	REGS	ND (1)
Bacteria, background	CFU/100 mL	1	REGS	TNTC
Total Coliforms	CFU/100 mL	1	REGS	1
General Inorganics				
Alkalinity, total	mg/L	5	REGS	100
Alkalinity, bicarbonate	mg/L	5	REGS	100
Alkalinity, carbonate	mg/L	5	REGS	ND (5)
Ammonia as N	mg/L	0.01	REGS	ND (0.01)
SAR	[blank]	0.01	REGS	1.52
Dissolved Organic Carbon	mg/L	0.5	REGS	ND (0.5)
Colour	TCU	2	REGS	93
Conductivity	uS/cm	5	REGS	798
Cyanide, total	mg/L	0.01	REGS	ND (0.01)
Hardness	mg/L		REGS	290
pH	pH Units	0.1	REGS	7.9
Phosphorus, total	mg/L	0.01	REGS	0.72
Total Dissolved Solids	mg/L	10	REGS	570
Total Suspended Solids	mg/L	2	REGS	298
Sulphide	mg/L	0.02	REGS	0.04
Tannin & Lignin	mg/L	0.1	REGS	0.4

gw_results

Total Kjeldahl Nitrogen	mg/L	0.1	REGS	ND (0.1)
Turbidity	NTU	0.1	REGS	127
Total Organic Carbon	mg/L	0.5	REGS	2.0
Anions				
Bromide	mg/L	0.1	REGS	ND (0.1)
Chloride	mg/L	1	REGS	10
Fluoride	mg/L	0.1	REGS	2.0
Nitrate as N	mg/L	0.1	REGS	ND (0.1)
Nitrite as N	mg/L	0.05	REGS	ND (0.05)
Phosphate as P	mg/L	0.2	REGS	ND (0.2)
Sulphate	mg/L	1	REGS	316
Metals				
Mercury	mg/L	0.0001	REGS	ND (0.0001)
Aluminum	mg/L	0.001	REGS	1.42
Antimony	mg/L	0.0005	REGS	ND (0.0005)
Arsenic	mg/L	0.001	REGS	ND (0.001)
Barium	mg/L	0.001	REGS	0.014
Beryllium	mg/L	0.0005	REGS	0.0013
Boron	mg/L	0.01	REGS	0.37
Cadmium	mg/L	0.0001	REGS	ND (0.0001)
Calcium	mg/L	0.1	REGS	102
Chromium	mg/L	0.001	REGS	ND (0.001)
Cobalt	mg/L	0.0005	REGS	0.0008
Copper	mg/L	0.0005	REGS	0.0033
Iron	mg/L	0.1	REGS	7
Lead	mg/L	0.0001	REGS	0.0016
Magnesium	mg/L	0.2	REGS	8.4
Manganese	mg/L	0.005	REGS	0.127
Molybdenum	mg/L	0.0005	REGS	0.0112
Nickel	mg/L	0.001	REGS	0.002
Potassium	mg/L	0.1	REGS	2.0
Selenium	mg/L	0.001	REGS	ND (0.001)
Silicon	mg/L	0.01	REGS	5.20
Silver	mg/L	0.0001	REGS	ND (0.0001)
Sodium	mg/L	0.2	REGS	61.3
Strontium	mg/L	0.01	REGS	3.60
Thallium	mg/L	0.001	REGS	ND (0.001)

gw_results

Tin	mg/L	0.01	REGS	ND (0.01)
Titanium	mg/L	0.005	REGS	0.005
Tungsten	mg/L	0.01	REGS	ND (0.01)
Uranium	mg/L	0.0001	REGS	0.0553
Vanadium	mg/L	0.0005	REGS	0.0044
Zinc	mg/L	0.005	REGS	0.007

Annexe C - Rapport sur le test de radon



Solutions Radon MB / MB Radon Solutions

75 Pitobig Mikan
Maniwaki (Québec) J9E 3B1

Tel: (819) 449-7751
Email: mbrascoupe@gmail.com

Le 24 mars 2018

Commission de la Capitale Nationale
601, Chemin du Lac Meech
Chelsea (Qc) J9B 1H9
Att : Mme Iulia Madularu, Gestionnaire construction commerciale

Objet: Résultats de l'analyse du niveau de radon dans une résidence

Ce rapport donne la **concentration moyenne du radon** prise par un moniteur de radon en continu qui avait été exposé dans un endroit qui contenait un certain niveau de radon pour une période entre la *date du début* et la *date de fin* de ce rapport. Les résultats sont donnés en Becquerel par mètre cube d'air (Bq/m³), l'unité présentement utilisée au Canada pour établir la concentration du gaz radon dans un endroit déterminé.

Si les résultats sont près de 200 Bq/m³ et la période d'analyse est moins de 90 jours, vous pourriez peut-être penser à refaire une analyse à long terme (3 mois ou plus) avant de prendre des actions pour atténuer le niveau de radon dans votre résidence. De l'information additionnelle est incluse au verso de ce rapport.

Détecteur	Bq/m ³ (Moy.)	Endroit du test	L'adresse du test	Date du début	Date de fin
Radon Scout + S/N: 236/12/08	11	1 – RDC Chambre à coucher (vacant)	601, Ch. Lac Meech Chelsea (Québec)	19 mars 2018	23 mars 2018
Corentium Home S/N 2402011758	5	1 – RDC Salle de bain (vacant)	601, Ch. Lac Meech Chelsea (Québec)	19 mars 2018	23 mars 2018
Corentium Home S/N 2402011720	7	1 – RDC Salon a/foyer (vacant)	601, Ch. Lac Meech Chelsea (Québec)	19 mars 2018	23 mars 2018
MOYENNE	7.6				

Analyzé par: Marcel Brascoupe

24 mars 2018

Date de l'analyse:

COMMENTAIRES:

La « *moyenne* » des trois moniteurs de radon en continu **démontre une moyenne de radon en « dessous » de la ligne directrice établie par Santé Canada** qui est de 200 Becquerels/m³. Suite à la moyenne obtenue avec ces trois moniteurs, on peut confirmer que le système d'atténuation du radon existant installé dans le vide sanitaire combiné avec l'infiltration d'air naturelle par les fenêtres manquantes ou brisées au rez-de-chaussée assure des niveaux de radon **très faibles** dans ce bâtiment.

RECOMMANDATIONS :

Vu que ce bâtiment est présentement en construction, nous recommandons de faire une analyse à long-terme (3 mois et plus) un mois après que le bâtiment a été habité sur une base régulière suivant les travaux.

QUE VEUT DIRE LE RÉSULTAT DE CES TESTS:

Le niveau moyen de radon dans des résidences est estimé par Santé Canada à être environ 42 Bq/m³. La moyenne à l'air libre à l'extérieur des résidences est estimée à 10 Bq/m³. Le niveau de radon dans la plupart des maisons qui excède la norme établie par Santé Canada peut facilement être réduit à des niveaux en bas de 100 Bq/m³. La EPA (États-Unis) ainsi que Santé Canada croit que toute exposition au radon porte un certain niveau de risque à votre santé et que vous pouvez réduire votre risque du cancer des poumons en réduisant votre exposition au radon. Le seul risque connu pour la santé associé à l'exposition au radon dans l'air intérieur est un risque accru de cancer du poumon. Les effets du radon dépendent de la concentration de radon dans l'habitation ou le bâtiment et de la durée d'exposition d'une personne à cette concentration.

CE QUE TU DEVRAIS FAIRE:

Le guide canadien recommande de prendre des mesures correctives dans une résidence quand la concentration moyenne annuelle de radon excède 200 Bq/m³ dans les endroits normalement occupés par les résidents. Plus que le niveau de radon est élevé, plus rapidement doit t'ont prendre des actions correctives. Quand des actions correctives sont prises, le but est de réduire la concentration de radon à un niveau le plus bas possible. Il existe plusieurs méthodes pour réduire le niveau de radon dans une résidence. Des systèmes simples qui utilisent des tuyaux et des ventilateurs, appelés systèmes de dépressurisation sous-dalle, enlèvent le gaz radon en dessous de la dalle de béton au sous-sol avant qu'il y a même la chance de rentrer dans la résidence. En temps normal, l'installation d'un système de dépressurisation sous-dalle ne comporte pas de changement majeur dans une maison. Des systèmes semblables peuvent aussi être installés dans des maisons avec des vides sanitaires. Dans certains cas, le colmatage des fissures dans les dalles de béton ainsi que colmatage des trous dans le plancher et les murs peut aussi aider à réduire l'infiltration du gaz radon dans une résidence. Des entrepreneurs spécialisés dans le domaine du radon peuvent aussi utiliser d'autres techniques qui peuvent réduire le niveau de radon dans une résidence. Le bon système dépend toujours du design de la maison et d'autres facteurs.

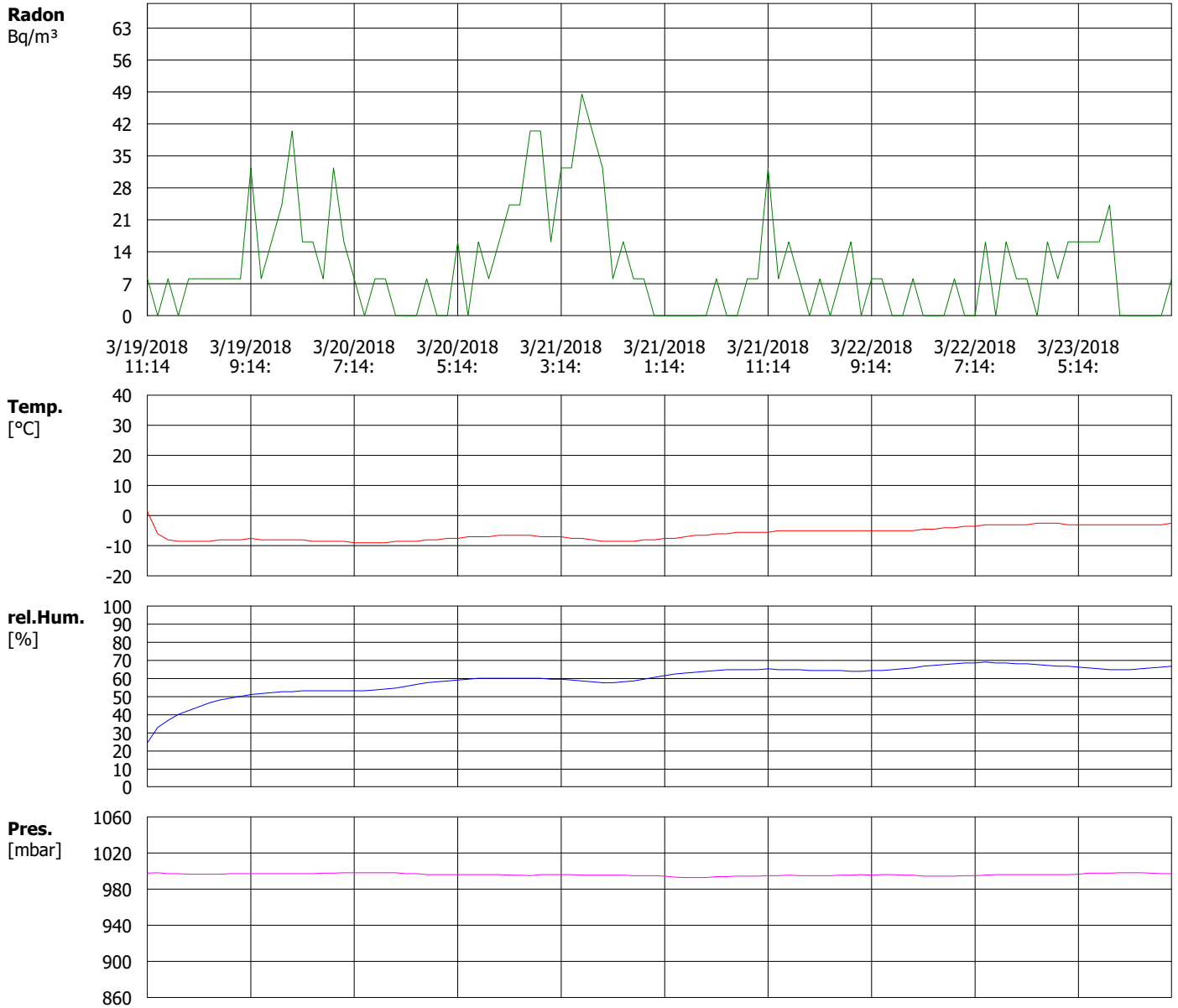
Si vous avez des questions générales concernant le risque à votre santé causé par le radon dans votre maison, vous pouvez contacter Santé Canada au 613-954-6647 ou visiter leur site web au: <http://www.hc-sc.gc.ca/index-fra.php> et faire une recherche sur le radon.

TRANSACTIONS IMMOBILIÈRES:

De plus en plus, des acheteurs et des locataires demandent de l'information sur le radon avant d'acheter ou louer une maison. Certains endroits obligent les propriétaires de dévoiler les résultats de leurs analyses de radon. Souvent, les transactions immobilières se produisent rapidement et qu'il n'y a de temps pour faire un test à long terme pour le radon. Il est donc recommandé de garder ce rapport dans un endroit sûr en cas qu'un futur acheteur ou locataire y soit intéressé. Si nécessaire, prenez les actions maintenant pour réduire le niveau de radon dans votre résidence pour que le radon ne vienne pas compliqué une transaction immobilière dans le futur.

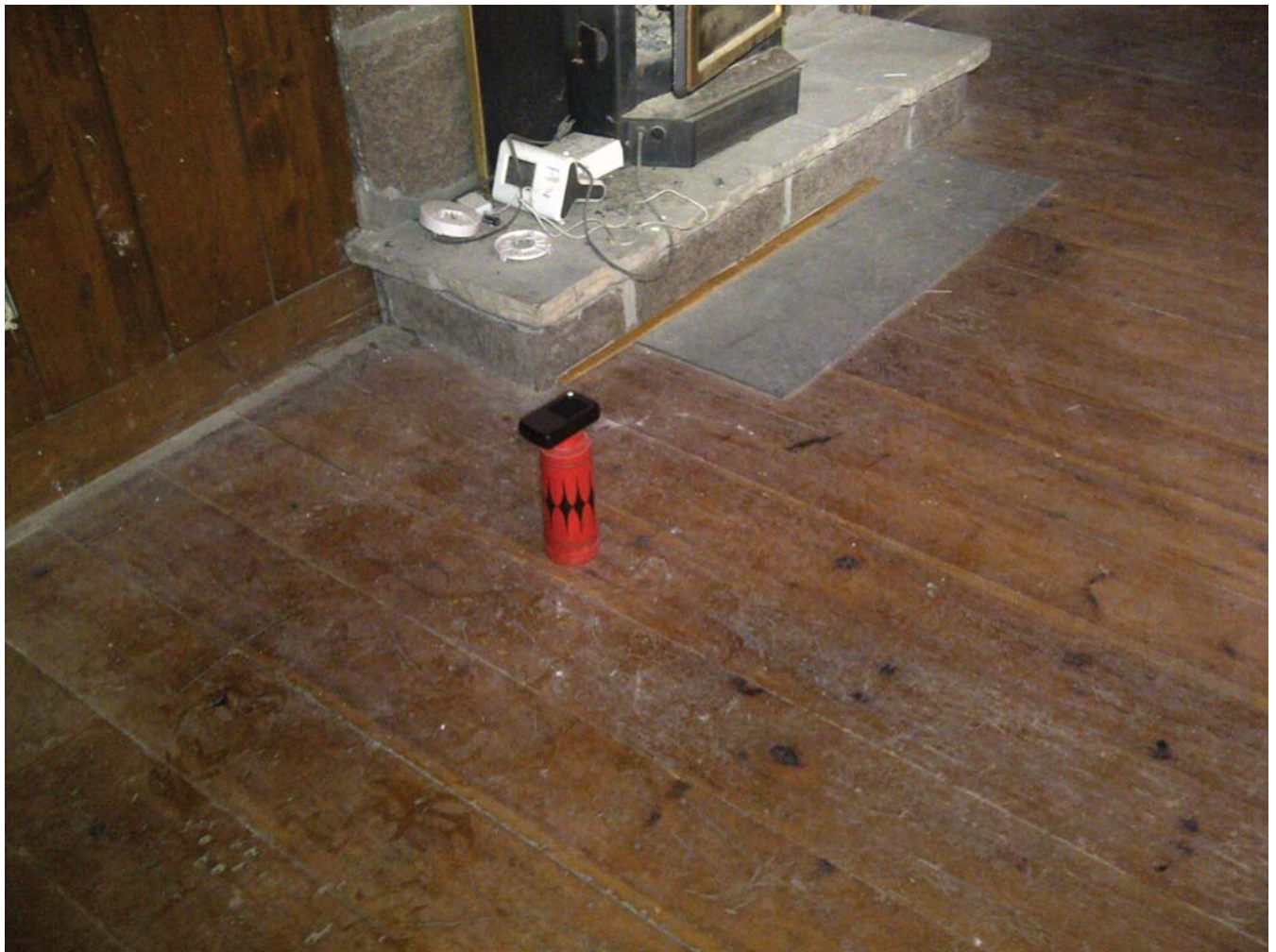
COMMENT

Residence: NCC Building, 601 chemin du Lac Meech, Chelsea (Qc) Endroit du test: (Chambre à coucher au rez-de-chausée)

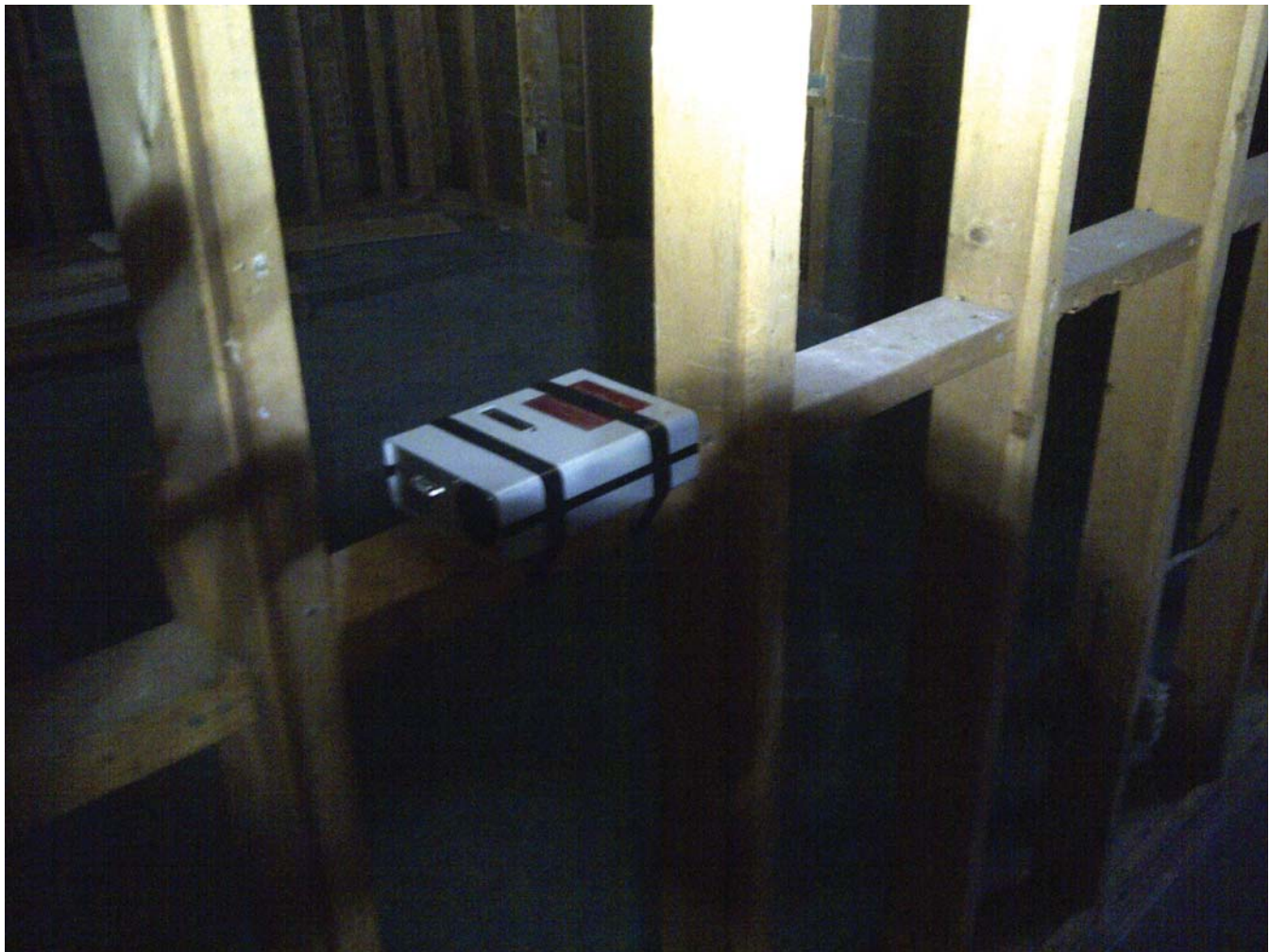


RESULTS

Instrument:	Radon-Scout PLUS SN: 236	Average:	11 Bq/m ³ ±8.7%
Data Records:	100	Exposure:	1060 Bqh/m ³
Sample Period:	3/19/2018 10:14:00 - 3/23/2018 2:14:00	Maximum:	49 Bq/m ³
Exposure Time:	100.0 hours	Minimum:	0 Bq/m ³







Annexe D - Rapports sur la qualité des sols

**Phase I Environmental Site Assessment
NCC Property Asset Number 727
601 Meech Lake Road, Chelsea, Québec**

Prepared for:

National Capital Commission
202-40 Elgin Street
Ottawa, Ontario K1P 1C7

Trow Associates Inc.

154 Colonnade Road South
Ottawa, Ontario K2E 7J5
Telephone: (613) 225-9940
Facsimile: (613) 225-7337
E-mail: ottawa@trow.com
Web Site: www.trow.com

OTEN00016602C
November, 2003

Executive Summary

Trow Associates Inc. (Trow), was retained by the National Capital Commission (NCC) to carry out a Phase I Environmental Site Assessment (ESA) for a property located at 601 Meech lake Road, in Chelsea, Québec (NCC Property Asset # 727). The objective of this investigation was to characterize the likelihood, types and locations of contamination, hazardous building materials and designated substances that may be present at the property. In addition, the assessment was undertaken in order to determine whether there are any conditions or activities at the site that may be of concern with respect to pertinent environmental legislation.

The following are the significant conclusions resulting from our investigation.

Surface/Subsurface Contamination

No actual sources of surface/subsurface contamination that were noted on the subject property.

The following lists the potential sources of surface/subsurface contamination that were noted on the subject property:

- There are potential environmental concerns with respect to the former and current presence of a heating oil AST in the basement of the main house, that lies directly on the soil surface.

As a preliminary measure, Trow recommends the following courses of action be implemented:

1. *As the historic and current ASTs in the house have been situated on exposed ground surface, there is a potential that historic spills may have adversely impacted the subject site. It is therefore recommended as a precautionary measure that a borehole investigation be undertaken to assess the quality of the adjacent soil and/or groundwater regimes.*

Hazardous / Designated Substances

No actual hazardous/designated substances were noted at the subject property.

The following lists the potential hazardous/designated substances that were noted on the subject property:

- Lead may be present on the exterior and interior painted surfaces; and
- A minor amount of black discolouration was observed to be present on the ceiling of the bathroom of the main house. The discolouration may indicate the presence of surface mould.

Prior to performing renovations or other work which would disturb the materials listed above which may contain lead, sampling and laboratory analysis is recommended and/or appropriate

precautions should be taken during the work and the disposal of the materials. Building maintenance personnel or officials should inspect the black discolouration observed in the bathroom of the mainhouse to determine its nature and/or a future course of action (i.e., cleaning, mould assessment).

Compliance/Housekeeping Issues

The following lists the compliance/housekeeping issues that were noted on the subject property:

- The vent pipe for the basement fuel oil tank at the main house is less than 2 metres above ground level, and is therefore non-compliant with Section 6.9.1.7 of *B139-00 Installation Code for Oil Burning Equipment*, adopted by reference under the *TSSA Act, 2000*, which requires vent pipes adjacent to buildings to be terminated in open air, at least 2 metres above ground level.

The height of the vent pipes for the fuel oil tank should be upgraded to comply with the B139-00 Installation Code for Oil Burning Equipment.

Based on the results of this investigation, further work in the form of a Limited Phase II ESA is recommended to assess the quality of the soil and/or groundwater regimes adjacent to the AST located in the crawlspace of the home. The investigation would consist of hand drilling three shallow boreholes in the immediate vicinity of the heating oil AST and submitting one sample from each borehole for laboratory analysis of petroleum hydrocarbons (C₁₀ to C₅₀) and benzene, toluene, ethylbenzene, and xylenes. The lump sum cost to perform the above noted tasks is \$820 plus GST.

Table of Contents

Executive Summary	I
1.0 Introduction	1
1.1. Purpose.....	1
1.2. Methodology.....	1
2.0 Site Description	2
2.1. Site Location.....	2
2.2. Site and Vicinity Characteristics.....	2
3.0 Records Review	3
3.1. Standard Environmental Information Sources.....	3
3.1.1. Fire Insurance Plans.....	3
3.1.2. Historical Aerial Photographs.....	3
3.1.3. Property Use Directories and Land Titles Search.....	3
3.2. Other Information Sources – Physical Setting.....	3
3.2.1. Bedrock and Surficial Geology Maps.....	3
3.3. Other Information Sources – Historical Information.....	4
3.3.1. Regulatory Requests.....	4
3.3.2. Property Management Review.....	4
4.0 Site Reconnaissance and Interviews	5
4.1. Site Reconnaissance and Interviews.....	5
4.2. Structure Inspection.....	5
4.3. Chemical/Fuel Storage Inspection.....	5
4.4. Materials Handling and Waste Management Inspection.....	5
4.5. Underground Structures and Utilities.....	5
4.6. Physical Setting and Analysis.....	6
4.6.1. Building and Site Drainage.....	6
4.6.2. Pits and Lagoons.....	6
4.6.3. Presence of Fill.....	6
4.6.4. Topographic, Geologic and Hydrogeologic Conditions.....	6
4.7. Adjacent Sites.....	6

5.0 Designated Substances Audit and Other Materials of Concern	7
6.0 Compliance Review	8
6.1. Compliance Issues	8
6.2. Housekeeping Issues.....	8
6.3. Best Management Practices	8
7.0 Conclusions and Recommendations	9
8.0 Qualifications of Assessor	11
9.0 Limitations	12

Appendices

Appendix A: Figures

Appendix B: Regulatory Information

Appendix C: Site Photographs

1.0 Introduction

1.1. Purpose

Trow Associates Inc. (Trow), was retained by the National Capital Commission (NCC) to carry out a Phase I Environmental Site Assessment (ESA) for a property located at 601 Meech Lake Road, in Chelsea, Québec (NCC Property Asset # 727). The site location is presented in Figure 1 of Appendix A. The objective of this investigation was to characterize the likelihood, types and locations of contamination, hazardous building materials and designated substances that may be present at the property. In addition, the assessment was undertaken in order to determine whether there are any conditions or activities at the site which may be of concern with respect to pertinent environmental legislation.

1.2. Methodology

This investigation was completed in accordance with the scope of work as defined in the NCC Terms of Reference dated May 14, 2003, which included: i) a review of historic and current records pertaining to the site, ii) a visual inspection of the site, buildings, and surrounding properties, and iii) interviews with person(s) having knowledge of past and present site activities. The results of the assessment were compiled in a report format suitable to meet the requirements of the current CSA Standard Z768-01, Phase I Environmental Site Assessment. In addition, the scope of work was expanded to include a Designated Substances Survey (DSS) and an Environmental Compliance Audit (ECA).

The DSS was performed to identify the presence of any potentially hazardous and/or harmful materials listed under the Occupational Health and Safety Act of Ontario (i.e. acrylonitrile, arsenic, asbestos, benzene, coke oven emissions, ethylene oxide, isocyanates, lead, mercury, silica and vinyl chloride), other hazardous substances (i.e. polychlorinated biphenyls, ozone-depleting substances, faecal waste, urea formaldehyde foam insulation) and environmental moulds (interior survey).

The ECA focussed on potential issues of non-compliance which could adversely impact environmental conditions. The site was assessed with respect to federal, provincial and municipal laws and regulations pertaining to storage tank operations, effluent/wastewater discharge, hazardous materials and hazardous waste management practices and chemical storage/handling/disposal.

2.0 Site Description

2.1. Site Location

The NCC owned site is located at 601 Meech Lake Road. The site location is presented in Figure 1 of Appendix A.

2.2. Site and Vicinity Characteristics

The subject site is rectangular in shape, occupies an area of approximately 4 hectares, and is comprised of a 110 square metre, two-storey, timber frame residential dwelling, a small, workshop shed, a chicken coop, and another small shed. The remainder of the site consists of grassed and treed areas.

3.0 Records Review

3.1. Standard Environmental Information Sources

3.1.1. Fire Insurance Plans

No Fire Insurance Plans were found for the subject site.

3.1.2. Historical Aerial Photographs

Aerial Photographs were reviewed at the National Air Photo Library for the years 1946, 1953, 1960, 1966, 1967, 1968, 1969, 1972, and 2001. Limitations such as scale and shading were encountered during the review process.

Based on the aerial photo review, the historical land use on the subject site is generally the same as present day. The same buildings were observed on the subject site in each photo during the aerial photograph review.

In summary, no areas of potential environmental concern were identified from the review of the historic aerial photographs.

3.1.3. Property Use Directories and Land Titles Search

Historical property use directories were not available for the subject site. A land titles search was not conducted as sufficient information was obtained from other historical sources.

3.2. Other Information Sources – Physical Setting

3.2.1. Bedrock and Surficial Geology Maps

The following information source was reviewed to determine the nature of the subsurface materials of the site.

Surficial Materials and Terrain Features – Ottawa-Hull, Ontario-Quebec; Geological Survey of Canada, Map 1425A. Scale 1:125,000, 1974.

A review of the map revealed that the study area is underlain by bedrock which consists of :Pre-Cambrian-aged syenite and monzonite. Unconsolidated sediments may also be present (up to two metres in thickness) in select areas.

3.3. Other Information Sources – Historical Information

3.3.1. Regulatory Requests

Information from provincial sources pertaining to the above areas of concern was requested from the Ministère de L'Environnement du Québec (MENV) and Ministère des Ressources Naturelles du Québec (MRN) (Appendix B).

The MENV and the MRN had no records on file for the subject site.

3.3.2. Property Management Review

Trow conducted a review of property management records on September 11, 2003. No potentially environmentally significant information was obtained from the review process.

4.0 Site Reconnaissance and Interviews

4.1. Site Reconnaissance and Interviews

A site visit was conducted on September 15, 2003. The results of the site reconnaissance are discussed below. Photographs from the site visit can be found in Appendix C.

Ms. Joyce Cameron-Kay, current site tenant, was interviewed in-person on September 15, 2003 in order to gain some background knowledge on observed site conditions. Ms. Joyce Cameron-Kay has been a tenant at the site for approximately 5 years. No potentially environmentally significant information was obtained from the interview process.

4.2. Structure Inspection

The subject site is comprised of a 110 square metre, two-storey, timber frame residential dwelling, a small, workshop shed, a chicken coop, and another small shed. A minor amount of black discolouration was observed to be present on the ceiling of the bathroom of the main house. The discolouration may indicate the presence of surface mould.

4.3. Chemical/Fuel Storage Inspection

A 900 litre above ground storage tank (AST) was observed in the basement crawl space in the main house. The AST, recently installed in 2000, was situated on a dirt floor, with no secondary containment noted. No staining was observed in the vicinity of the AST. Ms. Kay informed Trow that a former AST was formerly situated in the same location as the current one.

As the historic and current ASTs in the house have been situated on an exposed ground surface in the basement crawl space, there is a potential that historic spills may have adversely impacted the subject site. It is therefore recommended as a precautionary measure that a borehole investigation be undertaken to assess the quality of the adjacent soil and/or groundwater regimes.

4.4. Materials Handling and Waste Management Inspection

No waste materials were encountered on the subject property during the site visit. As such, issues relating to materials handling and waste management were not identified during the site visit.

4.5. Underground Structures and Utilities

No underground structures or utilities were observed on the subject property.

4.6. Physical Setting and Analysis

4.6.1. Building and Site Drainage

As previously mentioned, no building drainage systems were apparent during the site visit. As such, site drainage is directed downwards by way of infiltration in the overburden and horizontally by overland flow towards the north to northwest.

4.6.2. Pits and Lagoons

No pits or lagoons were observed on the subject property during the site visit.

4.6.3. Presence of Fill

Significant amounts of fill were not observed on the subject site. Ms. Kay could not recall fill being placed on the property.

4.6.4. Topographic, Geologic and Hydrogeologic Conditions

The site slopes towards the northwest. The structures are located on a relatively flat area. No significant geologic or hydrogeologic features were noted on this site. Based on site topography, the local groundwater flow direction is assumed to be north to northwest, towards Meech Lake.

4.7. Adjacent Sites

The site is surrounded by vacant, undeveloped lands in all directions. Adverse environmental impacts associated with the adjacent properties are not anticipated.

5.0 Designated Substances Audit and Other Materials of Concern

No actual hazardous/designated substances were noted at the subject property.

The following lists the potential hazardous/designated substances that were noted on the subject property:

- Lead may be present on the exterior painted surfaces.

Prior to performing renovations or other work which would disturb the materials listed above which may contain lead, sampling and laboratory analysis is recommended and/or appropriate precautions should be taken during the work and the disposal of the materials.

6.0 Compliance Review

6.1. Compliance Issues

The following lists the compliance/housekeeping issues that were noted on the subject property:

- The vent pipe for the basement fuel oil tank at the main house is less than 2 metres above ground level, and is therefore non-compliant with Section 6.9.1.7 of *B139-00 Installation Code for Oil Burning Equipment*, adopted by reference under the *TSSA Act, 2000*, which requires vent pipes adjacent to buildings to be terminated in open air, at least 2 metres above ground level.

The height of the vent pipes for the fuel oil tank should be upgraded to comply with the B139-00 Installation Code for Oil Burning Equipment.

6.2. Housekeeping Issues

No housekeeping issues were noted at the subject site.

6.3. Best Management Practices

As no compliance or housekeeping issues were identified, best management practices are not recommended for the subject site.

7.0 Conclusions and Recommendations

The following are the significant conclusions resulting from our investigation.

As a preliminary measure, Trow recommends the following courses of action be implemented:

1. *As the historic and current ASTs in the house have been situated on exposed ground surface, there is a potential that historic spills may have adversely impacted the subject site. It is therefore recommended as a precautionary measure that a borehole investigation be undertaken to assess the quality of the adjacent soil and/or groundwater regimes.*

Hazardous / Designated Substances

No actual hazardous/designated substances were noted at the subject property.

The following lists the potential hazardous/designated substances that were noted on the subject property:

- Lead may be present on the exterior and interior painted surfaces; and
- A minor amount of black discolouration was observed to be present on the ceiling of the bathroom of the main house. The discolouration may indicate the presence of surface mould.

Prior to performing renovations or other work which would disturb the materials listed above which may contain lead, sampling and laboratory analysis is recommended and/or appropriate precautions should be taken during the work and the disposal of the materials. Building maintenance personnel or officials should inspect the black discolouration observed in the bathroom of the mainhouse to determine its nature and/or a future course of action (i.e., cleaning, mould assessment).

Compliance/Housekeeping Issues

The following lists the compliance/housekeeping issues that were noted on the subject property:

- The vent pipe for the basement fuel oil tank at the main house is less than 2 metres above ground level, and is therefore non-compliant with Section 6.9.1.7 of *B139-00 Installation Code for Oil Burning Equipment*, adopted by reference under the *TSSA Act, 2000*, which requires vent pipes adjacent to buildings to be terminated in open air, at least 2 metres above ground level.

The height of the vent pipes for the fuel oil tank should be upgraded to comply with the B139-00 Installation Code for Oil Burning Equipment.

Based on the results of this investigation, further work in the form of a Limited Phase II ESA is recommended to assess the quality of the soil and/or groundwater regimes adjacent to the AST

located in the crawlspace of the home. The investigation would consist of hand drilling three shallow boreholes in the immediate vicinity of the heating oil AST and submitting one sample from each borehole for laboratory analysis of petroleum hydrocarbons (C₁₀ to C₅₀) and benzene, toluene, ethylbenzene, and xylenes. The lump sum cost to perform the above noted tasks is \$820 plus GST.

8.0 Qualifications of Assessor

Trow Associates Inc., provides a full range of environmental services through a full-time Environmental Services Group. Trow's Environmental Services Group has developed a strong working relationship with clients in both the private and public sectors and has developed a positive relationship with Ontario Ministry of the Environment. Personnel in the numerous branch offices form part of a large network of full-time dedicated environmental professionals in the Trow organisation.

Mark McCalla, B.Sc., P.Geo., acted as the Team Leader for this assessment. He has been responsible for numerous Environmental Site Assessments, Hazardous and Designated Substance surveys, and Environmental Compliance Audits in his career.

Pamela Cushing, B.Sc.(Eng) acted as the Site Assessor for this assessment. She is responsible for conducting Phase I, II and III Site Assessments for residential, industrial, commercial and institutional properties with Trow.

9.0 Limitations

The information presented in this report is based on information provided by others and visual observations as identified herein. This type of limited investigation is designed to provide information to support an overall Phase I ESA of the current environmental conditions of the subject site. Sampling and analysis of soils, groundwater, and other material, however, were not carried out as part of this investigation. The investigation did not involve the removal of fixed items within any structures (i.e. fluorescent light fixtures, etc.). The findings cannot be extended to portions of the subject site, which were unavailable for direct observation at the time of Trow's investigation.

Achieving the objectives stated in this report has required us to arrive at conclusions based upon the best information presently known to us. No investigative method can completely eliminate the possibility of obtaining partially imprecise or incomplete information; it can only reduce the possibility to an acceptable level. Professional judgement was exercised in gathering and analyzing the information obtained and in the formulation of the conclusions. Like all professionals rendering advice, we do not act as absolute insurers of the conclusions we reach, but we commit ourselves to care and competence in reaching those conclusions.

It should also be noted that current environmental guidelines and regulations are subject to change, and such changes, when put into effect, could alter the conclusions and recommendations noted throughout this report.

The conclusions and recommendations noted throughout this report reflect existing site conditions with respect to the current environmental condition of the subject site at the time of this assessment. Compliance of past owners with applicable environmental regulations was not within the scope of this Phase I ESA.

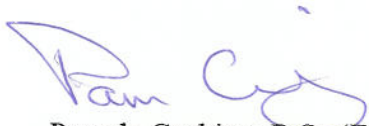
It is possible that unexpected environmental conditions may be encountered on the subject site which have not been explored within the scope of this Phase I ESA. Should such an event occur, Trow should be immediately notified in order that we may determine if modifications to our conclusions are necessary.

This report has been prepared for the exclusive use of the NCC in accordance with accepted environmental study and/or engineering practices for a Phase I ESA (CSA Standard Z768-01). No other warranties, either expressed or implied, are made as to the professional services provided under the terms of the Phase I ESA and included in this report. Any use which a third party makes of this report, or any part hereof, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. Trow accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

We trust this report is satisfactory for your purposes. If you have any questions regarding our submission, please do not hesitate to contact this office.

Respectfully submitted,

Trow Associates Inc.

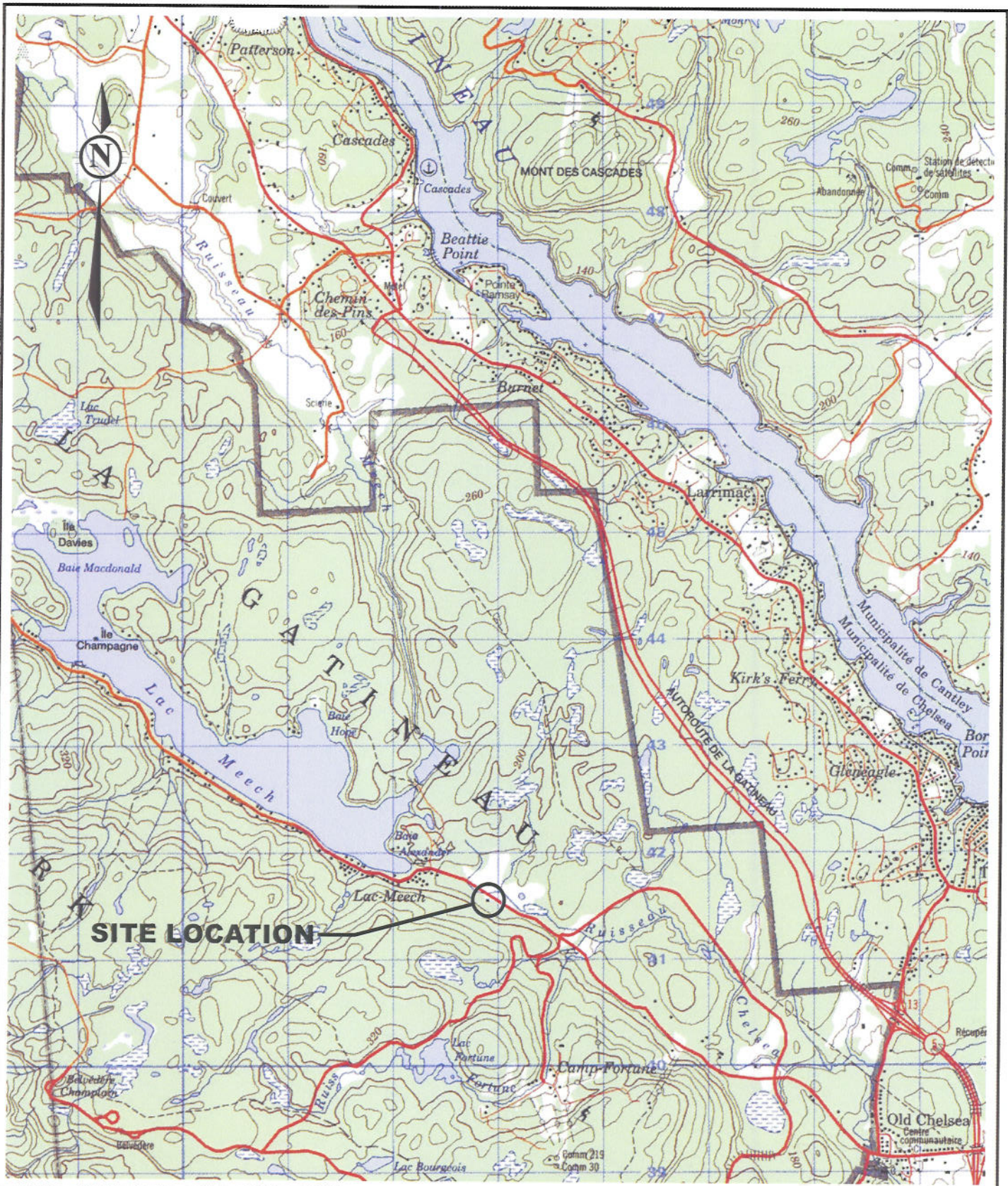


Pamela Cushing, B.Sc.(Eng)
Intermediate Environmental Scientist
Environmental Science & Engineering Services



Mark McCalla, B.Sc., P.Geol.
Senior Project Manager
Environmental Science & Engineering Services

Appendix A: Figures




 **Trow Associates Inc.**

154 Colonnade Road South,
Ottawa, Ontario K2E 7J5

Tel: (613) 225-9940
Fax: (613) 225-7337



SCALE 1:50,000	CLIENT  National Capital Commission	Commission de la capitale nationale	JOB No. OTEN00016602C
DATE NOV 2003	TITLE SITE LOCATION PLAN NCC PROPERTY ASSET N°727		FIG 1
DRAWN RG			

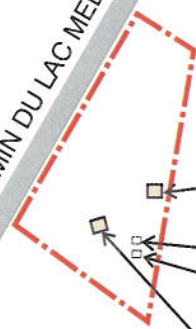


TO OLD CHELSEA

UNDEVELOPED

UNDEVELOPED

CHEMIN DU LAC MEECH



- GARAGE (FORMER BARN)
- FORMER SHED
- FORMER \ CHICKEN COOP
- HOUSE 601 CHEMIN DU LAC MEECH

UNDEVELOPED

UNDEVELOPED

TO MEECH LAKE



154 Colonnade Road South, Ottawa, Ontario K2E 7J5 Tel: (613) 225-9940 Fax: (613) 225-7337



SCALE 1:5,000	CLIENT  National Capital Commission Commission de la capitale nationale	JOB No. OTEN00016602C
DATE NOV 2003	TITLE SITE LAYOUT NCC PROPERTY ASSET N°727	FIG 2
DRAWN RG		

Appendix B: Regulatory Information

Ministère des
Ressources naturelles,
de la Faune
et des Parcs

Québec

Bordereau de télécopie

Date:	2003-09-30	Nombre total de pages:	1
Destinataire	Nom: Pam Cushing	Organisme:	Trouw Associates inc.
	Adresse:		
	Téléphone:	Télécopieur:	613-225-7337
Expéditeur	Nom: Josée LeBreux	Unité administrative:	Direction du développement des hydrocarbures
	Téléphone: (418) 627-6385, poste 8200 1 800-767-1420	Télécopieur:	(418) 528-0690

Message:

Madame, Monsieur,

Nous avons bien reçu votre requête en date du 25 septembre 2003 relative à votre demande d'information concernant l'adresse mentionnée ci-dessous.

Cependant, nous ne pouvons vérifier le site mentionné puisque nous avons besoin d'adresse civique complète. Notre système informatique retrace les dossiers à partir d'adresse de site précise.

Pour de plus amples informations, n'hésitez pas à me contacter.

Votre référence: OTEW0016602C

Aucun dossier sur le chemin Lac Meech

(Politique de confidentialité)

Ce document est destiné à l'usage exclusif du destinataire et contient de l'information privilégiée et confidentielle. Si le lecteur de ce message n'est pas le destinataire, il est prié d'en aviser immédiatement l'expéditeur et de détruire le document par la suite.

5700, 4^e Avenue Ouest, A-401
Charlebourg (Québec) G1H 6R1



PAR TÉLÉCOPIEUR

Gatineau, le 30 septembre 2003

Madame Pam Cushing, B.Sc.
Trow Associates inc.
154 Colonnade Road South
Ottawa (Ontario) K2F 7J5

OBJET : Accès à l'information / Municipalité de Chelsea,
propriétés situées aux :

- P24B, rang XI, canton Hull;
- P24B, rang XI, canton Hull (abri pour bateaux);
- 761, chemin du Lac Meech;
- P21A & 22A, rang 10 et P21B & P22B, rang 10,
canton Hull;
- 601, chemin du Lac Meech;

Madame,

La présente fait suite à votre lettre reçue le 25 septembre 2003 par laquelle vous demandez accès à des documents concernant le dossier cité en rubrique.

Nous vous informons que nous n'avons retrouvé aucun dossier correspondant à votre demande à la Direction régionale de l'Outaouais du ministère de l'Environnement.

...2

Direction régionale de l'Outaouais
98, rue Loïs
Gatineau (Québec) JBY 3R7

Téléphone : (819) 772-3434
Télécopieur : (819) 772-3952
Internet : <http://www.mde.m.gouv.qc.ca>
Courriel : dr07@menv.gouv.qc.ca

Je vous prie de recevoir, Madame, mes salutations distinguées.

Le répondant régional,

Madeline Larose

SP/ml

Park Serge Provencher

Appendix C: Site Photographs



Photo 1: Home on subject site looking northwest.



Photo 2: Former Barn, current garage (storage) looking south from laneway.

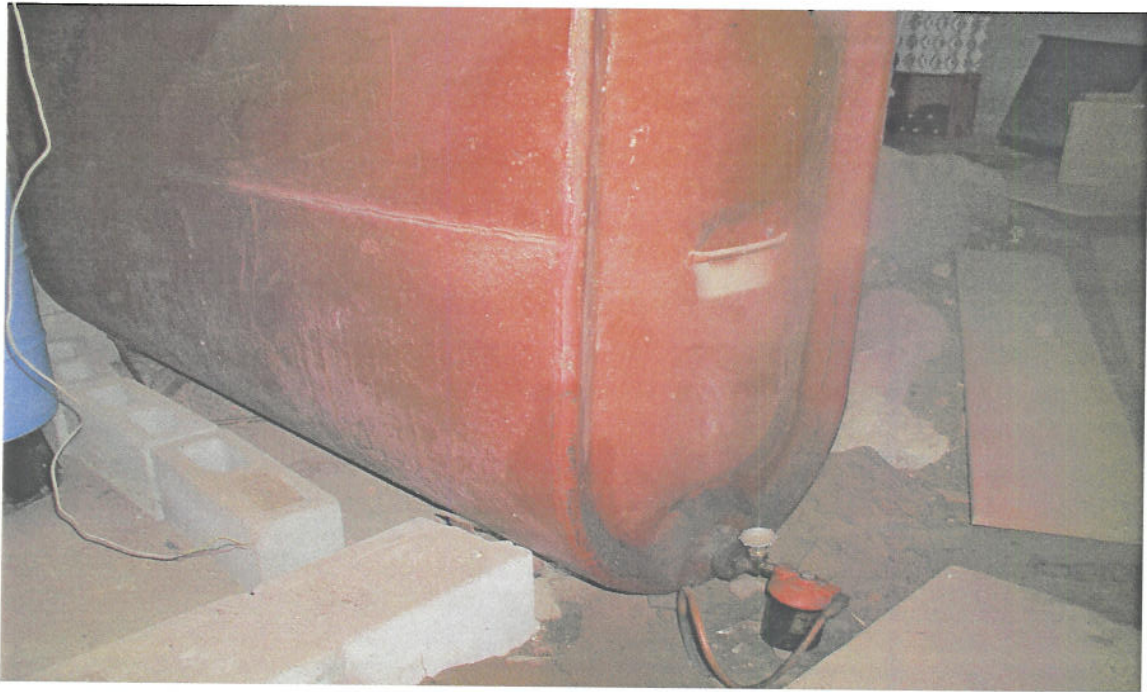


Photo 3: AST located in crawlspace of basement.

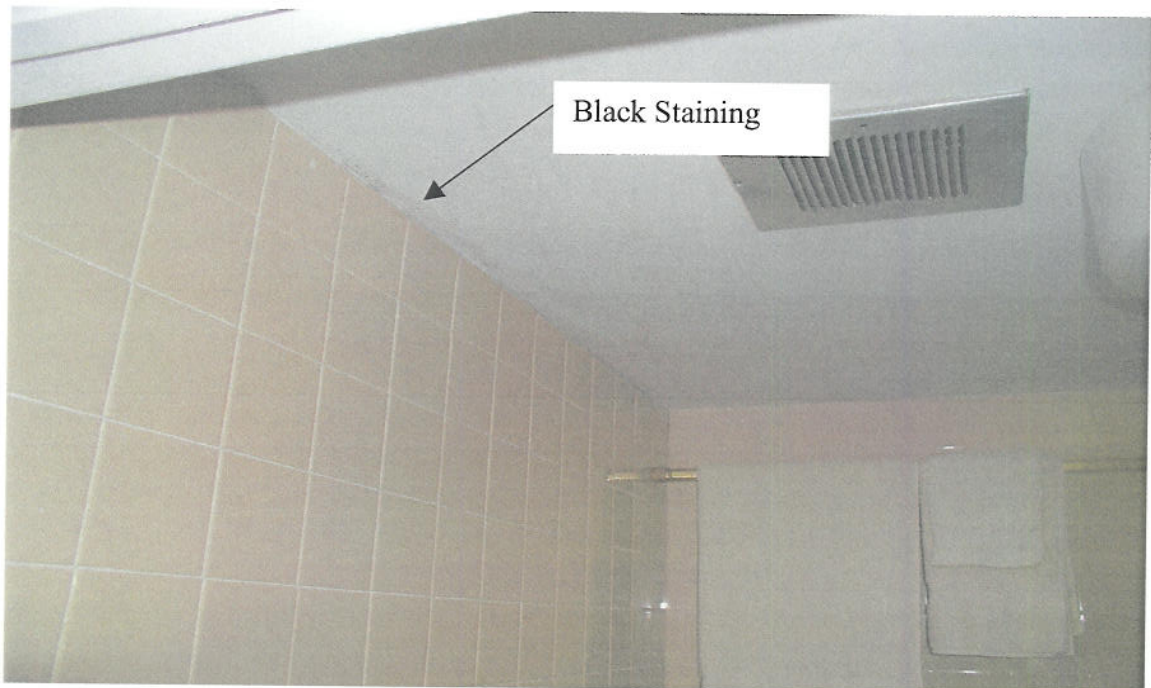


Photo 4: Minor black staining indicating potential mould along ceiling in bathroom.



National Capital
Commission

Commission
de la capitale nationale

Canada

COMMISSION DE LA CAPITALE NATIONALE
Services de l'environnement
40, rue Elgin,
Ottawa (Ontario) K1P 1C7

Évaluation environnementale de site
Phase II

601, Meech Lake Road - Chelsea, Québec
No. de propriété CCN: # 727
No. dossier CCN: CP2200-848-248



747, 5e Rue
Shawinigan (Québec)
G9N 1G2
Téléphone : (819) 536-5652
Télécopieur : (819) 536-7170
Courriel : courrier-sh@muni-ims.qc.ca

1350, rue Royale, bur. 700
Trois-Rivières (Québec)
G9A 4J4
Tél. : (819) 694-1874
Télec. : (819) 694-7738
Courriel : courrier-cap@muni-ims.qc.ca

500, St-Martin Ouest, bureau 350
Laval (Québec)
H7M 3Y2
Téléphone : (514) 353-6861
Télécopieur : (514) 333-5187
Courriel : courrier-mtl@muni-ims.qc.ca

Novembre 2004
N/Réf. : 54252



National Capital
Commission

Commission
de la capitale nationale

Canada

Commission de la Capitale nationale
Services de l'environnement
40, rue Elgin
Ottawa (Ontario) K1P 1C7

Évaluation environnementale de sites – Phase II

Rapport final

N/Réf. IMS : 54252

V/Réf. CCN : CP2200-848-248

Site :

No. de propriété CCN 727
601 Meech Lake Road, Chelsea (Québec)

Préparé par : _____
Agathe De La Chaise

Révisé par : _____
Martin Magnan, ing., M.Sc.A.

Approuvé par : _____
Jean-François Thibeault, ing.



1350, rue Royale, bur. 700
Trois-Rivières (Québec)
G9A 4J4
Tél. : (819) 694-1874
Télec. : (819) 694-7738

747, 5^e Rue
Shawinigan (Québec)
G9N 1G2
Tél. : (819) 536-5652
Télec. : (819) 536-7170

500, St-Martin Ouest, bur. 350
Laval (Québec)
H7M 3Y2
Tél. : (514) 353-6861
Télec. : (514) 333-5187



Novembre 2004



TABLE DES MATIÈRES

1.0	INTRODUCTION	2
1.1	DESCRIPTION DU SITE	2
1.2	PROBLÉMATIQUE SOULEVÉE PAR L'ÉTUDE DE PHASE I.....	4
1.3	OBJECTIFS.....	4
1.4	CADRE RÉGLEMENTAIRE.....	4
2.0	MÉTHODOLOGIE DES TRAVAUX DE TERRAIN	5
2.1	PHOTOGRAPHIES DU SITE	5
2.2	PROTOCOLE D'ÉCHANTILLONNAGE.....	5
	2.2.1 <i>Échantillonnage des sols</i>	5
2.3	ÉTIQUETAGE DES ÉCHANTILLONS :	6
2.4	SÉLECTION DES PARAMÈTRES ANALYTIQUES	7
2.5	CONSERVATION DES ÉCHANTILLONS	7
2.6	CONTRÔLE DE LA QUALITÉ EN LABORATOIRE	7
2.7	INTERPRÉTATION DES RÉSULTATS D'ANALYSE	8
2.8	CONTRÔLE DE LA QUALITÉ DES DONNÉES OBTENUES.....	8
3.0	PRÉSENTATION DES RÉSULTATS	8
3.1	DESCRIPTION DU SITE, MATÉRIAUX RENCONTRÉS ET TOPOGRAPHIE	8
3.2	INTERPRÉTATION DES RÉSULTATS DES SOLS	9
4.0	CONCLUSIONS ET RECOMMANDATIONS.....	11
5.0	UTILISATION DU RAPPORT	12

LISTE DES ANNEXES :

ANNEXE I -	Photographies du site
ANNEXE II -	Plans du site et d'échantillonnage
ANNEXE III -	Certificats d'analyses
ANNEXE IV -	Bibliographie

LISTE DES TABLEAUX :

TABLEAU I -	Tableau des résultats d'analyses des sols
--------------------	---

1.0 INTRODUCTION

Suite à l'obtention d'une offre de service permanente de services d'évaluation environnementale de sites avec la Commission de la Capitale nationale, IMS Experts-Conseils a été mandatée afin de réaliser une évaluation environnementale de phase II du site # 727 – 601 Meech Lake Road, Chelsea (Québec). Les travaux de phase II se sont déroulés le 9 août 2004.

Ce rapport contient une description de la méthodologie utilisée pour effectuer les travaux de terrain, une description des travaux réalisés, les résultats et l'interprétation de ceux-ci ainsi qu'une conclusion et des recommandations.

Tous les dossiers utilisés à la réalisation de ce rapport sont fournis en annexe, incluant les photographies du site, les plans de localisation et d'échantillonnage, les certificats d'analyses, la stratigraphie des sols ainsi que les documents de référence.

1.1 Description du site

Le site visé portant le numéro de propriété 727 est situé au 601 du chemin du Lac Meech, dans la ville de Gatineau, secteur Chelsea, à la latitude 45° 31' 30" N et la longitude 75° 51' 36" O dans le feuillet du Système national de Référence cartographique du Canada [1 :20 000] : 31G12-200-0101

Les figures à la page suivante, provenant de la carte topographique, montrent la localisation du site.

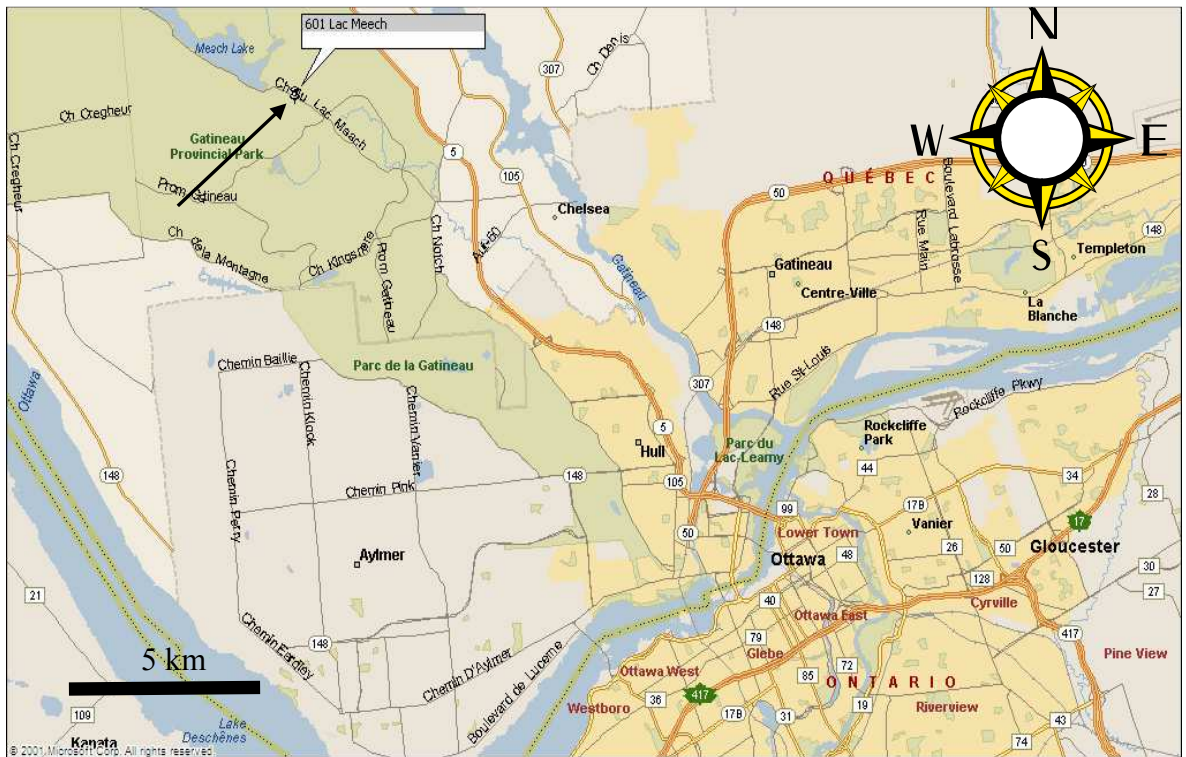


Figure 1 : Localisation du site 727. Extrait de la carte routière.

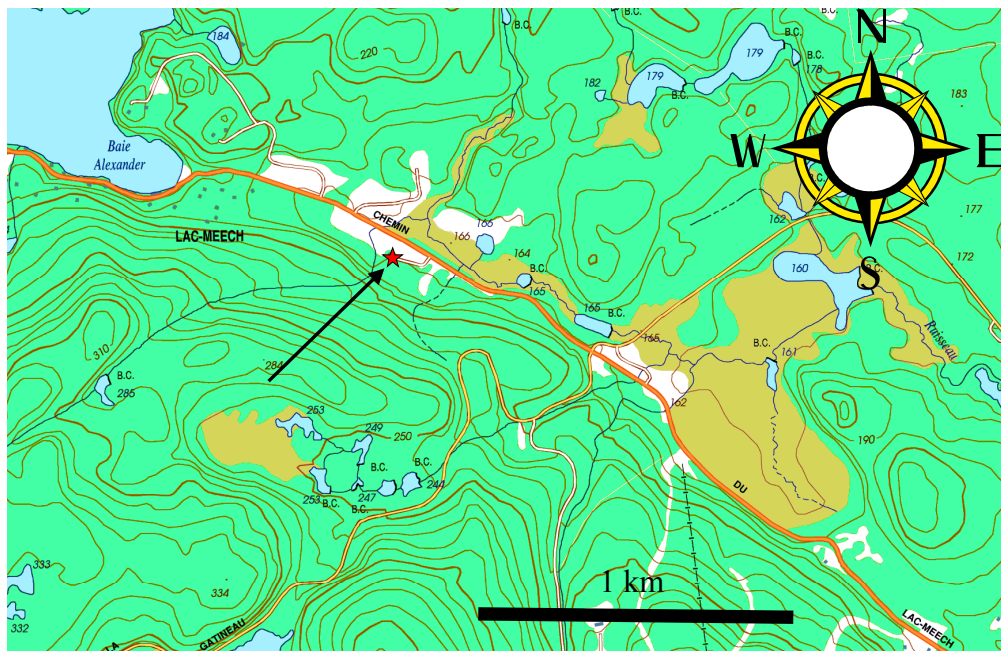


Figure 2 : 601 chemin du lac Meech dans le Parc de la Gatineau.

1.2 Problématique soulevée par l'étude de phase I

En novembre 2003, Trow Associate Inc. a effectuée une étude de phase I. Cette étude a identifié l'élément suivant comme source potentielle de contamination :

- Présence d'un réservoir d'hydrocarbures hors-sol actuellement à l'emplacement des anciens réservoirs hors-sol.

1.3 Objectifs

L'objectif des travaux de la phase II est de détecter la présence éventuelle de contamination et, le cas échéant, de préciser la nature, l'étendue et la sévérité de celle-ci. Pour cela, nous échantillonnerons manuellement les sols autour du réservoir ainsi que directement sous la valve du réservoir.

Si nécessaire, une solution de réhabilitation sera proposée avec un coût budgétaire.

1.4 Cadre réglementaire

Le présent rapport de caractérisation a été réalisé selon les prescriptions de la Loi sur la qualité de l'environnement (L.R.Q., c. Q-2), section IV.2.1, de la Politique de protection des sols et de réhabilitation des terrains contaminés (juin 1998) ainsi que sur le Règlement sur l'enfouissement des sols contaminés (Q-2, r6.01). Les critères génériques pour les sols de l'annexe 2 de la politique ont servi à établir le niveau de contamination (A, B, C). Ces critères peuvent être définis comme suit :

Niveau A : Teneurs de fond pour les paramètres inorganiques et limite de quantification pour les paramètres organiques.

Niveau B : Limite maximale acceptable pour des terrains à vocation résidentielle, récréative et institutionnelle. Sont également inclus les terrains à vocation commerciale situés dans un secteur résidentiel.

Niveau C : Limite maximale acceptable pour des terrains à vocation commerciale, non situés dans un secteur résidentiel et pour des terrains à usage industriel.

La jurisprudence a démontré qu'à défaut de règlement fixant les niveaux de contamination, les critères génériques peuvent être interprétés à titre de règlement.

Également pour les sols, les Standards pancanadiens relatifs aux hydrocarbures pétroliers dans les sols (SPC-HCP, CCME, 2001) sont appliqués.

2.0 MÉTHODOLOGIE DES TRAVAUX DE TERRAIN

Les travaux d'échantillonnage manuel des sols se sont déroulés selon les règles environnementales de l'art, tel que mentionné dans le « *Guide d'échantillonnage à des fins d'analyses environnementales, Cahier 5, Échantillonnage des sols* ». L'ensemble des travaux a été complété le 9 août 2004.

2.1 Photographies du site

Lors de la visite du site, les interventions effectuées ont été documentées avec des photographies prises à l'aide d'un appareil photo numérique. De plus, des photos ont également été prises aux abords immédiats du réservoir. Les documents photographiques représentatifs du site ont été insérés dans le rapport à l'annexe I. Toutes les photos seront incluses dans le fichier informatique présenté avec le rapport final.

La nomenclature des photos au niveau informatique respectera le format dicté dans les termes de référence du présent rapport. Par contre, afin de faciliter la compréhension dans le présent rapport ainsi qu'à l'annexe II, les photos ont été nommées comme suit : Photo 1, Photo 2, etc. Pour mieux comprendre la nomenclature des photos, le tableau ci-dessous indique les diverses sections composant le numéro de la photo.

Identification d'une photo

Numéro du site	# de la photo	Mois de la prise de la photo	Année de la prise de la photo	Fichier
727	01	08	2004	jpg

Par exemple, nous écrivons : 727-01-08-2004.jpg

2.2 Protocole d'échantillonnage

2.2.1 Échantillonnage des sols

Les échantillons de sols ont été prélevés manuellement. Les outils de prélèvement ont été nettoyés avant chaque prise d'échantillons, conformément aux prescriptions du ministère de l'Environnement du Québec, présentées dans son guide : « *Guide d'échantillonnage à des fins environnementales, cahier 5, Échantillonnage des sols, avril 1995* », soit à l'eau savonneuse, à l'eau distillée, à l'acétone, à l'hexane, à l'acétone puis finalement à l'eau distillée.

La surface de la paroi ou du fond a été grattée avant la prise de l'échantillon pour éviter que le mouvement des outils puisse transporter de la contamination d'une strate à une autre.

Les eaux de lavage des équipements ont été stockées dans un seau et ont été disposées hors site.

Lors de cette campagne, quatre (4) sondages manuels ont été effectués afin de déterminer la présence de contamination aux endroits suivants ou provenant de ces endroits :

- sous la valve du réservoir d'huile à chauffage;
- sous la conduite transportant l'huile vers la chaudière;
- aux alentours de la valve.

(Voir photo 727-01-08-2004)

Les échantillons seront conservés pour de possibles analyses futures dans le but de pouvoir circonscrire la contamination des zones analysées.

La localisation et la provenance de ces échantillons sont présentées sur le plan de caractérisation à l'annexe II.

2.3 Étiquetage des échantillons :

Le nom des échantillons apparaissant sur les étiquettes est construit comme suit :

- XXXX-SO-01-000-030 où XXXX représente le numéro de site transmis par la CCN.
- Deux lettres correspondant au type d'échantillon (SO= sol, PO= eau souterraine, ES= eau de surface, SE= sédiment).
- Un numéro séquentiel composé de deux (2) chiffres pour numéroter l'échantillon.
- Cette série alphanumérique sera suivie, après un trait d'union, par six (6) chiffres séparés par un trait d'union en deux (2) groupes de trois (3) chiffres indiquant la profondeur minimale et maximale, par rapport au sol, de la prise de l'échantillon. Ainsi, aucune erreur d'identification ne pourra se glisser durant les travaux.

Afin de mieux comprendre la nomenclature des échantillons, le tableau ci-dessous indique les diverses sections composant le numéro d'échantillon.

Identification de l'échantillon pour les sols

Numéro du site	Provenance SO=sol	Forage #	Profondeur minimale (cm)	Profondeur maximale (cm)
727	SO	01	000	010

Par exemple, nous écrivons : 727-SO-01-000-010

2.4 Sélection des paramètres analytiques

Nous avons fait la sélection des paramètres analytiques en fonction des conclusions de la phase I qui identifient les contaminants les plus susceptibles d'être rencontrés sur le site et selon la liste des contaminants potentiels par secteur d'activité, industrielle et commerciale, susceptibles de contaminer les sols et les eaux souterraines provenant du *Guide de caractérisation des terrains*.

Nous avons donc choisi d'analyser les BETEX (Benzène, Toluène, Éthylbenzène, o-xylènes, p,m-xylènes), les HAP (Hydrocarbures Aromatiques Polycycliques), les C₁₀-C₅₀, les hydrocarbures pétroliers par fractions (SPC-HCP, CCME 2001) ainsi que les métaux (Cd, Cr, Cu, Ni, Pb, Zn).

2.5 Conservation des échantillons

Les échantillons sont conservés à 4°C. Les délais de conservation sont respectés en tout temps selon les paramètres analytiques.

Tous les échantillons sont conservés au laboratoire pour une période maximum de 3 mois pour les C₁₀-C₅₀ et HAP et de 6 mois pour les métaux. Après cette période, ils seront détruits puisque les délais de conservation prescrits par le guide d'échantillonnage seront dépassés.

2.6 Contrôle de la qualité en laboratoire

Le laboratoire retenu pour effectuer les analyses de sols est le Laboratoire d'Environnement S.M. inc. Afin de vérifier la fiabilité des résultats, des duplicata des échantillons ont été effectués à une fréquence de dix pour cent (10 %) respectivement aux échantillons analysés et ont été envoyés à des laboratoires indépendants, soit PSC Services Environnementaux, Services Analytiques pour les C₁₀-C₅₀ et métaux et chez Maxxam pour les HAP étant donné que Philips effectue les analyses de HAP en sous-traitance pour le Laboratoire d'Environnement S.M. Le laboratoire principal, quant à lui, effectue des duplicata d'analyse à une fréquence de dix pour cent (10 %) des échantillons analysés, et ce, pour tous les paramètres.

Ces laboratoires sont accrédités auprès du ministère de l'Environnement pour les paramètres requis pour les analyses des échantillons prélevés dans le cadre de cette étude.

2.7 Interprétation des résultats d'analyse

L'interprétation des résultats des analyses chimiques des échantillons prélevés a été effectuée en comparant les résultats obtenus aux critères du ministère de l'Environnement du Québec (1998 révisé en 1999-2000 et 2001) et avec ceux du Gouvernement Fédéral, soit le CCME résidentiel/Parc pour les sols (mis à jour en décembre 2003). De plus, le volet I des SPC-HCP a été appliqué.

2.8 Contrôle de la qualité des données obtenues

Afin d'assurer la qualité des données obtenues sur le terrain, l'ensemble des données était vérifié avant de quitter le site d'échantillonnage :

- les photos du site étaient chargées dans un ordinateur et visionnées;
- les échantillons à prélever ainsi que les paramètres à analyser étaient vérifiés;
- les formulaires et fiches étaient remplis avant de quitter le site afin de s'assurer que toutes les données pouvant être obtenues sur le terrain avaient été collectées.

3.0 PRÉSENTATION DES RÉSULTATS

La section suivante présente les résultats sous forme de tableau. Les certificats d'analyses se trouvent à l'annexe III.

3.1 Description du site, matériaux rencontrés et topographie

Le site étudié est situé dans le sous-sol d'une maison résidentielle située dans le Parc de la Gatineau. La maison se trouve dans le bois, elle surplombe la route asphaltée de quelques mètres.

Dans les sondages, les matériaux rencontrés sont essentiellement du sable et des gros blocs de roche (jusqu'à plus 30 cm de diamètre).

Échantillon	Profondeur	Matériaux	Contamination visuelle	Odeur
727-SO-01	000-010	Sable, roches	Moyenne	Légère
	010-030	Sable, roches	Non observée	Non observée
727-SO-02, -03, -04	000-030	Sable, roches	Non observée	Non observée

Suite à ces observations, nous avons fait analyser l'échantillon 727-01-000-010 par le Laboratoire d'Environnement S.M. Le tableau complet des résultats d'analyse est présenté à la page suivante.

3.2 Interprétation des résultats des sols

Le site étudié étant résidentiel, les sols doivent répondre aux critères de la catégorie B du MENV et à ceux imposés pour les résidences et parcs par le CCME. A l'analyse des résultats présentés au tableau I, nous constatons les éléments suivants :

- La comparaison aux critères du MENV met en évidence un dépassement des limites de la catégorie B pour le 2,3,5-Triméthylnaphtalène et les C₁₀-C₅₀.
- La comparaison aux critères du CCME met en évidence un dépassement des limites de la Résidence-Parcs pour le plomb et le zinc.
- Pour l'application du standard pancanadien relatif aux hydrocarbures pétroliers (SPC HCP), nous utilisons les seuils recommandés au volet 1 pour l'inhalation puisque les sols sont situés à l'intérieur, au sous-sol de la résidence. Il n'y a pas de dépassement de ce critère pour les fractions analysées.
- Seules les fraction F2 et F3 ont des teneurs dépassant la limite analytique.

Les autres échantillons n'ont pas été analysés mais ne présentaient aucun indice de contamination. La contamination présente au site de l'échantillon 727-SO-01 est restreinte à une épaisseur de 10 cm. Le volume estimé de sols contaminés est inférieur à 2 500 cm³ ou 25 litres.

Tableau I – Résultats d'analyses des sols

Identification échantillon IMS 727-SO-01-000-010			Critères		
			MENV		CCME
Analyse	Résultat	Unité	B	C	RÉS./PARC
Benzène	<0,1	mg/kg	0,5	5	0,5
Éthylbenzène	<0,1	mg/kg	3	30	0,8
p,m-xylènes	<0,1	mg/kg	5	50	1,2
o-xylènes	<0,2	mg/kg	5	50	1
Toluène	<0,2	mg/kg	5	50	1
Naphtalène	<0,03	mg/kg	5	50	0,6
Méthyl-2 naphtalène	<0,03	mg/kg	1	10	NA
Méthyl-1 naphtalène	<0,05	mg/kg	1	10	NA
1,3- DiméthylNaphtalène	0,15	mg/kg	1	10	NA
HAP(b)Acénaphthylène	<0,03	mg/kg	10	100	NA
HAP(b)Acénaphène	<0,03	mg/kg	10	100	NA
2,3,5-Triméthylnaphtalène	1,2	mg/kg	1	10	NA
Fluorène	<0,31	mg/kg	10	100	NA
Phénanthrène	0,57	mg/kg	5	50	NA
Anthracène	0,11	mg/kg	10	100	NA
Fluoranthène	0,09	mg/kg	10	100	NA
Pyrène	0,55	mg/kg	10	100	10

Identification échantillon IMS 727-SO-01-000-010			Critères		
			MENV		CCME
Analyse	Résultat	Unité	B	C	RÉS./PARC
Benzo (c) phénanthrène	<0,03	mg/kg	1	10	NA
Benzo (a) anthracène	<0,03	mg/kg	1	10	1
Chrysène	0,06	mg/kg	1	10	NA
7,12-Diméthylbenzo (a) anthracène	<0,03	mg/kg	1	10	NA
Benzo(b,k,j) fluoranthène	<0,08	mg/kg	1	10	1
Benzo(a)pyrène	<0,04	mg/kg	1	10	0,7
Méthyl-3 cholanthrène	<0,05	mg/kg	1	10	NA
HAP(h)Indeno (1,2,3-cd) pyrène	<0,07	mg/kg	1	10	1
Dibenzo (a,h) anthracène	<0,07	mg/kg	1	10	1
Benzo (g,h,i) pérylène	<0,07	mg/kg	1	10	NA
Dibenzo (a,l) pyrène	<0,05	mg/kg	1	10	NA
Dibenzo (a,i) pyrène	<0,04	mg/kg	1	10	NA
Dibenzo (a,h) pyrène	<0,05	mg/kg	1	10	NA
C10-C50	1710	mg/kg	700	3500	NA
Cadmium	<1	mg/kg	5	20	10
Chrome	15	mg/kg	250	800	64
Cuivre	16	mg/kg	100	500	63
Nickel	<10	mg/kg	500	1000	140
Plomb	85	mg/kg	100	500	50
Zinc	370	mg/kg	500	1500	200
HCP F1- C6-C10	<10	mg/kg			50*
HCP F2 - C10-C16	160	mg/kg			240*
HCP F3 - C16-C34	1300	mg/kg			SO*
HCP F4 - C34-C50	<10	mg/kg			SO*

* Volet 1 de SPC HCP (CCME 2001). Seuils recommandés pour le mode d'exposition par inhalation pour les sols grossiers.

Légende :

- Paramètre dépassant les critères du MENV
- Paramètre dépassant les critères du CCME

4.0 CONCLUSIONS ET RECOMMANDATIONS

L'évaluation environnementale phase II a été effectuée le 9 août 2004 au site #727 – 601 Chemin du lac Meech, Chelsea (Québec) – Parc de la Gatineau. L'objectif était de préciser la nature, l'étendue et la sévérité de la contamination dans le sous-sol de la bâtisse, en raison de la présence d'un réservoir d'hydrocarbures depuis de longues années.

Lors de la campagne d'échantillonnage, une contamination de surface en C₁₀-C₅₀ dans la plage B-C du MENVQ a été observée sous la valve du réservoir, conséquence probable de fuites répétées lors des purges ou autres manipulations du réservoir.

Des mesures préventives peuvent être mises en place pour éviter de nouveaux événements de contamination.

- L'étanchéité de la valve actuelle doit être vérifiée et celle-ci remplacée en cas de défektivité.
- Prévenir tout déversement accidentel en disposant un récipient étanche sous cette même valve.
- S'assurer de l'étanchéité de toute la tuyauterie transportant du carburant.
- Mettre des produits absorbants à la disposition des occupants.

Puisque le volume de sols contaminés est faible (environ 25 litres), nous recommandons l'excavation de ce petit périmètre et le remplacement des matériaux contaminés par du sable propre. Cette excavation peut être réalisée manuellement et les sols chargés dans un ou plusieurs contenants de 20 litres. Les résidus de l'excavation devront être disposés dans le site autorisé le plus proche.

5.0 UTILISATION DU RAPPORT

Les données factuelles, les interprétations et les recommandations contenues dans ce rapport se rapportent au projet spécifique décrit dans ce rapport et ne s'appliquent à aucun autre projet ou site.

L'interprétation des données, les commentaires et les recommandations contenus dans ce document sont fondés, au meilleur de notre connaissance, sur les politiques, les critères et les règlements environnementaux en vigueur. Si ces politiques, critères et règlements sont différents de ceux présumés ou s'ils sont changés après la soumission du rapport, **IMS Experts-Conseils** devrait alors être consultée pour réviser les recommandations à la lumière de ces changements.

Les niveaux de conformité du site décrit correspondent à ceux détectés à l'endroit et à la date d'observation mentionnés dans le rapport. Ces conditions peuvent varier suivant les saisons ou à la suite d'activités sur le site à l'étude ou sur des sites adjacents.

Annexe I

Photographies du site



Photo 1: Vue du réservoir avec filtre. (727-01-08-2004.JPG)



Photo 2: Vue de l'installation autour du réservoir. (727-02-08-2004.JPG)



Photo 3: Vue de l'installation autour du réservoir. (727-06-08-2004.JPG)



Photo 4: Vue de la fournaise. (727-03-08-2004.JPG)

Annexe II

Plans du site et d'échantillonnage

Annexe III

Certificats d'analyses



Laboratoires d'analyses S.M. inc.

1471, boul. Lionel-Boulet, suite 10, Varennes (Québec) J3X 1P7
Téléphone: (450) 652-6151 - Télécopieur: (450) 652-6451

No de rapport : 65345

Rapport d'analyse

04-09-21 (A/M/J)

Votre no. de bon de commande : CS-101-309

Client: IMS EXPERT-CONSEILS

M. Pierre Désaulniers

747, 5ième Rue

Shawinigan, Québec

G9N 1G2

No de client: 2581

No de projet: 1265

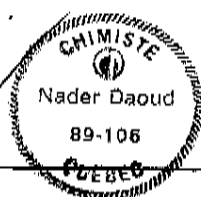
Tél : 1,(819) 536-5652

Ext :

Fax : 1,(819) 536-7170

Analyse	Méthode analytique	No d'instruction de travail
BTEX - Benzène	Purge & trap GCMS	ILCE-022
BTEX - Éthylbenzène	Purge & trap GCMS	ILCE-022
BTEX - m & p-Xylènes	Purge & trap GCMS	ILCE-022
BTEX - o-Xylène	Purge & trap GCMS	ILCE-022
BTEX - Sommeation	Purge & trap GCMS	ILCE-022
BTEX - Toluène	Purge & trap GCMS	ILCE-022
Cadmium	digestion acide/ICP	ILCE-024
Chrome	digestion acide/ICP	ILCE-025
Cuivre	digestion acide/ICP	ILCE-029
Hydrocarbures pétroliers C10 à C50	extr. à l'hexane/GC-FID	ILCE-033
Nickel	digestion acide/ICP	ILCE-025
Plomb	digestion acide/ICP	ILCE-025
Zinc	Digestion acide et ICP	ILCE-025

- Les échantillons sont conservés pour une période de 60 jours après la date de réception ou pour le délai de conservation maximum spécifique à chaque analyse. À moins d'indication contraire, nous disposerons donc des échantillons après ces délais.
- Ce rapport ne doit pas être reproduit sinon en entier, sans l'autorisation écrite des Laboratoires d'analyses S.M. Inc..



Nader Daoud, Chimiste, B.Sc.

Daniel Tremblay
Daniel Tremblay, Chimiste, B.Sc.





Laboratoires d'analyses S.M. inc.

1471, boul. Lionel-Boulet, suite 10, Varennes (Québec) J3X 1P7
Téléphone: (450) 652-6151 - Télécopieur: (450) 652-6451

No de rapport : 65345

Rapport d'analyse

04-09-21 (A/M/J)

Votre no. de bon de commande : CS-101-309

Client: IMS EXPERT-CONSEILS

M. Pierre Désaulniers

747, 5ième Rue

Shawinigan, Québec

G9N 1G2

No de client: 2581

No de projet: 1265

Tél : 1,(819) 536-5652

Ext :

Fax : 1,(819) 536-7170

Date de prélèvement: 04-08-09 (A/M/J)

Date de réception: 04-08-13 (A/M/J)

Prélevé par: C. Roy


Nature de l'échantillon: Sol


Description : 54252

Analyses environnementales

No ECH	Identification Client	Analyse	Résultat	Dupl.	% Rec.	Unité	Date d'analyse	Note
162643	727-SO-01-000-010	BTEX - Benzène	<0.10			mg/Kg	04-08-18	
		BTEX - Éthylbenzène	<0.10			mg/Kg	04-08-18	
		BTEX - m & p-Xylènes	<0.10			mg/Kg	04-08-18	
		BTEX - o-Xylène	<0.10			mg/Kg	04-08-18	
		BTEX - Sommation	<0.20			mg/Kg	04-08-18	
		BTEX - Toluène	<0.20			mg/Kg	04-08-18	
		Cadmium	<1.0			mg/Kg	04-08-19	
		Chrome	15			mg/Kg	04-08-19	
		Cuivre	16			mg/Kg	04-08-19	
		HAP	annexe					*
		Hydrocarbures pétroliers C10 à C50	1 710	1 980		mg/Kg	04-08-17	
		Hydrocarbures pétroliers SPC-HCP	annexe			mg/Kg		*
		Nickel	<10			mg/Kg	04-08-19	
		Plomb	85			mg/Kg	04-08-19	
		Zinc	370			mg/Kg	04-08-20	

Note : * Cette analyse a été effectuée en sous-traitance.


Nader Daoud, Chimiste, B.Sc.


Daniel Tremblay, Chimiste, B.Sc.

ANNEXE 1
RÉSULTATS DE
HAP ET DE
HYDROCARBURES PÉTROLIERS SPC-HCP

PSC

SERVICES ANALYTIQUES

Certificat d'analyses**No. de certificat:** 4H0557(E)**CLIENT**

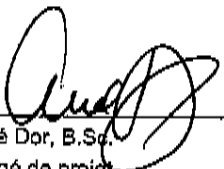
Attention: Daniel Tremblay
Compagnie: LAB. D'ANALYSES S.M. INC.
Adresse: 1471, boul. Lionel-Boulet, suite 10
Varenes (Québec)
J3X 1P7
Télécopieur: 450-652-6451
Téléphone: 450-652-6151

LABORATOIRE

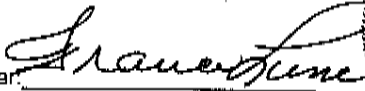
Chargé(e) de projet: André Dor
Projet: AN040024
Date de réception: 2004/08/18
Date du rapport: 2004/08/24
Date de révision : 2004/09/09
Révision no. 2
Nombre de pages: 5

Projet: -
Description: B.C.: L-10089
Prélevé par: Non disponible

Approuvé par:


André Dor, B.Sc.
Chargé de projet

Vérfié par:


Stephan Obarewicz, Chimiste OCQ 2002-058
Directeur Haute-Résolution / Organique



PSC Services Analytiques

Toutes les analyses incluses dans ce rapport ont été effectuées selon les règles de l'art incluant les procédures d'assurance et de contrôle de la qualité à moins d'entente écrite conclue au préalable avec le client. La responsabilité financière reliée à la responsabilité professionnelle est limitée à une valeur n'excédant pas le coût des analyses effectuées. Les échantillons seront conservés pour une période de 6 semaines à partir de la date de réception, à moins d'indication contraire convenue préalablement. Ce certificat d'analyses ne peut être reproduit, sinon en entier, sans l'autorisation écrite de PSC Services Analytiques. Tous les résultats des matériaux de référence (MR) sont statistiquement sous contrôle sauf indication contraire. Les normes et les critères lorsqu'inclus dans ce certificat, le sont à titre indicatif seulement. En cas de disparité entre les normes et les critères indiqués et ceux officiels de la réglementation, ces derniers ont priorité.

Les analyses organiques ne sont pas corrigées en fonction de la récupération de l'étalon analogue (sauf dioxines/furannes et BPC par congénères).
Prière de contacter le ou la chargé(e) de projet pour toutes informations supplémentaires.
La description des méthodes analytiques internes et la confirmation des analyses, incluant l'identification des paramètres par les sous-traitants, sont jointes en annexe.
Les dates d'analyses et de préparation des paramètres sous-traités sont inscrites lorsque disponibles; dans le cas contraire, la date de réception du certificat par télécopieur est rapportée.
Les méthodes utilisées par PSC Services Analytiques proviennent de publications telles que "Standard Methods for the examination of Water and Wastewater" 20e éd., ou toutes autres publications reconnues par des organismes tels que MENV, EPA, etc.(voir annexe).

Notes:

- = Non Analysé

NA = Non Applicable

ND = Non Détecté

LDR = Limite de détection rapportée

<= Résultats obtenus inférieurs à la limite de détection rapportée

Pour les échantillons de sol, de solide et de déchet, les résultats sont exprimés en poids sec (sauf indication contraire).

Commentaires:

Rév #2: Sont incluses dans ce certificat les sections A, B, C, D et E à la demande du client.

PSC Services Analytiques
Résultats d'analyses

No. du Client: 162643
No. du Labo: 031852 04
Date d'échantillonnage:

Matrice: SOL
Paramètre **LDR** **Unités**
Humidité 0.5 (%) 8.9

CCME

Benzène	0.02	mg/kg	<
Toluène	0.02	"	<
Éthyl Benzène	0.02	"	<
mp-Xylenes	0.04	"	<
o-Xylènes	0.02	"	<
CCME F1 (C6-C10)	10	"	<
CCME F2 (C10-C16)	10	"	160
CCME F3 (C16-C34)	10	"	1300
CCME F4 (C34-C50)	10	"	<

PSC Services Analytiques
Résultats d'analyses

No. du Client: 162643
No. du Labo: 031852 04
Date d'échantillonnage:

Paramètre	Matrice:		SOL
	LDR	Unités	
HAP			
Naphtalène	0.03	mg/kg	<
2-Méthylnaphtalène	0.03	"	<
1-Méthylnaphtalène	0.05	"	<
1,3-Diméthylnaphtalène	0.03	"	0.15
Acénaphthylène	0.03	"	<
Acénaphtène	0.03	"	<
2,3,5-Triméthylnaphtalène	0.03	"	1.2
Fluorène	0.04	"	<0.31
Phénanthrène	0.03	"	0.57
Anthracène	0.03	"	0.11
Fluoranthène	0.03	"	0.09
Pyrène	0.03	"	0.55
Benzo(c)phénanthrène	0.03	"	<
Benzo(a)anthracène	0.03	"	<
Chrysène	0.03	"	0.06
1,2-Benzanthracène-7,12-diméthyl	0.03	"	<
Benzo (b+k+j) fluoranthène	0.08	"	<
Benzo (a) pyrène	0.04	"	<
3-Méthylcholanthrène	0.05	"	<
Indeno (1,2,3-cd) pyrène	0.07	"	<
Dibenzo(ah)anthracène	0.07	"	<
Benzo (g,h,i) pérylène	0.07	"	<
Dibenzo(a,l)pyrène	0.05	"	<
Dibenzo(a,i)pyrène	0.04	"	<
Dibenzo(a,h)pyrène	0.05	"	<
Récupération		%	
d10-1-Méthylnaphtalène	40-120	"	94
d10-Fluorène	40-120	"	93
d10-Fluoranthène	40-120	"	95
d12-Benzo(a)pyrène	40-120	"	90
d14-Dibenzo(a,h)anthracène	40-120	"	93

PSC Services Analytiques
Corrélation des no. de lot avec les échantillons

No. de lot: 0819IS01
Humidité etc. 031852 04
Date d'analyse: 2004/08/20
Date de préparation: 2004/08/19

No. de lot: 0826BARR
Benzène etc. 031852 04
Date d'analyse: 2004/08/26
Date de préparation: 2004/08/26

No. de lot: 0819PN03
Naphtalène etc. 031852 04
Date d'analyse: 2004/08/20
Date de préparation: 2004/08/19

No. de lot: 0819PN03
1,2-Benzanthracène-7,12-diméthyl etc. 031852 04
Date d'analyse: 2004/08/20
Date de préparation: 2004/08/19

Annexe IV

Bibliographie

Bibliographie

- ❑ November 2003, Trow Associate inc., Phase I Environmental Site assessment, NCC Property Asset Number 727, 601 Meech Lake road, Chelsea, Québec
- ❑ *Loi sur la qualité de l'environnement*
- ❑ *Loi 72 sur les sols contaminés*
- ❑ *Politique de protection des sols et de réhabilitation des terrains contaminés, MENV, 2003*
- ❑ *Guide d'échantillonnage à des fins d'analyses environnementales, cahier 1, Généralités*
- ❑ *Guide d'échantillonnage à des fins d'analyses environnementales, cahier 5, Échantillonnage des sols*
- ❑ *Guide technique, terrains contaminés, mesure de contrôle à effectuer lors des travaux d'excavation des sols contaminés*
- ❑ *Ligne directrice d'intervention, caractérisation et décontamination des sols lors de l'enlèvement de réservoirs souterrains ayant contenu des produits pétroliers*
- ❑ *Standards pancanadiens relatifs aux hydrocarbures pétroliers dans les sols (SPC-HPS, CCME 2001)*
- ❑ *Installation de piézomètres à l'aide de foreuses et de pelles mécaniques, et caractérisation des eaux souterraines, selon le Guide d'échantillonnage à des fins d'analyses environnementales, échantillonnage des eaux souterraines*

Annexe E - Rapport sur la valeur patrimoniale de la maison Asa Meech



This *final* report titled:

Asa Meech House

Meech Lake, Gatineau Park, Quebec

Heritage Summary

Prepared for:

Real Estate Management
National Capital Commission

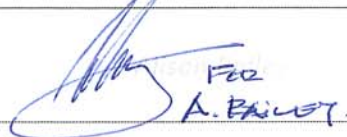
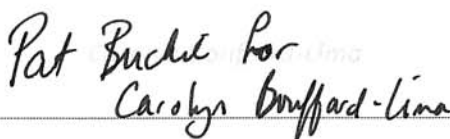
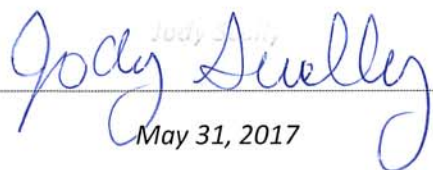
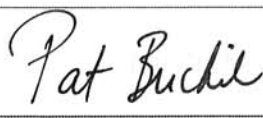
Prepared by:

Heritage Conservation Services
Public Services and Procurement Canada

Date: May 2017

HCS Project Number: R. 090451.001

has been reviewed by the following HCS Team Members in accordance with the following criteria:

<p>Team Leader - I confirm that:</p> <ul style="list-style-type: none"> • This document addresses the scope of work as outlined in our formal agreement with the Client; and, • The work has been carried out in such a way as to ensure accuracy of findings, results and/or recommendations. 	 <p>May 31, 2017</p>
<p>Quality Reviewer - I have reviewed this document myself or in conjunction with colleagues to ensure:</p> <ul style="list-style-type: none"> • Clarity of message and content including language, drawings and/or illustrations; and • That appropriate technical and conservation advice and/or recommendations are made. 	 <p>May 31, 2017</p>
<p>Publishing Coordinator - I have reviewed this document to ensure that:</p> <ul style="list-style-type: none"> • The most up-to-date template has been used and that the content is formatted as per office standards; and, • That images, illustrations and appendices are all clearly organized and identified. 	 <p>May 31, 2017</p>
<p>Service Delivery Coordinator - I confirm that:</p> <ul style="list-style-type: none"> • These deliverables have been prepared and reviewed in accordance with HCS's internal Quality Management System. 	 <p>May 31, 2017</p>

Asa Meech House – Heritage Summary

Heritage Summary

The Asa Meech House is a significant cultural resource due to its historical, architectural and environmental values. It was evaluated by the Federal Heritage Buildings Committee in 1984, but was not designated as a Federal Heritage Building. Based on the FHBRO Building Report, produced for the heritage evaluation, this outcome can be attributed to the lack of evidence at that time on its age, remaining original elements and evidence for its association with Asa Meech himself. As such, a FHBRO Heritage Character Statement does not exist for this asset. Oral history claims that the existing building contains the original 1821 frame, however this was not adequately proven at the time of evaluation. Heritage Conservation Services (formerly HCD) completed an investigation in July, 2016 that provided physical evidence to support the oral history of the frame as original, circa 1821. Based on this evidence, the farmhouse of Asa Meech, is assumed to be one of, if not the oldest extant dwellings remaining in Gatineau Park.¹ As such, the Asa Meech House holds significant heritage value, and interventions should be guided by the *Standards and Guidelines for the Conservation of Historic Places in Canada* (second edition).

This document is a Property Management tool that is intended to provide guidance until the asset is formally re-evaluated by the Federal Heritage Building Committee. Included in the Heritage Summary is a building description, an outline of the heritage value, and list of key elements. This document does not replace a FHBRO-issued Heritage Character Statement. Please note that contemporary elements are not described in detail within this document, as they are not considered as heritage character-defining for the heritage value of the house. This document focusses on the building and as such, guidance for future interventions on the site should include research on the evolution and history of the landscape.

¹ *Heritage Conservation Advice Report*, dated July 12, 2016.

Asa Meech House – Heritage Summary



Image 1: The Asa Meech House, Gatineau Park. Source: HCS, 2017

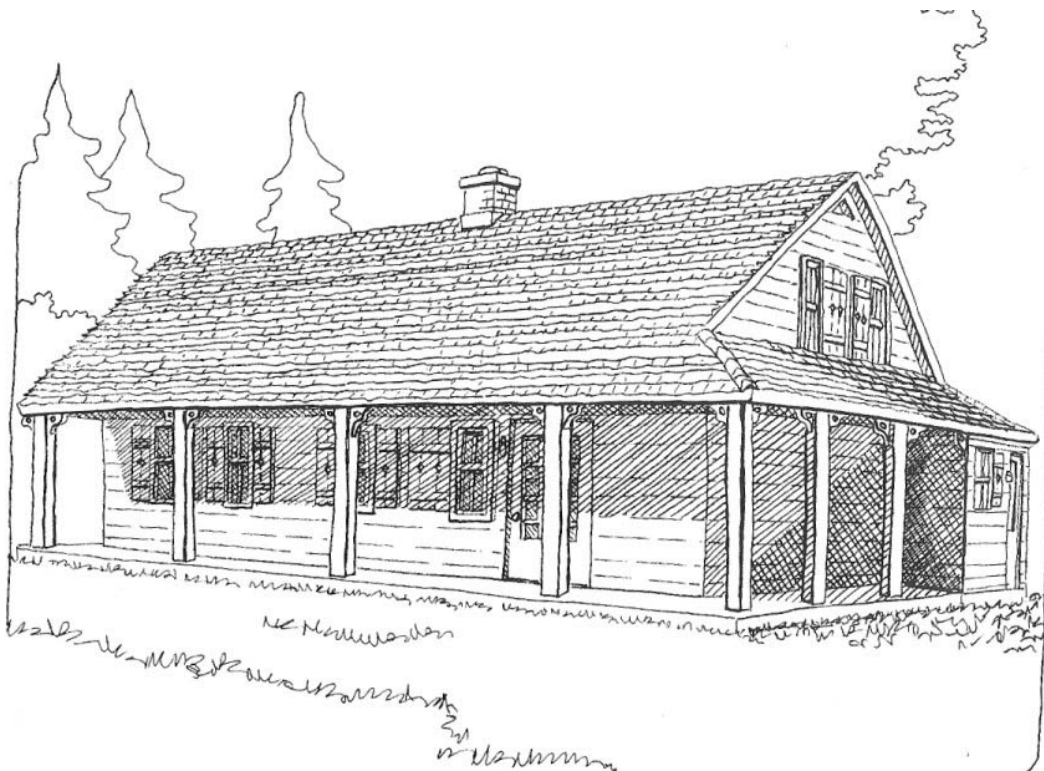


Image 2: An illustration of the Asa Meech House. Source: unknown

Asa Meech House – Heritage Summary

LOCATION	
Address:	601 chemin du Lac Meech, Gatineau Park, Quebec
DESIGNATION AND CUSTODIAN	
FHBRO Bldg No. & Designation:	84-010; non-designated
Other Heritage Designation(s):	None
Custodian Department:	National Capital Commission
USE	
Current Use:	Vacant
Tenant(s):	N/A
HISTORY	
Alternate Name(s):	N/A
Date of construction:	Assumed 1821
Architect/Designer(s):	Originally erected by Asa Meech; Major renovations by Noffke, Morin & Sylvester, Ottawa in 1930
<i>Standards and Guidelines</i> website:	http://www.historicplaces.ca/media/18072/81468-parks-s+g-eng-web2.pdf

Building Description

The Asa Meech House is situated slightly southeast of Meech Lake, within Gatineau Park, Quebec. It is currently unoccupied and in a deteriorated condition, with deteriorated and damaged materials as well as the presence of hazardous substances (lead paint, asbestos, mold). Significant alterations to suit needs over the years have resulted in limited remaining original features and, ultimately an uncertain building chronology. To fully understand the original floor plan of the house and potentially date additions or changes such as the locations of wall, window and door openings, an investigation while the interior gypsum board walls are removed is recommended. It is, however evident that the house dates from the early nineteenth century (1821) and that two major renovations were completed in the twentieth century (1930 and 1969-1973). As concluded in the investigation completed by HCS in 2016, "...an early log structure was clearly visible along with diagnostic artifacts, namely machine cut nails."² The morphology of the nails dates these elements from between 1820 and 1830, supporting the original construction time frame of the house.³

The Asa Meech House is a one-and-a-half storey wood frame structure with a low pitched, cedar shingled gable roof. It is a modest dwelling of small massing and simple, straightforward design which sits in a large, treed lot, a short drive off of chemin du Lac Meech. A single red brick chimney is located slightly off-centre, within the roof's peak. The house is sheathed in painted wood clapboard and features limited decorative elements. A covered verandah sits at both the North and South entrances to the house. The decorative elements include the non-functional painted wood shutters and verandah roof bracketing. The exterior is painted white with green accents.

² *Heritage Conservation Advice Report*, dated July 12, 2016.

³ *Heritage Conservation Advice Report*, dated July 12, 2016.

Asa Meech House – Heritage Summary

There are three (3) entrances at the ground level: the main entrance with a wide door and two secondary entrances (one giving to the living room and the other to the kitchen). There are fifteen (15) windows: eleven (11) on the ground floor and four (4) on the second floor.

The interior consists mostly of contemporary finishes, except for the flooring and ceiling. Wide planked, wood flooring is present, in both painted and exposed finishes. The ceilings are white painted, bevelled tongue and groove wood planks, complete with exposed wood ceiling beams.

In the 1930 major renovation, the following aspects of the house experienced significant alterations:

- Overall floor plan;
- Interior detailing, such as wood panelling;
- Main fireplace and chimney (the 1930 drawings identify the mantel as having cupboards);
- Kitchen, bathroom and stairway area on ground floor;
- Verandahs (1930 drawings identify these as screened porches); and,
- Superstructure (the extent is unknown).⁴

It should be noted that Mr. Brian O'Brien, whom lived at the Asa Meech House from 1930 to 1964, stated that the frame, upstairs floor and floor of one bedroom on the main floor sustained the renovations of 1930 and remained as original elements.⁵

In the 1969-1973 major renovation, the following significant alterations were made:

- The removal of the fieldstone foundation and ground floor posts and replacement with concrete footings and foundation;
- Repairs to the roof; and,
- The replacement of joists and beams.⁶

As a result of these interventions, minimal heritage fabric is left at the Asa Meech House. It is, however evident that much of the original structure remains and this exemplifies the building's history. Original wooden elements that remain at the house include: corner posts; band-sewn old growth exterior sheathing; and, rough-hewn ridge beam and rafters tied with wooden pegs.⁷

It remains important to acknowledge that despite the numerous changes over time, the building strongly reflects a consistency in overall original design intent, which emphasizes the vernacular and the use of local materials with traditional craftsmanship. Generally, changes over time adhered to the tenants of this style, through respectful use of materials and compatible new additions.

⁴ *FHBRO Building Report 84-10.*

⁵ *Asa Meech Homestead*, FHBRO, pg. 2.

⁶ *FHBRO Building Report 84-10.*

⁷ *Heritage Conservation Advice Report*, dated July 12, 2016.

Asa Meech House – Heritage Summary



Image 3: The Asa Meech House, as seen it stands in the spring of 2017. Source: HCS, 2016

Heritage Value

Historical Value

Originally constructed by Asa Meech, the house is associated with Mr. Asa Meech, his involvement in the community, and the region's historical settlement. Mr. Meech (or Reverend Asa Meech) has been noted as a farmer, doctor, intellect and spiritual teacher. He was considered to be a natural leader and influential to the people of Hull, Chelsea and Aylmer.⁸ The house remained in the possession of the Meech family until 1901, when John Meech (Asa's son) died, and the property was sold. The property subsequently passed through multiple owners until it was acquired by J. Ambrose O'Brien. In 1930, the house was then renovated as a summer cottage for Brian O'Brien (J. Ambrose's son).⁹ These changes were completed to the designs of Ottawa-based and well-known architect, Noffke, Morin & Sylvester.¹⁰ It is worth noting that the O'Brien family is also well-known in the community and that Ambrose O'Brien is recognized as a person of national significance who later built a much larger cottage on Meech Lake, the O'Brien House, designed by Noffke, which is now a "Recognized" Federal Heritage Building.

As part of the 277 acre J. Ambrose O'Brien estate, the Asa Meech House was acquired by the National Capital Commission in 1964. It was rented out as a house in 1973, however has seized occupation for many years now.¹¹ The house is still closely associated with the nearby, prominent O'Brien House today, however the Asa Meech House predates the O'Brien House and estate.

The following features are associated with the Asa Meech House's Historical Value:
<ul style="list-style-type: none">• The location within Gatineau Park, as part of the greater Hull, Chelsea and Aylmer community (Refer to Image 4).• The evolutionary history and subsequent interventions to the house (as constructed for the Meech family and adapted for the O'Brien family).• The visual relationship with the O'Brien House, including a clear view between the two places (Refer to Image 5).

⁸ *Asa Meech (Paper Given by Miss M.A. Meech to the Historical Society of the Gatineau).*

⁹ *FHBRO Building Report 84-10.*

¹⁰ *Meech Lake, Que. for Mr. J.A. O'Brien.*

¹¹ *FHBRO Building Report 84-10.*

Asa Meech House – Heritage Summary



Image 4: The Asa Meech House is located within the Gatineau Park, adjacent to Meech Lake. Source: Google Maps, 2017)



Image 5: The O'Brien House is visible from the Asa Meech House site. Source: HCS, 2017

Architectural Value

The house displays a unique combination of a nineteenth century farmhouse frame, combined with typical rural summer retreat architectural elements.¹² This arrangement exemplifies the structure's evolution in ownership and function from a home (Meech family) to a cottage (O'Brien family). Overall, the Asa Meech House can be described as expressing a Vernacular Style. This is the adaptation of a building's design based on local conditions; defined as, "A mode of building based on regional forms and materials."¹³ This can be interpreted as a specific architectural style modified for use of local materials, or a regional style based upon climate requirements.¹⁴

The Asa Meech House articulates the Vernacular Style in its construction based on the needs of the user and available resources (material and craftsmanship) of the time and location. This includes the overall design, and use of lumber, fieldstone (since removed), and simple detailing.

The following features are associated with the Asa Meech House's Architectural Value:
<ul style="list-style-type: none">• The use of local materials and craftsmanship as seen in the wood elements, including: framing, exterior cladding, roof shingles, flooring, ceiling, baseboards, trim and decorative elements. Although not all elements can be identified as original, the use of the material contributes to the heritage character of the house and its expression of Vernacular Style (Refer to Image 6).• The simple decorative detailing, as seen in the shutters and verandah roof bracketing (Refer to Image 7).• The fireplace, chimney and irregular elevations, including the unbalanced placement of windows relating to common cottage designs of the 1930s. This style would have also included the use of fieldstone which has since been removed. (Refer to Image 8).

¹² *FHBRO Building Report 84-10.*

¹³ *Illustrated Dictionary of Historic Architecture*, pg. 564

¹⁴ <http://www.ontarioarchitecture.com/vernacular.htm>

Asa Meech House – Heritage Summary



Image 6: The use of local materials and craftsmanship is visible in the use of wood elements.
Source: HCS, 2016



Image 7: The simple detailing, as expressed in the limited decorative elements, such as the shutters and verandah roof brackets. Source: HCS, 2017



Image 8: The irregular elevations and placement of windows expresses the cottage designs of the 1930s. Source: HCS, 2016

Environmental Value

The house's design appears to reflect the desire for the building to express a relationship with the surrounding site. This relationship with the associated landscape is seen in multiple buildings within Gatineau Park, and is a reflection of the house's use as a cottage during the 1930s. Most notably, however, the Asa Meech House has strong environmental significance as one of, if not the oldest remaining house within Gatineau Park.

The following features are associated with the Asa Meech House's Environmental Value:

- The picturesque location and setting within the natural landscape (refer to Image 9).
- The dual verandahs, creating an interstitial space between the interior and exterior, thus enhancing the relationship between the house and its setting (refer to Image 10).
- The exterior colour palette; creating a relationship with the surrounding landscape. The accent and trim colour for the regional style is typically a "mossy" green. This shade is visible under the peeling current layer of green paint. It is also visible underneath the white paint in trim locations. Often the field colour is more of a grey than a pure white, to be less harsh against the surrounding site (refer to Images 11-13).
- The age of the structure within the Gatineau Park; as exemplified in the original remnants, such as the structure (refer to Image 14).

Asa Meech House – Heritage Summary



Image 9: The picturesque location and setting within the natural landscape. Source: HCS, 2017



Image 10: The verandahs create an interstitial space between the interior and exterior. Source: HCS, 2016



Image 11: The exterior colour palette creates a relationship between the surrounding landscape. Source: HCS, 2016



Image 12: The “mossy” green paint layer is visible underneath the current green. Source: HCS, 2017



Image 13: The trim and accent colours were previously green, but some areas have been painted over with white. Source: HCS, 2017



Image 14: The remaining original elements represent the age; quite possibly as the oldest existing dwelling in Gatineau Park. Source: HCS, 2016

Key Elements

The Asa Meech House has undergone many modifications and changes since its erection in 1821 by Asa Meech. Original elements define the house, distinguishing its association with Asa Meech, the surrounding areas and its significance as a remaining artifact within Gatineau Park. However, identified interventions from the 1930s by the O'Brien family have contributed to the heritage value of the house as a cottage and thus, have become key elements in their own right. The features of the Asa Meech House described below (both dating from its original construction and those that have become valuable over time) are key elements that should be protected in perpetuity. As mentioned above, an investigation of the house while the gypsum board is removed will assist in dating additions and/or changes. This investigation may lead to the removal and/or addition of character-defining elements, and, as such this list should be updated accordingly.

Key Elements of the Exterior

1. **Roof:** low-pitched, gable roof; cedar shingles.
2. **Windows:** irregularly placed windows; double-hung, wide sill, painted wood with a single muntin (single and double paned), simple rectangular framed. Assumed to be non-original but are compatible with the character of the house (dating required).
3. **Chimney:** location of the chimney.
4. **Verandahs:** two verandahs; wooden flooring, planked ceiling and decorative column supports. These were outlined to be screened porches in the 1930 drawings, and as such would further their status as interstitial spaces between the exterior and interior.
5. **Exterior Wall Material:** horizontal clapboard; painted wood. Although likely non-original, it contributes to the character of the house.
6. **Shutters:** non-functional shutters; painted wood, simple craftsmanship and detailing, complete with a diamond shaped cut-out.
7. **Doors:** exterior doors; painted wood with glazed panels, both standard and wide widths.
8. **Landscape:** the appearance of a relationship with the natural surroundings; viewscapes, relatively untouched and non-manicured setting without formal paths, orientation of the house on the site, colour palette, interstitial spaces between exterior and interior, including the location of entrances.

Key Elements of the Interior

- 1. Interior Window Elements:** windows, sills and trim; painted wood, simple detailing, wide sill with squared trim.
- 2. Doors:** interior doors; painted wood with six panels. Assumed to be non-original but are compatible with the character of the house.
- 3. Fireplace:** granite fireplace; square-cut pink granite stone with cement mortar, stone hearth and wood mantle. Assumed to be non-original and does not coincide with the 1930 drawings, however the use of local material (pink granite) is compatible with the heritage character of the house.
- 4. Baseboards & Trim:** wood baseboards and trim; painted wood, tall and standard heights, simple detailing.
- 5. Floor Material:** pine wood plank; both painted and unpainted, varied widths but generally wide planks.
- 6. Ceiling Material:** wood plank; bevelled tongue and groove plank, painted wood.
- 7. Ceiling Beams:** exposed wood beams; hand hewn and replicas, both painted and unpainted.
- 8. Structure:** 1.5 storey wooden structure; corner posts, band-sawn old growth exterior sheathing, rough-hewn ridge beam and rafters, tied with wooden pegs at the ridge.
- 9. Form:** The shape of the upper level ceilings, based upon the gabled pitch of the roof, including the horizontal beam at the meeting point between the angle and flat ceiling.
- 10. Floor Plan:** The functional arrangement of spaces, such as the location of the utilitarian rooms (kitchen) at the rear of the house with the living space at the immediate entrance.
- 11. Stairs:** The main staircase; simple and utilitarian nature.

Please refer to the photographs below for each key element.

Key Elements of the Exterior - Photos



1. Roof

Of Note: shape, material

2. Windows

Of Note: design, material, colour palette, detailing

Asa Meech House – Heritage Summary



3. Chimney

Of Note: location



4. Verandahs

Of Note: design, material



5. Exterior Wall Material
Of Note: material, colour palette



6. Shutters

Of Note: design, material, colour palette, detailing

Asa Meech House – Heritage Summary



7. Doors

Of Note: design, material



8. Landscape

Of Note: relationship with house, viewsapes

Key Elements of the Interior - Photos



1. Interior Window Elements

Of Note: design, material

2. Doors

Of Note: design, material



3. Fireplace
Of Note: material



4. Baseboards & Trim
Of Note: material, detailing



5. Flooring Material

Of Note: design, material

6. Ceiling Material

Of Note: design, material, detailing



Original hand hewn



Replica hand hewn

7. Ceiling Beams

Of Note: design, material, detailing



8. Structure

Of Note: design, material, detailing

Asa Meech House – Heritage Summary



9. Form
Of Note: design

10. Floor Plan
Of Note: design



11. Stairs

Of Note: design

Bibliography

- (NCC), Hazen Sise. "Asa Meech Homestead." unknown.
- . "Asa Meech Photographs." 1969.
- Conestoga-Rovers & Associates. "Designated Substance Survey." 2009.
- Blair, Gladys. "Asa Meech House." (n.d.).
- Heritage Conservation Directorate. "Asa Meech House Heritage Recording 2016-2017." 2016.
- . "Heritage Conservation Advice Report." 2016.
- Harris, Cyril M. *Illustrated Dictionary of Historic Architecture*. New York: Dover Publications, Inc., 1977.
- Hope, Ethel Penman. "Early Settlement of Meech Lake." unknown.
- Humphreys, B.A. *Meach Cottage*. Manotick, Ontario, 1969.
- Inter-Plan Inc. "Rapport D'Installation Septique." 1996.
- National Home Inspection. "Inspection Report #29: Meach Lake Road." 1993.
- Johnson, Dana. "FHBRO Building Report 84-10: Asa Meech House." 1984.
- Kyles, Shannon. *Vernacular*. n.d. January 2017. <<http://www.ontarioarchitecture.com/vernacular.htm>>.
- Minto Management Services (#1) Limited. "Project Approval-601 Meech Road-Asset 727-Pre-Lease." 2009.
- Meech, M.A. "Asa Meech (Paper Given by Miss M.A. Meech to the Historical Society of the Gatineau)." 1964.
- Noffke, Morin & Sylvester. "Meach Lake, Que. for Mr. J.A. O'Brien." *Drawings*. n.d.
- Federal Heritage Buildings Review Office. "Asa Meech Homestead." unknown.
- . "Asa Meech Photographs." 1984.
- . "Building Evaluation Record." 2005.
- "The Rustic Style in Canada's National Parks." n.d. *Canada's Historic Places*. January 2017. <http://www.historicplaces.ca/en/pages/20_rustic_architecture.aspx>.

Annexe F - Rapport sur la présence de substances désignées



DESIGNATED SUBSTANCE SURVEY

601 MEECH ROAD
CHELSEA, QUEBEC

Prepared For:
Minto Management Services Ltd.

DISCLAIMER:
SOME FORMATTING CHANGES MAY HAVE OCCURRED WHEN
THE ORIGINAL DOCUMENT WAS PRINTED TO PDF; HOWEVER,
THE ORIGINAL CONTENT REMAINS UNCHANGED.

JANUARY 2009
REF. NO. 048885 (132)

Prepared by:
**Conestoga-Rovers
& Associates**

179 Colonnade Rd., Suite 400
Ottawa, Ontario
Canada K2E 7J4

Office: (613) 727-0510
Fax: (613) 727-0704

web: <http://www.CRAworld.com>

TABLE OF CONTENTS

	<u>Page</u>
1.0 INTRODUCTION	1
2.0 SCOPE OF WORK	2
3.0 DESIGNATED SUBSTANCE SURVEY	3
3.1 VINYL CHLORIDE	3
3.2 MERCURY	3
3.3 BENZENE	4
3.4 ARSENIC	4
3.5 LEAD	5
3.6 ACRYLONITRILE	5
3.7 SILICA	5
3.8 ISOCYANATES	6
3.9 COKE OVEN EMISSIONS	6
3.10 ETHYLENE OXIDE	7
3.11 ASBESTOS	7
4.0 SURVEY OF POTENTIAL PCB-CONTAINING EQUIPMENT	8
4.1 GENERAL	8
4.2 IDENTIFIED PCB-CONTAINING EQUIPMENT	8
5.0 SURVEY OF EQUIPMENT POTENTIALLY CONTAINING OZONE DEPLETING SUBSTANCES (ODS)	9
5.1 GENERAL	9
5.2 OBSERVATIONS	9
6.0 LEAD BASED PAINT SAMPLING ACTIVITIES	10
6.1 GENERAL	10
6.2 ANALYTICAL RESULTS	10
7.0 ASBESTOS CONTAINING MATERIAL (ACM) SAMPLING ACTIVITIES	12
7.1 GENERAL	12
7.2 ROOM-BY-ROOM ASBESTOS SURVEY	12
7.3 ANALYTICAL RESULTS	13
7.4 SUMMARY OF FRIABLE ASBESTOS CONTAINING MATERIALS	13
7.5 SUMMARY OF NON-FRIABLE ASBESTOS	13
7.6 DAMAGED ASBESTOS CONTAINING MATERIALS	14
8.0 ADDITIONAL OBSERVATIONS	15
8.1 MOULD	15
8.2 UREA FORMALDEHYDE FOAM INSULATION (UFFI)	15
8.3 FECAL WASTE	15
8.4 RADIOACTIVE SMOKE DETECTORS	15

9.0 LIMITATIONS.....16

10.0 RECOMMENDATIONS.....17

LIST OF FIGURES
(Following Text)

FIGURE 1	DESIGNATED SUBSTANCE SURVEY - CRAWL SPACE
FIGURE 2	DESIGNATED SUBSTANCE SURVEY - FIRST FLOOR PLAN
FIGURE 3	DESIGNATED SUBSTANCE SURVEY - SECOND FLOOR PLAN

LIST OF TABLES
(Following Text)

TABLE 1	SUMMARY OF LEAD PAINT SAMPLES
TABLE 2	SUMMARY OF BULK ASBESTOS SAMPLES

LIST OF APPENDICES

APPENDIX A	LABORATORY REPORTS
------------	--------------------

1.0 INTRODUCTION

Conestoga-Rovers & Associates (CRA) was retained by Minto Management Services Ltd. (Minto) as property management agent to the National Capital Commission (NCC) to conduct a Designated Substance Survey (DSS) of the building located at 601 Meech Road in Chelsea, Quebec (Site). CRA understands that the DSS was commissioned, as a measure of due diligence. The objective of the DSS was to quantify designated substances and other potentially hazardous materials including ozone-depleting equipment, polychlorinated biphenyl (PCB) containing equipment and other potential environmental and health related concerns associated with the building's structure.

The house located at 601 Meech Road is a two-storey house built on a concrete block foundation. The exterior of the house is finished with wood siding and with a pitched asphalt shingled roof. The interior walls and ceilings are finished with drywall and wood panelling. The flooring in the house is comprised of carpeting, vinyl sheet, and hardwood flooring.

2.0 SCOPE OF WORK

In general, the purpose of the DSS at the Site was to:

- identify and confirm through sampling and analysis potential designated substances at the Site;
- identify potential PCB containing equipment at the Site;
- identify potential ozone depleting substances (ODS) at the Site;
- identify mould and other potential environmental and health related concerns associated with the building; and
- prepare an inventory of designated substances and hazardous materials identified at the Site.

3.0 DESIGNATED SUBSTANCE SURVEY

In the Province of Quebec, the Occupational Health and Safety Act has a list of over 400 chemicals for which threshold concentrations in air have been determined. However, the government has not adopted a specific Designated Substance list for which pre-construction surveys are mandatory. Under the Safety Code for Construction Work, a pre-construction survey is mandatory only prior to Asbestos Abatement.

As a good management practice, for pre-construction surveys conducted in the province of Quebec, the substances identified under the Ontario OHSA Designated Substances list are all considered.

The following section of this report provides an overview of the primary characteristics of such designated substances, their potential health effects and the potential presence of such substances at the Site identified during the Survey, which was undertaken December 2, 2008.

3.1 VINYL CHLORIDE

Vinyl chloride is a colorless, flammable gas at normal temperatures with a mild, sweet odour. It is used in the manufacturing of polyvinyl chloride (PVC), which is used in many plastic products including plastic pipes, wire and cable coatings and furniture upholstery.

Exposure to vinyl chloride occurs mainly in workplaces where it is used to manufacture plastic. Breathing high levels of vinyl chloride for short periods of time can cause dizziness, sleepiness, unconsciousness, and, at extremely high levels, can cause death. Prolonged exposure may cause liver damage, immune reactions, nerve damage and cancer.

Based on the examination of the Site, it is not expected that vinyl chloride is present. There is, however, the potential for release of and exposure to vinyl chloride if PVC pipes and wire coatings found in the house are burnt.

3.2 MERCURY

Mercury is a naturally occurring metal. At normal temperatures it is a shiny, silver-white odourless liquid. When heated it becomes a colourless, odourless gas.

Mercury is used to produce caustic soda and also is used in thermometers, dental fillings and batteries.

The nervous system is very sensitive to all forms of mercury; however, vapour is especially harmful as it directly reaches the brain. Exposure to high levels of mercury may permanently damage the brain, kidneys and a developing fetus. Short-term exposure may cause lung damage, nausea, vomiting, skin rashes and eye irritation.

During DSS inspection, CRA observed a mercury-containing thermostat in the living room at the Site.

3.3 BENZENE

Benzene is a colorless liquid with a sweet odour. It is widely used in North America to make other chemicals, which are used to make plastic, resin, nylon, rubber, lubricants, detergents, drugs and pesticides. Benzene is also a natural component of crude oil and gasoline.

Breathing benzene may cause dizziness, drowsiness and unconsciousness. Long-term exposure may result in anemia, leukemia and damage to bone marrow.

There is a potential that benzene-containing products (glues, paints, detergents, etc.) may have been used at the Site in the past, however, the probability of elevated levels of benzene being present is remote.

3.4 ARSENIC

Arsenic is a silver-gray, brittle, crystalline solid. Arsenic compounds are used as wood preservatives, insecticides, herbicides and in alloys of copper and lead.

Arsenic is a powerful poison and at high levels may cause cancer, nerve damage, stomach damage, intestinal damage, skin damage and death. At lower levels it may cause nausea, diarrhea, decreased production of red and white blood cells, and abnormal heart rhythm.

Based on CRA observations during DSS, no material was observed at the Site that may potentially contain arsenic.

3.5 LEAD

Lead is a naturally occurring bluish-gray metal. Lead is used in the production of batteries, ammunition, solder, paint and pipes.

The routes of exposure to lead are limited to inhalation and ingestion of lead, with the highest risk of lead exposure being the inhalation of lead containing dust. Lead can damage the nervous system, kidneys and the immune system.

A lead based paint sampling program was conducted by CRA as part of this DSS. Information regarding the sampling program and analytical results can be found in Section 6.0 of this report.

3.6 ACRYLONITRILE

Acrylonitrile is a colorless to pale-yellow, mobile liquid with an unpleasant odour. It is used in the manufacture of synthetic fibres, rubber, coatings and adhesives.

It is toxic by inhalation and by skin exposure. Low level exposure to acrylonitrile may cause eye and skin irritation, headaches, nausea and vomiting. High level or prolonged exposure may result in damage to the heart, liver, kidneys and central nervous system as well as being a known carcinogen.

Based on CRA observations during the DSS, acrylonitrile is not likely to be present at the Site.

3.7 SILICA

Silica is a transparent to gray odourless powder or crystal. It occurs widely in nature as sand, quartz, flint and diatomite. It is used in the manufacture of glass, ceramics, abrasives, water treatment products, cosmetics, insecticides, paint and foods as well as in the drying of glassware and as a preservative for plant samples. Crystalline silica is also used in the production of cement, concrete, acoustic ceiling tiles, and ceramic tiles which are used for construction purposes.

The routes of exposure include inhalation and skin/eye contact. Exposure may cause irritation to the lungs, skin and eye, and pneumoconiosis. Chronic inhalation can lead to silicosis.

Crystalline silica is present in the drywall, concrete, ceramic, and asphalt observed at the Site. As such, there is a potential for silica dust to be generated by the grinding, cutting or demolition of any of the aforementioned building materials.

3.8 ISOCYANATES

Isocyanates are a group of organic compounds formed by treating diamines with phosgene. It is used in the production of polyurethane foam and resins.

The routes of exposure include inhalation, ingestion, skin and/or eye contact. Exposure may cause irritation of the eyes, skin, nose and throat, nausea, abdominal pain and bronchitis. High level exposure can cause asthma, conjunctivitis, pulmonary edema and cancer.

Based on CRA observations during the DSS, it is not likely that any isocyanate-containing substances are present at the Site.

3.9 COKE OVEN EMISSIONS

Coke oven emissions are the airborne constituents of the by-product created by destructive distillation of coal and petroleum. The emissions are a result of the production of steel, petroleum products and lining of high temperature furnaces.

Exposure to coke oven emissions is a potential cause of lung cancer. Although it does not cause a large number of skin cancer cases, dermal contact with coke oven emissions should be avoided.

Based on CRA observations during the DSS, it is not likely that coke oven emissions are present at the Site.

3.10 ETHYLENE OXIDE

Ethylene oxide is a colorless gas at room temperature, which becomes a liquid at 12°C. It is used in the manufacture of ethylene glycol, surfactants, fumigants, fungicides and petroleum demulsifiers.

Exposure routes include inhalation, ingestion, skin and/or eye contact. Exposure may cause irritation of the eyes, skin, nose and throat, headaches, nausea and drowsiness. Exposure to high concentrations may cause frostbite, reproductive effects, convulsions, liver and kidney damage and cancer.

Based on CRA observations during the DSS and historical use of the Site, it is not likely that ethylene oxide is present in this location.

3.11 ASBESTOS

Asbestos is the name used for a group of fibrous minerals that occur naturally in soil and rock in some areas. Asbestos fibres were formerly used in roofing shingles, ceiling tiles, floor tiles, asbestos cement products, gaskets, insulation, and paper products.

Asbestos mainly affects the lungs. Inhalation of asbestos may result in the build-up of scar-like tissue resulting in cancer of the lungs and the surrounding membrane.

CRA completed a room-by-room asbestos containing material (ACM) survey and sampling program as part of the DSS. The results of the ACM sampling program are discussed in Section 7.0.

4.0 SURVEY OF POTENTIAL PCB-CONTAINING EQUIPMENT

4.1 GENERAL

CRA personnel performed a survey of potential PCB-containing material on December 2, 2008. The survey consisted of examining potential PCB containing equipment including fluorescent light ballasts, electrical transformers, and capacitors. During the DSS CRA recorded all information including the type of equipment, manufacturer, serial numbers, date stamps, electrical specifications and locations of any potential PCB containing equipment. The information was then researched using the Internet, telephone interviews with company representatives and published documents.

4.2 IDENTIFIED PCB-CONTAINING EQUIPMENT

Based on CRA observations during the DSS and subsequent information review, no PCB-containing equipment was observed during the survey.

5.0 SURVEY OF EQUIPMENT POTENTIALLY CONTAINING OZONE DEPLETING SUBSTANCES (ODS)

5.1 GENERAL

A survey of the (ODS) containing equipment was conducted on December 2, 2008. During the course of the survey CRA examined all potential ODS-containing equipment inside 601 Meech Road. The following section provides information on the findings of the ODS survey.

5.2 OBSERVATIONS

Based on CRA observations during the DSS, no ODS containing equipment was present at the Site.

6.0 LEAD BASED PAINT SAMPLING ACTIVITIES

6.1 GENERAL

The lead based paint sampling program activities were performed in accordance with standard industry practice whereby a utility knife is used to remove a paint chip (all layers of paint on a surface). The paint chip is then placed in a sealable bag with a unique identification and sent to the laboratory for analysis to prevent cross contamination between the collections of each sample, the sampler changes his/her disposable latex gloves and wipes the blade of the knife using a disposable wet wipe.

As part of this lead based paint survey, CRA collected ten representative samples from homogeneous painted surfaces for potential lead identification. The painted surfaces sampled included walls, siding, trim, ceiling, and floors. It should be noted that lead may be found in the solder of the copper piping observed at the Site. This material was not sampled.

The samples were submitted under Chain-of-Custody protocol to EMSL Analytical Laboratories Inc. in Indianapolis, Indiana for analysis of lead content by use of the Flame Atomic Absorption (FAA) method. A summary of the samples collected by CRA during the survey, along with the reported analytical results, is presented in Table 1. Copies of the laboratory analytical reports prepared for CRA by EMSL are included in Appendix A.

6.2 ANALYTICAL RESULTS

The analytical results of paint chip sampling indicate that four of the ten samples collected contained elevated concentrations of lead. The following paint chip samples were reported to contain elevated concentrations of lead by weight:

- green coloured floor paint collected from bedroom 1 was reported to contain 24 percent lead;
- brown coloured floor paint collected from the lounge area was reported to contain 22 percent lead;
- grey coloured exterior porch paint was reported to contain 1.4 percent lead; and
- green coloured exterior trim paint was reported to contain 1.6 percent lead.

Lead was detected in low concentrations in two of the collected paint chip samples. Lead was not detected in four of the collected paint chip samples.

No guidelines exist in the Province of Quebec which define when a coating is considered to be a lead based coating with regards to a specific concentration. However, the Regulation Respecting The Quality of the Work Environment S2.1, r.15 stipulates that workers are not to be exposed to airborne lead levels in exceedance of the TWAE or STEL values outlined in the regulation. It is the responsibility of building owners and contractors to ensure that workers are not exposed to elevated levels of airborne lead during construction, renovation or demolition activities. CRA recommends that the measures outlined in the Ontario Ministry of Labour's Guideline for Lead on Construction Projects (December 2004) be put into place to control potential lead dust hazard during any work which involves the disturbance of a painted surface.

It should be noted that paint sampling procedures involved the collection of samples to depth of original surface in order to ensure that previously painted surfaces were sampled in addition to the present finished surface. The color of paint described in Table 1 is representative of the surface layer only.

7.0 ASBESTOS CONTAINING MATERIAL (ACM) SAMPLING ACTIVITIES

7.1 GENERAL

Under the Canadian Hazardous Products Act, as of April 24, 1980, the use of asbestos was prohibited in most consumer products where dust particles are generated during normal use. Prior to this Act, materials such as thermal insulation around mechanical pipes, as well as, sprayed-on fireproofing, occasionally contained asbestos-laden products. It should be noted that, prior to 1980, asbestos was also included in a wide range of construction materials such as plaster, cement, etc., which are not visible to the naked eye.

In Quebec, asbestos containing material is defined as a product containing greater than 0.1 percent asbestos by weight. The Quebec Workers' Health and Safety Commission (*Commission de la Santé et la Sécurité au Travail* [CSST]) regulates asbestos in the workplace. As asbestos is only considered a hazard when fibres become airborne, different types of ACM may remain on Site and in use indefinitely, provided the ACM is adequately maintained, and not allowed to release fibres into the air under normal use. Friable ACM products present more potential danger for airborne fibre release. Precautions may be required when renovating or demolishing areas that contain non-friable ACM.

Potential ACM sampling was conducted on December 2, 2008. Sampling activities were performed in accordance with bulk asbestos sampling procedures outlined in the document entitled "Designated Substances in the Workplace: A Guide to the Asbestos Regulation for Construction Projects, Buildings and Repair Operations", Ontario Ministry of Labour (MOL), April 1987. In areas where finished surfaces required partial removal to inspect hidden materials (i.e. surface coverings on pipe insulation), small openings were made by CRA to allow for inspection of the underlying materials. Following inspection, all openings were repaired to encapsulate the underlying material. CRA also visually inspected all readily available areas above the ceilings (areas where lay-in ceiling tiles existed) for the presence of thermal, acoustic or mechanical insulation, which could potentially contain asbestos.

7.2 ROOM-BY-ROOM ASBESTOS SURVEY

The purpose of the potential ACM sampling program was to confirm the presence or absence of asbestos in certain suspect building materials. As requested, CRA attempted to limit unnecessary analysis and put a stop positive clause in the analytical work.

As part of the potential ACM asbestos survey, CRA collected fourteen samples from four distinct types of building materials, which were suspected to contain asbestos. Potential ACM sampled included texture coat, vinyl sheet flooring, and drywall compound. Summaries of the potential ACM samples collected along with the analytical results are presented in Table 2.

All potential ACM samples were submitted under chain of custody to EMSL in Indianapolis, Indiana for analysis. The samples of potential friable asbestos were analyzed for type and percent fibre content using Polarized Light Microscopy (PLM). PLM samples that were reported to contain less than 1 percent chrysotile were re-analyzed using a more accurate analytical method (1000 point count). Samples of potential non-friable asbestos were analyzed for type and percent fibre content using Transmission Electron Microscopy (TEM). Copies of the laboratory analytical reports prepared for CRA by EMSL are included in Appendix A.

7.3 ANALYTICAL RESULTS

As indicated in Table 2, results of the sample analysis indicate that asbestos was detected at the provincial criteria of 0.1 percent in sampled heat shield debris and duct insulation.

7.4 SUMMARY OF FRIABLE ASBESTOS CONTAINING MATERIALS

Based on the results of the laboratory analysis and observations during the designated substance survey no friable materials were found to contain asbestos.

7.5 SUMMARY OF NON-FRIABLE ASBESTOS

The following describes the non-friable ACM that exceeds the provincial criteria of 0.1 percent asbestos by weight:

- light heat shield debris was reported to contain to contain 50 percent Chrysotile. Less than 1 square foot of this material was observed on the floor in the main stairwell; and
- duct insulation was reported to contain 60 percent Chrysotile. Approximately 40 square feet of this material was observed in the crawlspace.

7.6 DAMAGED ASBESTOS CONTAINING MATERIALS

Based on CRA observations during the DSS, asbestos containing heat shield debris was noted on the floor of the main stair well.

8.0 ADDITIONAL OBSERVATIONS

As part of the DSS, CRA also identified other areas of the Site that may potentially contain urea formaldehyde foam insulation, fecal waste, and radioactive smoke detectors.

8.1 MOULD

Based on CRA observations during the DSS, mould contaminated building materials were not observed at the Site.

8.2 UREA FORMALDEHYDE FOAM INSULATION (UFFI)

Based on CRA observations during the DSS, UFFI was not observed at the Site.

8.3 FECAL WASTE

Based on CRA observations during the DSS, rodent fecal waste was observed in the basement, bedroom one and in the attic.

8.4 RADIOACTIVE SMOKE DETECTORS

Based on CRA observations during DS, no smoke detectors that contain radioactive isotopes were present at the Site.

9.0 LIMITATIONS

The DSS that was conducted by CRA during December 2, 2008, was a non-destructive survey. This survey does not account for any potential designated substances or other potential environmental and health related concerns as identified in Section 1.0 of this report which may be present within walls, below the flooring, within ceiling cavities, or in any other area, which was not accessible at the time of the DSS.

CRA does not collect samples of building materials if said collection might compromise the integrity of the building or its components. These building materials include roofing materials, interior of fire doors, refractory materials within boilers, gasket materials, and window caulking. In addition, CRA does not sample energized equipment due to the inherent electrical hazards. These include components or wiring within motors, high voltage wiring, elevators (including brakes), lights or other electrical equipment and fixtures.

This DSS was conducted in a manner consistent with the level of care and skill exercised by members of the profession, and was based upon information made available to CRA representatives at the time of this survey. CRA has analyzed and evaluated the information collected during this investigation using applicable engineering and industrial hygiene techniques and principles.

Reliance or use of this report by any third party without explicit authorization from CRA, NCC and Minto does not make said third party a third party beneficiary to CRA 's contract with NCC or Minto. Any such unauthorized reliance on or use of this report, including any of its information or conclusions, will be at the third party's risk. For the same reasons, no warranties or representations, expressed or implied in this report, are made to any such third party.

As applicable, the owner/operator of the subject Site is responsible for corrective or remedial action required and disclosure of any information obtained during this assessment or information contained in this report.

10.0 RECOMMENDATIONS

The following recommendations are based on the results of the Designated Substance Survey conducted at the Site on December 2, 2008.

1. The building owner should notify as best management practice all employees and contractors involved with building maintenance and building renovations of the presence of all designated substances present. A copy of this DSS Report should be made available for review (upon request) by any employee, building maintenance personnel or outside contractors working in the common areas of the building. As a good management practice, the building owner should maintain a record of this notification.
2. Contractors must not use a torch to remove PVC piping or soldered joints of copper piping as the heat source may release hazardous constituents into the atmosphere.
3. Best management procedures would include taking measures to control the silica dust hazard when demolishing, renovating, altering, or disturbing silica-containing building materials.
4. Best management procedures would include taking measures to control the lead dust hazard when demolishing any painted surface. These measures are particularly important when dealing painted surfaces, which exhibited, elevated concentrations of lead.
5. Section 5 of the Regulation Respecting the Quality of the Work Environment regulated by The Quebec Workers' Health and Safety Commission (*Commission de la Santé et la Sécurité au Travail* [CSST]) requires that workers not be exposed to harmful levels of certain substances including asbestos.
6. The Quebec Safety Code for the Construction Industry (S-2.1, r.6) (Section No. 3.23) applies to any construction site where work is liable to produce asbestos dust emissions.
7. Section No. 3.23.3.2 of the Quebec Safety Code for the Construction Industry requires that asbestos containing materials be removed prior to demolition.
8. Section 3.23 of the Quebec Safety Code for the Construction Industry defines different types of abatement procedures, depending on the risk level of Asbestos airborne emissions. For each risk level identified, there is a work abatement procedure to follow.
9. Asbestos abatement should be conducted by a competent asbestos abatement contractor as defined in Section No. 3.23.7 of the Quebec Safety Code for the Construction Industry. The contractor should be able to show proof of adequate

experience, employee training, workers compensation documentation, and asbestos liability insurance.

10. A competent asbestos abatement contractor in accordance with Quebec Safety Code for the construction Industry should abate the asbestos containing heat shield debris.
11. All asbestos wastes generated by asbestos abatement operations must be packaged in accordance in Section No. 3.23.10, 3.23.11, and 3.23.13 of the Quebec Safety Code for the Construction Industry. Asbestos waste may be disposed of at any municipal landfill approved to accept this type of waste pending notification to the landfill operator. Although a waste manifest is not required for the transportation or disposal of asbestos waste, it is good management practice to keep a record of the amount removed and sent to landfill. An asbestos waste management procedure should be prepared.

CRA trusts the enclosed to be acceptable. Should you have any questions or comments regarding this report, please feel free to contact our office.

All of Which is Respectfully Submitted

CONESTOGA ROVERS & ASSOCIATES



Geoff LeClair, A.Sc.T.



Myles Carter, M.Sc., P.G.

LEGEND

- ▲ BAS-00A BULK ASBESTOS SAMPLE LOCATION
- LBP-00 LEAD PAINT CHIP SAMPLE LOCATION
- ASBESTOS CONTAINING INSULATION



APPROXIMATE SCALE

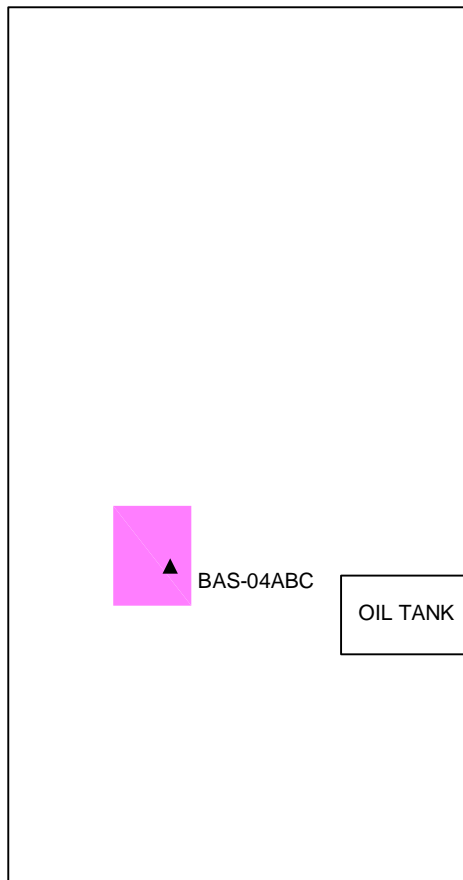


figure 1

DESIGNATED SUBSTANCE SURVEY
CRAWL SPACE
601 MEECH RD., CHELSEA QUEBEC
Minto Properties



LEGEND

- ▲ BAS-00A BULK ASBESTOS SAMPLE LOCATION
- LBP-00 LEAD PAINT CHIP SAMPLE LOCATION



APPROXIMATE SCALE

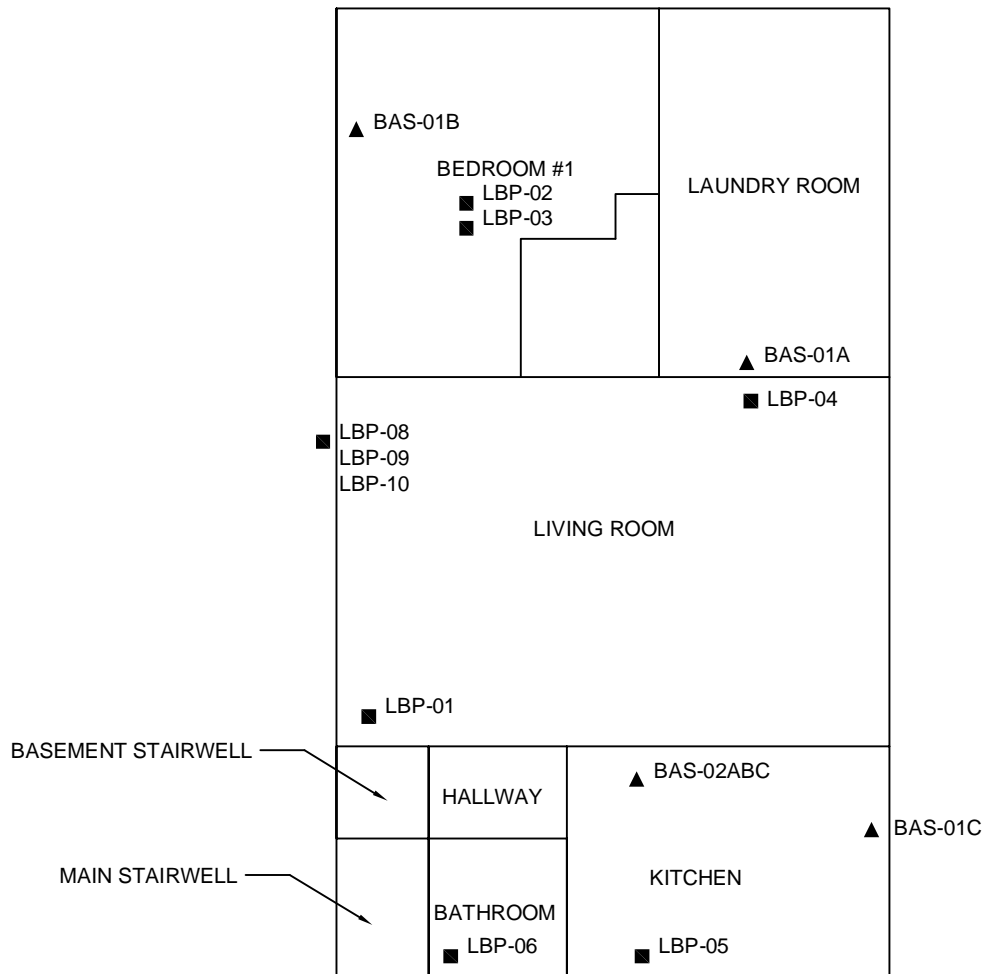


figure 2

DESIGNATED SUBSTANCE SURVEY
FIRST FLOOR
601 MEECH RD., CHELSEA QUEBEC
Minto Properties

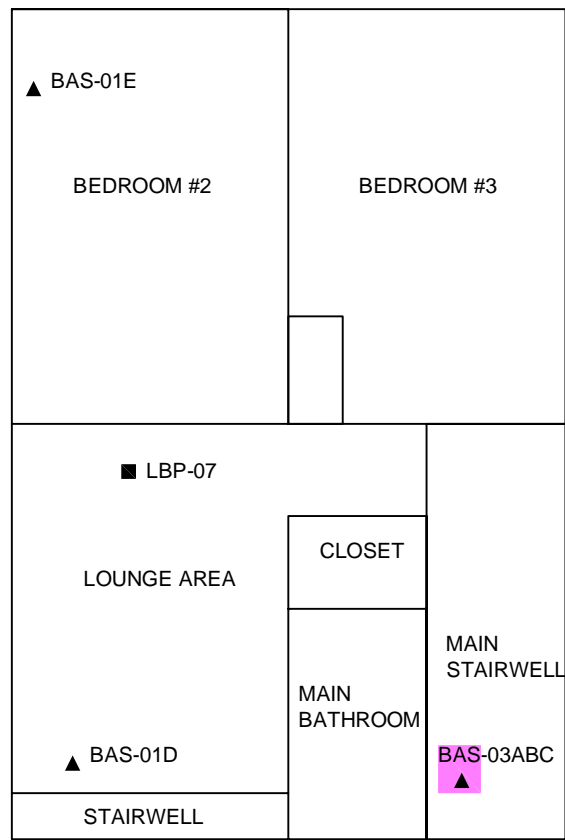


LEGEND

- ▲ BAS-00A BULK ASBESTOS SAMPLE LOCATION
- LBP-00 LEAD PAINT CHIP SAMPLE LOCATION
- ASBESTOS CONTAINING INSULATION



APPROXIMATE SCALE



1C

figure 3

DESIGNATED SUBSTANCE SURVEY
SECOND FLOOR
601 MEECH RD., CHELSEA QUEBEC
Minto Properties



TABLE 1

**SUMMARY OF LEAD PAINT SAMPLES
601 MEECH ROAD
CHELSEA, QUEBEC**

Sample Identification	Location	Surface	Description	RDL	Lead Concentration % wt
601-LBP-120208-01	Living Room	Trim	White	0.014	<0.014
601-LBP-120208-02	Bedroom 1	Ceiling	White	0.028	0.035
601-LBP-120208-03	Bedroom 1	Floor	Green	0.010	24
601-LBP-120208-04	Living Room	Wall	Beige	0.012	<0.012
601-LBP-120208-05	Kitchen	Wall	Orange	0.20	<0.20
601-LBP-120208-06	Ground Floor	Wall	Green	0.024	<0.024
601-LBP-120208-07	Lounge	Floor	Brown	0.020	22
601-LBP-120208-08	Site Exterior	Porch	Grey	0.011	1.4
601-LBP-120208-09	Site Exterior	Siding	White	0.012	0.37
601-LBP-120208-10	Site Exterior	Trim	Green	0.014	1.6

TABLE 2

**SUMMARY OF BULK ASBESTOS SAMPLE ANALYSIS
601 MEECH ROAD
CHELSEA, QUEBEC**

Sample Identification	Location	Material Sampled	Description	Asbestos Content % and type
601-AS-120208-01A	Laundry Room	Drywall Compound	Joint Compound	< 1% Chrysotile/None Detected
601-AS-120208-01B	Bedroom 1	Drywall Compound	Joint Compound	< 1% Chrysotile/None Detected
601-AS-120208-01C	Kitchen	Drywall Compound	Joint Compound	< 1% Chrysotile/< 0.1% Chrysotile
601-AS-120208-01D	Lounge	Drywall Compound	Joint Compound	< 1% Chrysotile/None Detected
601-AS-120208-01E	Bedroom 2	Drywall Compound	Joint Compound	< 1% Chrysotile/None Detected
602-AS-120208-02A	Kitchen	Vinyl Sheet Flooring	Square Pattern	None Detected
602-AS-120208-02B	Kitchen	Vinyl Sheet Flooring	Square Pattern	None Detected
602-AS-120208-02C	Kitchen	Vinyl Sheet Flooring	Square Pattern	None Detected
603-AS-120208-03A	Main Stairwell	Insulation	Heat Sheild Debris	50% Chrysotile
603-AS-120208-03B	Main Stairwell	Insulation	Heat Sheild Debris	Not Analyzed
603-AS-120208-03C	Main Stairwell	Insulation	Heat Sheild Debris	Not Analyzed
604-AS-120208-04A	Crawlspace	Insulation	Duct	50% Chrysotile
604-AS-120208-04B	Crawlspace	Insulation	Duct	Not Analyzed
604-AS-120208-04C	Crawlspace	Insulation	Duct	Not Analyzed

**SUMMARY OF BULK ASBESTOS SAMPLE ANALYSIS
601 MEECH ROAD
CHELSEA, QUEBEC**

Sample Identification	Location	Material Sampled	Description	Asbestos Content % and type
--------------------------	----------	---------------------	-------------	--------------------------------

NOTES:

None Detected - Asbestos was not detected in the sample

Not Analyzed- Laboratory was directed to use the positive stop method, whereby each sample in a set of samples is analyzed until asbestos is detected. If or when asbestos is detected no other samples in that set are analyzed.

<1%/None Detected and/or % asbestos - Asbestos fibers were observed in the sample below the accuracy detection limit of 1%, however re-analysis using the more sensitive 1000 point count method indicated that asbestos is not present and/or is present at the % indicated.

APPENDIX A
LABORATORY REPORTS



EMSL Analytical

2001 East 52nd St., Indianapolis, IN 46205

Phone: (317) 803-2997 Fax: (317) 803-3047 Email: indianapolislaboratory@emsl.com

Attn: **Jennifer Balkwill**
Conestoga-Rovers & Associates, Ltd.
651 Colby Drive
Waterloo, ON, CN N2V1C2

Customer ID: CRAC22
Customer PO:
Received: 12/04/08 10:00 AM
EMSL Order: 160818222
EMSL Proj: 48885
Analysis Date: 12/10/2008
Report Date: 12/11/2008

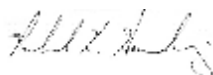
Fax: (519) 725-1394 Phone: (519) 884-0510
Project: **048885-132**

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
601-AS-120208-01A 160818222-0001		White Non-Fibrous Homogeneous		100% Non-fibrous (other)	<1% Chrysotile
601-AS-120208-01B 160818222-0002		White Non-Fibrous Homogeneous		100% Non-fibrous (other)	<1% Chrysotile
601-AS-120208-01C 160818222-0003		White Non-Fibrous Homogeneous		100% Non-fibrous (other)	<1% Chrysotile
601-AS-120208-01D 160818222-0004		White Non-Fibrous Homogeneous		100% Non-fibrous (other)	<1% Chrysotile
601-AS-120208-01E 160818222-0005		White Non-Fibrous Homogeneous		100% Non-fibrous (other)	<1% Chrysotile
601-AS-120208-03A 160818222-0006		White Fibrous Homogeneous	20% Cellulose	30% Non-fibrous (other)	50% Chrysotile
601-AS-120208-03B 160818222-0007					Stop Positive (Not Analyzed)
601-AS-120208-03C 160818222-0008					Stop Positive (Not Analyzed)

Analyst(s)

Craig Nixon (7)



Richard Harding, Laboratory Manager
or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. The limit of detection as stated in the method is 1%. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted. This report must not be used to claim product endorsement by NVLAP or any agency of the U.S. Government.
ACCREDITATION: NVLAP Lab Code 200188-0



EMSL Analytical

2001 East 52nd St., Indianapolis, IN 46205

Phone: (317) 803-2997 Fax: (317) 803-3047 Email: indianapolisl@emsl.com

Attn: **Jennifer Balkwill**
Conestoga-Rovers & Associates, Ltd.
651 Colby Drive
Waterloo, ON, CN N2V1C2

Customer ID: CRAC22
Customer PO:
Received: 12/04/08 10:00 AM
EMSL Order: 160818222

EMSL Proj: 48885
Analysis Date: 12/10/2008
Report Date: 12/11/2008

Fax: (519) 725-1394 Phone: (519) 884-0510
Project: **048885-132**

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
601-AS-120208-04A <i>160818222-0009</i>		Gray Fibrous Homogeneous	20% Cellulose	20% Non-fibrous (other)	60% Chrysotile
601-AS-120208-04B <i>160818222-0010</i>					Stop Positive (Not Analyzed)
601-AS-120208-04C <i>160818222-0011</i>					Stop Positive (Not Analyzed)

Analyst(s) _____

Craig Nixon (7)

Richard Harding, Laboratory Manager
or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. The limit of detection as stated in the method is 1%. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted. This report must not be used to claim product endorsement by NVLAP or any agency of the U.S. Government.

ACCREDITATION: NVLAP Lab Code 200188-0



EMSL Analytical

2001 East 52nd St., Indianapolis, IN 46205

Phone: (317) 803-2997 Fax: (317) 803-3047 Email: indianapolislaboratory@emsl.com

Attn: **Jennifer Balkwill**
Conestoga-Rovers & Associates, Ltd.
651 Colby Drive
Waterloo, ON, CN N2V1C2

Customer ID: CRAC22
Customer PO:
Received: 12/04/08 10:00 AM
EMSL Order: 160818213

Fax: (519) 725-1394 Phone: (519) 884-0510
Project: 048885-132

EMSL Proj:
Report Date: 12/10/2008

Lead in Paint Chips by Flame AAS (SW 846 3050B and 7420*)

Lab ID:	Analyzed	RDL	Lead Concentration	Notes
0001	12/9/2008	0.014 % wt	<0.014 % wt	
Client Sample 601-LBP-120208-01				Collected: 12/2/2008
0002	12/9/2008	0.028 % wt	0.035 % wt	
Client Sample 601-LBP-120208-02				Collected: 12/2/2008
0003	12/9/2008	0.010 % wt	24 % wt	
Client Sample 601-LBP-120208-03				Collected: 12/2/2008
0004	12/9/2008	0.012 % wt	<0.012 % wt	
Client Sample 601-LBP-120208-04				Collected: 12/2/2008
0005	12/9/2008	0.20 % wt	<0.20 % wt	
Client Sample 601-LBP-120208-05				Collected: 12/2/2008
0006	12/9/2008	0.024 % wt	<0.024 % wt	
Client Sample 601-LBP-120208-06				Collected: 12/2/2008
0007	12/9/2008	0.020 % wt	22 % wt	
Client Sample 601-LBP-120208-07				Collected: 12/2/2008
0008	12/9/2008	0.011 % wt	1.4 % wt	
Client Sample 601-LBP-120208-08				Collected: 12/2/2008
0009	12/9/2008	0.012 % wt	0.37 % wt	
Client Sample 601-LBP-120208-09				Collected: 12/2/2008
0010	12/9/2008	0.014 % wt	1.6 % wt	
Client Sample 601-LBP-120208-10				Collected: 12/2/2008

Doug Wiegand, Laboratory Manager
or other approved signatory

Reporting limit is 0.01 % wt. The QC data associated with these sample results included in this report meet the method quality control requirements, unless specifically indicated otherwise. Unless noted, results in this report are not blank corrected. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities.

* slight modifications to methods applied Samples received in good condition unless otherwise noted. Quality Control Data associated with this sample set is within acceptable limits, unless otherwise noted

ACCREDITATIONS: AIHA ELLAP 157245



EMSL Analytical

2001 East 52nd St., Indianapolis, IN 46205

Phone: (317) 803-2997 Fax: (317) 803-3047 Email: indianapolislab@emsl.com

Attn: **Jennifer Balkwill**
Conestoga-Rovers & Associates, Ltd.
651 Colby Drive
Waterloo, ON, CN N2V1C2

Customer ID: CRAC22
Customer PO:
Received: 12/04/08 10:00 AM
EMSL Order: 160818222
EMSL Proj: 48885
Analysis Date: 12/10/2008
Report Date: 12/11/2008

Fax: (519) 725-1394 Phone: (519) 884-0510
Project: **048885-132**

Asbestos Analysis of Bulk Material via EPA 600/R-93/116. Quantitation using the 1,000 Point Count Procedure

Sample	Location	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
601-AS-120208-01A 160818222-0015		White Non-Fibrous Homogeneous			None Detected
601-AS-120208-01B 160818222-0016		White Non-Fibrous Homogeneous			None Detected
601-AS-120208-01C 160818222-0017		White Non-Fibrous Homogeneous			<0.1% Chrysotile
601-AS-120208-01D 160818222-0018		White Non-Fibrous Homogeneous			None Detected
601-AS-120208-01E 160818222-0019		White Non-Fibrous Homogeneous			None Detected

Analyst(s)

Craig Nixon (5)

Richard Harding, Laboratory Manager
or other approved signatory

Disclaimer: Some samples may contain asbestos fibers present in dimensions below PLM resolution limits. The limit of detection as stated in the method is 0.1%. EMSL Analytical Inc suggests that samples reported as <0.1% or none detected undergo additional analysis via TEM. The above test report relates only to the items tested. This report may not be reproduced, except in full, without written approval EMSL Analytical Inc. This test report must not be used by the client to claim product endorsement by NVLAP or any agency of the United States Government. EMSL Analytical Inc. bears no responsibility for sample collection activities, analytical method limitations, or the accuracy of results when requested to separate layered samples. EMSL Analytical Inc liability is limited to the cost of sample analysis. The test results contained within this report meet the requirements of NELAC unless otherwise noted. Samples received in good condition unless otherwise noted.

ACCREDITATION: NVLAP Lab Code 200188-0



EMSL Analytical

2001 East 52nd St., Indianapolis, IN 46205

Phone: (317) 803-2997 Fax: (317) 803-3047 Email: indianapolislaboratory@emsl.com

Attn: **Jennifer Balkwill**
Conestoga-Rovers & Associates, Ltd.
651 Colby Drive
Waterloo, ON, CN N2V1C2

Customer ID: CRAC22
Customer PO:
Received: 12/04/08 10:00 AM
EMSL Order: 160818222
EMSL Proj: 48885
Analysis Date: 12/11/2008
Report Date: 12/11/2008


Fax: (519) 725-1394 Phone: (519) 884-0510
Project: **048885-132**

Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
601-AS-120208-02A 160818222-0012		Gray Fibrous Homogeneous	100.0	None	No Asbestos Detected
601-AS-120208-02B 160818222-0013		Gray Fibrous Homogeneous	100.0	None	No Asbestos Detected
601-AS-120208-02C 160818222-0014		Gray Fibrous Homogeneous	100.0	None	No Asbestos Detected

Analyst(s)

Susan Harding (3)



Richard Harding, Laboratory Manager
or other approved signatory

This laboratory is not responsible for % asbestos in total sample when the residue only is submitted for analysis. The above report relates only to the items tested. This report may not be reproduced, except in full, without written approval by EMSL Analytical, Inc. Samples received in good condition unless otherwise noted.

Analysis performed by EMSL Indianapolis (NVLAP Lab Code 200188-0)

Annexe G - Rapport sur le plomb (Golder)

April 18, 2018

Project No. 1898323

Iulia Madularu, P.Eng., ing., Ph.D., Chief Project Management

National Capital Commission

40, Elgin Street

Ottawa, Ontario

K1P 1C7

LIMITED SAMPLING AND ANALYSIS OF SUSPECTED LEAD-CONTAINING MATERIALS LOCATED AT NATIONAL CAPITAL COMMISSION (NCC) RESIDENTIAL BUILDING LOCATED AT 601, CHEMIN DE LAC MEECH, CHELSEA, QUEBEC

Dear Ms. Madularu

Golder Associates Ltd. (Golder) was retained by the National Capital Commission (NCC) (the “Client”) to perform limited sampling and analysis of suspected lead-containing materials (LCMs) at a NCC residential building located at 601, chemin du Lac Meech, in Chelsea, Quebec (the “Site”).

Based on the information provided by the NCC, repair operations are planned for the Site and confirmation of lead content of 16 paints by Flame Atomic Absorption Spectroscopy (FAAS) and four (4) paints (along with associated building materials) for lead in accordance with the EPA Method 1311, Toxic Characteristic Leaching Procedure (TCLP) were requested. It was understood that the NCC would also like to be provided with recommendations in regard to the appropriate handling and disposal of the materials, based on the analytical results.

Scope of Work

Golder’s scope of work was limited to the following:

- Preparation of a project-specific health and safety plan for the Site.
- Collecting up to 16 suspected lead-containing paint (LCP) samples at the Site and submitting these to an independent accredited laboratory for 5-day laboratory turn-around time (TAT) analysis for lead content by FAAS;
- Collecting up to four (4) suspected LCP samples (along with substrates) for lead analysis in accordance with the EPA Method 1311 for TCLP at a third party accredited lab in Quebec for comparison with Article 3 of the Quebec *Regulation respecting hazardous materials*, chapter Q-2, r.32, made under the Quebec *Environment Quality Act*; and,
- Providing a letter report outlining the results of sample analyses and recommendations regarding the appropriate handling and disposal of the materials, based on the analytical results.

Regulations

While the U.S. Hazardous Products Act (HPA) classifies lead-based paint as paints containing 0.5% lead by weight tested by chemical analysis and the U.S. Department of Housing and Urban Development (HUD) classifies lead-based paint as any paint application containing at least 0.5% by weight (5,000 mg/kg) or 1.0 milligrams of lead per square centimetre of surface area (mg/cm²) as measured by XRF, Quebec regulation currently does not include criteria for classification of lead-based paint, and allows for no minimum concentrations of lead in paint to be acceptable as non-lead-containing. Therefore, Golder considers in these circumstances that paints with any detectable presence of lead, as determined by FAAS or Inductively Coupled Argon Plasma-Atomic Emission Spectroscopy (ICAP-AES) laboratory testing methods or any other recognized chemical analysis, to be a lead-containing paint/coating.

In 2003, the “Commission des normes, de l'équité, de la santé et de la sécurité du travail” (CNESST) published its “Lead exposures” prevention guidelines (CNESST guidelines), to raise the awareness of employers and workers in regard to the hazards posed by lead and the measures and procedures that should be taken to control those hazards. While this document was originally prepared mainly for industries that used lead in their processes and not specifically for the construction industry, inspectors from the CNESST will refer to this document should they have concerns regarding workers exposure to lead during construction activities. Worker exposures to lead during construction activities must remain below the regulated Occupational Exposure Limits (OELs) for lead. The “Lead exposures” prevention guide can be of use to ensure that these requirements are met and to ensure appropriate handling and exposure control procedures when dealing with lead.

In compliance with the *Regulations respecting hazardous materials* (L.R.Q. c. Q-2, r. 32) (RRHM), leachate testing may be required to ensure that materials with LCPs do not leach above the regulated criteria before they are disposed of and to ensure they are disposed of at the appropriate waste facility. The maximum allowable concentration of lead leachate from a solid material is 5 milligrams per litre (mg/L).

Methodology

Bulk Paint Sample Analyses

Suspected LCP samples were collected in sealed and labelled bags and sent under chain-of-custody to an independent accredited laboratory for lead analysis following US EPA method SW 846 3050B/7000B. Each sample is digested, diluted and analyzed by FAAS.

Bulk Material Sample Analyses by TCLP

Suspected LCP samples with substrates were collected in sealed and labelled bags and sent under chain-of-custody to an independent accredited laboratory for TCLP analysis, in accordance with the *Méthode d'analyse approuvée (MA.) 100 – Lix.com. 1.1 – Protocole de lixivation pour les espèces inorganiques* for lead only.

Results

Golder was accompanied by a NCC representative, Ms. Iulia Madularu, to conduct the initial site reconnaissance. Based on discussions with the NCC, the assessed areas of the limited sampling of suspected LCPs of the Site included the interiors of the first and second floors as well as the accessible exterior areas of the residence. The majority; 15 of the 16 sampled suspected LCPs, were observed to be in fair to poor condition. All of the suspected LCPs with substrates were observed to be in poor condition.

Bulk Paint Sample Analyses

A total of 16 suspected LCPs were identified at the Site which may be disturbed during repair operations.

Based on the analytical results, the lead concentrations of 13 out of the 16 collected paints were found to be higher than the laboratory reporting detection limit (RDL) and are, therefore, considered to be lead-containing

The analytical laboratory results of the suspect LCP samples are summarized within Appendix A (Table A.1) and the Laboratory Test Report is included within Appendix B.

Bulk Material Sample Analyses by TCLP

A total of four (4) suspected LCPs with substrates were identified at the Site, which the NCC indicated may be removed for disposal during repair operations, including painted window and door frames and ceramic flooring.

Based on the analytical results, the concentrations of lead leachate from all four (4) sampled solid materials were below the maximum allowable concentration of 5 mg/L.

The analytical laboratory results of the suspect LCPs with substrates are summarized within Appendix A (Table A.2) and the Laboratory Test Report is included within Appendix B.

Recommendations

Lead-Containing Materials

Based on the findings, the following recommendations are made with respect to suspect LCMs at the Site:

- 1) If additional materials that may contain lead are identified during repair activities (e.g., cable wrapping or batteries), they should be treated as lead-containing until tested and proven otherwise; and
- 2) Disturbance of LCMs during repair activities must be conducted in accordance the Quebec *Regulation respecting occupational health and safety* (RROHS) and the CNESST guidelines. Worker exposures to lead during construction activities must remain below the regulated OELs for lead and the CNESST guidelines should be used to ensure that these requirements are met and to ensure appropriate handling and exposure control procedures when dealing with LCMs.
- 3) Disposal of lead must be conducted in accordance with the requirements of the RRHM.

Lead Worker Precautions Overview

Precautions against lead exposure during disturbance of the identified LCMs will be required during renovation and repair activities. Disturbance of these materials should be conducted in general accordance with the RROHS and the applicable CNESST guidelines. These guidelines should be reviewed in detail and the following points should be considered:

- 1) Dust suppression techniques, such as water misting, adequate ventilation, should be used to minimize the spread of dusts;
- 2) Workers required to disturb LCPs should be trained in the hazards of lead exposure and respiratory protection. Workers should be fit tested for the respirator worn and, at a minimum, use half-face respirators equipped with P100 particulate filter cartridges. Further protection may be required depending on the method of disturbance and the CNESST guidelines should be consulted;

- 3) A work area should be defined where appropriate respiratory protection and protective clothing is required such that the area outside the work area is not anticipated to be affected by dust generated during the work. Appropriate signage should be displayed around the perimeter of the work area indicating the hazards of lead and access should be restricted to trained and protected workers only;
- 4) The use of vacuums equipped with High Efficiency Particulate Air (HEPA) filtered exhaust should be used to clean surfaces during work and thoroughly after work is complete and to clean any other potentially contaminated equipment or building components; and,
- 5) A wash station should be provided for worker decontamination and access to water. Workers should be instructed on good personal hygiene and given on-site access to wash their hands and face prior to eating and drinking and exiting the work area.

Note that the above is not an extensive list. The above mentioned recommendations should be read in conjunction with the CNESST guidelines.

Limitations

This report was prepared for the exclusive use of the NCC. This report is based on samples and information collected during the Site visit conducted by Golder Associates Ltd. on March 19th, 2018 and is based solely on Site conditions encountered at the time of the sampling, as described in this report.

The recommendations contained in this report are based upon professional opinions with regard to the subject matter. These opinions are in accordance with currently accepted environmental assessment standards and practices applicable to these locations and are subject to the following inherent limitations.

The data and findings presented in this report are valid as of the date of the investigation. The passage of time, manifestation of latent conditions or occurrence of future events may warrant further exploration at the properties, analysis of the data, and re-evaluation of the findings, observations, and conclusions expressed in this report.

The findings and observations expressed by Golder Associates Ltd. in this report are not, and should not be considered, an opinion concerning compliance of any past or present owner or operator of the building with any federal, provincial or local laws or regulations.

Although efforts were made to expose and identify all potential LCMs within the specified areas at the Site, there is a possibility that additional LCMs may be present in concealed areas or other areas not included as part of this assessment.

As such, if additional and suspected LCMs are encountered during renovation activities that are not included in this report, it is recommended that a further investigation be conducted at that time. As such, in the case that suspected LCMs cannot be tested, they must be treated as LCMs until proven otherwise.

Closure

We trust that this report meets your requirements and current needs. If you have any questions regarding the content of this report or require any further information, please do not hesitate to contact the undersigned at (613) 592-9600. Thank you for the opportunity to be of service. We look forward to working with you again

Sincerely

Golder Associates Ltd.



Anne Yee, B.Sc.
EHS Consultant, Project Manager



Tim Seabert, M.Sc., CRSP
EHS Practice Leader

AY/TAS/ca

<https://golderassociates.sharepoint.com/sites/p18983232/deliverables/report/rpt - 1898323 - ncc - 601 ch du lac meech - lead assessment.docx>




Attachments: Attachment A: Spreadsheet of Findings
Attachment B: Laboratory Test Report

ATTACHMENT A

Spreadsheet of Findings




Table A.1: Summary of Paints Sampled for Lead Analysis

Location	Description	Condition	Concentration of Lead (ppm)	Sample Number	Lead-Containing Paint (Yes/No)	Image
Exterior	Grey paint on porch	Poor	<89	LP-001	No	
Exterior	White paint on exterior surfaces	Poor	980	LP-002	Yes	
Exterior	Green paint on shutters/windows	Poor	42,000	LP-003	Yes	

Location	Description	Condition	Concentration of Lead (ppm)	Sample Number	Lead-Containing Paint (Yes/No)	Image
First floor – Main entrance	Brown paint/stain on 4 x 4 beams along the ceiling	Fair	680	LP-004	Yes	
First floor – Main entrance	White paint on ceiling	Poor	4,300	LP-005	Yes	
First Floor – Kitchen	Medium brown/orange paint on floor	Poor	23,000	LP-006	Yes	




Location	Description	Condition	Concentration of Lead (ppm)	Sample Number	Lead-Containing Paint (Yes/No)	Image
First floor – Family room	Green/orange paint on floor	Poor	92,000	LP-007	Yes	
First floor – Kitchen and family room	Light blue paint on window frames	Poor	150	LP-008	Yes	
Stairwell between first and second floors	Red paint on stairs	Poor	47,000	LP-009	Yes	


Location	Description	Condition	Concentration of Lead (ppm)	Sample Number	Lead-Containing Paint (Yes/No)	Image
First floor – Dining room	Light brown paint/stain on floor and walls	Fair	<85	LP-010	No	
Second floor – First bedroom	Grey/orange paint on floor	Poor	91,000	LP-011	Yes	
Second floor – Common Area	Dark brown/orange paint on floor	Poor	110,000	LP-012	Yes	

Location	Description	Condition	Concentration of Lead (ppm)	Sample Number	Lead-Containing Paint (Yes/No)	Image
Second floor – Washroom	Light brown paint on floor	Poor	330,000	LP-013	Yes	
Second floor – Storage room	Orange paint on floor	Poor	470	LP-014	Yes	
Stairwell between first and second floors	Beige paint along stairwell wall	Poor	35,000	LP-015	Yes	
First Floor- Office / bathroom area	Light green paint on fiberboard wall	Good	24,000	LP-016	Yes	

Notes: When the result is preceded with "<", the result is lower than the analytical reporting detection limit (RDL)

Table A.2: Summary of Materials Sampled for Toxicity Characteristics Leaching Procedure (TCLP) for Lead

Location	Description	Condition	Concentration of Lead Leached (mg/L)	Sample Number	Considered a Characteristic Hazardous Waste (Yes/No)	Image
Exterior/ Interior	Green paint on wooden doors and window frames	Poor	0.67	TCLP-001	No	
Interior	Light blue paint on wooden window frames	Poor	0.22	TCLP-002	No	
Exterior/ Interior	White paint on wooden doors and window frames	Poor	0.52	TCLP-003	No	

Location	Description	Condition	Concentration of Lead Leached (mg/L)	Sample Number	Considered a Characteristic Hazardous Waste (Yes/No)	Image
First Floor Bathroom	2cm X 2cm Grey and brown decorative ceramic floor tiles	Poor	<0.010	TCLP-004	No	

Notes: When the result is preceded with "<", the result is lower than the analytical method limit of detection (LOD)

[https://golderassociates.sharepoint.com/sites/p18983232/deliverables/report/appendix a - spreadsheet of findings - 601 chemin de lac meech .docx](https://golderassociates.sharepoint.com/sites/p18983232/deliverables/report/appendix%20a%20-%20spreadsheet%20of%20findings%20-%20601%20chemin%20de%20lac%20meech%20.docx)

ATTACHMENT B

Laboratory Test Report



Lead (Pb) Chain of Custody

EMSL Order ID (Lab Use Only):

551803320

EMSL CANADA, INC.
 2756 SLOUGH ST,
 MISSISSAUGA, ON L4T 1G3
 PHONE: (289) 997-4602
 FAX: (289) 997-4607

Company: Golder Associates		EMSL-Bill to: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different If Bill to is Different note instructions in Comments**	
Street: 1931 Robertson Rd		Third Party Billing requires written authorization from third party	
City: Ottawa	State/Province: ON	Zip/Postal Code: K2H 5B7	Country: Canada
Report To (Name): Kyle Heagle		Telephone #: 613-592-9600	
Email Address: kyle_heagle@golder.com		Fax #:	Purchase Order:
Project Name/Number: 1898323		Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email	
U.S. State Samples Taken:		CT Samples: <input type="checkbox"/> Commercial/Taxable <input type="checkbox"/> Residential/Tax Exempt	

Turnaround Time (TAT) Options* - Please Check

3 Hour
 6 Hour
 24 Hour
 48 Hour
 72 Hour
 96 Hour
 1 Week
 2 Week

*Analysis completed in accordance with EMSL's Terms and Conditions located in the Price Guide

Matrix	Method	Instrument	Reporting Limit	Check
Chips <input type="checkbox"/> % by wt. <input type="checkbox"/> mg/cm ² <input checked="" type="checkbox"/> ppm	SW846-7000B	Flame Atomic Absorption	0.01%	<input type="checkbox"/>
Air	NIOSH 7082	Flame Atomic Absorption	4 µg/filter	<input type="checkbox"/>
	NIOSH 7105	Graphite Furnace AA	0.03 µg/filter	<input type="checkbox"/>
	NIOSH 7300 modified	ICP-AES/ICP-MS	0.5 µg/filter	<input type="checkbox"/>
Wipe* ASTM <input type="checkbox"/> non ASTM <input type="checkbox"/> *if no box is checked, non-ASTM Wipe is assumed	SW846-7000B	Flame Atomic Absorption	10 µg/wipe	<input type="checkbox"/>
	SW846-6010B or C	ICP-AES	1.0 µg/wipe	<input type="checkbox"/>
	SW846-7000B/7010	Graphite Furnace AA	0.075 µg/wipe	<input type="checkbox"/>
TCLP	SW846-1311/7000B/SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
	SW846-1131/SW846-6010B or C	ICP-AES	0.1 mg/L (ppm)	<input type="checkbox"/>
Soil	SW846-7000B	Flame Atomic Absorption	40 mg/kg (ppm)	<input type="checkbox"/>
	SW846-7010	Graphite Furnace AA	0.3 mg/kg (ppm)	<input type="checkbox"/>
	SW846-6010B or C	ICP-AES	2 mg/kg (ppm)	<input type="checkbox"/>
Wastewater Unpreserved <input type="checkbox"/> Preserved with HNO ₃ pH < 2 <input type="checkbox"/>	SM3111B/SW846-7000B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
	EPA 200.9	Graphite Furnace AA	0.003 mg/L (ppm)	<input type="checkbox"/>
	EPA 200.7	ICP-AES	0.020 mg/L (ppm)	<input type="checkbox"/>
Drinking Water Unpreserved <input type="checkbox"/> Preserved with HNO ₃ pH < 2 <input type="checkbox"/>	EPA 200.9	Graphite Furnace AA	0.003 mg/L (ppm)	<input type="checkbox"/>
	EPA 200.8	ICP-MS	0.001 mg/L (ppm)	<input type="checkbox"/>
TSP/SPM Filter	40 CFR Part 50	ICP-AES	12 µg/filter	<input type="checkbox"/>
	40 CFR Part 50	Graphite Furnace AA	3.6 µg/filter	<input type="checkbox"/>
Other:				<input type="checkbox"/>

Name of Sampler: **Kyle Heagle** Signature of Sampler: _____

Sample #	Location	Volume/Area	Date/Time Sampled
LP - 01	Grey exterior paint on porch		March 19, 2018
LP - 02	White exterior paint on house and porch		March 19, 2018
LP - 03	Green exterior paint on shutters		March 19, 2018
LP - 04	Brown interior paint/stain on 4" x 4" wood beams		March 19, 2018
LP - 05	White interior paint on ceiling		March 19, 2018

Client Sample #'s: **2-1-LP#1 -** Total # of Samples: **1**

Relinquished (Client): **Kyle Heagle** Date: **Feb 1, 2016** Time: **1:30 pm**

Received (Lab): _____ Date: _____ Time: _____

Comments:



LEAD (Pb) CHAIN OF CUSTODY
EMSL ORDER ID (Lab Use Only):

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	Location	Volume/Area	Date/Time Sampled
LP - 06	Medium brown/ orange interior floor paint - Kitchen area		March 19, 2018
LP - 07	Green/orange interior floor paint - Family room		March 19, 2018
LP - 08	Light blue paint on interior window frames - Kitchen and family room		March 19, 2018
LP - 09	Red interior paint on stairs		March 19, 2018
LP - 10	Light brown interior floor paint/stain - Dining Room		March 19, 2018
LP - 11	Grey/orange interior floor paint - Upstairs bedroom		March 19, 2018
LP - 12	Dark brown/ orange interior floor paint - Upstairs common area		March 19, 2018
LP - 13	Light brown interior floor paint - Upstairs bathroom		March 19, 2018
LP - 14	Orange interior floor paint - Upstairs storage room		March 19, 2018
LP - 15	Beige interior wall paint - Stairwell		March 19, 2018
LP - 16	Light green interior wall paint on fiberboard - Office area		March 19, 2018
Comments/Special Instructions:			

**EMSL Canada Inc.**

2756 Slough Street, Mississauga, ON L4T 1G3

Phone/Fax: 289-997-4602 / (289) 997-4607

<http://www.EMSL.com>torontolab@emsl.com

EMSL Canada Or 551803320

CustomerID: 55GOLA78

CustomerPO: 1898323

ProjectID:

Attn: **Kyle Heagle**
Golder Associates, Ltd.
1931 Robertson Road
Ottawa, ON K2H 5B7

Phone: (613) 592-9600
 Fax: (613) 592-9601
 Received: 03/21/18 9:53 AM
 Collected: 3/19/2018

Project: **1898323****Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)***

<i>Client Sample Description</i>	<i>Lab ID</i>	<i>Collected</i>	<i>Analyzed</i>	<i>Weight</i>	<i>Lead Concentration</i>
LP-01 Site: Grey exterior paint on porch	551803320-0001	3/19/2018	3/27/2018	0.2251 g	<89 ppm
LP-02 Site: White exterior paint on house and porch	551803320-0002	3/19/2018	3/27/2018	0.2300 g	980 ppm
LP-03 Site: Green exterior paint on shutters	551803320-0003	3/19/2018	3/27/2018	0.2339 g	42000 ppm
LP-04 Site: Brown interior paint/stain on 4" x 4" wood beam	551803320-0004	3/19/2018	3/27/2018	0.2241 g	680 ppm
LP-05 Site: White interior paint on ceiling	551803320-0005	3/19/2018	3/27/2018	0.2318 g	4300 ppm
LP-06 Site: Medium brown/ orange interior floor paint Kitchen area	551803320-0006	3/19/2018	3/27/2018	0.2394 g	23000 ppm
LP-07 Site: Green/orange interior floor paint - Family room	551803320-0007	3/19/2018	3/27/2018	0.2440 g	92000 ppm
LP-08 Site: Light blue paint on interior window frames - Kitchen and family room	551803320-0008	3/19/2018	3/27/2018	0.2400 g	150 ppm
LP-09 Site: Red interior paint on stairs	551803320-0009	3/19/2018	3/27/2018	0.2319 g	47000 ppm
LP-10 Site: Light brown Interior floor paint/stain - Dining Room	551803320-0010	3/19/2018	3/27/2018	0.2364 g	<85 ppm
LP-11 Site: Grey/orange interior floor paint -Upstairs bedroom	551803320-0011	3/19/2018	3/27/2018	0.2318 g	91000 ppm
LP-12 Site: Dark brown/ orange interior floor paint Upstairs common area	551803320-0012	3/19/2018	3/27/2018	0.2275 g	110000 ppm
LP-13 Site: Light brown interior floor paint - Upstairs bathroom	551803320-0013	3/19/2018	3/27/2018	0.2379 g	330000 ppm
LP-14 Site: Orange interior floor paint - Upstairs storage room	551803320-0014	3/19/2018	3/27/2018	0.2303 g	470 ppm
LP-15 Site: Beige interior wall paint - Stairwell	551803320-0015	3/19/2018	3/27/2018	0.2426 g	35000 ppm

Rowena Fanto, Lead Supervisor
 or other approved signatory

*Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.010 % wt based on the minimum sample weight per our SOP. Unless noted, results in this report are not blank corrected. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities. Samples received in good condition unless otherwise noted. "<" (less than) result signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. The QC data associated with the sample results included in this report meet the recovery and precision requirements unless specifically indicated otherwise. Definitions of modifications are available upon request.

Samples analyzed by EMSL Canada Inc. Mississauga, ON A2LA Accredited Environmental Testing Cert #2845.08

Initial report from 03/27/2018 17:51:52



EMSL Canada Inc.

2756 Slough Street, Mississauga, ON L4T 1G3

Phone/Fax: 289-997-4602 / (289) 997-4607

<http://www.EMSL.com>

torontolab@emsl.com

EMSL Canada Or	551803320
CustomerID:	55GOLA78
CustomerPO:	1898323
ProjectID:	

Attn: **Kyle Heagle**
Golder Associates, Ltd.
1931 Robertson Road
Ottawa, ON K2H 5B7

Phone: (613) 592-9600
 Fax: (613) 592-9601
 Received: 03/21/18 9:53 AM
 Collected: 3/19/2018

Project: **1898323**

Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)*

<i>Client Sample Description</i>	<i>Lab ID</i>	<i>Collected</i>	<i>Analyzed</i>	<i>Weight</i>	<i>Lead Concentration</i>
LP-16	551803320-0016	3/19/2018	3/27/2018	0.2408 g	24000 ppm
Site: Light green interior wall paint on fiberboard - Office area					

Rowena Fanto, Lead Supervisor
or other approved signatory

*Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.010 % wt based on the minimum sample weight per our SOP. Unless noted, results in this report are not blank corrected. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities. Samples received in good condition unless otherwise noted. "<" (less than) result signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. The QC data associated with the sample results included in this report meet the recovery and precision requirements unless specifically indicated otherwise. Definitions of modifications are available upon request.

Samples analyzed by EMSL Canada Inc. Mississauga, ON A2LA Accredited Environmental Testing Cert #2845.08

Initial report from 03/27/2018 17:51:52

Your P.O. #: ANNUELLE 2018
 Your Project #: 1898323
 Site Location: CHELSEA, QUEBEC
 Your C.O.C. #: N/A

Attention: Kyle Heagle

GOLDER ASSOCIATES LTD
 1931 Robertson Road
 Ottawa, ON
 Canada K2H 5B7

Report Date: 2018/03/26

Report #: R2359904

Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B809594

Received: 2018/03/21, 11:30

Sample Matrix: SOLID
 # Samples Received: 4

Analyses	Quantity	Date		Laboratory Method	Primary Reference
		Extracted	Analyzed		
Metals - Leached*	4	2018/03/23	2018/03/24	STL SOP-00006	MA.200-Mét. 1.2 R5 m
Toxicity Charact. Leach. Proc.(EPA 1311)*	4	2018/03/22	2018/03/23	STL SOP-00024	MA100-Lixcom1.1 R1 m

Remarks:

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

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

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

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

Results relate to samples tested.

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

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

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

* Maxxam is accredited as per the MDDELCC program.

Your P.O. #: ANNUELLE 2018
Your Project #: 1898323
Site Location: CHELSEA, QUEBEC
Your C.O.C. #: N/A

Attention: Kyle Heagle

GOLDER ASSOCIATES LTD
1931 Robertson Road
Ottawa, ON
Canada K2H 5B7

Report Date: 2018/03/26
Report #: R2359904
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B809594

Received: 2018/03/21, 11:30

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Kathie Quevillon, B.Sc., Chemist, Project Manager
Email: KQuevillon@maxxam.ca
Phone# (514)448-9001 Ext:6281

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

Maxxam Job #: B809594
Report Date: 2018/03/26

GOLDER ASSOCIATES LTD
Client Project #: 1898323
Site Location: CHELSEA, QUEBEC
Your P.O. #: ANNUELLE 2018
Sampler Initials: KH

METALS-LAB LEACHATE (SOLID)

Maxxam ID			FD8971	FD8972	FD8973	FD8974		
Sampling Date			2018/03/19 08:00	2018/03/19 08:00	2018/03/19 08:00	2018/03/19 08:00		
	Units	RMD	TCLP-01- GREEN EXTERIOR/ INTERIOR PAINT ON DOORS AND WINDOW FRAMES	TCLP-02- LIGHT BLUE INTERIOR PAINT ON WINDOW FRAMES	TCLP-03- WHITE EXTERIOR/INTERIOR PAINT ON DOORS AND WINDOW FRAMES	TCLP-04- GREY AND BROWN 2 CM X 2 CM DECORATIVE CERAMIC FLOOR TILES	RDL	QC Batch

METALS								
Lead (Pb)	mg/L	5.0	0.67	0.22	0.52	<0.010	0.010	1887131

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B809594
Report Date: 2018/03/26

GOLDER ASSOCIATES LTD
Client Project #: 1898323
Site Location: CHELSEA, QUEBEC
Your P.O. #: ANNUELLE 2018
Sampler Initials: KH

TCLP-EPA 1311 (SOLID)

Maxxam ID		FD8971	FD8972	FD8973	FD8974	
Sampling Date		2018/03/19 08:00	2018/03/19 08:00	2018/03/19 08:00	2018/03/19 08:00	
	Units	TCLP-01- GREEN EXTERIOR/ INTERIOR PAINT ON DOORS AND WINDOW FRAMES	TCLP-02- LIGHT BLUE INTERIOR PAINT ON WINDOW FRAMES	TCLP-03- WHITE EXTERIOR/INTERIOR PAINT ON DOORS AND WINDOW FRAMES	TCLP-04- GREY AND BROWN 2 CM X 2 CM DECORATIVE CERAMIC FLOOR TILES	QC Batch
Leachates						
Weight of sample (g)	n/a	75.4	75.6	86.1	20.1	1886931
pH Deionized water	n/a	5.73	5.73	5.73	5.73	1886931
pH end of leaching	n/a	3.20	3.10	3.22	4.33	1886931
Volume extracting fluid 2 (ml)	n/a	1510	1510	1720	400	1886931
QC Batch = Quality Control Batch						

Maxxam Job #: B809594
Report Date: 2018/03/26

GOLDER ASSOCIATES LTD
Client Project #: 1898323
Site Location: CHELSEA, QUEBEC
Your P.O. #: ANNUELLE 2018
Sampler Initials: KH

GENERAL COMMENTS

All results are calculated on a dry weight basis except where not applicable.

RMD: Maximum concentration of a contaminant in liquids or in leachates from solid material as per article 3 of the Regulation respecting hazardous materials (Q-2, r.15.2).

These criteria references are shown for visual aid only, and should not be interpreted otherwise.

- = This parameter is not part of the regulation.

TCLP-EPA 1311 (SOLID)

Please note the deviation from our standardized operating procedure regarding the matrix for the leachate analysis of the following samples:

FD8971: pieces of dark green painted wood with a granulometry above 9.5 mm.

FD8972: pieces of light green painted wood with a granulometry above 9.5 mm.

FD8973: pieces of white painted wood with a granulometry above 9.5 mm.

FD8974: pieces of bricks with a granulometry above 9.5 mm.

The pre-test was not done and the most aggressive fluid was used due to the nature of the samples but the ratio 1:20 was respected.

Results relate only to the items tested.

Maxxam Job #: B809594
Report Date: 2018/03/26

GOLDER ASSOCIATES LTD
Client Project #: 1898323
Site Location: CHELSEA, QUEBEC
Your P.O. #: ANNUELLE 2018
Sampler Initials: KH

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units
1886931	LD2	Method Blank	pH Deionized water	2018/03/23	5.73		n/a
			pH end of leaching	2018/03/23	2.85		n/a
			Volume extracting fluid 2 (ml)	2018/03/23	400		n/a
1887131	AK5	LEACH. BLANK	Lead (Pb)	2018/03/24	<0.010		mg/L
1887131	AK5	Spiked Blank	Lead (Pb)	2018/03/24		91	%

Leachate Blank: A blank matrix containing all reagents used in the leaching procedure. Used to determine any process contamination.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Maxxam Job #: B809594
Report Date: 2018/03/26

GOLDER ASSOCIATES LTD
Client Project #: 1898323
Site Location: CHELSEA, QUEBEC
Your P.O. #: ANNUELLE 2018
Sampler Initials: KH

VALIDATION SIGNATURE PAGE

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



Amel Ammar Khodja, Internship



Dochka Koleva Hristova, B.Sc., Chemist

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.

889 Montée de Liesse, Ville St-Laurent (Québec) H4T 1P5 Téléphone: (514) 448-9001 Télécopieur: (514) 448-9
 2690 Avenue Dalton, Sainte-Foy (Québec) G1P 3S4 Téléphone: (418) 656-5784 Télécopieur: (418) 658-6
 737 boul. Barette, Chicoutimi (Québec) G7J 4C4 Téléphone: (418) 543-3788 Télécopieur: (418) 543-8

Information facturation		Information rapport		Information projet		Délai d'analyse requis	
Compagnie: GOLDER ASSOCIATES	Compagnie: _____	# soumission: B70729	# uori de: _____		<input checked="" type="checkbox"/> 5 jours régulier		SVP aviser votre chargé de projets de toutes demandes de détails rapide
Attention de: KYLE HEAGLE	Adresse: _____	Commande: Annuelle 2018	# projet: 1898323		Délai rapide (Surcharges applicables)		
Adresse: 1931 ROBERTSON ROAD	Adresse: _____	Localisation du site: Chelsea, Quebec	# site: _____		<input type="checkbox"/> 8h (même jour) <input type="checkbox"/> 48h		Date requise: _____
OTTAWA, ONTARIO K2H 5B7	Tél: _____	Échantillonneur: Kyle Heagle	Date requise: _____		<input type="checkbox"/> 24h <input type="checkbox"/> 72h		
Tél: 613-295-1391	Courriel: kyle_heagle@golder.com	Critères/Règlement applicable		Analyses requises		# confirmation-délai rapide:	
<input type="checkbox"/> Guide d'intervention(PSRTC) <input type="checkbox"/> RQEP -formulaire MDDELCC requis <input type="checkbox"/> RMD (Mat. lixiviable) <input type="checkbox"/> CMM 2008-47 <input type="checkbox"/> Qualité de l'eau de surface <input type="checkbox"/> CCME <input type="checkbox"/> Dir. 019 (Minier) <input checked="" type="checkbox"/> Autre (spécifier): See Kathie Quevillon		<input type="checkbox"/> Filtration au labo. Requête (O/N) <input type="checkbox"/> BTEX <input type="checkbox"/> COV <input type="checkbox"/> F2-F4 <input type="checkbox"/> H&G totales <input type="checkbox"/> H&G minérales <input type="checkbox"/> Phenols 4AAP <input type="checkbox"/> GC/MS <input type="checkbox"/> C10-C50 <input type="checkbox"/> NO ₂ <input type="checkbox"/> NO ₃ <input type="checkbox"/> NO _x +NO ₃ <input type="checkbox"/> F <input type="checkbox"/> SO ₄ <input type="checkbox"/> Conductivité <input type="checkbox"/> Turbidité <input type="checkbox"/> pH <input type="checkbox"/> Métaux extractibles (PSRTC) - sols (Ag, As, Ba, Cd, Cr, Cu, Sn, Mn, Mo, Ni, Pb, Zn, Se) <input type="checkbox"/> Hg <input type="checkbox"/> P-total <input type="checkbox"/> Métaux dissous (PSRTC)-eaux souterraines (Al, Sb, Ag, As, Ba, Cd, Cr, Co, Cu, Mn, Mo, Ni, Pb, Se, Na, Zn) <input type="checkbox"/> Bore <input type="checkbox"/> Uranium <input type="checkbox"/> C ₆ H ₆ <input type="checkbox"/> DCO <input type="checkbox"/> DBO5 <input type="checkbox"/> MES <input type="checkbox"/> Colif (f/c) <input type="checkbox"/> Colif (tot) <input type="checkbox"/> E.coli <input type="checkbox"/> Leaching 1311 TCLP_5 <input type="checkbox"/> METALS METMS_LIX (PB)		<input type="checkbox"/> Scellé légal O/N <input type="checkbox"/> Températures des glacières <input type="checkbox"/> Présen Intact <input type="checkbox"/> Réfrigérant présent: O/N <input type="checkbox"/> Instructions spéciales			
Matrice		Eau Souterraine (S) Eau Captage (C) Sol (Soi) Climat (Clim)		Eau Surface (Sur) Lixiviât naturel (LN) Sédiment (Sed) Huile (H)		Eau Usée (EU) Déchet liquide (DL) Solide (SL) Frottis (F)	
Autre (spécifier): _____		Eau Potable (P) Boue (B) Matière résiduelle (MR)					
Identification de l'échantillon		Date prélèvement (AAAA/MM/JJ)	Heure prélèvement (HH:MM)	Matrice	# contenants		
1	TCLP - 01 - Green exterior/interior paint on doors and window frames	3/19/2018	8:00 AM	SL	1	X	X
2	TCLP - 02 - Light blue interior paint on window frames	3/19/2018	8:00 AM	SL	1	X	X
3	TCLP - 03 - White exterior/interior paint on doors and window frames	3/19/2018	8:00 AM	SL	1	X	X
4	TCLP - 03 - Grey and brown 2 cm x 2 cm decorative ceramic floor tiles	3/19/2018	8:00 AM	SL	1	X	X
5							
6							
7							
8							
9							
10							
Dessais par: (Signature/ lettres mouillées)		Date: (AAAA/MM/JJ)	Heure: (HH:MM)	Reçu par: (Signature/ lettres mouillées)		Date: (AAAA/MM/JJ)	Heure: (HH:MM)
Kyle Heagle		20018/03/20	13:30	<i>Kathie Quevillon</i>		2018/03/21	11:30
<i>Kyle Heagle</i>				<i>Kathie Quevillon</i>			



21-Mar-18 11:30
Kathie Quevillon
B809594
SBH

Sauf accord contraire passé par écrit, les services compris dans cette chaîne de responsabilité sont soumis aux conditions générales standard de Maxxam. Par la signature de cette chaîne de responsabilité, vous confirmez que vous avez pris connaissance des conditions générales et que vous les acceptez telles qu'elles se présentent au <http://maxxam.ca/fr/terms>.