



ASBESTOS BUILDING MATERIALS SURVEY

208 Elizabeth Avenue, St. John's Newfoundland and Labrador



Prepared for:

Arts & Administration Building
Memorial University of Newfoundland
208 Elizabeth Avenue
St. John's Campus,
NL A1B 2V2

Attention: Ms. Sheila Miller
April 12, 2012

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EXECUTIVE SUMMARY

INTRODUCTION

Under the Newfoundland and Labrador Asbestos Abatement Regulations 111/98 and upon request of Occupational Health and Safety Division, Memorial University is undertaking completing Asbestos Building Material Surveys on all building build prior to 1990. The Department of Health and Safety has compiled a report for the Arts and Administration building which has taken into account the condition, composition, accessibility and potential for damage or deterioration of asbestos containing material. Pinchin LeBlanc Environmental Limited (Pinchin) aided in the translation of the field notes and the summary of the findings.

BUILDING DESCRIPTION

The Arts and Administration Building was constructed in 1962 and since construction, the building has under gone several renovations throughout the years in different areas of the building. An addition was made to the building in 1992, commonly referred to as the Annex. This section was not included in this survey based on the age of construction. The original construction consists of a four level structure, concrete foundation, brick exterior with a pitch and gravel roof. The building is equipped with constant volume with ducted supply and return system. Interior finishes mainly consist of vinyl floor tile, vinyl sheet flooring with carpet coverings in areas and terrazzo flooring; walls are a mixture of hard wall plaster, drywall and cinder block with a suspended ceiling system or a fixed ceiling with a texture coat.

Asbestos-containing building materials were identified in the Site Building including:

- i. Spray applied fireproofing;
- ii. Parging cement on mechanical equipment;
- iii. Vinyl floor tiles,
- iv. Textured finish on ceilings,
- v. Hard wall plaster
- vi. Ceiling tiles and ceiling tile mastic; and
- vii. (Transite) cement board products.

This Executive Summary is subject to the same standard limitations as contained in the report and must be read in conjunction with the entire report.

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1.0 INTRODUCTION

Memorial University of Newfoundland, Department of Health and Safety retained Pinchin LeBlanc Environmental Limited (Pinchin) to compile data from past assessments and produce a summary report of the building located at 208 Elizabeth Avenue. John's, Newfoundland and Labrador (hereafter referred to as the "Site Building").

The Site Building was constructed in 1962 and since construction the building has under gone several renovations throughout the years in different areas of the building. An addition was made to the building in 1992, referred to as the Annex. This section was not included in this survey based on the age of construction. The original construction consists of a four level structure, concrete foundation, brick exterior with a pitch and gravel roof. The building is equipped with constant volume ducted supply and return system. Interior finishes mainly consist of vinyl floor tile, vinyl sheet flooring with carpet coverings in areas and terrazzo flooring; walls are a mixture of hard wall plaster, drywall and cinder block with a suspended ceiling system or a fixed ceiling with a texture coat.

2.0 SURVEY AND ASSESSMENT CRITERIA

2.1 Scope

The most recent assessment was conducted by Susan Knight, with the Department of Health and Safety, Memorial University during the months of August and September 2010. Susan's notes identify all accessible areas were assessed to determine the location, condition and quantity of asbestos containing material. Recommendations were made as to ensure compliance with the Newfoundland and Labrador Asbestos Abatement Regulations 111/98 regarding the repair, removal, containment and disposal for any materials identified as asbestos containing. The information completed by the surveyor was presented to Pinchin LeBlanc Environmental Limited to produce a compiled summary of the findings.

2.2 Survey Methodology

Areas of the building that were accessible by MUN staff and previous environmental assessors were labeled on field survey sheets. Materials identified in the survey included ceiling and wall finishes, various types of flooring, mechanical insulations, hard board products and adhesive products in the building. This report was completed in conjunction with the use of past surveys and reference samples collected during those surveys and, in addition, various bulk samples that have been collected over the past 5 years. Surveys referenced included "Memorial University of Newfoundland Asbestos Hazard Assessment, Arts and Administration Building Asbestos Product Survey" prepared by Pinchin Leblanc Environmental, Oct 1995; as well as the All Tech

Environmental report titled “Asbestos Assessment, Arts and Administration Building” submitted in 2008.

2.3 Sampling Methodology

Past Sampling included both friable and non friable bulk suspect asbestos containing material (ACM).

Samples were submitted by MUN staff to the Pinchin Environmental Laboratory in Mississauga, Ontario for analysis. Analytical methods followed EPA 600/R-93/116 – Method for the Determination of Asbestos in Bulk Building Materials Dated July 1993.

Samples collected by ALL-Tech were transported to IATL laboratories in Mount Laurel, New Jersey for Polarized Light Microscopy/Dispersion Staining (PLM/DS) analysis.

3.0 ASBESTOS-CONTAINING MATERIALS (ACM)

The information provided included both friable and non-friable asbestos-containing materials as well as suspect asbestos-containing building materials. The term *friable* is applied to a material that can be readily reduced to dust or powder by hand or moderate pressure (i.e. pipe insulation). Asbestos materials that are considered friable have a much greater potential to release airborne asbestos fibres when disturbed. All provincial regulations regarding asbestos materials distinguish between friable and non-friable materials when assigning appropriate work practices.

3.1 Regulatory Requirements

Each province has issued regulations or guidelines for control of work around ACMs and for the packaging and disposal of asbestos waste. These regulations and guidelines are enforceable under the Newfoundland & Labrador Occupational Health and Safety Act. These are:

- Asbestos Abatement Regulation (111/98) made under the Newfoundland and Labrador Occupational Health and Safety Act.
- Department of Environment and Conservation Policy Directive: GD-PPD-03 Asbestos Waste Disposal
- Occupational Health and Safety Regulation 70/09: Part VI Occupational Health Requirements – Asbestos
- Newfoundland and Labrador Guidance Document for Low Risk Asbestos Abatement Procedures
- Newfoundland and Labrador Guidance Document for Moderate Risk Asbestos Abatement Procedures

3.2 Survey Exclusions

It should be noted that destructive testing was not conducted during MUN's survey to determine concealed conditions. There will be areas in the building that are suspect to contain asbestos containing material, i.e., behind washroom facilities walls/ceiling, inaccessible/unidentified shafts, cavities, pipe chases and such that were not accessed. Additional care should be taken to during renovations/demolition in areas suspected to have concealed asbestos containing materials to ensure these materials are not disturbed.

In addition, the building has undergone several renovations throughout the years. Due to multiple renovations over time, asbestos containing materials may have been hidden behind newly constructed walls and ceilings, and such areas were inaccessible during the survey. Should any suspect materials be uncovered during further renovations or alterations, the materials should be analyzed to confirm the presence or absence of asbestos.

A number of asbestos containing materials were not included in this survey however have the potential to contain asbestos, such as: materials other than normal building fabric, materials in laboratories or special purpose facilities and building materials that cannot be reasonably and safely assessed without assistance including electrical equipment (components or wiring), mechanical packing, ropes and gaskets, fire door cores, window calking, roofing materials, paper products used under flooring, or exterior siding, and brick, mortar or grout.

3.3 Evaluation of Condition

The condition of any ACM found was evaluated as well as the potential for disturbance of the ACM. These evaluation criteria were based on the conclusions of published studies, particularly the "Royal Commission on Matters of Health and Safety Arising from the Use of Asbestos in Ontario", existing Newfoundland and Labrador regulation, and our experience involving buildings that contain ACM.

Friable Materials

The evaluation of the condition of friable materials such as mechanical insulations utilizes the following criteria:

- | | |
|------|---|
| GOOD | Material is completely covered and exhibits no evidence of damage or deterioration. No material is exposed. Includes conditions where the covering has minor damage (i.e., scuffs or stains), but the jacketing is not penetrated. |
| FAIR | Minor penetrating damage to covering (cuts, tears, nicks, deterioration or delamination), or undamaged insulation that had never been jacketed. Insulation is exposed but not showing surface disintegration. The extent of missing insulation ranges from minor to none. Damage can be repaired. |
| POOR | Original material cover is missing, damaged, deteriorated or delaminated. Material is exposed and significant areas have been dislodged. Damage cannot be readily. |

The evaluation of mechanical insulation may be limited by the number of observations made and building components such as ducts or bulkheads that obstruct observations. It is not possible to observe each foot of mechanical insulation from all angles. Persons working in proximity to mechanical insulation or entering ceilings with mechanical insulation are advised to be watchful of ACM DEBRIS regardless of the reported condition.

Spray Applied Fireproofing, Insulation and Texture Finishes

To evaluate the condition of ACM spray applied as fireproofing, non-mechanical thermal insulation, or texture, decorative or acoustic finishes, the following criteria is applied:

- | | |
|------|--|
| GOOD | Surface of material shows no significant signs of damage, deterioration or delaminating. Up to 1% visible damage to surface is allowed within range of GOOD. Evaluation of sprayed fireproofing requires the surveyor to be familiar with the irregular surface texture typical of fireproofing as installed. GOOD condition includes un-encapsulated or unpainted fireproofing or texture finishes, where no delaminating or damage is observed, and encapsulated fireproofing or texture finishes where the encapsulation has been applied after the damage or fallout occurred. |
| POOR | Sprayed materials show signs of damage, delaminating or deterioration. More than 1% damage to surface of ACM spray. |

In observation areas where damage exists, in isolated locations, both GOOD and POOR condition may be applicable. FAIR condition is not utilized in the evaluation of the fireproofing, non-mechanical insulation, or texture coat finishes.

The evaluation of ACM spray applied as fireproofing, non-mechanical thermal insulation, or texture, decorative or acoustic finishes which are present above ceilings, may be limited by the number of observations made, and by building components such as ducts or full height bulkheads that obstruct the above ceiling observations. Persons entering the ceiling are advised to be watchful for ACM DEBRIS prior to accessing or working above ceilings in areas of buildings with ACM regardless of the reported condition.

Non-friable and Potentially Friable Materials

The condition of non-friable ACM, such as plaster finishes containing asbestos and manufactured products such as acoustic ceiling tiles and asbestos cement products (Transite), all of which have the potential to become friable when handled are evaluated as follows:

- | | |
|------|---|
| GOOD | No significant damage. Material may be cracked or broken but is stable and not likely to become friable upon casual contact. |
| POOR | Material is severely damaged. Loose DEBRIS is present or binder has disintegrated to the point where contact will cause the material to become friable. |

The evaluation of the condition of non-friable and potentially friable materials does not utilize a FAIR condition rating.

The priority for remedial action is based not only on the evaluation of condition but is also based on several other factors which include:

- Accessibility or potential for direct contact and disturbance which can cause release of asbestos to the air;
- Practicality of repair (for example, will damage to the ACM continue even if it is repaired); and
- Efficiency of the work (for example, if damaged ACM is being removed in an area, it may be most practical to remove all ACM in the area even if it is in GOOD condition).

3.4 Analytical Methods

Bulk samples were analyzed using a combination of dispersion staining and polarized light microscopy. The analytical method follows the U.S. EPA Method 600/R-93/116 dated July 1993. This method of analysis is also identified in the NL Asbestos Regulation 111/98. In Section 9 of the regulation, it states, “A competent laboratory would use polarized-light

microscopy, be able to report the percentage range as well as the type of asbestos in the material and have demonstrated competence in the analysis of asbestos”. A discrepancy lies within Regulation 111/98, as the method stated for identification of asbestos within the Regulation is PLM. This method uses a reported result for asbestos by volume; however, the Regulation defines an asbestos material as a material with an asbestos composition greater than 1% by weight. As a result of this discrepancy, for reporting purposes, Pinchin will follow the reporting unit set by the PLM method where an ACM is reported with a percent by volume rather than by weight. Therefore Pinchin will use a definition of an ACM as materials having an asbestos content of greater than 1% asbestos content by volume.

3.5 Summary of Asbestos Sample Results

The following is a summary of all the analytical results provided.

Table 3.5.1 Bulk Sample Results

Sample Number	Sample Location	Sample Description	Result
AA-1018-001-19-08-10	AA-1018 Mechanical Room (Loc 001)	Plaster ceiling	1-5% Chrysotile <0.1% Actinolite/Tremolite
AA-1018-002-19-08-10	AA-1018 Mechanical Room (Loc 001)	Plaster wall (31)	<0.01% Chrysotile
AA-1023A-001-19-08-10	AA-1023A Cashier Office (Loc 004)	Remnant plaster debris	<0.1% Actinolite/Tremolite
AA-1023A-002-19-08-10	AA-1023A Cashier Office (Loc 004)	Texture ceiling	5-10% Chrysotile
AA-1025A-001-24-08-10	AA-1025A Vault (Loc 007)	Plaster Wall (1)	1-5% Chrysotile
AA-1026A-001-24-08-10	AA-1026A Office (Loc 009)	Plaster wall/skim coat	None Detected
AA-1020-002-27-08-10	AA-1020 Receiving Doors (Loc 030)	Tar paper - duct work	None Detected
AA-1013-001-27-08-10	AA-1013 Theater Storage (Loc 042)	Tar paper - straight run piping	None Detected
AA-1013G-001-27-08-10	AA-1013G Mechanical Room (Loc 049)	Expansion joint cloth	25-50% Chrysotile
AA-1C01-001-31-08-10	AA-1C01 Corridor (Loc 080)	Plaster material on wire mesh	<0.1% Chrysotile <0.1% Actinolite/Tremolite
AA-1007A-001-31-08-10	AA-1007A Office (Loc 075)	2' x 2' Acoustic ceiling tile pinhole w fissure	None Detected
AA-2013-001-08-09-10	AA-2013 Male washroom (Loc 105)	2' x 2' Acoustic ceiling tile pinhole	None Detected

Sample Number	Sample Location	Sample Description	Result
AA-2015A-001-22-09-10	AA-2015A Reid Theater	Old theater curtain	None Detected
AA-3006-001-09-09-10	AA-3006 Office (Loc 151)	Plaster wall/skim coat	<0.1% Chrysotile <0.1% Chrysotile
AA-4017-001-23-09-10	AA-4017 Mechanical Room (Loc 279)	Plaster wall/skim coat	<0.1% Chrysotile <0.1% Chrysotile
AA-4017-002-23-09-10	AA-4017 Mechanical Room (Loc 279)	Unidentified material (debris under air handling unit)	10-25% Chrysotile
AA-001/AA-016	AA-1000A/1038	9" x 9" Tan floor tile	4.8-7.6% Chrysotile
AA-028	AA-1C06	12" x 12" Green floor tile	None Detected
AA-026	AA-1039	12" x 12" Tan floor tile	1.8% Chrysotile
AA-010	AA-1001A	Floor tile, white top layer	None Detected
AA-011	AA-1001A	Floor tile, pink	None Detected
AA-009	AA-1001A	Floor tile, gray layer	6.4% Chrysotile
AA-027	AA-1021	Tan/Brown VSF	None Detected
AA-032	AA-2001	Tan/Gray VSF	None Detected
AA-035	AA3001	Tan VSF	None Detected
AA-006	AA-1001	2' x 4' Acoustic Ceiling Tile	None Detected
AA-014	AA-1005	2' x 2' ACT Tan	None Detected
AA-1015-01	AA-1015	Plaster ceiling	None Detected
AA-1016-01	AA-1016	Plaster ceiling	None Detected
AA-001	AA2022A	Plaster ceiling	1-5% Chrysotile
AA-1V01-001-18-10-10	AA-1V01	Plaster ceiling	1-5% Chrysotile <1% Actinolite/Tremolite
AA-2018-01	AA-2018	Plaster ceiling	None Detected
AA-2032B-003-04-27-10	AA-2032A	Plaster ceiling	<0.1% Chrysotile <0.1% Actinolite/Tremolite
AA-3030-01	AA-3030	Plaster ceiling	None Detected
AA-2013-01	AA-2013	Plaster ceiling	None Detected
AA-3025B-01	AA3025B	Plaster ceiling	1% Chrysotile
AA-3025A-01	AA3025B	Plaster ceiling	None Detected
AA-4022-01	AA-4022	Plaster ceiling	1% Chrysotile
AA-4025-01	AA-4028	Plaster ceiling	None Detected
AA-1016-02	AA-1016	Plaster wall	None Detected
AA-2022	AA-2022	Plaster wall	None Detected

Sample Number	Sample Location	Sample Description	Result
AA-2018-02	AA-2018	Plaster wall	1% Chrysotile
AA-2032B-001-04-27-10	AA-2032A	Plaster wall	<0.1% Chrysotile <0.1% Actinolite/Tremolite
AA-3030-02	AA-3030	Plaster wall	1% Chrysotile 1% Actinolite
AA-3025B-02	AA3025B	Plaster wall	1% Chrysotile 1% Actinolite
AA-4022-02	AA-4022	Plaster wall	None Detected
AA-4025-02	AA-4028	Plaster wall	None Detected
9 12 084	AA3027	Stucco ceiling	10% Chrysotile
02-435-095	AA-3015	Texture ceiling	5-10% Chrysotile
02-435-094	AA-4048	Texture ceiling	5-10% Chrysotile
1856-02	AA2015A	Electrical foot wiring	50-75% Chrysotile
1856-03	AA-2015A	Texture coat – cat walk	10-25% Chrysotile
AA-038	AA-1001	Transite sheeting	25% Chrysotile
AA-013	AA-1003	Fire proofing	95% Amosite
9 12 087	AA-2024	Fire proofing	70% Amosite
AA-030	AA-2000H	Fire proofing	None Detected
AA-037	AA-3026	Fire proofing	None Detected
9 12 083	AA-3004	Fire proofing	65% Amosite
AA-017	AA-1018	Parging cement	75% Chrysotile
AA-002	AA-1000A	Parging cement	70% Chrysotile
9 12 070	AA-1C01	Parging cement	35% Chrysotile
AA-1C01-01	AA-1C01	Drywall joint compound	None Detected
AA-1C01-02	AA-1C01	Drywall joint compound	5% Chrysotile
AA-024	AA-1024	Drywall joint compound	1.6% Chrysotile
AA-020	AA-1017	Drywall joint compound	2.6% Chrysotile
AA-015	AA-1016	Drywall joint compound	None Detected
AA-023	A-1025	12x12 Grey Floor Tiles	None Detected
AA-024	A-1024	Drywall joint compound	1.6% Chrysotile
AA-021	A-1017	Texture	6.3% Chrysotile
AA-020	A-1017	Drywall joint compound	2.1% Chrysotile

Sample Number	Sample Location	Sample Description	Result
AA-015	A-1016	Drywall joint compound	None Detected
AA-019	A-1013	Parging (Tan/Grey Insulation – Pipe Fitting 1’')	70% Chrysotile
AA-018	A-1013	Parging (Grey Insulation Pipe fitting 3’')	75% Chrysotile
AA-016	A-1038	Tan floor tiles + tar mastic	7.5% Chrysotile
AA-028	A-1005	Green 12x12 floor tiles	None Detected
AA-017	Mechanical Room 1018	Grey Insulation (Pipe fitting)	75% Chrysotile
AA-022	A-1023	2x4 Tan ceiling tiles	None Detected
Newfoundland Department of Government Services recognizes materials with greater than 1% asbestos by weight as an asbestos-containing material.			

3.6 Locations of Asbestos-Containing Materials (ACM)

The following sections provide the findings from this survey.

3.6.1 Sprayed or Trowelled Fireproofing and Thermal Insulation

Thermal Fireproofing

Sprayed fireproofing materials were identified on MUN survey sheets throughout the building in various locations on exterior structural beams. This material was sampled during previous surveys (reference samples 9 12 087, 9 12 083, AA-013) and analysis indicates fireproofing contains between 65% -95% amosite asbestos. Newly installed fire proofing was also identified on survey sheets in several areas as well, analysis indicates new fireproofing does not contain asbestos (reference samples AA-030, AA-037). The majority of this fireproofing was identified on survey sheets above the drop down acoustical ceiling tiles system. In these cases where ceiling cavities were not accessible during the time of MUN survey, fireproofing was assumed present on exterior structural steel and as identified on the MUN survey sheets in GOOD condition. Refer to the table below (Table 3) for locations, suspect locations and condition of asbestos containing fireproofing (*as identified on the MUN survey sheets*).

Table 3.6.1.1 Fire Proofing Summary

Room # and Location ID	Description	Condition & Quantity		
		Good	Fair	Poor
AA-1018 Mechanical Room (Loc 001)	Fireproofing, exterior wall	7 linear feet		2 lf
AA-1019 Office (Loc 002)	Fireproofing, exterior wall	20 linear feet Suspect		
AA-1022 Office (Loc 003)	Fireproofing, exterior wall	20 linear feet Suspect		
AA-2000 (Loc 081)	Fireproofing, exterior wall (Suspect)	Condition not provided		
V-013 Room 1001-A1 (Storage – Level 1)	Spray fireproofing, wall			POOR
V-013 Room 1001C (Storage – Level 1)	Spray fireproofing, wall			POOR
V-013 Room 1002A (Office – Level 1)	Spray fireproofing, wall			POOR
V-013 Room 1002B (Office)	Spray fireproofing, wall			POOR
V-013 Room 1002C (Office)	Spray fireproofing, wall			POOR
AA-013 Room 1003 (Storage)	Sprayed fireproofing, structure			POOR
V-013 Room 1004A (Office)	Spray fireproofing, wall			POOR
V-013 Room 1004B (Office)	Spray fireproofing, wall			POOR
V-013 Room 1004C (Office)	Spray fireproofing, wall			POOR
V-013 Room 1005 (Office)	Spray fireproofing, wall			POOR
V-013 Room 1005B (Office)	Spray fireproofing, wall			POOR
V-013 Room 1007 (Office)	Spray fireproofing, wall			POOR
V-013 Room 1007A (Office)	Spray fireproofing, wall			POOR
V-013 Room 1009 (Office)	Spray fireproofing, wall			POOR
V-013 Room 1010 (Office)	Spray fireproofing, wall			POOR
V-013 Room 1017C (Mail Services)	Spray fireproofing, wall			POOR
V-013 Room 1024A (Office)	Spray fireproofing, wall			POOR
V-013 Room 1024B (Office)	Spray fireproofing, wall			POOR
V-013 Room 1024C (Office)	Spray fireproofing, wall			POOR
V-013 Room 1024D (Office)	Spray fireproofing, wall			POOR
V-013 Room 1024E (Office)	Spray fireproofing, wall			POOR
AA-2000 (Loc 081 – Registrars Office)	Suspect fireproofing on exterior wall beam (above fixed ceiling)	Condition not provided		

Room # and Location ID	Description	Condition & Quantity		
		Good	Fair	Poor
AA-2005 (Loc 094 – P. McCann)	Suspect fireproofing on exterior beam	Condition not provided		
AA-2006 (Loc 095 – M. Puxley)	Suspect fireproofing on exterior ceiling perimeter	Condition not provided		
AA-2009 (Loc 099 – Meet & Greet Centre)	Suspect fireproofing on exterior beam	Condition not provided		
AA-2009A (Loc 100 – Board Room)	Suspect fireproofing on exterior beam	Condition not provided		
AA-2V01 (Loc 102 – Entrance)	Suspect fireproofing on exterior beam	Condition not provided		
AA-2010 (Loc 110 – E. Bruce)	Suspect fireproofing on exterior beam	Condition not provided		
AA-2021 (Loc 111 – Office)	Suspect fireproofing on exterior beam above stucco.	Condition not provided		
AA-2023 (Loc 112 – Vice President Research)	Suspect fire proofing on exterior beam	Condition not provided		
AA-2024 (Loc 114 – Kent Decker)	Suspect fireproofing on exterior beam	Condition not provided		
AA-2025 (Loc 115 – Office C. Tibbo)	Suspect fireproofing on exterior beam	Condition not provided		
AA-2026 (Loc 116 – Office C. Wilkinson)	Suspect fireproofing on exterior beam above fixed ceiling	Condition not provided		
AA-2027A (Loc 118 – Board Room)	Suspect fireproofing above ceiling	Condition not provided		
AA-2028 (Loc 119 – L. Tilley)	Suspect fireproofing on exterior beam above T-bar	Condition not provided		
AA-2033 (Loc 120 – Open Office)	Suspect fireproofing on exterior beam	Condition not provided		
AA-2032 (Loc 122)	Suspect fireproofing in ceiling space on exterior beam	Condition not provided		
AA-2032A (Loc 125 – Kitchenet)	Suspect fireproofing on exterior beam above ceiling	Condition not provided		
AA-2032B (Loc 126 – Washroom)	Suspect fireproofing on beam above fixed ceiling	Condition not provided		
AA-3031 (Loc 127 – T. Pardy)	Suspect fireproofing	Condition not provided		
AA-2022F (Loc 135 – D. Collins)	Fireproofing present (suspect)	GOOD		

Room # and Location ID	Description	Condition & Quantity		
		Good	Fair	Poor
A-3001 (Loc 147 – L. Matthews)	Fireproofing on wall beam (suspect)	Condition not provided		
A-3002 (Loc 148 – A. Juhasz-Ormsby)	Suspect fireproofing on exterior beam	Condition not provided		
A-3004 (Loc – 150 – Dr. B. O'Dywer)	Suspect fireproofing	Condition not provided		
A-3005 (Loc 151 – D. McKay/Dr. Schrank)	Suspect fireproofing behind exterior wall	Condition not provided		
AA-3007 (Loc 153 – Empty Office)	Suspect fireproofing on exterior structural beam	Condition not provided		
AA-3008 (Loc 154 – Dr. A. Stavelery)	Suspect fireproofing on exterior beam	Condition not provided		
AA-3009 (Loc 155 – Dr. M. Cummings)	Suspect fireproofing on exterior beam	Condition not provided		
AA-3010 (Loc 156 – D. Walsh)	Suspect fireproofing on exterior beam	Condition not provided		
AA-3011 (Loc 157 – R. Ormsby)	Suspect fireproofing on exterior beam	Condition not provided		
AA-3012 (Loc 158 – Dr. J. Lokash)	Suspect fireproofing on exterior beam	Condition not provided		
AA-3019 (Loc 167 – English Language R. Centre)	Suspect fireproofing on exterior beam above fixed ceiling	Condition not provided		
AA-3021 (Loc 170 – J. Byrne)	Suspect fireproofing on exterior beam above ceiling	Condition not provided		
AA-3022 (Loc 171 – N. Bobby)	Suspect fireproofing	Condition not provided		
AA-3029 (Loc 178 – M. Dalton)	Suspect fireproofing on exterior beam	Condition not provided		
AA-3031 (Loc 179 – P. Sharrodes)	Suspect fireproofing	Condition not provided		
AA-3034 (Loc 181 – NL Dialect)	Suspect fireproofing	Condition not provided		
AA-3035 (Loc 182 – J. Skidmore)	Suspect fireproofing	Condition not provided		
AA-3036 (Loc 183 – A Loman)	Suspect fireproofing	Condition not provided		
AA-3040 (Loc 185 – R. Hollett)	Suspect fireproofing	Condition not provided		
AA-3042 (Loc 187 – Dr. N. Pedri)	Suspect fireproofing	Condition not provided		

Room # and Location ID	Description	Condition & Quantity		
		Good	Fair	Poor
AA-3044 (Loc 188 – Dr. C. Lockett)	Suspect fireproofing	Condition not provided		
AA-3047C (Loc 193 – Office)	Suspect fireproofing on exterior beam under drywall above T-bar ceiling	Condition not provided		
AA-3047D (Loc 194 – President Office)	Suspect fireproofing on exterior beam under drywall above T-bar ceiling	Condition not provided		
AA-3047D (Loc 195 – Office)	Suspect fireproofing on exterior beam under drywall above T-bar ceiling	Condition not provided		
AA-3047F (Loc 196 – Office)	Suspect fireproofing on exterior beam under drywall above T-bar ceiling	Condition not provided		
AA-3047G (Loc 197 – Office)	Suspect fireproofing on exterior beam under drywall above T-bar ceiling	Condition not provided		
AA-3047H (Loc 198 – Office)	Suspect fireproofing on exterior beam under drywall above T-bar ceiling	Condition not provided		
AA-3047J (Loc 199)	Suspect fireproofing on exterior beam under drywall above T-bar ceiling	Condition not provided		
AA-3047K (Loc 200)	Suspect fireproofing on exterior beam under drywall above T-bar ceiling			
AA-3047L (Loc 201 – Office)	Suspect fireproofing on exterior beam under drywall above T-bar ceiling			
AA-3047 (Loc 204 – General Area)	Suspect fireproofing on exterior beam under drywall above T-bar ceiling	Condition not provided		

Room # and Location ID	Description	Condition & Quantity		
		Good	Fair	Poor
AA-3037D (Loc 209 – Office)	Suspect fireproofing behind drywall on exterior beam above T-bar ceiling	Condition not provided		
AA-3037E (Loc 210 – Office)	Suspect fireproofing on exterior beam under drywall above T-bar ceiling	Condition not provided		
AA-3037F (Loc 211 – Office)	Suspect fireproofing on exterior beam under drywall above T-bar ceiling	Condition not provided		
AA-3033 (Loc 212 – Dept of Eng Seminar Room)	Suspect fireproofing on exterior beam above fixed ceiling	Condition not provided		
AA-3027D (Loc 217 – Office)	Suspect fireproofing behind exterior walls (exterior beam above T-bar ceiling)	Condition not provided		
AA-3027C (Loc 218 – Office of W. Schipper)	Suspect fireproofing on exterior beam above ceiling	Condition not provided		
AA- 3027B (Loc 219 – P. Byrne)	Suspect fireproofing behind exterior walls (exterior beam above T-bar)	Condition not provided		
AA-4001 (Loc 225 – Dr C English)	Suspect fireproofing on exterior beam above ceiling	Condition not provided		
AA-4003 (Loc 227 – Dr. K. Korneski)	Suspect fireproofing on exterior beam above ceiling	Condition not provided		
AA-4405 (Loc 228 – M. Whelan)	Suspect fire proofing on exterior beam above ceiling	Condition not provided		
AA-4006 (Loc 229 – Dr. L. Bryan)	Suspect fireproofing on exterior beam above ceiling	Condition not provided		
AA-4007 (Loc 230 – Dr. M. Cassis)	Suspect fireproofing on exterior beam above ceiling	Condition not provided		
AA-4008 (Loc 231 – Dr. C. Lambert)	Suspect fireproofing on exterior beam above ceiling	Condition not provided		

Room # and Location ID	Description	Condition & Quantity		
		Good	Fair	Poor
AA-4009 (Loc 232 – Dr. S. Curtis)	Suspect fireproofing on exterior beam above ceiling	Condition not provided		
AA-4010 (Loc 233 – Dr. S. Ryan)	Suspect fireproofing on exterior beam above ceiling	Condition not provided		
AA-4011 (Loc 234 – Student Room)	Suspect fireproofing on exterior beam	Condition not provided		
AA-4012 (Loc 235 – Dr. E. Basak)	Suspect fireproofing on exterior beam above ceiling	Condition not provided		
AA-4013 (Loc 236 – Dr. D Bregent-Heald)	Suspect fireproofing on exterior beam above ceiling	Condition not provided		
AA-4014 (Loc 237 – Dr. J. Webb)	Suspect fireproofing on exterior beam above ceiling	Condition not provided		
AA-4015 (Loc 238 – Dr. R.K.L. Panjabi)	Suspect fireproofing on exterior beam above ceiling	Condition not provided		
AA-4016 (Loc 240 – Dr. S. Cadigan)	Suspect fireproofing on exterior beam above T-bar ceiling	Condition not provided		
AA-4019 (Loc 242 – Open Office)	Suspect fireproofing on exterior beam above ceiling	Condition not provided		
AA-4019A (Loc 243 – F. Warren)	Suspect fireproofing on exterior beam above ceiling	Condition not provided		
AA-4023C (Loc 248 – C. Hatcher)	Suspect fireproofing on exterior beam	Condition not provided		
AA-4023A (Loc 249 – Open Office)	Suspect fireproofing on exterior beam above fixed ceiling	Condition not provided		
AA-4029 A/B/C (Loc 250 – Recruitment & Retention)	Suspect fireproofing on exterior beam and suspect fireproofing above fixed ceiling	Condition not provided		
AA-4031A (Loc 252 – S. Brown)	Suspect fireproofing on exterior beam	Condition not provided		
AA-4031B (Loc 253 – M. Fowler)	Suspect fireproofing on exterior beam	Condition not provided		

Room # and Location ID	Description	Condition & Quantity		
		Good	Fair	Poor
AA-4045 (Loc 254 – K. Stockley)	Suspect fireproofing on exterior beam	Condition not provided		
AA-4044 (Loc 255 – T. Hickey)	Suspect fireproofing on exterior beam	Condition not provided		
AA-4043 (Loc 256 – K. Slaney)	Suspect fireproofing on exterior beam	Condition not provided		
AA-4042 (Loc 257 – L. Chapman)	Suspect fireproofing on exterior beam	Condition not provided		
AA-4041 (Loc 258 – R. Baker)	Suspect fireproofing on exterior beam	Condition not provided		
AA-4040 (Loc 259 – T. Coady/H. Arnnott)	Suspect fireproofing behind exterior wall	Condition not provided		
AA-4040A (Loc 260 – C. Horlick)	Suspect fireproofing behind exterior wall	Condition not provided		
AA-4038 (Loc 262 – L. Curran)	Suspect fireproofing on exterior beam	Condition not provided		
AA-4037 (Loc 263 – T. Pittman)	Suspect fireproofing on exterior beam	Condition not provided		
AA-4037 (Loc 264 – T. Squires)	Suspect fireproofing on exterior beam	Condition not provided		
AA-4032 (Loc 265 – J. Norman)	Suspect fireproofing on exterior beam	Condition not provided		
AA-4033 (Loc 266 – J. Purrell)	Suspect fireproofing on exterior beam	Condition not provided		
AA-4032A (Loc 267 – HR Admin, B. Mullett)	Suspect fireproofing	Condition not provided		
AA-4032 (Loc 268 – ASI)	Suspect fireproofing	Condition not provided		
AA-4030A (Loc 269 – Office)	Suspect fireproofing	Condition not provided		
AA-4025C (Loc 273 – H. Lambert)	Suspect fireproofing on exterior beam above fixed ceiling	Condition not provided		
AA-4025 (Loc 274 – Pension & Benefits)	Suspect fireproofing on exterior beam above fixed ceiling	Condition not provided		
AA-4025B (Loc 275 – M. Byrne)	Suspect fireproofing on exterior beam above ceiling	Condition not provided		
AA-4025A (Loc 276 – M. Wade)	Suspect fireproofing on exterior beam above	Condition not provided		

Room # and Location ID	Description	Condition & Quantity		
		Good	Fair	Poor
	ceiling			
AA-4024 (Loc 277 – G. Roberts)	Suspect fireproofing on exterior beam	Condition not provided		
AA-1804, 2504, 3504 (Loc 283 – Stairwell #3)	Suspect fireproofing behind exterior wall	Condition not provided		
Newfoundland Department of Government Services recognizes materials with greater than 1% asbestos by weight as an asbestos-containing material.				

3.6.2 Mechanical Insulation

Mechanical insulation in the form of parging cement was observed on various elbows and fittings throughout the building. Sample analysis (reference samples 9 12 083, AA-017, AA-002) indicates it contains 35%-75% Chrysotile asbestos. Pipe fittings and elbows are primary identified on MUN survey sheets above the drop down acoustical ceiling tile system and leading into wall heaters. It should be noted that fittings are suspected behind fixed walls, pipe chases, and in all wall mounted heaters, there areas are not listed below. Special care should be taken during renovations, repairs or demolition of walls in areas where there is suspect piping, such as washroom facilities, to ensure no potential asbestos containing materials are disturbed.

Two types of tar paper were observed during this survey and sample analysis indicated no asbestos content. Samples were collected from duct work and pipe insulation in AA-1020, and AA-1013 respectively (reference sample AA-1020-002-27-08-10, and AA-1013-001-27-08-10). The condition and quantity of these materials were extrapolated from the MUN survey sheets. Cells that are not filled in or completed indicate that no information was provided on the survey sheets.

Table 3.6.2.1 Mechanical Insulation

Room # and Location ID	Description	Condition & Quantity		
		Good	Fair	Poor
AA-1018 Mechanical Room (Loc 001)	Parging cement, elbows & fittings	51ea		2 ea
AA-2000 (Loc 081 – Registrars Office)	Suspect piping behind exterior wall			
AA-2002 (Loc 090 – Office)	Suspect piping on exterior wall			
AA-2002A (Loc 091 – G. W. Collins)	Suspect piping behind exterior wall (heater)			
AA-2004 (Loc 092 – Glen Collins Office)	Suspect piping behind exterior wall. No access and fireproofing.			
AA-2004A (Loc 093 – Washroom)	Suspect piping (no access)			
AA-2005 (Loc 094 – P. McCann)	Suspect piping behind wall.			
AA-2006 (Loc 095 – M. Puxley)	Suspect piping behind exterior wall			
AA-2007 (Loc 096 – L. Thorne)	Suspect piping behind wall			
AA-2008 (Loc 097 – S. Singleton)	Suspect piping behind wall			
AA-2008A (Loc 098 – Singleton)	Suspect piping behind wall			
AA-2009 (Loc 099 – Meet & Greet Centre)	Suspect piping behind exterior wall			
AA-2009A (Loc 100 – Board Room)	Suspect piping behind exterior wall			
AA-2V01 (Loc 102 – Entrance)	Suspect piping behind walls (heaters)			
AA-2013 (Loc 104 – Female Washroom)	Suspect piping behind walls			
AA-2014 (Loc 105 – Male Washroom)	Straight piping	Type not provided		
AA-2018 (Loc 108 – Female staff washroom)	Suspect piping behind walls			
AA-2021 (Loc 111 – Office)	Suspect piping behind walls			
AA-2023 (Loc 112 – Vice president research))	Suspect piping behind exterior walls			
A-2024B (Loc 113 – Kitchenette and Washroom)	Suspect piping behind pipe chase			

Room # and Location ID	Description	Condition & Quantity		
		Good	Fair	Poor
A-2034 (Loc 114 – Kent Decker)	Suspect piping behind exterior walls (heaters)			
A-2025 (Loc 115 – Office C. Tibbo)	Suspect piping behind exterior wall			
A-2026 (Loc 116 – Office C. Wilkson)	Suspect piping behind exterior wall			
A-2027A (Loc 118 – Board Room)	Suspect piping behind exterior wall			
AA-2028 (Loc 119 – L. Tilly)	Suspect piping exterior wall			
AA-2033 (Loc 121 – Open Office)	Suspect piping behind exterior wall			
A-2032 (Loc 122)	Suspect piping behind exterior wall			
AA-2032B (Loc 126 – Washroom)	Suspect piping behind exterior wall			
A-2031 (Loc 127 – T. Pardy)	Suspect piping behind exterior wall			
AA-2029A (Loc 131 – Washroom)	Piping visible from coat dresser (suspect)			
AA-2022 (Loc 133 – Finance Open Office)	Suspect piping behind exterior wall (heating)			
AA-2022F (Loc 135 – D. Collins)	Suspect piping behind exterior wall			
A-2022D (Loc 136 – G. Pike)	Suspect piping behind exterior wall			
AA-2022C (Loc 137 – H. Whelan)	Suspect piping behind exterior wall			
AA-2010 (Loc 140 – Custodial Room)	Piping visible maybe above other ceiling space			
A-2003 (Loc 142 – Registration)	Suspect piping behind exterior wall			
A-2004 (Loc 143 – Corridor East)	Suspect piping in some walls			
A-3001 (Loc 147 – L. Matthews)	Suspect piping behind exterior wall			
A-3002 (Loc 148 – A. Juhasz-Ormsby)	Suspect piping behind walls			
A-3003 (Loc 149 – R. Finley)	Suspect piping behind walls			
A-3004 (Loc 150 – Dr. B. O'Dwyer)	Suspect piping behind walls			
A-3005 (Loc 151 – D. McKay/Dr. Schrank)	Suspect piping behind exterior wall			

Room # and Location ID	Description	Condition & Quantity		
		Good	Fair	Poor
AA-3007 (Loc 153 – Empty office)	Suspect piping behind exterior wall			
AA-3008 (Loc 154 – Dr. A. Stavelery)	Suspect piping behind exterior walls			
AA- 3009 (Loc 155 – Dr. M. Cummings)	Suspect piping behind exterior walls			
AA-3012 (Loc 156 – DR. Walsh)	Suspect piping behind walls (concealed)			
AA-3011 (Loc 157 – R. Ormsby)	Suspect piping			
AA-3012 (Loc 158 – Dr. J. Lokash)	Suspect piping behind exterior walls			
AA-3013 (Loc 159)	Suspect piping behind walls			
AA-3014 (Loc 160 – Storage Room)	Unidentified Straight Piping			
AA-3016 (Loc 165 – Cosutdial Closet)	Suspect piping behind wall			
AA-3018 (Loc 166 – Classroom)	Suspect piping behind exterior wall			
AA-3019 (Loc 167 – English Lanaguage R. Centre)	Suspect piping behind exterior wall			
AA-3017 (Loc 168 – Classroom)	Suspect piping behind exterior wall (heater)			
AA-3020 (Loc 169 – Classroom)	Suspect piping behind exterior wall			
AA-3021 (Loc 170 – J. Byrne)	Suspect piping behind exterior wall			
AA-3022 (Loc 171 – N. Bobby)	Suspect piping			
AA-3023 (Loc 172 – Dr. V. Legge)	Suspect piping behind exterior wall			
AA-3025 (Loc 174 – G. Billard)	Suspect piping behind exterior wall			
AA-3026 (Loc 175 – Dept. of English & Literature)	Suspect piping behind exterior wall			
AA-3026B/A (Loc 170/150 – Dr. Batisch, Dept of English)	Suspect piping behind exterior wall			
A-3028 (Lox 177 – Staff Lounge)	Suspect piping behind exterior wall			
AA-3029 (Loc 178 – M. Dalton)	Suspect piping behind exterior wall			

Room # and Location ID	Description	Condition & Quantity		
		Good	Fair	Poor
AA-3031 (Loc 179 – P. Sharrods)	Suspect piping			
AA-3035 (Loc 182 – J. Skidmore)	Suspect piping behind exterior wall			
AA-3036 (Loc 183 - A. Loman)	Suspect piping			
AA-3040 (Loc 185 – R. Hollett)	Suspect piping			
AA-3041 (Loc 186 – Dr/ Classold)	Suspect piping behind exterior wall			
AA-3042 (Loc 187 – Dr. N. Pedri)	Suspect piping			
AA-3047B (Lox 193 – Office)	Suspect piping on straight pipe			
AA-3047D (Lox 194 – President Office)	Straight piping (suspect)			
AA-3047E (Loc 195 – Office)	Straight piping (suspect)			
AA-3047DF (Loc 196 – Office)	Straight piping (suspect)			
AA-3047G (Loc 197 – Office)	Straight piping (suspect)			
AA-3047H (Loc 198 – Office)	Straight piping (suspect)			
AA-3047J (Loc 199)	Straight piping (suspect)			
AA-3047K (Loc 200 – Office)	Straight piping (suspect)			
AA-3047L (Loc 201 – Office)	Straight piping (suspect)			
AA-3047M (Loc 202 – Washroom)	Piping			
AA-3037D (Loc 209 – Office)	Straight piping /Elbow			
AA-3033 (Loc 212 – Dept of eng seminar room)	Suspect piping behind exterior wall			
No room number listed (Loc 213 – Stoprage Room)	Suspect piping behind exterior walls			
AA-3027D (Loc 217 – Office)	Suspect piping behind exterior wall			
AA-3027C (Loc 218 – Office W. Schipper)	Suspect piping behind exterior wall			
AA-3027B (Loc 219 – P. BYRNE)	Suspect piping behind exterior wall			
AA-3025A + B + Washroom (Loc 222 – Male washroom corridor)	Straight piping, elbows and fittings	2 ea		2 ea
AA-3029 (Loc 223)	Piping, fittings and elbows			
AA-3014A	Elbows (2)			

Room # and Location ID	Description	Condition & Quantity		
		Good	Fair	Poor
AA-3029	Piping, fittings (3) and elbow (1)			
AA-3037	Piping, (new), elbows (2)			
AA-4001 (Loc 225 – Dr. C. English)	Suspect piping behind exterior wall			
AA-4001 (Loc 228 – M. Whelan)	Suspect behind exterior wall			
AA-4006 (Loc 229 – Dr. L. Bryan)	Suspect piping behind exterior wall			
AA-4007 (Loc 230 – Dr. M. Cassis)	Suspect piping behind exterior wall			
AA-4008 (Loc 231 – Dr. C. Lambert)	Suspect piping behind exterior wall			
AA-4009 (Loc 232 – Dr. S. Curtis)	Suspect piping behind exterior wall			
AA-4010 (Loc 233 – Dr. S. Ryan)	Suspect piping behind exterior wall			
AA-4011 (Loc 234 – Student Room)	Suspect piping behind exterior wall			
AA-4012 (Loc 235 – Dr. E. Basak)	Suspect piping behind exterior wall			
AA-4013 (Loc 236 – Dr. D. Bregent-Heald)	Suspect piping behind exterior wall			
AA-4014 (Loc 237 – Dr. J. Webb)	Suspect piping behind exterior wall			
AA-4015 (Loc 238 – Dr. R.K.L.Panjabi)	Suspect piping behind exterior wall			
AA-4004 (Loc 240 – Dr. S. Cadigan)	Suspect piping in exterior wall			
AA-4019 (Loc 242 – Open Office)	Suspect piping behind exterior wall			
AA-4019A (Loc 243 – F. Warren)	Suspect behind exterior wall			
AA-4023C (Loc 248 – C. Hatcher)	Suspect piping behind exterior wall			
AA-4023A (Loc 249 – Open Office)	Suspect piping behind exterior wall			
AA-4029 A/B/C (Loc 250 – Recruitment and Retention)	Suspect piping behind exterior wall			
AA-4031A (Loc 252 – S. Brown)	Suspect piping behind exterior wall			

Room # and Location ID	Description	Condition & Quantity		
		Good	Fair	Poor
AA-4031B (Loc 253 – M. Fowler)	Suspect piping behind exterior wall			
AA-3038 (Loc 262 – L. Curran)	Suspect piping behind exterior wall			
AA-4039 (Loc 261 – A. Carroll)	Suspect piping behind exterior wall			
AA-4040A (Loc 260 – C. Horlick)	Suspect piping behind exterior wall			
AA-4037 (Loc 263 – T. Pittman)	Suspect piping behind exterior wall			
AA-4035 (Loc 264 – T. Squires)	Suspect piping behind exterior wall			
AA-4034 (Loc 265 – J. Norman)	Suspect piping behind exterior wall			
AA-4033 (Loc 266 – J. Purrell)	Suspect piping behind exterior wall			
AA-4032A (Loc 267 – HR Admin, B. Mullett)	Suspect piping			
AA-4032 (Loc 268 – ASI)	Suspect piping			
AA-4030 (Loc 269 – Office)	Suspect piping			
AA-4030 (Loc 270 – Office)	Suspect piping			
AA-4028 (Loc 271 – Female Washroom)	Suspect piping behind exterior walls			
AA-4025C (Loc 273)	Suspect piping behind exterior walls			
AA-4025 (Loc 274 – Pension & Benefits)	Suspect piping behind exterior walls			
AA-4024 (Loc 277 – G. Roberts)	Suspect piping behind exterior wall and corridor wall (previous sink)			
AA-4022 (Loc 278 – Male Washroom)	Suspect piping behind exterior walls and ceiling			
AA-4017 (Loc 279 – Mechanical Room)	Suspect straight piping, elbows and fittings (2)			2 POOR
AA-1504, 2504, 3504 (Loc 283 – Stairwell 3)	Suspect piping behind exterior walls			
AA-1C04, 2C04, 3C04 AND 3C04 (Loc 284 – Stairwell 4)	Suspect interior wall piping			
<i>NOTE: Fittings are suspected behind washroom facilities walls and in all wall mounted heaters, these areas are not listed in the table above.</i>				

3.6.3 Acoustic Ceiling Tiles

Acoustical ceiling tiles are present as a suspended ceiling system in several areas of the building. Five (5) distinctly different styles were identified on the MUN survey sheets and analysis did not identify the presence of asbestos in any of the ceiling tiles. The following list provides style, location and sample analysis of tiles collected throughout the building.

- 2' x 2' Pinhole with fissure (AA-1007) reference sample AA-1007A-001-31-08-10
- 2' x 2' Pinhole (AA-2013) reference sample AA-2013-001-08-09-10
- 2' x 2' Pinhole with fissure (AA-4048) AA-4048-001-24-09-10
- 2' x 2' Pinhole with fleck (AA-1001) AA-006
- 2' x 2' Pinhole with fleck (AA-1005) AA-014

3.6.4 Drywall, Plaster, and Texture Finishes

Drywall was used as a wall and ceiling finish throughout the building. Until the early to mid-1980s, drywall joint compound may have contained chrysotile asbestos. Drywall joint compound is considered a non-friable material. Interior finishes consist mainly of hard wall plaster or drywall with textured/stucco ceiling finishes.

A number of smooth coat plaster samples were collected throughout the facility. Sampling indicates smooth plaster finishes contain between 1-5% chrysotile asbestos, with trace amounts of Actinolite and Tremolite (0-1%) (Reference sample AA-1018-001-19-08-10, AA-1018-002-19-08-10, AA-1023A-001-19-08-10, AA-001, AA-1V01-001-18-10-10, AA-2032B-003-04-27-10, AA-3025B-01, AA-4022-01, AA-3025B-02, AA-3030-02, AA-2018-02). All wall plasters are to be managed as asbestos unless testing determines otherwise.

The majority of ceiling throughout the building are composed of wall plaster with a stucco/textured coat. Sample analysis of this material (reference sample 9 12 084, 02-435-095, 02-435-094, AA-1023A-002-19-08-10) indicates 5-10% chrysotile asbestos. The majority of stucco ceiling is in GOOD condition. There are some areas where stucco ceiling was observed not painted above the drop down acoustical ceiling system. The condition of these items was extra ported from the MUN survey sheets.

Refer to Table below for locations and conditions of asbestos containing ceilings (stucco or plaster).

Table 3.6.4.1 Ceiling Texture/Stucco Summary

ROOM # AND LOCATION ID	DESCRIPTION	CONDITION & QUANTITY		
		GOOD	FAIR	POOR
AA-1019 Office (Loc 002)	stucco ceiling	161 ft ²		
AA-1022 Office (Loc 003)	stucco ceiling	161 ft ²		
AA-002 Room 1000 (Level 1)	plaster ceiling			
V-002 Room 1001 (Conference Room – Level 1)	plaster ceiling			
V-002 Room 1001A2/1001B (Offices – Level 1)	plaster ceiling	450 ft ²		
V-002 Room 1008 (Janitors Storage – Level 1)	plaster ceiling	80.0 ft ²		
V-002 Room 1011 (ComMUNications – Level 1)	plaster ceiling	120.0 ft ²		
V-002 Room 1013 (Bathroom – Level 1)	plaster ceiling			
V-002 Room 1015 (Men's Washroom – Level 1)	plaster ceiling	120.0 ft ²		
V-002 Room 1016A (Women's Washroom – Level 1)	plaster ceiling	120.0 ft ²		
AA-021 Room 1017 (Mail Services – Level 1)	ceiling debris			ALL
V-021 Room 1017 (Mail Services – Level 1)	ceiling plaster			
V-002 Room 1018 (Mechanical Room – Level 1)	ceiling plaster	846.0 ft ²		
V-021 Room 1019 (Office – Level 1)	ceiling plaster			
V-021 Room 1020 (Porch – Level 1)	ceiling plaster	120.0 ft ²		
V-025 Room 1021 (Lunch Room – Level 1)	ceiling joint compound			
V-021 Room 1021 (Lunch Room – Level 1)	ceiling plaster			
V-021 Room 1022 (Office – Level 1)	ceiling plaster			
V-021 Room 1023 (Cashiers Office – Level 1)	ceiling debris			ALL
V-021 Room 1023 (Cashiers Office – Level 1)	ceiling plaster	GOOD		

ROOM # AND LOCATION ID	DESCRIPTION	CONDITION & QUANTITY		
		GOOD	FAIR	POOR
V-021 Room 1024E (Office – Level 1)	ceiling plaster			
V-021 Room 1024F (Lunchroom – Level 1)	ceiling plaster	140.0 ft ²		
V-021 Room 1025 (Security Coin Room – Level 1)	ceiling plaster			
V-021 Room 1026 (Reception/Office – Level 1)	ceiling plaster			
V-021 Room 1027 (Office – Level 1)	ceiling plaster			
V-021 Room 1030 (File Room – Level 1)	ceiling debris			ALL
V-021 Room 1031 (Conference Room – Level 1)	ceiling debris			ALL
V-021 Room 1032 (Office – Level 1)	ceiling plaster			
V-002 Room 1037 (File Storage Room – Level 1)	ceiling plaster	180.0 ft ²		
V-002 Room 1038 (File Storage Room – Level 1)	ceiling plaster	550.0 ft ²		
V-021 Room 1039 (Office – Level 1)	ceiling plaster			
V-002 Room 1C01 (Main Hallway – Level 1)	ceiling plaster	200.0 ft ²		
AA-038 Room 1C01 (Main Hallway – Level 1)	ceiling transite	30.0 ft ²		
V-021 Room 1C05 (Hall – Level 1)	ceiling plaster	160.0 ft ²		
V-034 Room 2000 (Offices – Level 2)	ceiling plaster			
AA-034 Room 2001 (Offices – Level 2)	ceiling plaster	740.0 ft ²		
V-034 Room 2001A (Office – Level 2)	ceiling plaster	60.0 ft ²		
V-034 Room 2001B (Office – Level 2)	ceiling plaster	60.0 ft ²		
V-034 Room 2001C (Mechanical Room – Level 2)	ceiling plaster	60.0 ft ²		
V-034 Room 2002 (Registrars Office – Level 2)	ceiling plaster	110.0 ft ²		

ROOM # AND LOCATION ID	DESCRIPTION	CONDITION & QUANTITY		
		GOOD	FAIR	POOR
V-034 Room 2003B/D/E/F (Assistant Registrars Office – Level 2)	ceiling plaster			
V-034 Room 2004 (Registrars Office – Level 2)	ceiling plaster			
V-034 Room 2005 (Office – Level 2)	ceiling plaster			
V-034 Room 2006 (Office – Level 2)	ceiling plaster			
V-034 Room 2007 (Office – Level 2)	ceiling plaster			
V-034 Room 2008 (Office – Level 2)	ceiling plaster			
V-034 Room 2008A (Office – Level 2)	ceiling plaster			
V-034 Room 2011 (Office – Level 2)	ceiling plaster			
V-034 Room 2014 (Men's Washroom – Level 2)	ceiling debris			POOR
V-034 Room 2015 (Theatre – Level 2)	ceiling plaster	GOOD		
V-034 Room 2020 (Office – Level 2)	ceiling plaster			
V-034 Room 2021 (Office – Level 2)	ceiling plaster	GOOD		
V-034 Room 2022 (Financial Services – Level 2)	ceiling plaster	GOOD		
V-034 Room 2022A (File Room – Level 2)	ceiling plaster	GOOD		
V-034 Room 2022B (Mechanical Room – Level 2)	ceiling plaster	GOOD		
V-034 Room 2023 (Office – Level 2)	ceiling plaster	GOOD		
V-034 Room 2024 (Office – Level 2)	ceiling plaster	GOOD		
V-034 Room 2024A (Bathroom – Level 2)	ceiling plaster	GOOD		
V-034 Room 2024B (Kitchen – Level 2)	ceiling plaster	GOOD		
V-034 Room 2025 (Office – Level 2)	ceiling plaster	GOOD		

ROOM # AND LOCATION ID	DESCRIPTION	CONDITION & QUANTITY		
		GOOD	FAIR	POOR
V-034 Room 2026 (Office – Level 2)	ceiling plaster	GOOD		
V-034 Room 2027 (File Room – Level 2)	ceiling plaster	GOOD		
V-034 Room 2027A (Meeting Room – Level 2)	ceiling plaster	GOOD		
V-034 Room 2028 (Office of the President – Level 2)	ceiling plaster	GOOD		
V-034 Room 2030 (Office – Level 2)	ceiling plaster	GOOD		
V-034 Room 2031 (Office – Level 2)	ceiling plaster	GOOD		
V-034 Room 2032 (Office of the president – Level 2)	ceiling plaster	GOOD		
V-034 Room 2032C (Hall – Level 2)	ceiling plaster	GOOD		
V-034 Room 2033/B (Office of the President – Level 2)	ceiling plaster	GOOD		
V-034 Room 2033/A (Office of the President – Level 2)	ceiling plaster	GOOD		
V-034 Room 2C01 (Main Foyer – Level 2)	ceiling plaster	700.0 ft ²		
V-034 Room 2C02 (Hall – Level 2)	ceiling plaster	GOOD		
V-034 Room 2C03 (Hall – Level 2)	ceiling plaster	GOOD		
V-034 Room 2C04 (Hall – Level 2)	ceiling plaster	GOOD		
V-034 Room 2V03 (Porch – Level 2)	ceiling plaster	GOOD		
V-034 Room 3000 (Graduate Room – Level 3)	ceiling plaster	GOOD		
V-034 Room 3001 (Office – Level 3)	ceiling plaster	GOOD		
V-034 Room 3003 (Office – Level 3)	ceiling plaster	GOOD		
V-034 Room 3004 (Office – Level 3)	ceiling plaster	GOOD		
V-034 Room 3005 (Office – Level 3)	ceiling plaster	GOOD		

ROOM # AND LOCATION ID	DESCRIPTION	CONDITION & QUANTITY		
		GOOD	FAIR	POOR
V-034 Room 3006 (Office – Level 3)	ceiling plaster	GOOD		
V-034 Room 3007 (Office – Level 3)	ceiling plaster	GOOD		
V-034 Room 3008 (Office – Level 3)	ceiling plaster	GOOD		
V-034 Room 3009 (Office – Level 3)	ceiling plaster	GOOD		
V-034 Room 3010 (Office – Level 3)	ceiling plaster	GOOD		
V-034 Room 3011 (Office – Level 3)	ceiling plaster	GOOD		
V-034 Room 3012 (Office – Level 3)	ceiling plaster	GOOD		
V-034 Room 3013 (Office – Level 3)	ceiling plaster	GOOD		
V-034 Room 3014 (Office – Level 3)	ceiling plaster	GOOD		
V-034 Room 3014-A (Meeting Room – Level 3)	ceiling plaster	GOOD		
V-034 Room 3015 (Copier Room – Level 3)	ceiling plaster	GOOD		
V-034 Room 3015A (Copy Room – Level 3)	ceiling plaster	GOOD		
V-034 Room 3017 (Classroom – Level 3)	ceiling plaster	GOOD		
V-034 Room 3019 (Research Centre – Level 3)	ceiling plaster	GOOD		
V-034 Room 3020 (Classroom – Level 3)	ceiling plaster	GOOD		
V-034 Room 3021 (Office – Level 3)	ceiling plaster	GOOD		
V-034 Room 3022 (Office – Level 3)	ceiling plaster	GOOD		
V-034 Room 3023 (Office – Level 3)	ceiling plaster	GOOD		
V-034 Room 3024 (Office – Level 3)	ceiling plaster	GOOD		
V-034 Room 3027 (Hall – Level 3)	ceiling plaster	GOOD		

ROOM # AND LOCATION ID	DESCRIPTION	CONDITION & QUANTITY		
		GOOD	FAIR	POOR
V-034 Room 3027A (M.E.S.S. – Level 3)	ceiling plaster	GOOD		
V-034 Room 3027B (Office – Level 3)	ceiling plaster	GOOD		
V-034 Room 3027C (Office – Level 3)	ceiling plaster	GOOD		
V-034 Room 3027D (Office – Level 3)	ceiling plaster	GOOD		
V-034 Room 3027E (Closet – Level 3)	ceiling plaster	GOOD		
V-034 Room 3027F (Supply Room – Level 3)	ceiling plaster	GOOD		
V-034 Room 3028 (Lounge – Level 3)	ceiling plaster	GOOD		
V-034 Room 3029 (Office – Level 3)	ceiling plaster	GOOD		
V-034 Room 3031 (Office – Level 3)	ceiling plaster	GOOD		
V-034 Room 3032 (Office – Level 3)	ceiling plaster	GOOD		
V-034 Room 3033 (Seminar Room – Level 3)	ceiling plaster	GOOD		
V-034 Room 3034 (Office – Level 3)	ceiling plaster	GOOD		
V-034 Room 3035 (Office – Level 3)	ceiling plaster	GOOD		
V-034 Room 3036 (Office – Level 3)	ceiling plaster	GOOD		
V-034 Room 3037 (Office – Level 3)	ceiling plaster	GOOD		
V-034 Room 3037B (Office – Level 3)	ceiling plaster	GOOD		
V-034 Room 3039A (Office – Level 3)	ceiling plaster	GOOD		
V-034 Room 3043 (Office – Level 3)	ceiling plaster	GOOD		
V-034 Room 3045 (Storage – Level 3)	ceiling plaster	GOOD		
V-034 Room 3C01 (Main Hallway – Level 3)	ceiling plaster	GOOD		

ROOM # AND LOCATION ID	DESCRIPTION	CONDITION & QUANTITY		
		GOOD	FAIR	POOR
V-034 Room 4001 (Office – Level 4)	ceiling plaster	GOOD		
V-034 Room 4002 (Office – Level 4)	ceiling plaster	GOOD		
V-034 Room 4008 (Office – Level 4)	ceiling plaster	GOOD		
V-034 Room 4009 (Office – Level 4)	ceiling plaster	GOOD		
V-034 Room 4010 (Office - Level 4)	ceiling plaster	GOOD		
V-034 Room 4011 (PhD Room – Level 4)	ceiling plaster	GOOD		
V-034 Room 4012 (Office – Level 4)	ceiling plaster	GOOD		
V-034 Room 4013 (Office – Level 4)	ceiling plaster	GOOD		
V-034 Room 4014 (Office – Level 4)	ceiling plaster	GOOD		
V-034 Room 4015 (Office – Level 4)	ceiling plaster	GOOD		
V-034 Room 4016 (Office – Level 4)	ceiling plaster	GOOD		
V-034 Room 4018 (Office – Level 4)	ceiling plaster	GOOD		
V-034 Room 4019 (Office – Level 4)	ceiling plaster	GOOD		
V-034 Room 4019A (Office – Level 4)	ceiling plaster	GOOD		
V-034 Room 4019B (File Room – Level 4)	ceiling plaster	GOOD		
V-034 Room 4023 (HR Reception – Level 4)	ceiling plaster	GOOD		
V-034 Room 4023A (Office – Level 4)	ceiling plaster	GOOD		
V-034 Room 4023B (Office – Level 4)	ceiling plaster	GOOD		
V-034 Room 4023C (Office – Level 4)	ceiling plaster	GOOD		
V-034 Room 4023D (File Room – Level 4)	ceiling plaster	GOOD		

ROOM # AND LOCATION ID	DESCRIPTION	CONDITION & QUANTITY		
		GOOD	FAIR	POOR
V-034 Room 4023E (File Room - Level 4)	ceiling plaster	GOOD		
V-034 Room 4024 (Office – Level 4)	ceiling plaster	GOOD		
V-034 Room 4025 (Office – Level 4)	ceiling plaster	GOOD		
V-034 Room 4025A (Office – level 4)	ceiling plaster	GOOD		
V-034 Room 4025B (Office – Level 4)	ceiling plaster	GOOD		
V-034 Room 4025C (Office – Level 4)	ceiling plaster	GOOD		
V-034 Room 4029 (Office – Level 4)	ceiling plaster	GOOD		
V-034 Room 4030 (Office – Level 4)	ceiling plaster	GOOD		
V-034 Room 4030A (Office – Level 4)	ceiling plaster	GOOD		
V-034 Room 4031 (Office – Level 4)	ceiling plaster	GOOD		
V-034 Room 4031A (Office – Level 4)	ceiling plaster	GOOD		
V-034 Room 4032 (Office – Level 4)	ceiling plaster	GOOD		
V-034 Room 4032A (Office – Level 4)	ceiling plaster	GOOD		
V-034 Room 4033 (Office – Level 4)	ceiling plaster	GOOD		
V-034 Room 4034 (Office – Level 4)	ceiling plaster	GOOD		
V-034 Room 4035 (Office – Level 4)	ceiling plaster	GOOD		
V-034 Room 4039 (Employment Office – Level 4)	ceiling plaster		FAIR	
V-034 Room 4040 (Office – Level 4)	ceiling plaster	GOOD		
V-034 Room 4046 (Office – Level 4)	ceiling plaster	GOOD		
V-034 Room 4C01 (Hall – Level 4)	ceiling plaster	GOOD		

ROOM # AND LOCATION ID	DESCRIPTION	CONDITION & QUANTITY		
		GOOD	FAIR	POOR
V-021 Room 1017 (Mail Services Room – Level 1)	ceiling plaster		FAIR	
Note: Quantity and conditions were taken from MUN Survey Sheets				
Newfoundland Department of Government Services recognizes materials with greater than 1% asbestos by weight as an asbestos-containing material.				

3.6.5 Vinyl Flooring Materials

Flooring throughout the building consists of poured concrete, terrazzo, floor tiles and vinyl sheet flooring. Floor tile and vinyl sheet flooring samples were collected and analysis indicated that there are 2 types of asbestos containing flooring products (Refer to samples collected by ALL-tech, sample #'s AA-001, AA-009, AA-012, AA-016, AA-024 and AA-031). Refer to the table below for locations and conditions of asbestos and non-asbestos containing flooring products.

Table 3.6.5.1 Flooring Products Summary

Room # and Location ID	Description	Condition & Quantity		
		Good	Fair	Poor
AA-1019 Office (Loc 002)	9" x 9" floor tile - tan	161 ft ²		
AA-1022 Office (Loc 003)	9" x 9" floor tile - tan	161 ft ²		
AA-1021 (Lunch room – level 1)	9" x 9" floor tile	120.0 ft ²		
AA-2000 (Loc 081)	Vinyl floor tiles (suspect)	GOOD		
AA-2001/C/D/EA (Open Office – level 2)	Vinyl floor tiles (suspect)	GOOD		
AA-2001F (Loc 083 - Kitchen/Break Room)	Vinyl Sheet Flooring (Sample #: NEW A001)			
AA-2001F (Loc 083 - Kitchen/Break Room)	Vinyl Floor Tiles	GOOD		
AA-2001A (Loc 084 – Open Office)	Vinyl sheet flooring/vinyl floor tiles			
AA-2001B (Loc 085)	Vinyl sheet flooring/vinyl floor tiles			
AA-001 2000D (Loc 086 – M. Murray Floor2)	Vinyl floor tiles (suspect)	GOOD		
AA-2000 F-E (Loc 087)	Vinyl floor tiles (suspect)			
AA-2000G (Loc 088)	Vinyl floor tile (suspect)			
AA-2000H (Loc 089 – Mechanical Room)	Vinyl sheet flooring	GOOD		
AA-2002 (Loc 090 – Office)	Vinyl sheet flooring (brown)			

Room # and Location ID	Description	Condition & Quantity		
		Good	Fair	Poor
AA-2002 (Loc 090 – Office)	Vinyl floor tiles (suspect) (AA-001 – Suspect)			
AA-2002A (Loc 091 – G.W.Collins Registrar)	Vinyl floor tiles (suspect)			
AA-2004 (Loc 092 – Glen Collins Office)	Vinyl floor tiles (suspect)			
AA-2005 (Loc 094 – P. McCann Office)	9x9 vinyl floor tiles			
AA-2006 (Loc 095 – M. Puxley)	9x9 vinyl floor tiles	GOOD		
AA-2007 (Loc 096 – L. Thorne)	9x9 vinyl floor tiles	GOOD		
AA-2008 (Loc 097 – S. Singleton)	9x9 vinyl floor tiles	GOOD		
AA-2008A (Loc 098 – Singleton)	9x9 vinyl floor tiles	GOOD		
AA-2009 (Loc 099 – Meet & Greet Centre)	Vinyl floor tiles (suspect)			
AA-2009A (Loc 100 – Board Room)	Vinyl floor tiles (suspect)			
AA-2C01 (Loc 101 – Lobby)	Terrazzo	GOOD		
A-2V01 (Loc 102 – Entrance)	Terrazzo	GOOD		
AA-2014 (Loc 105 – Male Washroom)	Terrazzo			
AA-2017 (Loc 107)	Terrazzo			
AA-2018 (Loc 108)	Terrazzo	GOOD		
AA-2020 (Loc 110 – E Bruce)	Vinyl floor tiles (suspect)			
AA-2021 (Loc 111 - Office)	Vinyl floor tiles (suspect)			
A-2023 (Loc 112 – Vice President Research)	Vinyl floor tiles (suspect)			
A-2024B (Loc 113 – Kitchen & Washroom)	12x12 Vinyl floor tile (New, brown with speckle)			
A-2024 (Loc 114 – Kent Decker)	Vinyl floor tiles (suspect)			
A-2025 (Loc 115 – Office C. Tibbo)	Vinyl floor tiles (suspect)			
A-2026 (Loc 116 – Office C. Wilkson)	Vinyl floor tiles (suspect)			
A-2027 (Loc 117 – Copy Room)	Vinyl floor tiles (suspect)			

Room # and Location ID	Description	Condition & Quantity		
		Good	Fair	Poor
A-2027A (Loc 118 – Board Room)	Vinyl floor tiles (suspect)			
AA-2028 (Loc 119 – L. Tilley)	Vinyl floor tiles (suspect)			
AA-2033 (Loc 120 – open office)	Vinyl floor tiles (suspect)			
AA-2033 (Loc 120 – Closet)	Terrazzo			
A-2032 (Loc 122)	Vinyl floor tiles (suspect)			
A-2033A (Loc 123 – Multipurpose Room)	Vinyl floor tiles (suspect)			
A-2032C (Loc 124 – Corridor)	Terrazzo			
A-2032A (Loc 125 – Kitchen)	Clay Tiles			
A-2032B (Loc 126 – Washroom 2 nd floor)	Ceramic Tiles			
A-2031 (Loc 127 – T. Pardy 2 nd floor)	Vinyl Floor Tiles (suspect)			
A-2030 (Loc 128 – E. Roberts 2 nd floor)	Concrete (poured) (possible floor tile)			
A-2C03A (Loc 129 – Corridor 2 nd floor)	Terrazzo			
A-2029A (Loc 130 – Closet 2 nd floor)	12x12 vinyl floor tiles			
A-2029A (Loc 131 – Washroom 2 nd floor)	12x12 vinyl floor tiles			
A-2029 (Loc 132 – Board of Regents Board Room 2 nd floor)	Carpet			
A-2022F (Loc 135 – D. Collins)	Vinyl sheet flooring (suspect)	GOOD		
A-2022D (Loc 136 – G. Pike)	Vinyl sheet flooring (suspect)			
A-2022A (Loc 139 – File Room)	12x12 vinyl floor tiles			
A-2010 (Loc 140 – Custodial Room 2 nd floor)	Ceramic Tiles			
A-2003 (Loc 142 – Registration on 2 nd floor – Section #1)	Flooring - suspect			
A-2003 (Loc 142 – Registration on 2 nd floor – Section #2)	Flooring - suspect			
A-2004 (Loc 143 – Corridor East)	Terrazzo			
A-2C02 (Loc 144 – West Corridor)	Terrazzo			

Room # and Location ID	Description	Condition & Quantity		
		Good	Fair	Poor
A-2C03 (Loc 145 – Foray)	Carpet			
A-2C03 (Loc 145 – Foray)	12x12 marble flooring			
A-2V02 (Loc 146 – Entrance)	Marble flooring			
A-3006 (Loc 152 – F. Polack 3 rd floor)	12"x12" vinyl floor tiles (non-detected Sample # A010)			
A-3014 (Loc 160 – Storage Room)	Vinyl Sheet flooring (suspect)			
A-3014A (Loc 161 – Board Room/Library)	Vinyl sheet flooring (suspect)			
A-3015 (Loc 162 – Copy Room)	Vinyl sheet flooring (suspect)			
A-3015A (Loc 163 – File Room)	Vinyl sheet flooring (suspect)			
A-3000 (Loc 164 – Graduate Room 3 rd Floor)	12" x 12" Vinyl floor tiles	GOOD		
A-3016 (Loc 165 – Coustodial Closet 3 rd floor)	Clay tiles			
A-3026B/A (Loc 176 – Dr. Batisch Head, Dept of English)	Vinyl sheet flooring (sample # A-035)			
A-3028 (Loc 177 – Staff Lounge)	Vinyl sheet flooring (suspect)			
A-3029 (Loc 178 – M. Dalton)	12"x12" vinyl floor tiles (New white streak – Sample # A010)			
A-3031 (Loc 179 – Dr. Sherrodes)	12"x12" vinyl floor tiles (beige speckle)			
A-3038 (Loc 184 – D. Farquharson)	No entry to room			
A-3045 (Loc 189 – Electrical Room)	Vinyl sheet flooring (Sample # A-035)			
A-3046 (Loc 190 – Custodial Closet)	Clay tiles			
A-3047M (Loc 202 – Washroom)	Ceramic Tiles			
A-3033 (Loc 211 – Dept of Eng Seminar Room)	12"x12" vinyl floor tiles (blue speckle)			
No room number – Loc 213 (Storage Room 3 rd floor)	Ceramic tiles			
A-3030 (Loc 214 – Female)	Ceramic tiles			
A-3027E (Loc 216 – Closet)	Vinyl sheet flooring			
A-3027D (Loc 217 – Office)	Vinyl sheet flooring			

Room # and Location ID	Description	Condition & Quantity		
		Good	Fair	Poor
A-3027B (Loc 219 – P. Bryne)	Vinyl Sheet flooring			
A-3025, A + B + Washroom (Loc 222 – Male Washroom Corridor)	Ceramic tiles			
A-3C01 (Loc 223)	Terrazzo			
Newfoundland Department of Government Services recognizes materials with greater than 1% asbestos by weight as an asbestos-containing material.				

The possibility of multiple layers of flooring, tiles covered with carpets and as well other concealed conditions may exist in the Site Building. Should any additional floor coverings be uncovered, these flooring materials are to be managed as asbestos materials until sampling determines otherwise.

3.6.6 Asbestos Cement Products

3.6.7 Vermiculite Insulation

No vermiculite containing products were identified in the MUN survey sheets. Visual observations were made above the ceilings and through accessible hatches by MUN surveyor. Wall cavities were not investigated.

3.6.8 Other Asbestos-Containing Building Materials

Hardboard (transite) sheeting was identified in various areas throughout the building. Sampling determined 25% chrysotile asbestos (reference sample AA-038 – Location above doors in hall 1C01). These materials were observed as perforated ceiling panels at entrances to office and in some areas as wall panels on the first floor corridor (mainly painted white). Other forms of transite were observed on the footing of interior doors (painted black) throughout the building and as a backing to the kitchen sink in room (reference sample AA-1021 (painted).

Expansion joint cloth was observed on mechanical equipment in AA-1013G. Sample analysis of this material indicates an asbestos content of 20-50% Chrysotile asbestos.

4.0 SURVEY LIMITATIONS

It should be noted that all information provided in the above report was provided to Pinchin LeBlanc by Memorial University, St. John's Campus in request of preparing this documentation for the sole benefit of our client (*Memorial University, St. John's Campus*). Pinchin LeBlanc identified sample numbers, locations and results from the MUN survey sheets provided by the client. It is also to be noted that destructive testing was not conducted during the survey conducted by Memorial University surveyor (*Susan Knight*) to determine concealed conditions.

There are areas in the building that are suspect to contain asbestos containing material, i.e. behind washroom facilities walls/ceiling, inaccessible/unidentified shafts, cavities, pipe chases and such that were not accessed. Additional care should be taken during renovations/demolition in areas suspected to have concealed asbestos containing materials to ensure these materials are not disturbed.

Due to multiple renovations over time, asbestos containing materials may have been hidden behind newly constructed walls and ceilings, and such areas were inaccessible during the inspection. Should any suspect materials are uncovered during further renovations or alterations, the materials should be analyzed to confirm the presence or absence of asbestos.

It should be noted that asbestos containing materials such as piping straight runs & fittings may be present behind existing gyproc walls, ceilings, columns, shafts, etc. Since no destructive testing was performed during the original assessment, additional care should be taken during any renovations/demolition to ensure that no asbestos containing materials are disturbed.

The investigation performed by the Memorial University surveyor was not exhaustive and cannot be construed as a certification of the absence of any asbestos materials from the site. Conclusions derived are specific and limited to the immediate area of investigation. Representative samples have been analyzed for substances that are expected based on the data available at the time of the study. The absence of information relating to a specific substance does not preclude its presence.

Third party use of this report, or any reliance on or decisions made based on the findings of this report, are the sole responsibility of such third parties. Pinchin accepts no responsibility for damages suffered by any third party as a result of decisions made or actions conducted based on this report.

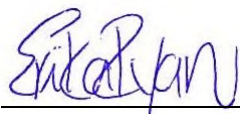
4.1 Pinchin LeBlanc Environmental Asbestos Product Summary

Sample preparation and analytical procedures are in compliance with the Code for the Determination of Asbestos from Bulk Insulation Samples, dated the 23rd of August, 1985 and issued by the Occupational Health and Safety Division of the Ontario Ministry of Labour, and U.S. EPA Method 600/R-93/116 dated July, 1993. Asbestos fibres are identified by a combination of morphology, colour, refractive index, extinction, sign of elongation, birefringence and dispersion staining colours. A visual estimate is made of the volume percentage of asbestos present. The lower limit of reliable quantitation is estimated to be 0.1%. A reported concentration of <0.1% indicates the presence of confirmed asbestos in trace quantities limited to only a few fibres or fibre bundles in an entire sample. Multiple phases within a sample are analyzed separately. A reported concentration of less than (<) the regulatory threshold indicates the presence of confirmed asbestos in trace quantities, limited to only a few fibres or

fibre bundles in a entire sample. This method complies with all provincial regulatory requirements (NIOSH 9002, I.R.S.S.T. 244-2). Multiple phases within a sample are analyzed and reported separately.

PINCHIN LEBLANC ENVIRONMENTAL LIMITED

Prepared by:



Erika Ryan
Environmental Technologist
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Reviewed by:



Paul Staeben
NL Branch Manager/Project Manager
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APPENDIX I

ASBESTOS ANALYTICAL RESULTS (PROVIDED BY MUN)

SCANNED

151 Crosbie Road Suite 403
St. John's, NL A1B 4B4Bus: (709) 754-4146
Fax: (709) 754-4194
Email: ndavis@alltech.com

April 24, 2009

Project# 9258

Mr. Glenn Dyke
Jordan Construction Ltd.
37 Commonwealth Avenue
Mount Pearl, NL A1N 1W7RE: Bulk Sample Results - MUN Arts and Administration Building, St. John's, NL

On April 22, 2009, three (3) bulk samples were collected by ALL-TECH Environmental Services Limited from various locations in the Arts and Administration Building of Memorial University. Upon the request of Mr. Glenn Dyke these samples underwent laboratory PLM/DS analysis to determine their asbestos content.

Listed in Table 1.0 below are the sample descriptions and laboratory results of this analysis.

Table 1.0
Bulk Sample Results

Sample Number	Sample Description/Location	Asbestos Content
AA-01	Drywall Joint Compound - Wall Room A-2001B	None Detected
AA-02	Plaster Wall Corridor A-2004 by Room A-2002	<1% Tremolite
AA-03	Drywall Joint Compound - Bulkhead Room A-2001B	None Detected

Laboratory analysis confirmed that the samples did not contain an asbestos concentration greater than the Newfoundland and Labrador guideline of 1%. (Newfoundland and Labrador Asbestos Abatement Regulations, 1998).

If you should have any questions regarding the results, please feel free to contact me at (709)754-4146.

Thank You,

Nikki Davis, B. Tech., Env. Tech.
Environmental Consultant
ALL-TECH Environmental Services LimitedEncl: Laboratory Results (1)
Sample Locations (1)

St. John's, NL Corner Brook, NL Sydney, NS Moncton, NB Saint John, NB Charlottetown, PEI Bedford, NS

Received Time Apr. 24. 1:01PM


ALL-TECH
ENVIRONMENTAL SERVICES LIMITED
885 Bayside Drive
Saint John, NB, E2R 1A3
www.atoaltech.com

Ph: (506) 658-1058
Fax: (506) 652-7998
email@toaltech.com

Certificate of Analysis

Nikki Davis
ALL-TECH Environmental Services Limited
151 Crosbie Road
Suite 402
St. John's, NF A1B 4B4
A2H 6C7

Report Date: 24-Apr-08
AT Project#: 9258
Project: MUN Arts / Admin Building
Jordan's Construction
PO / WO:

Bulk Sample Analysis Summary

Lab No: L-2089-1 Material Description: AA-01, Drywall Joint Compound, Wall.
Location: A-2001B, Mun Arts / Admin. Bldg.

% Asbestos Type Non-Asbestos Fibrous Material Non-Fibrous Material

Non-Detected Cellulose

Lab No: L-2089-2 Material Description: AA-02, Plaster Wall.
Location: A-2002B, Mun Arts / Admin. Bldg.

% Asbestos Type Non-Asbestos Fibrous Material Non-Fibrous Material

<1% Tremolite Mica

Lab No: L-2089-3 Material Description: AA-03, Drywall Joint Compound, Bulkhead.
Location: A-2001B, Mun Arts / Admin. Bldg.

% Asbestos Type Non-Asbestos Fibrous Material Non-Fibrous Material

Non-Detected Cellulose

Identification: By Polarized Light Microscopy / Dispersion Staining (PLM/DS). Test Method: NIOSH 5602, LOD <1% by volume.

LOD = Refers to Limit of Detection

Analysis Performed By:



Date: 24-Apr-08

APPENDIX III
LABORATORY ASBESTOS RESULTS

CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Services Ltd.
151 Crosbie Rd, Suite 402
St. John's NL A1B 4B4

Report Date: 5/22/2008
Project: Arts&Admin.Bldg.-MUN
Project No.: 7660

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 3314622	Description / Location: Tan Floor Tile; 9x9			
Client No.: AA-001	Room A-1000			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
PC 4.8	Chrysotile	None Detected	None Detected	PC 95.2

Lab No.: 3314622	Description / Location: Yellow Mastic			Layer No.: 2
Client No.: AA-001	Room A-1000			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 3314623	Description / Location: Off-White Acoustical Plaster			
Client No.: AA-002	Ceiling; Room A-1000			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
PC 5.3	Chrysotile	None Detected	None Detected	PC 94.7

Lab No.: 3314624	Description / Location: Grey/Tan Insulation			
Client No.: AA-003	Pipe Fitting In Bulkhead, Room A-1000			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
70	Chrysotile	10	Cellulose	20

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

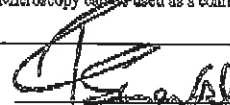
*This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any agency of the U.S. government.
This report shall not be reproduced except in full, without written approval of the laboratory.*

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantification. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: L. Solebello

Approved By:



Date: 5/22/2008

CERTIFICATE OF ANALYSIS

Client:	ALL-TECH Env'l Services Ltd.	Report Date:	5/22/2008
	151 Crosbie Rd, Suite 402	Project:	Arts&Admin.Bldg.-MUN
	St. John's NL A1B 4B4	Project No.:	7660

BULK SAMPLE ANALYSIS SUMMARY

Lab No.:	3314625	Description / Location:	White Plaster
Client No.:	AA-004		Wall, Room A-1000
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
None Detected	None Detected	None Detected	None Detected
			100

Lab No.:	3314626	Description / Location:	Off-White Joint Compound
Client No.:	AA-005		Room A-1001
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
None Detected	None Detected	None Detected	None Detected
			100

Lab No.:	3314627	Description / Location:	White/Tan Ceiling Tile; 2x4
Client No.:	AA-006		Room A-1001
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
None Detected	None Detected	35	Cellulose
		35	Fibrous Glass
			30

Lab No.:	3314628	Description / Location:	Grey Insulation; 1" Pipe Fitting
Client No.:	AA-007		Room A-1001A1
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
None Detected	None Detected	5	Cellulose
		25	Fibrous Glass
			70

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: L. Solebello

Date: 5/22/2008

CERTIFICATE OF ANALYSIS

Client: ALL-TECH Envtl Services Ltd.

151 Crosbie Rd, Suite 402

St. John's

NL

AIB 4B4

Report Date: 5/22/2008

Project: Arts&Admin Bldg.-MUN

Project No.: 7660

BULK SAMPLE ANALYSIS SUMMARY

Lab No.:	3314629	Description / Location:	Grey Insulation; 3" Pipe Fitting	
Client No.:	AA-008		Room A-1001A1	
% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
75	Chrysotile	None Detected	None Detected	25

Lab No.:	3314630	Description / Location:	Grey Floor Tile; 12x12	
Client No.:	AA-009		Room A-1001A2	
% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
PC 6.4	Chrysotile	None Detected	None Detected	PC 93.6

Lab No.:	3314630	Description / Location:	Black Mastic	Layer No.:	2
Client No.:	AA-009		Room A-1001A2		
% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material	
None Detected	None Detected	None Detected	None Detected	100	

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: L. Solcibello

Date: 5/22/2008

CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Services Ltd.
151 Crosbie Rd, Suite 402
St. John's NL A1B 4B4

Report Date: 5/22/2008
Project: Arts&Admin Bldg.-MUN
Project No.: 7660

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 3314631	Description / Location: Off-White Floor Tile; 12x12
Client No.: AA-010	Top Layer, Room A-1001A2
<u>% Asbestos</u>	<u>Type</u>
None Detected	None Detected
<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
None Detected	None Detected
	<u>% Non-Fibrous Material</u>
	100

Lab No.: 3314631	Description / Location: Black Mastic	Layer No.: 2
Client No.: AA-010	Top Layer, Room A-1001A2	
<u>% Asbestos</u>	<u>Type</u>	
None Detected	None Detected	
<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	
None Detected	None Detected	
		<u>% Non-Fibrous Material</u>
		100

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Performed By: L. Solebello

Date: 5/22/2008

CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Services Ltd.
151 Crosbie Rd, Suite 402
St. John's NL A1B 4B4

Report Date: 5/22/2008
Project: Arts&Admin.Bldg.-MUN
Project No.: 7660

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 3314632	Description / Location: Pink Floor Tile
Client No.: AA-011	Middle Layer, Room A-1001A2
<u>% Asbestos</u>	<u>% Non-Asbestos Fibrous Material</u>
None Detected	None Detected
<u>Type</u>	<u>Type</u>
None Detected	None Detected
	<u>% Non-Fibrous Material</u>
	100

Lab No.: 3314632	Description / Location: Black Mastic	Layer No.: 2
Client No.: AA-011	Middle Layer, Room A-1001A2	
<u>% Asbestos</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	100
<u>Type</u>	<u>Type</u>	
None Detected	None Detected	

Lab No.: 3314632	Description / Location: Black Mastic	Layer No.: 3
Client No.: AA-011	Middle Layer, Room A-1001A2	
<u>% Asbestos</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	100
<u>Type</u>	<u>Type</u>	
None Detected	None Detected	

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: L. Solebello

Date: 5/22/2008

CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Services Ltd.
151 Crosbie Rd, Suite 402
St. John's NL A1B 4B4

Report Date: 5/22/2008
Project: Arts&Admin.Bldg.-MUN
Project No.: 7660

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 3314633	Description / Location: Grey Floor Tile	
Client No.: AA-012	Bottom Layer, Room A-1001A2	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>
PC 6.5	Chrysotile	None Detected
		None Detected
		PC 93.5

Lab No.: 3314633	Description / Location: Black Mastic	Layer No.: 2
Client No.: AA-012	Bottom Layer, Room A-1001A2	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>
None Detected	None Detected	None Detected
		None Detected
		100

Lab No.: 3314633	Description / Location: Black Mastic	Layer No.: 3
Client No.: AA-012	Bottom Layer, Room A-1001A2	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>
None Detected	None Detected	None Detected
		None Detected
		100

Lab No.: 3314634	Description / Location: Grey Insulation	
Client No.: AA-013	Spray-On Fireproofing, Room A-1003	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>
95	Amosite	None Detected
		None Detected
		5

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: L. Solebello

Date: 5/22/2008

CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Services Ltd.
151 Crosbie Rd, Suite 402
St. John's NL A1B 4B4

Report Date: 5/22/2008
Project: Arts&Admin Bldg.-MUN
Project No.: 7660

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 3314635	Description / Location: Tan Ceiling Tile; 2x2
Client No.: AA-014	Room A-1005
<u>% Asbestos</u>	<u>% Non-Asbestos Fibrous Material</u>
None Detected	25
<u>Type</u>	<u>Type</u>
None Detected	Cellulose
	50
	Fibrous Glass
	<u>% Non-Fibrous Material</u>
	25

Lab No.: 3314636	Description / Location: Off-White Joint Compound
Client No.: AA-015	Wall, Room A-1016
<u>% Asbestos</u>	<u>% Non-Asbestos Fibrous Material</u>
None Detected	None Detected
<u>Type</u>	<u>Type</u>
None Detected	None Detected
	<u>% Non-Fibrous Material</u>
	100

Lab No.: 3314637	Description / Location: Tan Floor Tile; 9x9
Client No.: AA-016	Room A-1038
<u>% Asbestos</u>	<u>% Non-Asbestos Fibrous Material</u>
PC 7.5	None Detected
<u>Type</u>	<u>Type</u>
Chrysotile	None Detected
	<u>% Non-Fibrous Material</u>
	PC 92.5

Lab No.: 3314637	Description / Location: Black Mastic	Layer No.: 2
Client No.: AA-016	Room A-1038	
<u>% Asbestos</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>% Non-Fibrous Material</u>
PC 3.5	None Detected	PC 96.5
<u>Type</u>	<u>Type</u>	
Chrysotile	None Detected	

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: L. Solebello

Date: 5/22/2008

CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Services Ltd.
151' Crosbie Rd, Suite 402
St. John's NL A1B 4B4

Report Date: 5/22/2008
Project: Arts&Admin.Bldg.-MUN
Project No.: 7660

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 3314638	Description / Location: Grey Insulation			
Client No.: AA-017	Pipe Fitting-Mech. Room 1018			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
75	Chrysotile	Trace	Fibrous Glass	25

Lab No.: 3314639	Description / Location: Grey Insulation			
Client No.: AA-018	Pipe Fitting 3"-Room A- 1013			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
75	Chrysotile	Trace	Cellulose	25
		Trace	Fibrous Glass	

Lab No.: 3314640	Description / Location: Tan/Grey Insulation			
Client No.: AA-019	Pipe Fitting 1"-Room A- 1013			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
70	Chrysotile	5	Cellulose	25

Lab No.: 3314641	Description / Location: Tan Joint Compound			
Client No.: AA-020	Room A-1017			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
PC 2.1	Chrysotile	None Detected	None Detected	PC 97.9

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Performed By: L. Solcibello

Date: 5/22/2008

CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Services Ltd.
151 Crosbie Rd, Suite 402
St. John's NL A1B 4B4

Report Date: 5/22/2008
Project: Arts&Admin.Bldg.-MUN
Project No.: 7660

BULK SAMPLE ANALYSIS SUMMARY

Lab No.:	3314642	Description / Location:	Tan Acoustical Plaster Ceiling, Room A-1017		
Client No.:	AA-021				
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>	
PC 6.3	Chrysotile	None Detected	None Detected	PC 93.7	

Lab No.:	3314643	Description / Location:	Tan Ceiling Tile; 2x4 Room A-1023		
Client No.:	AA-022				
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>	
None Detected	None Detected	25	Cellulose	25	
		50	Fibrous Glass		

Lab No.:	3314644	Description / Location:	Grey Floor Tile; 12x12 Room A-1025		
Client No.:	AA-023				
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>	
None Detected	None Detected	None Detected	None Detected	100	

NIST-NVLAP No. 101165-0

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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: L. Solebello

Date: 5/22/2008

CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Services Ltd.
151 Crosbie Rd, Suite 402
St. John's NL A1B 4B4

Report Date: 5/22/2008
Project: Arts&Admin Bldg. -MUN
Project No.: 7660

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 3314645 Description / Location: Tan Floor Tile; 9x9
Client No.: AA-024 Room A-1024

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
PC 6.8	Chrysotile	None Detected	None Detected	PC 93.2

Lab No.: 3314645 Description / Location: Black Mastic
Client No.: AA-024 Room A-1024 Layer No.: 2

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
PC 4.1	Chrysotile	None Detected	None Detected	PC 95.9

Lab No.: 3314646 Description / Location: Tan Joint Compound
Client No.: AA-025 Room A-1024A

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
PC 1.6	Chrysotile	None Detected	None Detected	PC 98.4

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Analysis Performed By: L. Solebello

Date: 5/22/2008

CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Services Ltd.
151 Crosbie Rd, Suite 402
St. John's NL A1B 4B4

Report Date: 5/22/2008
Project: Arts&Admin Bldg. -MUN
Project No.: 7660

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 3314647	Description / Location: Tan Floor Tile; 12x12		
Client No.: AA-026	Under Carpet; Room A-1039		
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
PC 1.8	Chrysotile	None Detected	None Detected
			<u>% Non-Fibrous Material</u>
			PC 98.2

Lab No.: 3314647	Description / Location: Black Mastic		Layer No.: 2
Client No.: AA-026	Under Carpet; Room A-1039		
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
None Detected	None Detected	None Detected	None Detected
			<u>% Non-Fibrous Material</u>
			100

Lab No.: 3314648	Description / Location: Tan/Brown Vinyl Sheet Flooring		
Client No.: AA-027	Room A-1021		
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
None Detected	None Detected	None Detected	None Detected
			<u>% Non-Fibrous Material</u>
			100

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

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Analysis Performed By: L. Solebello

Date: 5/22/2008

CERTIFICATE OF ANALYSIS

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151 Crosbie Rd, Suite 402
St. John's NL A1B 4B4

Report Date: 5/22/2008
Project: Arts&Admin.Bldg.-MUN
Project No.: 7660

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 3314649	Description / Location: Green Floor Tile, 12x12
Client No.: AA-028	Main Hall By Elevators 1st Floor (1C01)
<u>% Asbestos</u>	<u>Type</u>
None Detected	None Detected
<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
None Detected	None Detected
	<u>% Non-Fibrous Material</u>
	100

Lab No.: 3314649	Description / Location: Yellow Mastic	Layer No.: 2
Client No.: AA-028	Main Hall By Elevators 1st Floor (1C01)	
<u>% Asbestos</u>	<u>Type</u>	
None Detected	None Detected	
<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	
None Detected	None Detected	
		<u>% Non-Fibrous Material</u>
		100

Lab No.: 3314650	Description / Location: White Joint Compound
Client No.: AA-029	Room A-2000K
<u>% Asbestos</u>	<u>Type</u>
None Detected	None Detected
<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
None Detected	None Detected
	<u>% Non-Fibrous Material</u>
	100

Lab No.: 3314651	Description / Location: Grey Insulation; Spray-On Fireproofing
Client No.: AA-030	In Ceiling; Room A-2000K
<u>% Asbestos</u>	<u>Type</u>
None Detected	None Detected
<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
70	Fibrous Glass
	<u>% Non-Fibrous Material</u>
	30

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: L. Salebello

Date: 5/22/2008

CERTIFICATE OF ANALYSIS

Client:	ALL-TECH Env'l Services Ltd.	Report Date:	5/22/2008
	151 Crosbie Rd, Suite 402	Project:	Arts&Admin.Bldg.-MUN
	St. John's NL A1B 4B4	Project No.:	7660

BULK SAMPLE ANALYSIS SUMMARY

Lab No.:	3314652	Description / Location:	Tan/Green Floor Tile; 12x12	
Client No.:	AA-031		Under Carpet, Room A-2000K	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
PC 7.8	Chrysotile	None Detected	None Detected	PC 92.2

Lab No.:	3314652	Description / Location:	Black Mastic	Layer No.:	2
Client No.:	AA-031		Under Carpet, Room A-2000K		
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>	
None Detected	None Detected	None Detected	None Detected	100	

Lab No.:	3314653	Description / Location:	Tan/Grey Vinyl Sheet Flooring	
Client No.:	AA-032		Under Carpet Room A-2000	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Cellulose	95

Lab No.:	3314654	Description / Location:	White Plaster	
Client No.:	AA-033		Wall, Room A-2001	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

*This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any agency of the U.S. government
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Analysis Method: EPA 600/R-93/116

Comments: (PC) indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: L. Solebello

Date: 5/22/2008

CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Services Ltd.
151 Crosbie Rd, Suite 402
St. John's NL AIB 4B4

Report Date: 5/22/2008
Project: Arts&Admin.Bldg.-MUN
Project No.: 7660

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 3314655	Description / Location: Tan Acoustical Plaster
Client No.: AA-034	Ceiling, Room A-2001
<u>% Asbestos</u>	<u>% Non-Asbestos Fibrous Material</u>
PC 6.7	None Detected
<u>Type</u>	<u>Type</u>
Chrysotile	None Detected
	<u>% Non-Fibrous Material</u>
	PC 93.3

Lab No.: 3314656	Description / Location: Tan Vinyl Sheet Flooring
Client No.: AA-035	Under Carpet, Room 3001
<u>% Asbestos</u>	<u>% Non-Asbestos Fibrous Material</u>
None Detected	5
<u>Type</u>	<u>Type</u>
None Detected	Cellulose
	<u>% Non-Fibrous Material</u>
	95

Lab No.: 3314657	Description / Location: Off-White Joint Compound
Client No.: AA-036	Room A-3027B
<u>% Asbestos</u>	<u>% Non-Asbestos Fibrous Material</u>
None Detected	None Detected
<u>Type</u>	<u>Type</u>
None Detected	None Detected
	<u>% Non-Fibrous Material</u>
	100

Lab No.: 3314658	Description / Location: Off-White Insulation; Fireproofing
Client No.: AA-037	In Ceiling In Structure, Room A-3026
<u>% Asbestos</u>	<u>% Non-Asbestos Fibrous Material</u>
None Detected	40
<u>Type</u>	<u>Type</u>
None Detected	Fibrous Glass
	<u>% Non-Fibrous Material</u>
	60

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: L. Solebello

Date: 5/22/2008

CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Services Ltd.
151 Crosbie Rd, Suite 402
St. John's NL A1B 4B4

Report Date: 5/22/2008
Project: Arts&Admin.Bldg.-MUN
Project No.: 7660

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 3314659	Description / Location: Grey Transite Panel			
Client No.: AA-038	Above Doors In Hall 1C01			
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
25	Chrysotile	None Detected	None Detected	75

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

*This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any agency of the U.S. government.
This report shall not be reproduced except in full, without written approval of the laboratory.*

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: L. Solebello

Date: 5/22/2008



**ANALYSIS OF BULK SAMPLES FOR ASBESTOS CONTENT
BY POLARIZED LIGHT MICROSCOPY AND DISPERSION STAINING**

PROJECT NAME: **MUN Arts Building**

PROJECT NO.: **02 8147 02**
LAB REFERENCE NO.: **NLB557 - 2007**

DATE: **November 13, 2007**

Four (4) bulk samples were submitted for determination of their asbestos content by Polarized Light Microscopy and Dispersion Staining.

Sample preparation and analytical procedures are in compliance with the Code for the Determination of Asbestos from Bulk Insulation Samples, dated the 23rd of August, 1985 and issued by the Occupational Health and Safety Division of the Ontario Ministry of Labour, and U.S. EPA Method 800/R-93/116 dated July, 1993. Asbestos fibres are identified by a combination of morphology, colour, refractive index, extinction, sign of elongation, birefringence and dispersion staining colours. A visual estimate is made of the volume percentage of asbestos present. The lower limit of reliable quantitation is estimated to be 0.1%. A reported concentration of <0.1% indicates the presence of confirmed asbestos in trace quantities limited to only a few fibres or fibre bundles in an entire sample. Multiple phases within a sample are analyzed separately. A total of four (4) analyses were performed.

All bulk samples submitted to this laboratory for asbestos analysis are retained for a minimum of three months. Samples may be retrieved, upon request, for re-examination at any time during that period.

This test relates only to the items tested. The results are presented in the attached table.

ENTERED
11/12/07

BULK SAMPLE ANALYSIS



27 Austin Street
St. John's, NL
A1B 4C3

PROJECT NAME: MUN Arts Building

LAB REFERENCE No: NLB 557

PREPARED FOR: Mike Bannister

DATE: November 13, 2007

PAGE: 1 of 2

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE) ASBESTOS	OTHER	COMMENTS
S#001 Dust sample in heater, Room 3051	Non-homogenous dust and debris	None Detected	Cellulose 50-75% Non-fibrous material 25-50%	Dust samples may contain very fine asbestos fibers, from airborne sources, which are below the resolution of the optical microscope. Consequently, the analysis of dust samples by PLM cannot be used as an indication of past or present airborne asbestos fiber levels.
S#002 Dust sample in heater, Room 3055	Non-homogenous dust and debris	Chrysotile 1-5%	Cellulose 25-50% Non-fibrous material 25-50%	Dust samples may contain very fine asbestos fibers, from airborne sources, which are below the resolution of the optical microscope. Consequently, the analysis of dust samples by PLM cannot be used as an indication of past or present airborne asbestos fiber levels.

ANALYST: *Shanta Paul*

BULK SAMPLE ANALYSIS**ENTERED**
NOV 12/09

LAB REFERENCE No: NLB 557

PROJECT NAME: MUN Arts Building

DATE: November 13, 2007

PREPARED FOR: Mike Bannister

PAGE: 2 of 2

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE) ASBESTOS	OTHER	COMMENTS
S#003 Dust sample in heater, Room 3058	Non-homogenous dust and debris	None Detected	Cellulose 50-75% Non-fibrous material 25-50%	Dust samples may contain very fine asbestos fibers, from airborne sources, which are below the resolution of the optical microscope. Consequently, the analysis of dust samples by PLM cannot be used as an indication of past or present airborne asbestos fiber levels.
S#004 Parging on heater line, Room 3051	Homogenous, grey, hard and granular, cementitious material	Chrysotile 1-5%	Non-fibrous material >75%	

ANALYST: *Quentin Hall*



151 Crosbie Road Suite 402
St. John's, NL A1B 4B4

ENTERED

Bus: (709) 754-4146
Fax: (709) 754-4194
Email: dbutt@toalltech.com

November 19, 2008

Project# 8562

Mr. Darrin Cromwell
Darrin Cromwell Painting and Plaster Ltd.
18A Shetland Place
CBS, NL
A1X 4E1

RE: **Bulk Sample Results - Various Locations, Memorial University of Newfoundland**

Attention: Mr. Darrin Cromwell

On November 10th, 2008, four (4) bulk samples were collected by Mr. Darrin Cromwell from the Memorial University of Newfoundland and delivered to ALL-TECH Environmental Services Ltd. Upon the request of Mr. Cromwell these samples underwent laboratory PLM/DS analysis to determine their asbestos content.

Listed in Table 1.0 below are sample descriptions and laboratory results of this analysis.

**Table 1.0
Bulk Sample Results For
Memorial University**

Sample Number	Sample Description/Location	Asbestos Content
1	White/Tan Plaster Room A3033A Ceiling Arts and Administration Building	None Detected
2	White/Tan Plaster Room A3028 Wall Arts and Administration Building	None Detected
3	White/Tan Plaster Room SN3125 Wall Science Building	None Detected
4	White/Tan Plaster Room ED2004 Wall Education Building	None Detected

Laboratory analysis confirmed that none of the four samples contained an asbestos concentration greater than the Newfoundland and Labrador guideline of 1%. (*Newfoundland and Labrador Asbestos Abatement Regulations, 1998*).



151 Crosbie Road Suite 402
St. John's, NL A1B 4B4

Bus: (709) 754-4146
Fax: (709) 754-4194
Email: dbutt@toalltech.com

If you should have any questions regarding the results, please feel free to contact me at (709)754-4146.

Thank You,

A handwritten signature in cursive script that reads "Nikki Davis".

Nikki Davis, B. Tech., Env. Tech.
Environmental Consultant
ALL-TECH Environmental Services Limited

Encl: Laboratory Results



International Asbestos
Testing Laboratories

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

CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Services Ltd.
20 Duke Street; Suite 109
Bedford NS B4A2Z5

Report Date: 11/19/2008
Project: DarrinCromwell-MVN
Project No.:

BULK SAMPLE ANALYSIS SUMMARY

Lab No.:	3463425	Description / Location:	White/Tan Plaster	
Client No.:	1		Arts 3033A Ceiling-MVN	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.:	3463426	Description / Location:	White/Tan Plaster	
Client No.:	2		Arts 3028 Wall-MVN	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.:	3463427	Description / Location:	White/Tan Plaster	
Client No.:	3		Science 3125 Wall-MVN	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

Lab No.:	3463428	Description / Location:	White/Tan Plaster	
Client No.:	4		Education 2004 Wall-MVN	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	None Detected	None Detected	100

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: R. Caran

Approved By:

Date: 11/18/2008

Page 1 of 1

Frank B. Ehrenfeld, III
Laboratory Director



151 Crosbie Road Suite 402
St. John's, NL A1B 4B4

ENTERED

Bus: (709) 754-4146
Fax: (709) 754-4194
Email: dbutt@toalltech.com

November 19, 2008

Project# 8562

Mr. Darrin Cromwell
Darrin Cromwell Painting and Plaster Ltd.
18A Shetland Place
CBS, NL
A1X 4E1

RE: Bulk Sample Results - Various Locations, Memorial University of Newfoundland

Attention: Mr. Darrin Cromwell

On November 10th, 2008, four (4) bulk samples were collected by Mr. Darrin Cromwell from the Memorial University of Newfoundland and delivered to ALL-TECH Environmental Services Ltd. Upon the request of Mr. Cromwell these samples underwent laboratory PLM/DS analysis to determine their asbestos content.

Listed in Table 1.0 below are sample descriptions and laboratory results of this analysis.

**Table 1.0
Bulk Sample Results For
Memorial University**

Sample Number	Sample Description/Location	Asbestos Content
1	White/Tan Plaster Room A3033A Ceiling Arts and Administration Building	None Detected
2	White/Tan Plaster Room A3028 Wall Arts and Administration Building	None Detected
3	White/Tan Plaster Room SN3125 Wall Science Building	None Detected
4	White/Tan Plaster Room ED2004 Wall Education Building	None Detected

Laboratory analysis confirmed that none of the four samples contained an asbestos concentration greater than the Newfoundland and Labrador guideline of 1%. (*Newfoundland and Labrador Asbestos Abatement Regulations, 1998*).



151 Crosbie Road Suite 402
St. John's, NL A1B 4B4

Bus: (709) 754-4146
Fax: (709) 754-4194
Email: dbutt@toalltech.com

If you should have any questions regarding the results, please feel free to contact me at
(709)754-4146.

Thank You,

A handwritten signature in cursive script that reads "Nikki Davis".

Nikki Davis, B. Tech., Env. Tech.
Environmental Consultant
ALL-TECH Environmental Services Limited

Encl: Laboratory Results

CERTIFICATE OF ANALYSIS

Client: ALL-TECH Env'l Services Ltd.
20 Duke Street, Suite 109
Bedford NS B4A2Z5

Report Date: 11/19/2008
Project: DarrinCromwell-MVN
Project No.:

BULK SAMPLE ANALYSIS SUMMARY

Lab No.:	3463425	Description / Location:	White/Tan Plaster		
Client No.:	1		Arts 3033A Ceiling-MVN		
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>	
None Detected	None Detected	None Detected	None Detected	100	

Lab No.:	3463426	Description / Location:	White/Tan Plaster		
Client No.:	2		Arts 3028 Wall-MVN		
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>	
None Detected	None Detected	None Detected	None Detected	100	

Lab No.:	3463427	Description / Location:	White/Tan Plaster		
Client No.:	3		Science 3125 Wall-MVN		
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>	
None Detected	None Detected	None Detected	None Detected	100	

Lab No.:	3463428	Description / Location:	White/Tan Plaster		
Client No.:	4		Education 2004 Wall-MVN		
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>	
None Detected	None Detected	None Detected	None Detected	100	

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: R. Caran

Approved By:

Frank E. Ehrenfeld, III
Laboratory Director

Date: 11/18/2008

From: 7097544490

To: 7372339

06/03/2009 09:24 #577 P. 003/006



ART LVL 5

AA-290-06

**ANALYSIS OF BULK SAMPLES FOR ASBESTOS CONTENT
BY POLARIZED LIGHT MICROSCOPY AND DISPERSION STAINING**

PROJECT NAME: MUN Arts and Administration Building

PROJECT NO.: 02-7349
LAB REFERENCE NO.: NLB304 - 2007

DATE: April 13, 2007

Eight (8) bulk samples were submitted for determination of their asbestos content by Polarized Light Microscopy and Dispersion Staining.

Sample preparation and analytical procedures are in compliance with the Code for the Determination of Asbestos from Bulk Insulation Samples, dated the 23rd of August, 1985 and issued by the Occupational Health and Safety Division of the Ontario Ministry of Labour, and U.S. EPA Method 600/R-93/116 dated July, 1993. Asbestos fibres are identified by a combination of morphology, colour, refractive index, extinction, sign of elongation, birefringence and dispersion staining colours. A visual estimate is made of the volume percentage of asbestos present. The lower limit of reliable quantitation is estimated to be 0.1%. A reported concentration of <0.1% indicates the presence of confirmed asbestos in trace quantities limited to only a few fibres or fibre bundles in an entire sample. Multiple phases within a sample are analyzed separately. A total of thirteen (13) analyses were performed.

All bulk samples submitted to this laboratory for asbestos analysis are retained for a minimum of three months. Samples may be retrieved, upon request, for re-examination at any time during that period.

This test relates only to the items tested. The results are presented in the attached table.

From: 7097544490

To: 7372339

06/03/2009 09:24

#577 P.004/006

BULK SAMPLE ANALYSIS

LAB REFERENCE No: NLB 304

PROJECT NAME: MUN Arts and Administration Building

DATE: April 13, 2007

PAGE: 1 of 3

PREPARED FOR: Mark Bailey



860 Topsail Road
Mount Pearl NL
A1N 3L7

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	COMMENTS
		ASBESTOS	OTHER
S#001 2x2 ceiling tile	Homogenous, grey, compressed fibrous material.	None Detected	Mineral Wool 50-75% Non-fibrous material 25-50%
S#002 Mechanical pipe insulation	Homogenous, grey, soft, cementitious material	None Detected	Mineral Wool 25-50% Non-fibrous material 50-75%
S#003 Drywall joint filler	Homogenous, Grey, soft, cementitious material	None Detected	Non-fibrous material >75%
S#004 1x1 off-white floor tile	2 Phases: A. Homogenous, white, consolidated material B. Homogenous, black tar	None Detected None Detected	Non-fibrous material >75% Non-fibrous material >75%
S#005 1x1 dark green floor tile	Homogenous, green, consolidated material	None Detected	Non-fibrous material >75%

Vinyl floor tiles may contain very fine asbestos fibres which are not visible using the PLM method. For confirmation of the absence of asbestos, analysis by Transmission Electron Microscopy (TEM) is recommended.

Vinyl floor tiles may contain very fine asbestos fibres which are not visible using the PLM method. For confirmation of the absence of asbestos, analysis by Transmission Electron Microscopy (TEM) is recommended.

ANALYST: *Mark Bailey*

From:7097544490

To:7372339

06/03/2009 09:24

#577 P-005/006

BULK SAMPLE ANALYSISPROJECT NAME: **MUN Arts and Administration Building** LAB REFERENCE No: **NLB 304**DATE: **April 13, 2007**PAGE: **2 of 3**PREPARED FOR: **Mark Bailey**

860 Topsail Road
Mount Pearl NL
A1N 3J7

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE) ASBESTOS	OTHER	COMMENTS
S#006 1x1 orange floor tile	Homogenous, grey, consolidated material	None Detected	Non-fibrous material	>75% Vinyl floor tiles may contain very fine asbestos fibres which are not visible using the PLM method. For confirmation of the absence of asbestos, analysis by Transmission Electron Microscopy (TEM) is recommended.
S#007 1x1 purple floor tile	3 Phases: A. Homogenous, grey, consolidated material B. Homogenous, black tar C. Homogenous, grey, hard and granular, cementitious material	None Detected None Detected None Detected	Non-fibrous material Non-fibrous material Non-fibrous material	>75% >75% >75% Vinyl floor tiles may contain very fine asbestos fibres which are not visible using the PLM method. For confirmation of the absence of asbestos, analysis by Transmission Electron Microscopy (TEM) is recommended.

ANALYST: *[Signature]*

From: 7097544490

To: 7372339

06/03/2009 09:25

#577 P.006/006

BULK SAMPLE ANALYSIS

LAB REFERENCE No: NLB 304

PROJECT NAME: MUN Arts and Administration Building

DATE: April 13, 2007

PREPARED FOR: Mark Bailey

PAGE: 3 of 3



860 Topsail Road
Mount Pearl NL
A1N 3J7

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	OTHER	COMMENTS
S#008 1x1 blue floor tile	3 Phases: A. Homogenous, blue, consolidated material	None Detected	Non-fibrous material	Vinyl floor tiles may contain very fine asbestos fibres which are not visible using the PLM method. For confirmation of the absence of asbestos, analysis by Transmission Electron Microscopy (TEM) is recommended.
	B. Homogenous, black tar	None Detected	Non-fibrous material	
	C. Homogenous, grey, hard and granular, cementitious material	None Detected	Non-fibrous material	

ANALYST: *[Signature]*

ENTERED
NOV 12/09

151 Crosbie Road Suite 402
St. John's, NL A1B 4B4

Bus: (709) 754-4146
Fax: (709) 754-4194
Email: dbutt@toalltech.com

October 3, 2008

Project# 8361

Mr. Darrin Cromwell
Darrin Cromwell Painting and Plaster Ltd.
18A Shetland Place
CBS, NL
A1X 4E1

RE: **Bulk Sample Results - Arts and Administration Building, Memorial University of Newfoundland**

Attention: Mr. Darrin Cromwell

On September 28, 2008, two (2) plaster bulk samples were collected by Mr. Darrin Cromwell from the Memorial University of Newfoundland and delivered to ALL-TECH Environmental Services Ltd. Upon the request of Mr. Cromwell these samples underwent laboratory PLM/DS analysis to determine their asbestos content.

Listed in Table 1.0 below are sample descriptions and laboratory results of this analysis.


Table 1.0
Bulk Sample Results For
Memorial University
Sept. 28, 2008

Sample Number	Sample Description/Location	Asbestos Content
1022	Plaster Wall Room 1022 Arts and Administration Building	1-5% Chrysotile Asbestos
1023	Plaster Wall Room 1023 Arts and Administration Building	1-5% Chrysotile Asbestos

Laboratory analysis confirmed that both samples contained an asbestos concentration greater than the Newfoundland and Labrador guideline of 1%. (*Newfoundland and Labrador Asbestos Abatement Regulations, 1998*).

If you should have any questions regarding the results, please feel free to contact me at (709)754-4146.

Thank You,


Nikki Davis, B. Tech., Env. Tech.
Environmental Consultant
ALL-TECH Environmental Services Limited
Encl: Laboratory Results


ALL-TECH
ENVIRONMENTAL SERVICES LIMITED
20 Duke Street, Suite 109
Bedford, Nova Scotia B4A 2Z5
www.toalltech.com

Ph: (902) 835-3727
Fax: (902) 835-5266
email@toalltech.com

Certificate of Analysis

Client:	ALL-TECH Environmental 151 Crosbie Road, suite 402 St. John's, NL A1B 4B5	Report Date:	October 2, 2008
		Project:	8361
		Lab No.	B-1545
		Location:	

Bulk Sample Analysis Summary

Client No:	1022	Material Description:	Plaster
		Location:	Wall, Art's 1022

<u>% Asbestos</u>	<u>Type</u>	<u>Non-Asbestos Fibrous Material</u>
1-5%	Chrysotile	

Client No:	1023	Material Description:	Plaster
		Location:	Wall, Art's 1023

<u>% Asbestos</u>	<u>Type</u>	<u>Non-Asbestos Fibrous Material</u>
1-5%	Chrysotile	

Identification: Polarized Light Microscopy / Dispersion Staining (PLM/DS). Test Method: NIOSH 9002

Analysis Performed By: Evan Smith

Date: October 2, 2008

Pinchin Environmental Asbestos Laboratory Certificate of Analysis

October 12, 2010

Pinchin LeBlanc Environmental Ltd.
27 Austin Street, 2nd Floor
St. John's NL A1B 4C3

Attention: Angela Stagg

Lab Reference No.: b75734

Client Project Name: Department of Health & Safety, Memorial University of Newfoundland
208 Elizabeth Ave., St. John's, NL A1C 5S7

Client Project No.: N/A

Date Received: October 4, 2010

Date Analyzed: October 12, 2010

Analyst(s): K. Cockburn-Swance

Samples submitted: 17

Phases analyzed: 21

Methods of Analysis:

EPA 600/R-93/116 - Method for the Determination of Asbestos in Bulk Building Materials dated July, 1993

Bulk samples are checked visually and scanned under a stereomicroscope. Slides are prepared with representative portions of material and observed under a Polarized Light Microscope (PLM) at magnifications of 40X, 100X or 400X as appropriate. Asbestos fibres are identified by a combination of morphology, colour, refractive index, extinction, sign of elongation, birefringence and dispersion staining colours. A visual estimate is made of the percentage of asbestos present. A reported concentration of less than (<) the regulatory threshold (see chart below) indicates the presence of confirmed asbestos in trace quantities, limited to only a few fibres or fibre bundles in an entire sample. This method complies with all provincial regulatory requirements (NIOSH 9002, I.R.S.S.T. 244-2). Multiple phases within a sample are analyzed and reported separately.

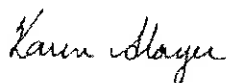
Provincial Jurisdiction	Regulatory Threshold	Provincial Jurisdiction	Regulatory Threshold
Ontario	0.5%	Manitoba	0.1% friable 1% non-friable
Quebec	0.1%	Saskatchewan	Unstated, likely 1.0%
Alberta, British Columbia, NWT, Yukon, Nunavut	1%	Atlantic Provinces	1%

All bulk samples submitted to this laboratory for asbestos analysis are retained for a minimum of three months. Samples may be retrieved, upon request, for re-examination at any time during that period.

Pinchin Environmental Ltd. is accredited by the National Institute of Standards and Technology, National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101270-0 and NVLAP Lab Code 200795-0) for selected test methods for the identification of asbestos in bulk samples and meets all requirements of ISO/IEC 17025:2005 and relevant requirements of ISO 9002:1994.

This report relates only to the items tested. If you have any questions, please feel free to contact me.

Yours truly,



Digitally Signed by Karen Slayer
kslayer@pinchin.com
Laboratory Manager, Asbestos Services
Pinchin Environmental Ltd.

Laboratory Manager, Asbestos Services

NOTE: This test report may not be reproduced, except in full, without the written approval of the laboratory. The client may not use this report to claim product endorsement by NVLAP or any agency of the U.S. Government. This report is valid only when signed in blue ink by the analyst and the laboratory manager. Vinyl asbestos floor tiles contain very fine fibres of asbestos and may be missed by some laboratories using the PLM method. Internal verification studies performed by Pinchin indicate that the chance of missing asbestos in floor tiles is no higher than about 2%. Supporting laboratory data and a written statement of uncertainty is available upon request.

2470 MILLTOWER COURT, MISSISSAUGA, ON L5N 7W5 TEL: (905) 363-0678 FAX: (905) 363-0681
MISSISSAUGA • OTTAWA • KINGSTON • KENORA • HAMILTON • PETERBOROUGH • SUDBURY • WATERLOO • SARNIA • WINNIPEG • BRANDON

Pinchin Environmental Asbestos Laboratory
Certificate of Analysis

Client Project Name: Department of Health & Safety, Memorial University of Newfoundland
208 Elizabeth Ave., St. John's, NL A1C 5S7

Client Project No.: N/A

Prepared For: Angela Stagg

Lab Reference No.: b75734

Date Analyzed: October 12, 2010

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
AA-1018-001-19-08-10 Arts & Administration, AA-1018, Mechanical Room, Plaster ceiling	2 Phases:		
	a) Homogeneous, off-white, hard, cementitious, plaster base coat.	Chrysotile 1-5% Actinolite/Tremolite < 0.1%	Cellulose 0.1-1% Vermiculite 10-25% Other Non-Fibrous > 75%
	b) Homogeneous, white, hard, cementitious, plaster top coat.	None Detected	Non-Fibrous Material > 75%
AA-1018-002-19-08-10 Arts & Administration, AA-1018, Mechanical Room, Plaster wall (31)	Homogeneous, grey, hard, cementitious, plaster material.	Chrysotile < 0.1%	Non-Fibrous Material > 75%
AA-1023A-001-19-08-10 Arts & Administration, AA-1023A, Cashier Office, Remnant plaster wall above t-bar ceiling	2 Phases:		
	a) Homogeneous, beige, hard, cementitious, plaster base coat.	Actinolite/Tremolite < 0.1%	Vermiculite 10-25% Other Non-Fibrous > 75%
	b) Homogeneous, white, hard, cementitious, plaster top coat.	None Detected	Non-Fibrous Material > 75%
AA-1023A-002-19-08-10 Arts & Administration, AA-1023A, Cashier Office, Textured ceiling above t-bar ceiling	Non-homogeneous, off-white, finishing or texture coat.	Chrysotile 5-10%	Perlite 25-50% Vermiculite 5-10% Other Non-Fibrous 50-75%
AA-1025A-001-24-08-10 Arts & Administration, AA-1025A, Vault, Plaster wall (1)	Homogeneous, grey, hard, cementitious, plaster material.	Chrysotile 1-5%	Non-Fibrous Material > 75%

REVIEWED BY

K. Stagg

ANALYST

K. Koch

Pinchin Environmental Asbestos Laboratory
Certificate of Analysis

Client Project Name: Department of Health & Safety, Memorial University of Newfoundland
208 Elizabeth Ave., St. John's, NL A1C 5S7

Client Project No.: N/A

Prepared For: Angela Stagg

Lab Reference No.: b75734

Date Analyzed: October 12, 2010

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
AA-1026A-001-24-08-10 Arts & Administration, AA-1026A, Office, Plaster Wall/Skim coat	Homogeneous, grey, hard, cementitious, plaster material.	None Detected	Non-Fibrous Material > 75%
AA-1020-001-27-08-10 Arts & Administration, AA-1020, Receiving Doors, Tar paper on duct work	Homogeneous, black, tar material.	None Detected	Tar and other non-fibrous > 75%
Comments:	Cellulose and fibreglass are present on the surface of this sample.		
AA-1013-001-27-08-10 Arts & Administration, AA-1013, Theatre Storage, Tar paper on straight run piping, fountain hatch	Homogeneous, black, tar material.	None Detected	Tar and other non-fibrous > 75%
Comments:	Cellulose and foil are present on the surface of this sample.		
AA-1013G-001-27-08-10 Arts & Administration, AA-1013G, Mechanical Room, Expansion joint cloth, air handling unit	Homogeneous, off-white, woven fabric.	Chrysotile 25-50%	Glass Fibres 25-50% Synthetic Fibres 25-50% Non-Fibrous Material 5-10%
AA-1C01-001-31-08-10 Arts & Administration, AA-1C01, Corridor, Plaster material on wire mesh	Homogeneous, off-white, hard, cementitious, plaster base coat.	Chrysotile < 0.1% Actinolite/Tremolite < 0.1%	Vermiculite 10-25% Other Non-Fibrous > 75%

REVIEWED BY

K. Stagg

ANALYST

K. Koch

Pinchin Environmental Asbestos Laboratory
Certificate of Analysis

Client Project Name: Department of Health & Safety, Memorial University of Newfoundland
208 Elizabeth Ave., St. John's, NL A1C 5S7

Client Project No.: N/A

Prepared For: Angela Stagg

Lab Reference No.: b75734

Date Analyzed: October 12, 2010

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
AA-1007A-001-31-08-10 Arts & Administration, AA-1007, Office, 2' x 2' Acoustic ceiling tile, pinhole w fissure	Homogeneous, beige, layered, compressed, acoustic ceiling tile.	None Detected	Cellulose 25-50% Mineral Wool 50-75% Non-Fibrous Material 5-10%
AA-2013-001-08-09-10 Arts & Administration, AA-2013, Office, 2' x 2' Acoustic ceiling tile, pinhole	Homogeneous, beige, layered, compressed, acoustic ceiling tile.	None Detected	Cellulose 25-50% Mineral Wool 25-50% Perlite 10-25% Other Non-Fibrous 1-5%
AA-2015A-001-22-09-10 Arts & Administration, AA-2015A, Reid Theatre, Old theatre curtain	Homogeneous, brown, woven fabric.	None Detected	Cotton > 75% Non-Fibrous Material 1-5%
AA-3005-001-09-09-10 Arts & Administration, AA-3006, Office, Plaster wall/skim coat	2 Phases: a) Homogeneous, off-white, hard, cementitious, plaster base coat.	Chrysotile 0,1-1%	Vermiculite 10-25% Other Non-Fibrous > 75%
	b) Homogeneous, grey, hard, cementitious, plaster top coat.	Chrysotile < 0.1%	Non-Fibrous Material > 75%

REVIEWED BY

K. Mayer

ANALYST

K. Koch

**Pinchin Environmental Asbestos Laboratory
Certificate of Analysis**

Client Project Name: Department of Health & Safety, Memorial University of Newfoundland
208 Elizabeth Ave., St. John's, NL A1C 5S7

Client Project No.: N/A

Prepared For: Angela Stagg

Lab Reference No.: b75734

Date Analyzed: October 12, 2010

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
AA-4017-001-23-09-10 Arts & Administration, AA-4017, Mechanical Room, Plaster wall/ skim coat	2 Phases: a) Homogeneous, off-white, hard, cementitious, plaster base coat.	Chrysotile < 0.1%	Vermiculite 10-25% Other Non-Fibrous > 75%
	b) Homogeneous, grey, hard, cementitious, plaster top coat.	Chrysotile < 0.1%	Non-Fibrous Material > 75%
AA-4017-002-23-09-10 Arts & Administration, AA-4017, Mechanical Room, Unidentified material, suspect ACT, or stucco ceiling	Homogeneous, off-white, finishing or texture coat.	Chrysotile 10-25%	Perlite 25-50% Other Non-Fibrous 25-50%
AA-4048-001-24-09-10 Arts & Administration, AA-4048, Records Room, 2' x 2' Acoustic ceiling tile, pinhole w fissure	Homogeneous, beige, layered, compressed, acoustic ceiling tile.	None Detected	Cellulose 25-50% Mineral Wool 25-50% Perlite 10-25% Other Non-Fibrous 1-5%

REVIEWED BY

K. Mayer

ANALYST

K. Koch

Pinchin Environmental Asbestos Laboratory Certificate of Analysis

May 5, 2010

Pinchin LeBlanc Environmental Ltd.
27 Austin Street, 2nd Floor
St. John's NL A1B 4C3

Attention: J. Eustace / S. Knight

Lab Reference No.: b72033
Client Project Name: Memorial University of Newfoundland
Client Project No.: 02-02-00415
Date Received: April 28, 2010
Date Analyzed: May 5, 2010
Analyst(s): L. DeCurtis
Samples submitted: 2
Phases analyzed: 4

Methods of Analysis:

EPA 600/R-93/116 - Method for the Determination of Asbestos in Bulk Building Materials dated July, 1993

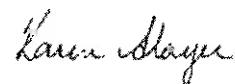
Bulk samples are checked visually and scanned under a stereomicroscope. Slides are prepared and observed under a Polarized Light Microscope (PLM) at magnifications of 40X, 100X or 400X as appropriate. Asbestos fibres are identified by a combination of morphology, colour, refractive index, extinction, sign of elongation, birefringence and dispersion staining colours. A visual estimate is made of the percentage of asbestos present. The percentage range category reported reflects the level of uncertainty of the method for estimating quantities of asbestos in bulk samples. A reported concentration of less than (<) the regulatory threshold (see chart below) indicates the presence of confirmed asbestos in trace quantities, limited to only a few fibres or fibre bundles in an entire sample. This method complies with all provincial regulatory requirements (NIOSH 9002, I.R.S.S.T. 244-2). Multiple phases within a sample are analyzed separately.

Provincial Jurisdiction	Regulatory Threshold	Provincial Jurisdiction	Regulatory Threshold
Ontario	0.5%	Manitoba	0.1% friable 1% non-friable
Quebec	0.1%	Saskatchewan	Unstated, likely 1.0%
Alberta, British Columbia, NWT, Yukon, Nunavut	1%	Atlantic Provinces	1%

All bulk samples submitted to this laboratory for asbestos analysis are retained for a minimum of three months. Samples may be retrieved, upon request, for re-examination at any time during that period.

Pinchin Environmental Ltd. is accredited by the National Institute of Standards and Technology, National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101270-0 and 200795-0) for selected test methods for the identification of asbestos in bulk samples and meets all requirements of ISO/IEC 17025:2005 and relevant requirements of This report relates only to the items tested. If you have any questions, please feel free to contact me.

Yours truly,



Digitally Signed by Karen Slayer
kslayer@pinchin.com
Laboratory Manager, Asbestos Services
Pinchin Environmental Ltd.

Laboratory Manager, Asbestos Services

NOTE: This test report may not be reproduced, except in full, without the written approval of the laboratory. The client may not use this report to claim product endorsement by NVLAP or any agency of the U.S. Government. This report is valid only when signed in blue ink by the analyst and the laboratory manager. Vinyl asbestos floor tiles contain very fine fibres of asbestos and may be missed by some laboratories using the PLM method. Internal verification studies performed by Pinchin indicate that the chance of missing asbestos in floor tiles is no higher than about 2%. Supporting laboratory documentation is available upon request.

Pinchin Environmental Asbestos Laboratory Certificate of Analysis

Client Project Name: Memorial University of Newfoundland
Client Project No.: 02-02-00415
Prepared For: J. Eustace / S. Knight

Lab Reference No.: b72033
Date Analyzed: May 5, 2010

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)			
		ASBESTOS		OTHER	
AA-2032B-001-04-27-10 Arts and Administration, washroom AA-2032B, Plaster Wall	2 Phases:				
	a) Homogeneous, beige, hard, cementitious, plaster base coat.	Chrysotile	0.1-1%	Cellulose	0.1-1%
		Actinolite/Tremolite	< 0.1%	Vermiculite	10-25%
				Other Non-Fibrous	> 75%
	b) Homogeneous, white, hard, cementitious, plaster top coat.	None Detected		Non-Fibrous Material	
					> 75%
AA-2032B-003-04-27-10 Arts and Administration, washroom AA-2032B, Plaster Ceiling	2 Phases:				
	a) Homogeneous, beige, hard, cementitious, plaster base coat.	Chrysotile	0.1-1%	Cellulose	0.1-1%
		Actinolite/Tremolite	< 0.1%	Vermiculite	10-25%
				Other Non-Fibrous	> 75%
	b) Homogeneous, white, hard, cementitious, plaster top coat.	None Detected		Non-Fibrous Material	
					> 75%

REVIEWED BY



ANALYST





Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 600/M4-82-020



NVLAP Lab Order 1004248

Customer: Pinchin LeBlanc Environmental
27 Austin St
2nd Flr
St Johns, NL A1B 4C3

Attn: Nicole Power
Jane Eustace

Lab Order ID: 1004248

Analysis ID: 1004248PLM

Date Received: 4/28/2010

Date Reported: 4/28/2010

Date Amended: 5/18/2010

Project: Memorial University of Newfoundland
02-02-00415

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
AA-2032B - 002-04-27-10-A 1004248PLM 1	Plaster wall finish	None Detected		100% Other	White Non Fibrous Homogeneous
					Crushed
AA-2032B- 002-04-27-10-R 1004248PLM 3	Plaster wall base	None Detected	3% Cellulose	97% Other	Gray Non Fibrous Heterogeneous
					Crushed
AA-2032B- 004-04-27-10-A 1004248PLM 2	Plaster ceiling finish	None Detected		100% Other	White Non Fibrous Homogeneous
					Crushed
AA-2032B- 004-04-27-10-R 1004248PLM 4	Plaster ceiling base	None Detected	3% Cellulose	97% Other	Gray Non Fibrous Heterogeneous
					Crushed

Disclaimer: Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommended that analysis of floor tiles, vermiculite, and/or heterogeneous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Estimated MDL is 0.5%.

Bart Huber (4)

Analyst

Scientific Analytical Institute, Inc. 302-L Pomona Dr. Greensboro, NC 27407 (336) 292-3888

Nathaniel Durham, MS or Approved Signatory

From: 7097544490

To: 7372339

06/03/2009 09:24

#577 P.003/006



**ANALYSIS OF BULK SAMPLES FOR ASBESTOS CONTENT
BY POLARIZED LIGHT MICROSCOPY AND DISPERSION STAINING**

PROJECT NAME: MUN Arts and Administration Building

PROJECT NO.: 02-7349
LAB REFERENCE NO.: NLB304 - 2007

DATE: April 13, 2007

Eight (8) bulk samples were submitted for determination of their asbestos content by Polarized Light Microscopy and Dispersion Staining.

Sample preparation and analytical procedures are in compliance with the Code for the Determination of Asbestos from Bulk Insulation Samples, dated the 23rd of August, 1985 and issued by the Occupational Health and Safety Division of the Ontario Ministry of Labour, and U.S. EPA Method 600/R-93/116 dated July, 1993. Asbestos fibres are identified by a combination of morphology, colour, refractive index, extinction, sign of elongation, birefringence and dispersion staining colours. A visual estimate is made of the volume percentage of asbestos present. The lower limit of reliable quantitation is estimated to be 0.1%. A reported concentration of <0.1% indicates the presence of confirmed asbestos in trace quantities limited to only a few fibres or fibre bundles in an entire sample. Multiple phases within a sample are analyzed separately. A total of thirteen (13) analyses were performed.

All bulk samples submitted to this laboratory for asbestos analysis are retained for a minimum of three months. Samples may be retrieved, upon request, for re-examination at any time during that period.

This test relates only to the items tested. The results are presented in the attached table.



860 Topsail Road
Mount Pearl NL
A1N 3J7

BULK SAMPLE ANALYSIS

ENTERED
APR 24/07

PROJECT NAME: MUN Arts and Administration Building

LAB REFERENCE No: NLB 304

PREPARED FOR: Mark Bailey

DATE: April 13, 2007

PAGE: 1 of 3

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)		COMMENTS
		ASBESTOS	OTHER	
S#001 2x2 ceiling tile	Homogenous, grey, compressed fibrous material.	None Detected	Mineral Wool 50-75% Non-fibrous material 25-50%	
S#002 Mechanical pipe insulation	Homogenous, grey, soft, cementitious material	None Detected	Mineral Wool 25-50% Non-fibrous material 50-75%	
S#003 (TYMCA) Drywall joint filler	Homogenous, Grey, soft, cementitious material	None Detected	Non-fibrous material >75%	
S#004 1x1 off-white floor tile	2 Phases: A. Homogenous, white, consolidated material B. Homogenous, black tar	None Detected	Non-fibrous material >75%	Vinyl floor tiles may contain very fine asbestos fibres which are not visible using the PLM method. For confirmation of the absence of asbestos, analysis by Transmission Electron Microscopy (TEM) is recommended.
S#005 1x1 dark green floor tile	Homogenous, green, consolidated material	None Detected	Non-fibrous material >75%	Vinyl floor tiles may contain very fine asbestos fibres which are not visible using the PLM method. For confirmation of the absence of asbestos, analysis by Transmission Electron Microscopy (TEM) is recommended.

ANALYST:

ident



860 Topsail Road
Mount Pearl NL
A1N 3J7

BULK SAMPLE ANALYSIS

PROJECT NAME: MUN Arts and Administration Building

LAB REFERENCE No: NLB 304

DATE: April 13, 2007

PREPARED FOR: Mark Bailey

PAGE: 2 of 3

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)		COMMENTS
		ASBESTOS	OTHER	
S#006 1x1 orange floor tile	Homogenous, grey, consolidated material	None Detected	Non-fibrous material >75%	Vinyl floor tiles may contain very fine asbestos fibres which are not visible using the PLM method. For confirmation of the absence of asbestos, analysis by Transmission Electron Microscopy (TEM) is recommended.
S#007 1x1 purple floor tile	3 Phases: A. Homogenous, grey, consolidated material B. Homogenous, black tar C. Homogenous, grey, hard and granular, cementitious material	None Detected None Detected None Detected	Non-fibrous material >75% Non-fibrous material >75% Non-fibrous material >75%	Vinyl floor tiles may contain very fine asbestos fibres which are not visible using the PLM method. For confirmation of the absence of asbestos, analysis by Transmission Electron Microscopy (TEM) is recommended.

ANALYST:



860 Topsail Road
Mount Pearl NL
A1N 3J7

BULK SAMPLE ANALYSIS

PROJECT NAME: MUN Arts and Administration Building

LAB REFERENCE No: NLB 304

PREPARED FOR: Mark Bailey

DATE: April 13, 2007

PAGE: 3 of 3

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	COMMENTS
ASBESTOS	OTHER		
S#008 1x1 blue floor tile	3 Phases: A. Homogenous, blue, consolidated material B. Homogenous, black tar C. Homogenous, grey, hard and granular, cementitious material	None Detected None Detected None Detected	Non-fibrous material >75% Non-fibrous material >75% Non-fibrous material >75%
			Vinyl floor tiles may contain very fine asbestos fibres which are not visible using the PLM method. For confirmation of the absence of asbestos, analysis by Transmission Electron Microscopy (TEM) is recommended.

ANALYST:

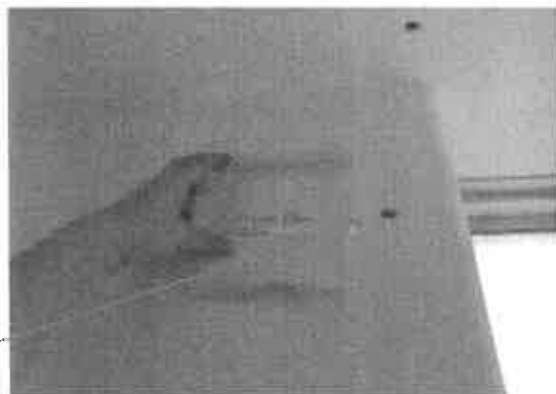
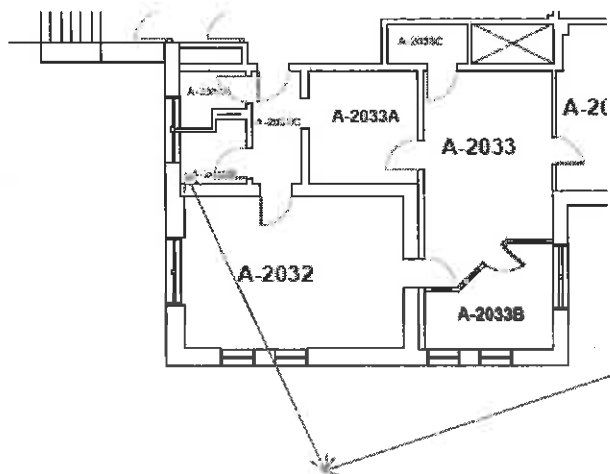


ASBESTOS BULK SAMPLING FORM

Sample #:	AA-2032B-02	Date Sampled:	March 23 2010
Building:	Arts & Administration	Sampler:	Susan Knight
Location:	AA-2032B	Analysis:	Paracel Lab PLM
MUN Project #:		Work Order #:	

Bulk Sampling Parameters

Pipe/Tank	Flooring	Ceiling	Roofing	Location
<input type="checkbox"/> Insulation	<input type="checkbox"/> 12" x 12" Tile	<input type="checkbox"/> Textured	<input type="checkbox"/> Shingle	<input type="checkbox"/> Floor
<input type="checkbox"/> Elbow	<input type="checkbox"/> 9" x 9" Tile	<input type="checkbox"/> Stucco	<input type="checkbox"/> Rolled	<input checked="" type="checkbox"/> 3 Wall Orientation
<input type="checkbox"/> Fitting	<input type="checkbox"/> Vinyl Sheet	<input type="checkbox"/> Popcorn	<input type="checkbox"/> Felt	<input type="checkbox"/> Ceiling
<input type="checkbox"/> Transite Pipe	<input type="checkbox"/> Mastic	<input type="checkbox"/> DWJC	<input type="checkbox"/> Tar	<input type="checkbox"/> Above Ceiling
<input type="checkbox"/> Gasket	Wall	<input type="checkbox"/> Plaster		<input type="checkbox"/> Other
<input type="checkbox"/> Tank Insulation	<input type="checkbox"/> Transite Panel	<input type="checkbox"/> Acoustic Tile (Dropped)		
<input type="checkbox"/> Pipe Wrap	<input type="checkbox"/> Textured Wall	<input type="checkbox"/> Acoustic Tile (Glued-On)		
HVAC	<input checked="" type="checkbox"/> Plaster	<input type="checkbox"/> Mastic	Miscellaneous	
<input type="checkbox"/> Insulation	<input type="checkbox"/> DWJC	Structural		
<input type="checkbox"/> Tape		<input type="checkbox"/> Steel F.P.ing	No. of Phases:	2
<input type="checkbox"/> Paper Wrap		<input type="checkbox"/> Deck F.P.ing	Colour:	White/Beige



Certificate of Analysis

Memorial University of Newfoundland

PO Box 4200

St. Johns, NL A1C 5S7

Attn: Susan Knight

Phone: 709-737-3786

Fax: (709) 737-3786

Client PO: P0069716

Project: Arts and Administration (Washrooms)

Custody:

Report Date: 31-Mar-2010

Order Date: 25-Mar-2010

Order #: 1013174

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

Paracel ID	Client ID		
1013174-01	AA-1C01-01 (DWIC)	1013174-24	AA-3025A-01 (Beige)
1013174-02	AA-1C01-02 (DWIC)	1013174-25	AA-3025A-02 (White)
1013174-03	AA-1016A-01 (White)	1013174-26	AA-3025A-02 (Beige)
1013174-04	AA-1016A-01 (Beige)	1013174-27	AA-3025B-01 (White)
1013174-05	AA-1016A-02 (White)	1013174-28	AA-3025B-01 (Beige)
1013174-06	AA-1016A-02 (Beige)	1013174-29	AA-4022-01 (White)
1013174-07	AA-1015-01 (White)	1013174-30	AA-4022-01 (Beige)
1013174-08	AA-1015-01 (Beige)	1013174-31	AA-4022-02 (White)
1013174-09	AA-2013-01 (White)	1013174-32	AA-4022-02 (Beige)
1013174-10	AA-2013-01 (Beige)	1013174-33	AA-4028-01 (White)
1013174-11	AA-2018-01 (White)	1013174-34	AA-4028-01 (Beige)
1013174-12	AA-2018-01 (Beige)	1013174-35	AA-4028-02 (White)
1013174-13	AA-2018-02 (White)	1013174-36	AA-4028-02 (Beige)
1013174-14	AA-2018-02 (Beige)		
1013174-15	AA-2032B-01 (White)		
1013174-16	AA-2032B-01 (Beige)		
1013174-17	AA-2032B-02 (White)		
1013174-18	AA-2032B-02 (Beige)		
1013174-19	AA-3030-01 (White)		
1013174-20	AA-3030-01 (Beige)		
1013174-21	AA-3030-02 (White)		
1013174-22	AA-3030-02 (Beige)		
1013174-23	AA-3025A-01 (White)		

Approved By:



Don Bellis, MSc For Heather S.H. McGregor, BSc
Laboratory Director - Microbiology

Any use of these results implies your agreement that our total liability in connection with this work, however arising shall be limited to the amount paid by you for this work, and that our employees or agents shall not under circumstances be liable to you in connection with this work

Client: Memorial University of Newfoundland
PO Box 4200
St. Johns, NL A1C 5S7

Attn: Susan Knight
Tel: 709-737-3786
Fax: (709) 737-3786

Project: Arts and Administration (Washrooms)
Parcel Report No.: 1013174

Received Date: 25-Mar-10
Report Date: 31-Mar-10

Asbestos by PLM **MDL - 0.5%**

Parcel I.D.	Sample Date	Layers Analyzed	Colour	Description	Asbestos Detected:	Material Identification	% Content
1013174-01	23-Mar-10	Sample Homogenized	White	Drywall Joint Compound	No	Client ID: AA-1C01-01 (DWJC) Non-Fibers	100
1013174-02	23-Mar-10	Sample Homogenized	White/Grey	Drywall Joint Compound	Yes	Client ID: AA-1C01-02 (DWJC) Chrysotile Non-Fibers	5 95
1013174-03	23-Mar-10	Sample Homogenized	White	Plaster	No	Client ID: AA-1016A-01 (White) Non-Fibers	100
1013174-04	23-Mar-10	Sample Homogenized	Beige	Plaster	No	Client ID: AA-1016A-01 (Beige) Non-Fibers	100
1013174-05	23-Mar-10	Sample Homogenized	White	Plaster	No	Client ID: AA-1016A-02 (White) Non-Fibers	100
1013174-06	23-Mar-10	Sample Homogenized	Beige	Plaster	No	Client ID: AA-1016A-02 (Beige) Non-Fibers	100
1013174-07	23-Mar-10	Sample Homogenized	White	Plaster	No	Client ID: AA-1015-01 (White) Non-Fibers	100
1013174-08	23-Mar-10	Sample Homogenized	Beige	Plaster	No	Client ID: AA-1015-01 (Beige) Non-Fibers	100
1013174-09	23-Mar-10	Sample Homogenized	White	Plaster	No	Client ID: AA-2013-01 (White) Non-Fibers	100
1013174-10	23-Mar-10	Sample Homogenized	Beige	Plaster	No	Client ID: AA-2013-01 (Beige) Non-Fibers	100
1013174-11	23-Mar-10	Sample Homogenized	White	Plaster	No	Client ID: AA-2018-01 (White) Non-Fibers	100
1013174-12	23-Mar-10	Sample Homogenized	Beige	Plaster	No	Client ID: AA-2018-01 (Beige) Non-Fibers	100
1013174-13	23-Mar-10	Sample Homogenized	White	Plaster	No	Client ID: AA-2018-02 (White) Non-Fibers	100
1013174-14	23-Mar-10	Sample Homogenized	Beige	Plaster	Yes	Client ID: AA-2018-02 (Beige) Chrysotile Non-Fibers	1 99

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SARNIA
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Client: Memorial University of Newfoundland
PO Box 4200
St. Johns, NL A1C 5S7

Attn: Susan Knight
Tel: 709-737-3786
Fax: (709) 737-3786

Project: Arts and Administration (Washrooms)
Parcel Report No.: 1013174

Received Date: 25-Mar-10
Report Date: 31-Mar-10

Asbestos by PLM **MDL - 0.5%**

Parcel I.D.	Sample Date	Layers Analyzed	Colour	Description	Asbestos Detected:	Material Identification	% Content
1013174-15	23-Mar-10	Sample Homogenized	White	Plaster	Yes	Client ID: AA-2032B-01 (White) Anthophyllite Non-Fibers	5 95
1013174-16	23-Mar-10	Sample Homogenized	Beige	Plaster	Yes	Client ID: AA-2032B-01 (Beige) Anthophyllite Non-Fibers	1 99
1013174-17	23-Mar-10	Sample Homogenized	White	Plaster	Yes	Client ID: AA-2032B-02 (White) Anthophyllite Non-Fibers	5 95
1013174-18	23-Mar-10	Sample Homogenized	Beige	Plaster	Yes	Client ID: AA-2032B-02 (Beige) Chrysotile Non-Fibers	1 99
1013174-19	23-Mar-10	Sample Homogenized	White	Plaster	No	Client ID: AA-3030-01 (White) Non-Fibers	100
1013174-20	23-Mar-10	Sample Homogenized	Beige	Plaster	No	Client ID: AA-3030-01 (Beige) Non-Fibers	100
1013174-21	23-Mar-10	Sample Homogenized	White	Plaster	Yes	Client ID: AA-3030-02 (White) Anthophyllite Non-Fibers	1 99
1013174-22	23-Mar-10	Sample Homogenized	Beige	Plaster	Yes	Client ID: AA-3030-02 (Beige) Chrysotile Non-Fibers	1 99
1013174-23	23-Mar-10	Sample Homogenized	White	Plaster	No	Client ID: AA-3025A-01 (White) Non-Fibers	100
1013174-24	23-Mar-10	Sample Homogenized	Beige	Plaster	No	Client ID: AA-3025A-01 (Beige) Non-Fibers	100
1013174-25	23-Mar-10	Sample Homogenized	White	Plaster	Yes	Client ID: AA-3025A-02 (White) Anthophyllite Non-Fibers	1 99

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Sarnia, ON N6T 0T2

Client: Memorial University of Newfoundland
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Attn: Susan Knight
Tel: 709-737-3786
Fax: (709) 737-3786

Project: Arts and Administration (Washrooms)
Paracel Report No.: 1013174

Received Date: 25-Mar-10
Report Date: 31-Mar-10

Asbestos by PLM **MDL - 0.5%**

Paracel I.D.	Sample Date	Layers Analyzed	Colour	Description	Asbestos Detected:	Material Identification	% Content
1013174-26	23-Mar-10	Sample Homogenized	Beige	Plaster	Yes	Client ID: AA-3025A-02 (Beige) Chrysotile Non-Fibers	1 99
1013174-27	23-Mar-10	Sample Homogenized	White	Plaster	No	Client ID: AA-3025B-01 (White) Non-Fibers	100
1013174-28	23-Mar-10	Sample Homogenized	Beige	Plaster	Yes	Client ID: AA-3025B-01 (Beige) Chrysotile Non-Fibers	1 99
1013174-29	23-Mar-10	Sample Homogenized	White	Plaster	No	Client ID: AA-4022-01 (White) Non-Fibers	100
1013174-30	23-Mar-10	Sample Homogenized	Beige	Plaster	Yes	Client ID: AA-4022-01 (Beige) Chrysotile Non-Fibers	1 99
1013174-31	23-Mar-10	Sample Homogenized	White	Plaster	No	Client ID: AA-4022-02 (White) Non-Fibers	100
1013174-32	23-Mar-10	Sample Homogenized	Beige	Plaster	No	Client ID: AA-4022-02 (Beige) Non-Fibers	100
1013174-33	23-Mar-10	Sample Homogenized	White	Plaster	No	Client ID: AA-4028-01 (White) Non-Fibers	100
1013174-34	23-Mar-10	Sample Homogenized	Beige	Plaster	No	Client ID: AA-4028-01 (Beige) Non-Fibers	100
1013174-35	23-Mar-10	Sample Homogenized	White	Plaster	No	Client ID: AA-4028-02 (White) Non-Fibers	100
1013174-36	23-Mar-10	Sample Homogenized	Beige	Plaster	No	Client ID: AA-4028-02 (Beige) Non-Fibers	100

MMVF: Man Made Vitreous Fibers: Fiberglass, Mineral Wool, Rockwool, Glasswool

Analytes in bold indicate asbestos content which may include:

Actinolite, Amosite, Anthophyllite, Chrysotile, Crocidolite and/or Tremolite.

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Client: Memorial University of Newfoundland
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Attn: Susan Knight
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Project: Arts and Administration (Washrooms)
Parcel Report No.: 1013174

Received Date: 25-Mar-10
Report Date: 31-Mar-10

Analysis Summary Table

Analysis	Method Reference/Description	Lab Location	NVLAP Lab Code	Analysis Date
Asbestos by PLM	by EPA 600/R-93/116	Ottawa West Lab	200812-0	30-Mar-10

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Certificate of Analysis

Memorial University of Newfoundland

PO Box 4200

St. Johns, NL A1C 5S7

Attn: Susan Knight

Phone: 709-737-3786

Fax: (709) 737-3786

Client PO: P0069716

Report Date: 20-Jan-2010

Project:

Order Date: 18-Jan-2010

Custody:

Order #: 1004068

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

Paracel ID	Client ID
1004068-01	AA-001 (white)
1004068-02	AA-001 (beige)

Approved By:

Heather S.H. McGregor, BSc
Laboratory Director - Microbiology

Any use of these results implies your agreement that our total liability in connection with this work, however arising shall be limited to the amount paid by you for this work, and that our employees or agents shall not under circumstances be liable to you in connection with this work

Client: Memorial University of Newfoundland
PO Box 4200
St. Johns, NL A1C 5S7

Attn: Susan Knight
Tel: 709-737-3786
Fax: (709) 737-3786

Project:
Paracel Report No.: 1004068

Received Date: 18-Jan-10
Report Date: 20-Jan-10

Asbestos by PLM **MDL - 0.5%**

Paracel I.D.	Sample Date	Layers Analyzed	Colour	Description	Asbestos Detected:	Material Identification	% Content
1004068-01	18-Jan-10	Sample homogenized	White	Plaster	No	Client ID: AA-001 (white) Non-Fibers	100
1004068-02	18-Jan-10	Sample homogenized	Beige	Plaster	No	Client ID: AA-001 (beige) Non-Fibers	100

MMVF: Man Made Vitreous Fibers: Fiberglass, Mineral Wool, Rockwool, Glasswool
Analytes in bold indicate asbestos content which may include:
Actinolite, Amosite, Anthophyllite, Chrysotile, Crocidolite and/or Tremolite.

Analysis Summary Table

Analysis	Method Reference/Description	Lab Location	NVLAP Lab Code	Analysis Date
Asbestos by PLM	by EPA 600/R-93/116	Ottawa West Lab	200812-0	19-Jan-10

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Certificate of Analysis

Nikki Davis
ALL-TECH Environmental Services Limited
151 Crosbie Road
Suite 402
St. John's, NF A1B 4B4
A2H 6C7

Report Date: 09-Feb-09
AT Project#: 8941
Project: Mun
PO / WO:

Bulk Sample Analysis Summary

Lab No: L-2012-1

Material Description: AA-01, Plaster above Ceiling, on wall netting

Location: A-2022A, MUN.

% Asbestos

Type

Non-Asbestos Fibrous Material

Non-Fibrous Material

1-5%

Chrysotile

Cellulose

Mica

Lab No: L-2012-2

Material Description: QC-01, Textured Ceiling

Location: Corridor 1C01 Outside QC1005, MUN.

% Asbestos

Type

Non-Asbestos Fibrous Material

Non-Fibrous Material

Non-Detected

Cellulose

Identification: By Polarized Light Microscopy / Dispersion Staining (PLM/DS). Test Method: NIOSH 9002, LOD <1% by volume.

LOD - Refers to Limit of Detection

Analysis Performed By:



Date:

09-Feb-09

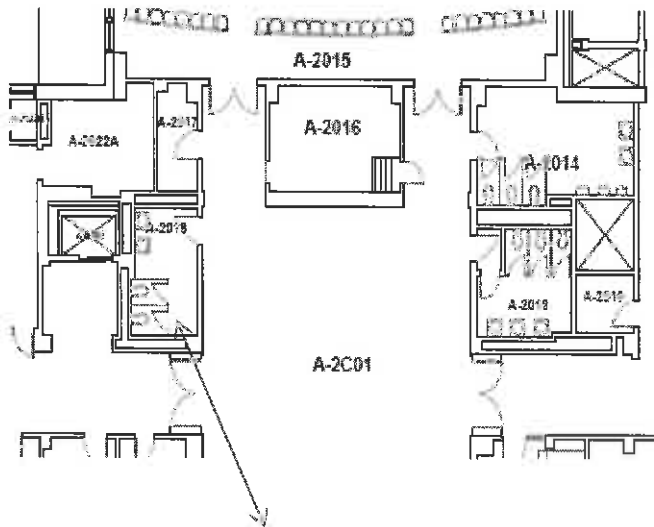


ASBESTOS BULK SAMPLING FORM

Sample #:	AA-2018-01	Date Sampled:	March 23 2010
Building:	Arts & Administration	Sampler:	Susan Knight
Location:	AA-2018-01	Analysis:	Paracel Lab PLM
MUN Project #:		Work Order #:	

Bulk Sampling Parameters

Pipe/Tank	Flooring	Ceiling	Roofing	Location
<input type="checkbox"/> Insulation	<input type="checkbox"/> 12" x 12" Tile	<input type="checkbox"/> Textured	<input type="checkbox"/> Shingle	<input type="checkbox"/> Floor
<input type="checkbox"/> Elbow	<input type="checkbox"/> 9" x 9" Tile	<input type="checkbox"/> Stucco	<input type="checkbox"/> Rolled	<input type="checkbox"/> Wall Orientation
<input type="checkbox"/> Fitting	<input type="checkbox"/> Vinyl Sheet	<input type="checkbox"/> Popcorn	<input type="checkbox"/> Felt	<input checked="" type="checkbox"/> Ceiling
<input type="checkbox"/> Transite Pipe	<input type="checkbox"/> Mastic	<input type="checkbox"/> DWJC	<input type="checkbox"/> Tar	<input type="checkbox"/> Above Ceiling
<input type="checkbox"/> Gasket	Wall	<input checked="" type="checkbox"/> Plaster		<input type="checkbox"/> Other
<input type="checkbox"/> Tank Insulation	<input type="checkbox"/> Transite Panel	<input type="checkbox"/> Acoustic Tile (Dropped)		
<input type="checkbox"/> Pipe Wrap	<input type="checkbox"/> Textured Wall	<input type="checkbox"/> Acoustic Tile (Glued-On)		
HVAC	<input type="checkbox"/> Plaster	<input type="checkbox"/> Mastic	Miscellaneous	
<input type="checkbox"/> Insulation	<input type="checkbox"/> DWJC	Structural		
<input type="checkbox"/> Tape		<input type="checkbox"/> Steel F.P.ing	No. of Phases:	2
<input type="checkbox"/> Paper Wrap		<input type="checkbox"/> Deck F.P.ing	Colour:	White/Beige



Certificate of Analysis

Memorial University of Newfoundland

PO Box 4200

St. Johns, NL A1C 5S7

Attn: Susan Knight

Phone: 709-737-3786

Fax: (709) 737-3786

Client PO: P0069716

Project: Arts and Administration (Washrooms)

Custody:

Report Date: 31-Mar-2010

Order Date: 25-Mar-2010

Order #: 1013174

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

Paracel ID	Client ID		
1013174-01	AA-1C01-01 (DWIC)	1013174-24	AA-3025A-01 (Beige)
1013174-02	AA-1C01-02 (DWIC)	1013174-25	AA-3025A-02 (White)
1013174-03	AA-1016A-01 (White)	1013174-26	AA-3025A-02 (Beige)
1013174-04	AA-1016A-01 (Beige)	1013174-27	AA-3025B-01 (White)
1013174-05	AA-1016A-02 (White)	1013174-28	AA-3025B-01 (Beige)
1013174-06	AA-1016A-02 (Beige)	1013174-29	AA-4022-01 (White)
1013174-07	AA-1015-01 (White)	1013174-30	AA-4022-01 (Beige)
1013174-08	AA-1015-01 (Beige)	1013174-31	AA-4022-02 (White)
1013174-09	AA-2013-01 (White)	1013174-32	AA-4022-02 (Beige)
1013174-10	AA-2013-01 (Beige)	1013174-33	AA-4028-01 (White)
1013174-11	AA-2018-01 (White)	1013174-34	AA-4028-01 (Beige)
1013174-12	AA-2018-01 (Beige)	1013174-35	AA-4028-02 (White)
1013174-13	AA-2018-02 (White)	1013174-36	AA-4028-02 (Beige)
1013174-14	AA-2018-02 (Beige)		
1013174-15	AA-2032B-01 (White)		
1013174-16	AA-2032B-01 (Beige)		
1013174-17	AA-2032B-02 (White)		
1013174-18	AA-2032B-02 (Beige)		
1013174-19	AA-3030-01 (White)		
1013174-20	AA-3030-01 (Beige)		
1013174-21	AA-3030-02 (White)		
1013174-22	AA-3030-02 (Beige)		
1013174-23	AA-3025A-01 (White)		

Approved By:



 Don Belisle, MSc For Heather S.H. McGregor, BSc
 Laboratory Director - Microbiology

Any use of these results implies your agreement that our total liability in connection with this work, however arising shall be limited to the amount paid by you for this work, and that our employees or agents shall not under circumstances be liable to you in connection with this work

Client: Memorial University of Newfoundland
PO Box 4200
St. Johns, NL A1C 5S7

Attn: Susan Knight
Tel: 709-737-3786
Fax: (709) 737-3786

Project: Arts and Administration (Washrooms)
Parcel Report No.: 1013174

Received Date: 25-Mar-10
Report Date: 31-Mar-10

Asbestos by PLM **MDL - 0.5%**

Parcel I.D.	Sample Date	Layers Analyzed	Colour	Description	Asbestos Detected:	Material Identification	% Content
1013174-01	23-Mar-10	Sample Homogenized	White	Drywall Joint Compound	No	Client ID: AA-1001-01 (DWIC)	
						Non-Fibers	100
1013174-02	23-Mar-10	Sample Homogenized	White/Grey	Drywall Joint Compound	Yes	Client ID: AA-1001-02 (DWIC)	
						Chrysotile	5
						Non-Fibers	95
1013174-03	23-Mar-10	Sample Homogenized	White	Plaster	No	Client ID: AA-1016A-01 (White)	
						Non-Fibers	100
1013174-04	23-Mar-10	Sample Homogenized	Beige	Plaster	No	Client ID: AA-1016A-01 (Beige)	
						Non-Fibers	100
1013174-05	23-Mar-10	Sample Homogenized	White	Plaster	No	Client ID: AA-1016A-02 (White)	
						Non-Fibers	100
1013174-06	23-Mar-10	Sample Homogenized	Beige	Plaster	No	Client ID: AA-1016A-02 (Beige)	
						Non-Fibers	100
1013174-07	23-Mar-10	Sample Homogenized	White	Plaster	No	Client ID: AA-1015-01 (White)	
						Non-Fibers	100
1013174-08	23-Mar-10	Sample Homogenized	Beige	Plaster	No	Client ID: AA-1015-01 (Beige)	
						Non-Fibers	100
1013174-09	23-Mar-10	Sample Homogenized	White	Plaster	No	Client ID: AA-2013-01 (White)	
						Non-Fibers	100
1013174-10	23-Mar-10	Sample Homogenized	Beige	Plaster	No	Client ID: AA-2013-01 (Beige)	
						Non-Fibers	100
1013174-11	23-Mar-10	Sample Homogenized	White	Plaster	No	Client ID: AA-2018-01 (White)	
						Non-Fibers	100
1013174-12	23-Mar-10	Sample Homogenized	Beige	Plaster	No	Client ID: AA-2018-01 (Beige)	
						Non-Fibers	100
1013174-13	23-Mar-10	Sample Homogenized	White	Plaster	No	Client ID: AA-2018-02 (White)	
						Non-Fibers	100
1013174-14	23-Mar-10	Sample Homogenized	Beige	Plaster	Yes	Client ID: AA-2018-02 (Beige)	
						Chrysotile	1
						Non-Fibers	99

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Attn: Susan Knight
Tel: 709-737-3786
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Project: Arts and Administration (Washrooms)
Parcel Report No.: 1013174

Received Date: 25-Mar-10
Report Date: 31-Mar-10

Asbestos by PLM **MDL - 0.5%**

Parcel I.D.	Sample Date	Layers Analyzed	Colour	Description	Asbestos Detected:	Material Identification	% Content
1013174-15	23-Mar-10	Sample Homogenized	White	Plaster	Yes	Client ID: AA-2032B-01 (White)	
						Anthophyllite	5
						Non-Fibers	95
1013174-16	23-Mar-10	Sample Homogenized	Beige	Plaster	Yes	Client ID: AA-2032B-01 (Beige)	
						Anthophyllite	1
						Non-Fibers	99
1013174-17	23-Mar-10	Sample Homogenized	White	Plaster	Yes	Client ID: AA-2032B-02 (White)	
						Anthophyllite	5
						Non-Fibers	95
1013174-18	23-Mar-10	Sample Homogenized	Beige	Plaster	Yes	Client ID: AA-2032B-02 (Beige)	
						Chrysotile	1
						Non-Fibers	99
1013174-19	23-Mar-10	Sample Homogenized	White	Plaster	No	Client ID: AA-3030-01 (White)	
						Non-Fibers	100
1013174-20	23-Mar-10	Sample Homogenized	Beige	Plaster	No	Client ID: AA-3030-01 (Beige)	
						Non-Fibers	100
1013174-21	23-Mar-10	Sample Homogenized	White	Plaster	Yes	Client ID: AA-3030-02 (White)	
						Anthophyllite	1
						Non-Fibers	99
1013174-22	23-Mar-10	Sample Homogenized	Beige	Plaster	Yes	Client ID: AA-3030-02 (Beige)	
						Chrysotile	1
						Non-Fibers	99
1013174-23	23-Mar-10	Sample Homogenized	White	Plaster	No	Client ID: AA-3025A-01 (White)	
						Non-Fibers	100
1013174-24	23-Mar-10	Sample Homogenized	Beige	Plaster	No	Client ID: AA-3025A-01 (Beige)	
						Non-Fibers	100
1013174-25	23-Mar-10	Sample Homogenized	White	Plaster	Yes	Client ID: AA-3025A-02 (White)	
						Anthophyllite	1
						Non-Fibers	99

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Project: Arts and Administration (Washrooms)
Parcel Report No.: 1013174

Received Date: 25-Mar-10
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Asbestos by PLM **MDL - 0.5%**

Parcel I.D.	Sample Date	Layers Analyzed	Colour	Description	Asbestos Detected:	Material Identification	% Content
1013174-26	23-Mar-10	Sample Homogenized	Beige	Plaster	Yes	Client ID: AA-3025A-02 (Beige) Chrysotile Non-Fibers	1 99
1013174-27	23-Mar-10	Sample Homogenized	White	Plaster	No	Client ID: AA-3025B-01 (White) Non-Fibers	100
1013174-28	23-Mar-10	Sample Homogenized	Beige	Plaster	Yes	Client ID: AA-3025B-01 (Beige) Chrysotile Non-Fibers	1 99
1013174-29	23-Mar-10	Sample Homogenized	White	Plaster	No	Client ID: AA-4022-01 (White) Non-Fibers	100
1013174-30	23-Mar-10	Sample Homogenized	Beige	Plaster	Yes	Client ID: AA-4022-01 (Beige) Chrysotile Non-Fibers	1 99
1013174-31	23-Mar-10	Sample Homogenized	White	Plaster	No	Client ID: AA-4022-02 (White) Non-Fibers	100
1013174-32	23-Mar-10	Sample Homogenized	Beige	Plaster	No	Client ID: AA-4022-02 (Beige) Non-Fibers	100
1013174-33	23-Mar-10	Sample Homogenized	White	Plaster	No	Client ID: AA-4028-01 (White) Non-Fibers	100
1013174-34	23-Mar-10	Sample Homogenized	Beige	Plaster	No	Client ID: AA-4028-01 (Beige) Non-Fibers	100
1013174-35	23-Mar-10	Sample Homogenized	White	Plaster	No	Client ID: AA-4028-02 (White) Non-Fibers	100
1013174-36	23-Mar-10	Sample Homogenized	Beige	Plaster	No	Client ID: AA-4028-02 (Beige) Non-Fibers	100

MMVF: Man Made Vitreous Fibers: Fiberglass, Mineral Wool, Rockwool, Glasswool
Analytes in bold indicate asbestos content which may include:
Actinolite, Amosite, Anthophyllite, Chrysotile, Crocidolite and/or Tremolite.

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NIAGARA FALLS
3000-10000 Ave. Carleton Place
Niagara Falls, ON L2E 6K3
SARNIA
1000-10000 Ave. Carleton Place
Sarnia, ON N6A 1K3

Client: Memorial University of Newfoundland
PO Box 4200
St. Johns, NL A1C 5S7

Attn: Susan Knight
Tel: 709-737-3786
Fax: (709) 737-3786

Project: Arts and Administration (Washrooms)
Paracel Report No.: 1013174

Received Date: 25-Mar-10
Report Date: 31-Mar-10

Analysis Summary Table

Analysis	Method Reference/Description	Lab Location	NVLAP Lab Code	Analysis Date
Asbestos by PLM	by EPA 600/R-93/116	Ottawa West Lab	200812-0	30-Mar-10

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Mississauga, ON L4W 6J8

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905-336-1011, 1000-1000
Niagara Falls, ON L2E 6J8
BARCELONA
905-336-1011, 1000-1000
Niagara Falls, ON L2E 6J8

Pinchin Environmental Asbestos Laboratory Certificate of Analysis

October 12, 2010

Pinchin LeBlanc Environmental Ltd.
27 Austin Street, 2nd Floor
St. John's NL A1B 4C3

Attention: Angela Stagg

Lab Reference No.: b75734
Client Project Name: Department of Health & Safety, Memorial University of Newfoundland
208 Elizabeth Ave., St. John's, NL A1C 5S7

Client Project No.: N/A
Date Received: October 4, 2010
Date Analyzed: October 12, 2010
Analyst(s): K. Cockburn-Swance
Samples submitted: 17
Phases analyzed: 21

Methods of Analysis:

EPA 600/R-93/116 - Method for the Determination of Asbestos in Bulk Building Materials dated July, 1993

Bulk samples are checked visually and scanned under a stereomicroscope. Slides are prepared with representative portions of material and observed under a Polarized Light Microscope (PLM) at magnifications of 40X, 100X or 400X as appropriate. Asbestos fibres are identified by a combination of morphology, colour, refractive index, extinction, sign of elongation, birefringence and dispersion staining colours. A visual estimate is made of the percentage of asbestos present. A reported concentration of less than (<) the regulatory threshold (see chart below) indicates the presence of confirmed asbestos in trace quantities, limited to only a few fibres or fibre bundles in an entire sample. This method complies with all provincial regulatory requirements (NIOSH 9002, I.R.S.S.T. 244-2). Multiple phases within a sample are analyzed and reported separately.

Provincial Jurisdiction	Regulatory Threshold	Provincial Jurisdiction	Regulatory Threshold
Ontario	0.5%	Manitoba	0.1% friable 1% non-friable
Quebec	0.1%	Saskatchewan	Unstated, likely 1.0%
Alberta, British Columbia, NWT, Yukon, Nunavut	1%	Atlantic Provinces	1%

All bulk samples submitted to this laboratory for asbestos analysis are retained for a minimum of three months. Samples may be retrieved, upon request, for re-examination at any time during that period.

Pinchin Environmental Ltd. is accredited by the National Institute of Standards and Technology, National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101270-0 and NVLAP Lab Code 200795-0) for selected test methods for the identification of asbestos in bulk samples and meets all requirements of ISO/IEC 17025:2005 and relevant requirements of ISO 9002:1994.

This report relates only to the items tested. If you have any questions, please feel free to contact me.

Yours truly,



Digitally Signed by Karen Slayer
kslayer@pinchin.com
Laboratory Manager, Asbestos Services
Pinchin Environmental Ltd.

Laboratory Manager, Asbestos Services

NOTE: This test report may not be reproduced, except in full, without the written approval of the laboratory. The client may not use this report to claim product endorsement by NVLAP or any agency of the U.S. Government. This report is valid only when signed in blue ink by the analyst and the laboratory manager. Vinyl asbestos floor tiles contain very fine fibres of asbestos and may be missed by some laboratories using the PLM method. Internal verification studies performed by Pinchin indicate that the chance of missing asbestos in floor tiles is no higher than about 2%. Supporting laboratory documentation and uncertainty is available upon request.

2470 MILLTOWER COURT, MISSISSAUGA, ON L5N 7W5 TEL: (905) 363-0678 FAX: (905) 363-0681
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Pinchin Environmental Asbestos Laboratory Certificate of Analysis

Client Project Name: Department of Health & Safety, Memorial University of Newfoundland
208 Elizabeth Ave., St. John's, NL A1C 5S7

Client Project No.: N/A

Prepared For: Angela Stagg

Lab Reference No.: b75734

Date Analyzed: October 12, 2010

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
AA-1018-001-19-08-10 Arts & Administration, AA-1018, Mechanical Room, Plaster ceiling	2 Phases: a) Homogeneous, off-white, hard, cementitious, plaster base coat.	Chrysotile 1-5% Actinolite/Tremolite < 0.1%	Cellulose 0.1-1% Vermiculite 10-25% Other Non-Fibrous > 75%
	b) Homogeneous, white, hard, cementitious, plaster top coat.	None Detected	Non-Fibrous Material > 75%
AA-1018-002-19-08-10 Arts & Administration, AA-1018, Mechanical Room, Plaster wall (31)	Homogeneous, grey, hard, cementitious, plaster material.	Chrysotile < 0.1%	Non-Fibrous Material > 75%
AA-1023A-001-19-08-10 Arts & Administration, AA-1023A, Cashier Office, Remnant plaster wall above t-bar ceiling	2 Phases: a) Homogeneous, beige, hard, cementitious, plaster base coat.	Actinolite/Tremolite < 0.1%	Vermiculite 10-25% Other Non-Fibrous > 75%
	b) Homogeneous, white, hard, cementitious, plaster top coat.	None Detected	Non-Fibrous Material > 75%
AA-1023A-002-19-08-10 Arts & Administration, AA-1023A, Cashier Office, Textured ceiling above t-bar ceiling	Non-homogeneous, off-white, finishing or texture coat.	Chrysotile 5-10%	Perlite 25-50% Vermiculite 5-10% Other Non-Fibrous 50-75%
AA-1025A-001-24-08-10 Arts & Administration, AA-1025A, Vault, Plaster wall (1)	Homogeneous, grey, hard, cementitious, plaster material.	Chrysotile 1-5%	Non-Fibrous Material > 75%

REVIEWED BY



ANALYST



Pinchin Environmental Asbestos Laboratory Certificate of Analysis

Client Project Name: Department of Health & Safety, Memorial University of Newfoundland
208 Elizabeth Ave., St. John's, NL A1C 5S7

Client Project No.: N/A

Prepared For: Angela Stagg

Lab Reference No.: b75734

Date Analyzed: October 12, 2010

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
AA-1026A-001-24-08-10 Arts & Administration, AA-1026A, Office, Plaster Wall/Skim coat	Homogeneous, grey, hard, cementitious, plaster material.	None Detected	Non-Fibrous Material > 75%
AA-1020-001-27-08-10 Arts & Administration, AA-1020, Receiving Doors, Tar paper on duct work	Homogeneous, black, tar material.	None Detected	Tar and other non-fibrous > 75%
Comments:	Cellulose and fibreglass are present on the surface of this sample.		
AA-1013-001-27-08-10 Arts & Administration, AA-1013, Theatre Storage, Tar paper on straight run piping, fountain hatch	Homogeneous, black, tar material.	None Detected	Tar and other non-fibrous > 75%
Comments:	Cellulose and foil are present on the surface of this sample.		
AA-1013G-001-27-08-10 Arts & Administration, AA-1013G, Mechanical Room, Expansion joint cloth, air handling unit	Homogeneous, off-white, woven fabric.	Chrysotile 25-50%	Glass Fibres 25-50% Synthetic Fibres 25-50% Non-Fibrous Material 5-10%
AA-1C01-001-31-08-10 Arts & Administration, AA-1C01, Corridor, Plaster material on wire mesh	Homogeneous, off-white, hard, cementitious, plaster base coat.	Chrysotile < 0.1% Actinolite/Tremolite < 0.1%	Vermiculite 10-25% Other Non-Fibrous > 75%

REVIEWED BY



ANALYST



Pinchin Environmental Asbestos Laboratory Certificate of Analysis

Client Project Name: Department of Health & Safety, Memorial University of Newfoundland
208 Elizabeth Ave., St. John's, NL A1C 5S7

Client Project No.: N/A

Prepared For: Angela Stagg

Lab Reference No.: b75734

Date Analyzed: October 12, 2010

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
AA-1007A-001-31-08-10 Arts & Administration, AA-1007, Office, 2' x 2' Acoustic ceiling tile, pinhole w fissure	Homogeneous, beige, layered, compressed, acoustic ceiling tile.	None Detected	Cellulose 25-50% Mineral Wool 50-75% Non-Fibrous Material 5-10%
AA-2013-001-08-09-10 Arts & Administration, AA-2013, Office, 2' x 2' Acoustic ceiling tile, pinhole	Homogeneous, beige, layered, compressed, acoustic ceiling tile.	None Detected	Cellulose 25-50% Mineral Wool 25-50% Perlite 10-25% Other Non-Fibrous 1-5%
AA-2015A-001-22-09-10 Arts & Administration, AA-2015A, Reid Theatre, Old theatre curtain	Homogeneous, brown, woven fabric.	None Detected	Cotton > 75% Non-Fibrous Material 1-5%
AA-3005-001-09-09-10 Arts & Administration, AA-3006, Office, Plaster wall/skim coat	2 Phases: a) Homogeneous, off-white, hard, cementitious, plaster base coat.	Chrysotile 0,1-1%	Vermiculite 10-25% Other Non-Fibrous > 75%
	b) Homogeneous, grey, hard, cementitious, plaster top coat.	Chrysotile < 0.1%	Non-Fibrous Material > 75%

REVIEWED BY

K. Mayer

ANALYST

K. Koch

Pinchin Environmental Asbestos Laboratory Certificate of Analysis

Client Project Name: Department of Health & Safety, Memorial University of Newfoundland
208 Elizabeth Ave., St. John's, NL A1C 5S7

Client Project No.: N/A

Prepared For: Angela Stagg

Lab Reference No.: b75734

Date Analyzed: October 12, 2010

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
AA-4017-001-23-09-10 Arts & Administration, AA-4017, Mechanical Room, Plaster wall/ skim coat	2 Phases:		
	a) Homogeneous, off-white, hard, cementitious, plaster base coat.	Chrysotile < 0.1%	Vermiculite 10-25% Other Non-Fibrous > 75%
	b) Homogeneous, grey, hard, cementitious, plaster top coat.	Chrysotile < 0.1%	Non-Fibrous Material > 75%
AA-4017-002-23-09-10 Arts & Administration, AA-4017, Mechanical Room, Unidentified material, suspect ACT, or stucco ceiling	Homogeneous, off-white, finishing or texture coat.	Chrysotile 10-25%	Perlite 25-50% Other Non-Fibrous 25-50%
AA-4048-001-24-09-10 Arts & Administration, AA-4048, Records Room, 2' x 2' Acoustic ceiling tile, pinhole w fissure	Homogeneous, beige, layered, compressed, acoustic ceiling tile.	None Detected	Cellulose 25-50% Mineral Wool 25-50% Perlite 10-25% Other Non-Fibrous 1-5%

REVIEWED BY



ANALYST



**ALL-TECH**
ENVIRONMENTAL SERVICES LIMITED151 Grosbie Road Suite 402
St. John's, NL A1B 4B4Bus: (709) 754-4146
Fax: (709) 754-4184
Email: onewhook@toaltech.comENTERED
07/23/09

AA-177-DB-

July 20, 2009

RECEIVED JUL 21 2009

Power Vac Services Limited
155 McNamara Drive
Paradise, NL
A1L 0A7**RE: Bulk Sample Results - MUN Arts & Administration Building Room 2001, St. John's, NL**

On July 7, 2009, one (1) bulk sample was collected by ALL-TECH Environmental Services Limited from room 2001 of the Arts & Administration Building, MUN, St. John's, NL. This sample underwent laboratory PLM/DS analysis to determine its asbestos content.

Listed in Table 1.0 below is the sample description and laboratory result of this analysis.

Table 1.0
Bulk Sample Results
Room 2001 Arts & Administration Building, MUN
St. John's, NL

Sample Number	Sample Description/Location	Asbestos Content
1	Drywall Joint Compound AA 2001 MUN	NONE DETECTED

Laboratory analysis confirmed that the sample did not contain an asbestos concentration greater than the Newfoundland and Labrador guideline of 1%. (*Newfoundland and Labrador Asbestos Abatement Regulations, 1998*).

No Further Action is required at this time.

If you should have any questions regarding the results, please feel free to contact me at (709)754-4146.

Thank You,

Orven Newhook, B.Sc.
Environmental Consultant
ALL-TECH Environmental Services Limited
Encl: Laboratory Results (1)

IATL International Asbestos
Testing Laboratories

9004 Concession Parkway Suite B Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9828

CERTIFICATE OF ANALYSIS

Client: **ALL-TECH Env'l Services Ltd.**
151 Crosbie Rd. Suite 402
St. John's NL A1B 4B4

Report Date: **7/10/2009**
Project: **MUN Arts & Admin**
Project No.:

BULK SAMPLE ANALYSIS SUMMARY

Lab No.:	Client No.:	Description / Location:	White Joint Compound
3660970	1	Room 2B01	
SLAB/JOINT	Type	M Non-Asbestos Fibrous Material	TM
None Detected	None Detected	None Detected	None Detected
			100

NEST-NYLAB No. 101166-8

NY-DOH No. 11821

NYHA Lab No. 100186

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Analysis Method: EPA 8200-R-03/116

Comments: (PC) In-house Certified Field Count Method performed. Method not performed when used. Quantification at 0.25% by volume is possible with this method. (PC-Phase) represents the bulk of samples. (PC-Phase) cannot determine any detected can be not quantifiable under the Phase Counting regime. Analysis includes all phases: amphibole, chrysotile, and actinolite with EPA 820 Method. If not reported in other way, there is clear test project on the client has specifically requested that it not be analyzed. If not asbestos fibers are measured by PLM due to detection limitations of the optical microscope. Therefore, matrix PLM results cannot be generated. Shortest detection limit is 0.1% by volume. Regulatory limit is based upon the sample matrix.

Analysis Performed By: **R. Caran**

Approved By:

Date: **7/8/2009**

Page 1 of 1

Frank E. Greenfield, III
Laboratory Director