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British Columbia
V6Z 0B9
Bid Fax: (604) 775-9381

**SOLICITATION AMENDMENT
MODIFICATION DE L'INVITATION**

The referenced document is hereby revised; unless otherwise
indicated, all other terms and conditions of the Solicitation
remain the same.

Ce document est par la présente révisé; sauf indication contraire,
les modalités de l'invitation demeurent les mêmes.

Comments - Commentaires

Vendor/Firm Name and Address
Raison sociale et adresse du
fournisseur/de l'entrepreneur

Issuing Office - Bureau de distribution
Public Works and Government Services Canada - Pacific
Region
800 Burrard Street, Room 219
800, rue Burrard, pièce 219
Vancouver
British C
V6Z 0B9

Title - Sujet Roof Replacements	
Solicitation No. - N° de l'invitation EZ899-172611/A	Amendment No. - N° modif. 001
Client Reference No. - N° de référence du client	Date 2017-02-09
GETS Reference No. - N° de référence de SEAG PW-\$PWY-026-7985	
File No. - N° de dossier PWY-6-39309 (026)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2017-02-24	Time Zone Fuseau horaire Pacific Standard Time PST
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Yi (PWY), Patty	Buyer Id - Id de l'acheteur pwy026
Telephone No. - N° de téléphone (778) 919-2578 ()	FAX No. - N° de FAX (604) 775-6633
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: CSC - Mountain Institution - Agassiz, BC	

Instructions: See Herein

Instructions: Voir aux présentes

Delivery Required - Livraison exigée	Delivery Offered - Livraison proposée
Vendor/Firm Name and Address Raison sociale et adresse du fournisseur/de l'entrepreneur	
Telephone No. - N° de téléphone Facsimile No. - N° de télécopieur	
Name and title of person authorized to sign on behalf of Vendor/Firm (type or print) Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)	
Signature	Date

The following changes in the tender documents are effective immediately. This addendum will form part of the contract documents.

Specification

.1 **Additional Hazardous Material Report for Power House. Roof in kitchen does has been confirmed no hazardous material**

END OF ADDENDUM No. 1



Hazardous Building Materials Assessment

Power House Roof Replacement at Mountain Medium Institution,
Agassiz, BC

January 18, 2017

Project No.:644220

Prepared for:

Public Works and Government Services Canada

Prepared By:



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Environmental Scientist

Environment & Geoscience
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Reviewed By:



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Senior Project Manager

Environment & Geoscience
Infrastructure

Executive Summary

On behalf of Public Works and Government Services Canada (PWGSC), SNC-Lavalin Inc. (SNC-Lavalin) has completed a pre-renovation destructive hazardous building materials survey (HBMS) of the Power House roof (Building A20) at the Mountain Institution located at 4732 Cemetary Road, Agassiz, BC. SNC-Lavalin understands that the purpose of the work was to complete a destructive HBMS of the roof to identify potential materials of concern.

On January 7, 2017, SNC-Lavalin completed a destructive HBMS of the roof of the Power House Building (Building A20) to identify potential materials of concern in preparation for future roof replacement. The roof was observed for the potential existence of hazardous materials including: asbestos, lead-containing paint, polychlorinated biphenyls (PCBs), liquid mercury, ozone depleting substances (ODSs), radiological sources and/or substances, silica, biological hazards, and mould and/or moisture. Representative sampling and laboratory analysis was completed for suspected asbestos-containing materials (ACMs). No lead paint samples were collected.

Based on the results of the survey, there are no regulated building materials associated with the Power House roof requiring specific procedures prior to deconstruction/demolition for: handling; abatement; demolition; and disposal.

All suspect asbestos-containing samples collected and analyzed did not contain asbestos.

No lead paint samples were collected due to the nature of the paint application method (factory painted) and the substrate (metal flashing). The paint on the flashing may contain lead; however, due to the extremely thin coating applied during factory finishing, sampling was not possible. Based on the thinly applied factory finish, cutting, grinding or torching would not likely release enough airborne lead to exceed the allowable exposure limit if lead based paint was present. However, in order to be safe, removal of the flashing material should be completed by manually un-bolting and removing in sections or alternatively using equipment that will not cut, grind or heat the paint as work procedures should not include those that could potentially release lead fumes or dust.

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1 Introduction

On behalf of Public Works and Government Services Canada (PWGSC), SNC-Lavalin Inc. (SNC-Lavalin) has completed a pre-renovation destructive hazardous building materials survey (HBMS) of the Power House roof (Building A20) at the Mountain Institution located at 4732 Cemetary Road, Agassiz, BC. SNC-Lavalin understands that the purpose of the work was to complete a destructive HBMS of the roof to identify potential materials of concern.

All work was completed as per the *Hazardous Materials Assessment Consulting Services Task Authorization – EZ113-150642/003/PWY* under Task Authorization No. 700371860.

2 Scope of Work

On January 7, 2017, SNC-Lavalin personnel observed the exterior roof of the Power House building to identify the potential existence of the following regulated materials:

- < asbestos;
- < lead paint;
- < polychlorinated biphenyls (PCB);
- < mercury containing equipment;
- < ozone depleting substances (ODS);
- < radiological sources and/or substances;
- < silica;
- < biological hazards (e.g., rodent feces); and
- < mould and/or moisture.

It should be noted that the following materials are excluded from the proposed scope of work for the HBMS: formaldehyde; carbon monoxide; radon; volatile organic compounds; very-short-lived low-level radioactive waste; and, indoor air quality pollutants.

Representative samples were collected and laboratory analysis completed for suspected asbestos-containing materials (ACMs). No lead paint samples were collected.

The following sections provide a summary of the results, SNC-Lavalin's recommendations with regards to the Site, details of the regulatory framework related to regulated building materials, and the methodology used to complete the survey.

3 Summary

Based on the results of the survey, there are no regulated building materials associated with the Power House roof requiring specific procedures prior to deconstruction/demolition for: handling; abatement; demolition; and disposal, as outlined in Table 1. The sample locations are presented on Drawing 644220-BM1, included as Appendix I. General Site photographs of the Power House roof (Photographs 1 through 3) and select photographs of the areas of interest and sample locations are included in Appendix II. Copies of the laboratory analytical report for the results of the asbestos analyses are included in Appendices III.

A summary of the assessment at the Site is as follows:

3.1 Mountain Medium Institution - Power House Roof (Building A20)

No hazardous materials were identified including asbestos-containing materials and lead paint.

No lead paint samples were collected due to the nature of the paint application method (factory painted) and the substrate (metal flashing). The paint on the flashing may contain lead; however, due to the extremely thin coating applied during factory finishing, sampling was not possible. Based on the thinly applied factory finish, cutting, grinding or torching would not likely release enough airborne lead to exceed the allowable exposure limit if lead based paint was present. However, in order to be safe, removal of the flashing material should be completed by manually un-bolting and removing in sections or alternatively using equipment that will not cut, grind or heat the paint as work procedures should not include those that could potentially release lead fumes or dust.

4 Recommendations

SNC-Lavalin understands that PWGSC intends to remove the existing Power House roof and replace with a new roof.

Based on the results of the HBMS, there are no hazardous materials requiring special handling; abatement; demolition; or disposal; therefore, no recommendations are made at this time.

WorkSafeBC suggests that improper removal of paint with a lead concentration of 600 mg/kg or more can result in airborne lead concentrations that exceed 50% of the airborne lead exposure limit of 0.05 mg/m^3 ; this would trigger the requirement for an employer to file a Notice of Project Lead (NOPL) and the development and implementation of an exposure control plan and safe work procedures prior to any work being completed.

The roof flashing has been factory painted, the potential airborne lead concentrations during cutting or grinding would not be expected to exceed the airborne lead exposure limit. However, in order to ensure workers are not potentially exposed to lead above the occupational exposure limit, it is recommended that the flashing be removed by manually un-bolting and removing it in sections or alternatively using equipment that will not cut, grind or heat the paint and potentially create lead dust or fumes.

5 Regulatory Framework

Federal and provincial regulations require that regulated building materials be properly identified and managed to prevent potential exposure to workers. In addition, a more intrusive survey is required to identify materials of concern prior to renovations, salvage, or demolition of a building or structure. These materials must be properly controlled, removed, and/or disposed of at a suitably permitted facility in accordance with the applicable federal and provincial regulations. The following federal and provincial regulations relate to these materials:

Federal

Various Regulations made under the *Canadian Environmental Protection Act (CEPA)*, 1999, S.C. 1999, c. 33, as amended up to December 21, 2016 and current to December 31, 2016, including specialized handling and/or disposal requirements for materials including lead, PCBs, mercury, halocarbons (ODSs and Non-ODSs), radiological sources and/or substances and solid/hazardous wastes. Regulations include the following:

- ◀ Export and Import of Hazardous Waste and Hazardous Recyclable Material Regulations (SOR/2005-149).
- ◀ Federal Halocarbon Regulations, 2003 (SOR/2003-289) and Regulations Amending the Federal Halocarbon Regulations, 2003 (SOR/2009-221).
- ◀ Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations, 2008 (SOR/2008-197).
- ◀ Interprovincial Movement of Hazardous Waste Regulations (SOR/2002-301).
- ◀ Ozone-Depleting Substances Regulations, 1998 (SOR/99-7).
- ◀ PCB Regulations (SOR/2008-273).
- ◀ PCB Waste Export Regulations, 1996 (SOR/97-109).
- ◀ *Transportation of Dangerous Goods (TDG) Act*, 1992, S.C. 1992, c. 34, as amended up to November 26, 2016, Transportation of Dangerous Goods Regulations (SOR/2001-286), as amended, requires that radioactive materials must be transported in accordance with the provisions of the Act.
- ◀ *Hazardous Products Act* (R.S.C., 198, c. H-3), as amended up to December 12, 2016, prohibits the sale or importation of UFFI into Canada.
- ◀ *Surface Coating Materials Regulations*, SOR/2005-109, as amended up to June 22, 2016, requires the concentration of total lead present in a surface coating material to be not more than 90 mg/kg.
- ◀ *Human Resources Social Development Canada (HRSDC), Canada Labour Code Part II*, Canada Occupational Health and Safety Regulations, Part X, Hazardous Substances, as amended, requires that all hazardous substances in the workplace, including asbestos, be identified and controlled to minimize potential exposure to workers. Under the Canada Labour Code Part II definitions, a "hazardous substance" includes a controlled product and a chemical, biological, or physical agent that, by reason of a property that the agent possess, is hazardous to the safety or health of a person exposed to it.

Provincial

- ◁ WorkSafeBC *Occupational Health and Safety Regulation* (OHSR), BC Reg. 296/97, as amended by B.C. Reg. 195/2015, requires that materials including any asbestos, lead, or other heavy metal or toxic substance, and flammable or explosive materials that may be handled, disturbed or removed during demolition must be identified and removed or safely contained prior to demolition. In addition, a copy of the observation report identifying these materials must be available at the work site.
- ◁ *Environmental Management Act* (EMA), S.B.C. 2003, c. 53, as am. by S.B.C. 2004, c. 18., *Ozone Depleting Substances (ODS) and Other Halocarbons Regulation*, BC Reg. 387/99, including amendments up to BC Reg. 317/2012, requires ODS to be recovered from equipment prior to disposal.
- ◁ *Hazardous Waste Regulation* (HWR), B.C. Reg. 63/88, including amendments up to B.C. Reg. 179/2016, requires all Hazardous Wastes (HW) must be properly managed and disposed of.

We note that at the time of this report, the provincial OHSR defines ACM as any manufactured article or other material which contains 0.5% or more asbestos by weight and vermiculite insulation containing any amount of asbestos. Other federal and provincial legislation defines ACM as containing 1% or more asbestos by weight. Therefore, for the purposes of this report the more stringent criterion of 0.5% has been used to identify ACM.

Federal and provincial guidelines limit lead concentrations in paint to 90 mg/kg for high risk individuals (i.e., pregnant women and children), and any concentrations that exceed this limit would be considered a lead based paint. WorkSafeBC suggests that improper removal of paint with a lead concentration of 600 mg/kg or more can result in airborne lead concentrations that exceed 50% of the airborne lead exposure limit of 0.05 mg/m³; this would trigger the requirement for an employer to file a NOPL and the development and implementation of an exposure control plan and safe work procedures prior to any work being completed. Therefore, for the purposes of this report we have identified paint as lead based if the total lead concentration is >90 mg/kg as per the federal regulations, and if the paint contains lead concentrations >600 mg/kg, an exposure control plan may be required if the paint is disturbed in such a manner that workers could be exposed to lead at >50% of the exposure limit.

There are no special disposal requirements for materials coated with lead paint unless the lead is found to be leachable in excess of the regulated standard of 5 mg/L in the HW regulations while considering the entire mass of the object the paint is coating.

Radioactive materials are listed under the current Federal TDG Act. Substances with a specific radioactivity greater than 70 kBq/kg are considered Class 7 (Radioactive Materials) within the TDG Act and must be transported in accordance with the provisions of the TDG Act. The Nuclear Safety and Control Act (1997, c.9), Nuclear Substances and Radiation Devices Regulations (SOR/2000-207), advises that radioactive substances that do not contain more than 185 kBq of americium 241 or, where it is in a commercial or industrial facility, more than 740 kBq of americium 241 is considered as a radioactive source under the TDG Act. These levels may be reached if more than 20 radioactive smoke detection devices are collected and stored together.

WorkSafeBC indicates that employers are required under Section 5.54 of the OHSR to develop an exposure control plan when workers are or may be exposed to airborne silica dust in excess of 50% of the exposure limit. Exposure limits vary depending on the type of silica identified.

6 Methodology

The following sections outline the specific protocols followed when completing the survey.

Asbestos

The methodology for completing the asbestos assessment was in accordance with WorkSafeBC guidelines and included the identification of suspect materials and collection of an adequate number of representative samples of these materials. All accessible areas of the Site were observed for possible ACM. Accessible wall cavities and roof spaces were also inspected for the possible presence of vermiculite insulation.

On January 7, 2017, a total of four (4) samples were collected from the roof of the Power House building and submitted for asbestos analysis to Maxxam Analytics Inc. in Burnaby, BC (Maxxam). Samples were analyzed in accordance with the applicable regulations.

Lead Paint

Different paint colours may contain different concentrations of lead; therefore, SNC-Lavalin personnel inspected the Site to determine primary paint colour(s) that had been applied to major surfaces. The approach was to try to obtain samples from structures that may need to be cut, ground, or sanded during renovation or demolition/deconstruction. Factory painted metal surfaces are not sampled as the paint is applied in thin layers, making it difficult to obtain a sufficient amount of paint to analyze.

No lead paint samples were collected during the survey.

Polychlorinated Biphenyls (PCBs)

The survey included the observation of the Power House roof for items or equipment that could possibly contain PCBs, such as fluorescent light fixtures, high intensity discharge (HID) lamps, and oil-filled electrical equipment.

Liquid Mercury

The interior of the Power House building was not within the scope of this work, therefore, no liquid mercury (thermostats) were identified during the survey.

Ozone Depleting Substances

SNC-Lavalin personnel observed the Power House roof to identify if air conditioning units, refrigerators, freezers, or other sources of ODS exist. If a unit was identified, the manufacturer's nameplate (if accessible) was observed to determine the type and amount of refrigerant used.

Radiological Sources and/or Substances

Radioactive sources and/or substances may be present in smoke detection devices.

The exterior roof of the Power House building was observed for potential radiological sources and/or substances and, if found, SNC-Lavalin compiled an inventory. Any remaining radiological sources and/or substances should be properly disposed of by a qualified contractor prior to renovations or demolition/deconstruction.

Silica

Silica is a common substance found in sand, rock, and building materials such as concrete and brick. Cutting and grinding, or drilling these materials releases dangerous crystalline silica dust into the air that, when breathed in, can cause permanent damage to the lungs.

Biological Hazards

SNC-Lavalin personnel observed the exterior portion of the Power House roof for the presence of biological hazards (i.e., rodent feces); if found, SNC-Lavalin noted the location and extent of the hazardous material and collected photographic documentation.

Mould and/or Moisture

SNC-Lavalin personnel observed the exterior roof of the Power House building for the presence of mould and/or moisture. Any suspect areas identified were noted and photographed.

7 Results

Details of the results are presented for each regulated material of concern in the following Table 1, below. This information includes recommendations for removal/handling during renovation or demolition/deconstruction activities, where required.

Table 1: Detailed Inventory of Regulated Materials – Power House Roof (A20) – Mountain Institution, Agassiz, BC

Issue / Location	Results	Renovation/Pre-Demolition Requirement
ASBESTOS-CONTAINING MATERIALS (ACM)		
<p>Suspect ACM sampled:</p> <ul style="list-style-type: none"> > A1 Layer 1 – Roof section – Black tar mix > A1 Layer 2 – Roof section – Brown mix > A1 Layer 3 – Roof section – Black fibrous mix > A2 Layer 1 – Roof section – Black tar mix > A2 Layer 2 – Roof section – Brown fibrous mix > A3 Layer 1 – Roof mastic – Yellow glue > A3 Layer 2 – Roof mastic – Black mix > A4 – Roof tar – Black tar mix 	<p>Analytical Result:</p> <ul style="list-style-type: none"> > non-asbestos > non-asbestos > non-asbestos > non-asbestos > non-asbestos > non-asbestos > non-asbestos 	<p>No renovation/pre-demolition requirements necessary.</p> <p>Note: At the time of this report, ACM means any manufactured article or other material, which contains 0.5% or more asbestos by weight as defined in the regulations.</p>
LEAD PAINT (mg/kg)		
No lead paint was identified; however, factory painted metal roof flashing was observed. No samples were collected.	> N/A	No renovation/pre-demolition requirements necessary. However, it is recommended that the flashing be removed by manually un-bolting and removing in sections or alternatively using equipment that will not cut, grind or heat the paint and potentially create lead dust or fumes.
POLYCHLORINATED BIPHENYLS		
No PCBs were identified.	> N/A	No renovation/pre-demolition requirements necessary.
LIQUID MERCURY		
No mercury was identified.	> N/A	No renovation/pre-demolition requirements necessary.
OZONE DEPLETING SUBSTANCES		
No suspect ozone depleting substances were identified.	> N/A	No renovation/pre-demolition requirements necessary.
RADIOLOGICAL SOURCES AND SUBSTANCES		
No suspect radiological sources or substances were observed.	> N/A	No renovation/pre-demolition requirements necessary.
SILICA		
No suspect silica was identified.	> N/A	No renovation/pre-demolition requirements necessary.
BIOLOGICAL HAZARDS		
No suspect biological hazards were identified.	> N/A	No renovation/pre-demolition requirements necessary.
MOULD AND/OR MOISTURE		
No mould and/or moisture was identified.	> N/A	No renovation/pre-demolition requirements necessary.

8 Notice to Reader

This report has been prepared by SNC-Lavalin Inc. (SNC-Lavalin) for PWGSC, who has been party to the development of the scope of work for this project and understands its limitations¹. Copyright of this report vests with Her Majesty the Queen in Right of Canada. This report was prepared in accordance with a services contract between SNC-Lavalin and PWGSC, including General Conditions 2035 of the Standard Acquisition Clauses and Conditions (SACC) Manual and liability is specified in the contract with PWGSC.

This report is intended to provide information to PWGSC to assist it in making business decisions. SNC-Lavalin is not a party to the various considerations underlying the business decisions, and does not make recommendations regarding such business decisions.

The findings, conclusions and recommendations in this report have been developed in a manner consistent with the level of skill normally exercised by environmental professionals currently practising under similar conditions in the area. The findings contained in this report are based, in part, upon information provided by others. If any of the information is inaccurate, modifications to the findings, conclusions and recommendations may be necessary.

The findings, conclusions and recommendations presented by SNC-Lavalin in this report reflect SNC-Lavalin's best judgement based on the site conditions at the time of the site inspection on the date(s) set out in this report and on information available at the time of preparation of this report. They have been prepared for specific application to this site and are based, in part, upon visual observation of the site and specific analysis of hazardous building material samples as described in this report. Substances other than those described may exist within the site, reported substance parameters may exist in areas of the site not investigated, and concentrations of substances greater or less than those reported may exist between sample locations.

The findings and conclusions of this report are valid only as of the date of this report. If site conditions change, new information is discovered, or unexpected site conditions are encountered in future work, including excavations, borings, or other studies, the findings, conclusions and/or recommendations of this report should be re-evaluated. It is recommended that users of this report should engage a suitably qualified professional to assist in interpreting the significance, if any, of the findings.

¹ © Her Majesty the Queen in Right of Canada (2016)



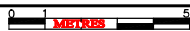
Appendix I

Drawing

◀ 633545-BM1 – Building Material Survey – Mountain Medium Institution Power House Roof (A20)



LEGEND



A1 ASBESTOS SAMPLE WITH
CONCENTRATION LESS THAN 0.5%

NOTES

1. ORIGINAL DRAWING IN COLOUR.

REFERENCE DRAWINGS

—	—	—		
DWG. NO.	DATE	DESCRIPTION		
REVISIONS				
0	2017-01-18	ISSUED TO CLIENT	PRT	TD
REV.	DATE	DESCRIPTION	BY	CHK



CLIENT NAME:
PUBLIC WORKS AND
GOVERNMENT SERVICES

PROJECT LOCATION:
3019 SUTHERLAND ROAD
AGASSIZ, BC

TITLE: **BUILDING MATERIAL SURVEY - MOUNTAIN
MEDIUM INSTITUTION POWER HOUSE ROOF (A20)**

DWN BY: PRT	SCALE: 1:200	DATE: 2017-01-11	DWG No: REV: 0
CHK'D: TD	PLOT: 20170118.0934	CADFILE: 644220-BM1	644220-BM1

PATH: P:\CURRENT PROJECTS\PWGSC\845500\845500 - MOUNTAIN POWERHOUSE HBMS\4.5 GIS AND DRAWINGS\CAD\644220-BM1.DWG

Appendix II

Photographs



Photograph 1: Power House roof looking southwest from the northeast corner.



Photograph 2: Power House roof looking south from the northeast corner.



Photograph 3: Power House roof looking northeast from the southwest corner.



Photograph 4: Roof layers at sample location A2.



Photograph 5: Factory painted flashing and A3 (mastic) sample location.



Photograph 6: A4 (roof tar) sample location.



Appendix III

Laboratory Analytical Report (Maxxam)

Your Project #: MOUNTAIN INSTITUTION
Your C.O.C. #: G111912

Attention: Tim Drozda

SNC-LAVALIN INC.
BURNABY, ENVIRONMENT DIVISION
8648 COMMERCE COURT
BURNABY, BC
CANADA V5A 4N6

Report Date: 2017/01/10
Report #: R2329902
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: 8701239

Received: 2017/01/09, 08:25

Sample Matrix: Solid
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Asbestos Identification (1)	4	N/A	2017/01/10	BBY5SOP-00020	NIOSH 9002 Issue #2

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.

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

(1) RDL = 0.5%

Encryption Key



VJ Oco
Burnaby Project Manager
10 Jan 2017 15:15:38

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

VJ Oco, Burnaby Project Manager

Email: VOco@maxxam.ca

Phone# (604)639-8422

=====

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 #: B701239
Report Date: 2017/01/10

SNC-LAVALIN INC.
Client Project #: MOUNTAIN INSTITUTION
Sampler Initials: MAH

ASBESTOS IDENTIFICATION (SOLID)

Maxxam ID		QJ1517	QJ1517	QJ1518	QJ1519	QJ1520		
Sampling Date		2017/01/07 10:00	2017/01/07 10:00	2017/01/07 10:10	2017/01/07 10:15	2017/01/07 10:05		
COC Number		G111912	G111912	G111912	G111912	G111912		
	UNITS	MTN-A1	MTN-A1 Lab-Dup	MTN-A3	MTN-A4	MTN-A2	RDL	QC Batch
Asbestos Type								
Actinolite	% vol/vol	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	8524089
Amosite	% vol/vol	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	8524089
Anthophyllite	% vol/vol	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	8524089
Chrysotile	% vol/vol	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	8524089
Crocidolite	% vol/vol	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	8524089
Tremolite	% vol/vol	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	8524089
Others								
Cellulose	% vol/vol	0.5-20	0.5-20	0.5-10	<0.5	0.5-20	0.5	8524089
Filler	% vol/vol	80-99	80-99	90-99	90-99	80-99	0.5	8524089
Glass Fibres	% vol/vol	<0.5	<0.5	<0.5	0.5-10	<0.5	0.5	8524089
Hair	% vol/vol	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	8524089
Other Fibers	% vol/vol	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	8524089
RDL = Reportable Detection Limit								
Lab-Dup = Laboratory Initiated Duplicate								

Maxxam Job #: B701239
Report Date: 2017/01/10

SNC-LAVALIN INC.
Client Project #: MOUNTAIN INSTITUTION
Sampler Initials: MAH

GENERAL COMMENTS

For Asbestos:

All layers found are homogeneous

Filler = Non-fibrous material

Site Location: Not Provided

Sample QJ1517 [MTN-A1] : 3 layers - black tar mix, brown mix, black fibrous mix

Sample QJ1518 [MTN-A3] : 2 layers - yellow glue, black mix

Sample QJ1519 [MTN-A4] : 1 layer - black tar mix

Sample QJ1520 [MTN-A2] : 2 layers - black tar mix, brown fibrous mix

Results relate only to the items tested.

CHAIN OF CUSTODY RECORD

G 111912

BBY FCD-00077/05

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Burnaby: 4606 Canada Way, Burnaby, BC V5G 1K5, Toll Free (800) 865-8566

Invoice Information		Report Information (if differs from invoice)		Project Information (where applicable)		Turnaround Time (TAT) Required	
Company Name:	SNL Canada Inc.	Company Name:	As at left	Quotation #:	SNL Canada Inc.	<input type="checkbox"/> Regular TAT 5 days (Most analyses)	
Contact Name:	Tim Drozda/Aaron Hall	Contact Name:	Contact Tim Drozda	P.O. # / A/E/R:		<input type="checkbox"/> Rush TAT (Surcharges will be applied)	
Address:	8648 Commerce Court Burnaby BC V5A 4H6	Address:	for project number 27	Project #:		<input type="checkbox"/> Same Day	<input type="checkbox"/> 2 Days
Phone:	604-515-5151	Phone:	CC results to	Site Location:	Mountain Institution	<input checked="" type="checkbox"/> Day	<input type="checkbox"/> 3 Days
Email:	tim.drozda@snlcanada.com	Email:	aaron.hall@snlcanada.com	Site #:		Date Required:	
Regulatory Criteria		Special Instructions		Analysis Requested		Rush Confirmation #:	
<input type="checkbox"/> BC CSR Soil	<input type="checkbox"/> BC CSR Water	<input type="checkbox"/> Return Cooler	<input type="checkbox"/> Ship Sample Bottles (Please Specify)	LABORATORY USE ONLY			
<input type="checkbox"/> CCME (Specify)	<input type="checkbox"/> Other (Specify)			CUSTOMER SEAL	Intact	COOLING MEDIA PRESENT	Y / N
Drinking Water		WorkSafe BC (0.5%)		COOLING MEDIA PRESENT		Y / N	
SAMPLES MUST BE KEPT COOL (<10 °C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM				HOLD - DO NOT ANALYZE			
Sample Identification	Lab Identification	Date Sampled (YYYY/MM/DD)	Time Sampled (HH:MM)	Matrix	# OF CONTAINERS SUBMITTED	COMMENTS	
1 MTN-A1		2017-01-07	10:00	Reg	1	POSITIVE STOP	
2 MTN-A3		2017-01-07	10:10	Mobile	1		
3 MTN-A4		2017-01-07	10:15	Tar	1		
4 MTN-A2		2017-01-07	10:05	Reg	1		
5							
6							
7							
8							
9							
10							
RELINQUISHED BY (Signature/Print)		DATE (YYYY/MM/DD)	TIME (HH:MM)	RECEIVED BY (Signature/Print)		DATE (YYYY/MM/DD)	TIME (HH:MM)
[Signature]		2017-01-09	08:25	[Signature]		2017-01-09	08:25

COC-1020



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