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Ontario Clean Water Agency
901 Main Street,
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February 10, 2021

Attention: Patti O'Handley,
Senior Operations Manager, Northwestern Ontario Region

RE: Designated Substances Survey
Wastewater Treatment Plants
Longlac and Nakina, Ontario

DST File No.: 02100047.000

1.0 INTRODUCTION

DST Consulting Engineers Inc. (DST), a Division of Englobe Corp., was retained by the Ontario Clean Water Agency (OCWA) to provide Designated Substance Surveys (DSS) at two (2) Wastewater Treatment Plants in Longlac and Nakina, Ontario (the Sites).

The sites include the Water Treatment Plant, Wastewater Treatment Plant, Main Collection Plant, and Pumphouse located in Longlac, Ontario and the Wastewater Treatment Plant, Water Lift Station, and the Wellhouse in Nakina, Ontario.

2.0 SCOPE OF WORK

The Designated Substances Report is required under the *Ontario Occupational Health and Safety Act* in order to identify designated substances that may be present at the facility so that facility managers, etc. can inform their employees, contractors, and tenants of any designated substances that may be present.

The survey implemented by DST included an investigation of the 11 designated substances listed in Section 30 of the Occupational Health and Safety Act, R.S.O. 1990, Chapter 0.1:

- Acrylonitrile;
- Arsenic;
- Asbestos;
- Benzene;
- Coke Oven Emissions;
- Ethylene Oxide;
- Isocyanates;
- Lead;
- Mercury;
- Silica; and
- Vinyl Chloride

3.0 METHODOLOGY

DST personnel completed a DSS of accessible portions of the buildings on January 12th and 13th, 2021.

Materials suspected of containing designated substances were visually identified based on the surveyor's knowledge of the historic composition of building products. Materials suspected of containing designated substances were identified by appearance, age, and knowledge of historic applications.

In Ontario, a material is defined as an Asbestos-Containing Material (ACM) if the material has a minimum asbestos content of 0.5 per cent (%) by dry weight, as per Ontario Regulation (O. Reg.) 278/05 *Asbestos on Construction Projects and in Buildings and Repair Operations* enabled under the *Occupational Health and Safety Act (R.S.O. 1990, Chapter 0.1),* as amended. ACMs can be divided into two categories: friable and non-friable material. A friable ACM is a material that can be crumbled, powdered, or pulverized by hand pressure and can readily release fibres when disturbed. Common applications of friable ACMs are sprayed or trowelled surfacing materials (e.g. sprayed fireproofing and textured coatings) as well as mechanical and thermal insulation. Non-friable materials are materials that will generally release fibres only when cut or shaped. Common non-friable ACMs include vinyl floor products, caulking applications, plaster, asbestos textile products and asbestos cement products (transite).

The bulk samples were submitted to and analyzed by EMSL Canada Inc. (EMSL). EMSL is certified under the National Institute of Science and Technology's National Voluntary Laboratory Accreditation Program (NVLAP) to perform asbestos bulk sample analysis (NVLAP No. 200877-0). The bulk samples were analyzed using a combination of dispersion staining and polarised light microscopy (PLM). This analytical method complies with the United States Environmental Protection Agency (U.S. EPA) Method 600/R-93/116 dated July 1993. The laboratory followed a "positive-stop" analysis methodology and stopped analyzing a sample set if any one of the samples in a sample series proved to be positive for the presence of asbestos. Therefore, additional samples collected in order to satisfy the requirements of O. Reg. 278/05, as amended, were not analyzed if the initial sample was identified as asbestos-containing.

With regards to lead in paint, although the Ontario Ministry of Labour (MOL) has published a guideline for control of lead exposures on construction projects in Ontario, it does not include criteria for the classification of lead-paint. Instead, it uses presumed airborne lead concentrations for specific tasks as criteria for classifying work. The Environmental Abatement Council of Ontario (EACO) has published the Lead Guideline for Construction, Renovation, Maintenance or Repair (October 2014). This document outlines that Paints or surface coatings containing less than or equal to 0.1% (1,000 parts per million (ppm)) lead by weight are considered low-level lead paints or surface coatings. If these materials (and the surfaces to which they are applied) are disturbed in a non-aggressive manner, performed using normal dust control procedures and are completed so that the TWA [Time Weighted Average] for PNOS [Particles Not Otherwise Specified] is not

exceeded, then worker protection from the inhalation of lead is not required. For the purposes of this survey, paint applications having a lead concentration above 1,000 ppm are considered to be lead-containing and a concentration above 5,000 ppm are considered lead-based.

Representative samples of paints were collected and submitted to EMSL and were analyzed using Flame Atomic Absorption (SW 846 3050B/7000B).

4.0 FINDINGS

The findings during the January 12th and 13th, 2021 DSS site visit are presented below. Site photographs are provided in Appendix A. Laboratory Certificates of Analysis are provided in Appendix B.

4.1. Asbestos

Thirty-six (36) representative bulk samples of building materials were sampled from the buildings and submitted for asbestos content analysis. The sample descriptions and analytical results are summarized in Table 1.0

Table 1: Summary of Asbestos Content Analysis

Sample Number	Location	Material Description	Asbestos Content %
WASTEWATER TREATMENT PLANT - LONGLAC			
L-1A	**Main Entrance**	**Transite Board**	**15% Chrysotile**
L-1B	**Boiler Room**		
L-1C	**Office**		
L-2A	Boiler Room	Pipe Wrap Insulation	None Detected
L-2B			
L-2C			
WATER TREATMENT PLANT - LONGLAC			
L-3A	Bathroom/Laundry Room	2'X4' Lay-in Ceiling Tiles	None Detected
L-3B			
L-3C			
L-4A	Water Treatment Room	Pipe Wrap Insulation	None Detected
L-4B			
L-4C			

MAIN COLLECTION STATION - LONGLAC			
L-5A	Main Room	Pipe Wrap Insulation	None Detected
L-5B			
L-5C			
WATER TREATMENT PLANT - NAKINA			
N-1A	Main Room	Pipe Wrap Insulation	None Detected
N-1B			
N-1C			
N-2A	**Bathroom**	**12"X12" Beige Vinyl Floor Tile / Mastic**	**Floor Tile - 2% Chrysotile** Mastic - None Detected
N-2B			**Not Analyzed**
N-2C			**Not Analyzed**
N-3A	Bathroom	2'X4' Lay-in Ceiling Tiles	None Detected
N-3B			
N-3C			
WASTEWATER LIFT STATION - NAKINA			
N-4A	Boiler Room	Piping Insulation	None Detected
N-4B			
N-4C			
N-5A	Boiler Room	Pipe Wrapping/Insulation	None Detected
N-5B			
N-5C			

Note: **Bold items** exceed the 0.1% regulated concentration of asbestos, as per O.Reg. 278/05, as amended.

4.1.1. Asbestos-Containing Materials

Based on analytical samples results in Table 1, and supported site observations, the following building materials were identified as asbestos containing:

<u>Non-friable Transite</u>

- Transite cement board, sampled from the walls of the entrance way, the adjacent office, bathroom and boiler room of the Wastewater Treatment Plant (Longlac), contains 15% chrysotile asbestos (Sample L-1A). Approximately 85m² of transite was observed.

Non-friable Vinyl Floor Tile

- 12" x 12" vinyl floor tile, beige, sampled in the bathroom of the Water Treatment Plant (Nakina), contains 2% Chrysotile asbestos (Sample N2A). Approximately 10m² of vinyl floor tile was observed in the bathroom. Associated black mastic shall be considered asbestos containing unless further sampling proves otherwise.

The remaining samples collected from the sites were confirmed to be non-asbestos containing.

It should be noted that no suspected asbestos-containing materials were collected or observed within the Pumphouse located in Longlac and the Wellhouse located in Nakina.

4.2. Lead

Eleven (11) representative paint samples were collected for lead content analysis during the site visits. The sample description and analytical result are summarized in Table 2 below.

Table 2: Summary of Lead Analysis

Sample Number [1]	Location	Description	Lead Concentration (ppm)
P-1	Water Treatment Plant - Longlac	YELLOW	660
P-3	Water Treatment Plant - Longlac	BLUE	<100
P-4	Wastewater Treatment Plant - Longlac	ORANGE	<810
P-5	Wastewater Treatment Plant - Longlac	BROWN	<350
P-6	Water Treatment Plant - Longlac	DARK BLUE	<180
P-7	Water Treatment Plant - Longlac	DARK GREEN	<170
LP-1	Wastewater Treatment Plant - Nakina	YELLOW	340
LP-2	Wastewater Treatment Plant - Nakina	GREY	<150
LP-3	Water Treatment Plant - Nakina	GREEN	<240
LP-4	Water Treatment Area - Nakina	BLUE	<730
LP-5	**Exterior - Wastewater Treatment Plant - Nakina**	**Black**	**33000**

Based on the analytical result, the black paint on the exterior of the water treatment plant area is considered to be lead-containing.

[1] Sample P2 not submitted for analysis

Lead is suspected to be present in the following materials:

- Solder on copper pipes; and
- Emergency light batteries.

4.3. Mercury

Mercury is assumed to be present in fluorescent light tubes observed throughout the sites, which may contain mercury in a vapour form.

4.4. Silica

Based on the historic composition of building materials, silica is expected to be present in:

- Concrete materials;
- Masonry block
- Brick and mortar.
- Ceiling tiles; and
- Vinyl floor tiles.

4.5. Other Designated Substances and Hazardous Materials

The following Designated Substances and Hazardous Materials were neither observed, nor suspected of being present, in forms or quantities expected to have an impact on future work operations associated with the building.

- Acrylonitrile;
- Arsenic;
- Benzene;
- Coke Oven Emissions;
- Ethylene Oxide;
- Isocyanates; and,
- Vinyl Chloride.

4.6. Polychlorinated Biphenyls (PCBs)

Although not a Designated Substance, PCBs, also known as Chlorobiphenyls, are hazardous chemicals that were used in the manufacturing of a variety of equipment, such as electrical equipment, heat exchangers, hydraulic systems, and for several other specialized applications. PCBs are commonly found within electrical ballasts manufactured prior to 1981, within fluorescent light fixtures and high intensity discharge (HID) lamps.

Light fixtures with T12 lamps are more likely to contain ballasts that were manufactured prior to 1981. T8 lamps are associated with light fixtures that were manufactured after the phase-out of

PCB-containing ballasts. The letter “T” denotes the shape of the light fixture (e.g. tubular) and the number which follows indicates the diameter in eights of an inch.

For safety reasons, DST does not disassemble fluorescent light fixtures to investigate the ballasts, unless the circuit has been tagged and locked out by an electrician. It was reported that the fluorescent light fixtures at all site locations underwent a recent upgrade that included ballast replacement. PCB-containing ballasts are not anticipated to be associated with these light fixtures.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the site investigation, sampling events and analyses, the following designated substances have been confirmed or are assumed present within the subject project area:

- Asbestos;
- Lead;
- Mercury; and,
- Silica.

All building materials within the Sites that are similar in appearance to the building materials sampled and determined to be ACM must be treated as such.

5.1. Asbestos

The disturbance of asbestos-containing materials on construction and demolition projects in the province of Ontario is governed by *O. Reg. 278/05, Asbestos on Construction Projects and in Buildings and Repair Operations* enabled under the *Occupational Health and Safety Act (R.S.O. 1990, Chapter 0.1),* as amended. This regulation classifies all asbestos disturbances as either Low Risk (Type 1), Moderate Risk (Type 2), or High Risk (Type 3), each of which has defined precautionary measures. All asbestos materials are subject to specific handling and disposal precautions and must be removed prior to demolition or renovation operations. The Ontario Ministry of Labour (MoL) must be notified of any project involving the removal of more than a minor amount (e.g. typically one square metre) of friable asbestos material.

The time weight average exposure limit (TWAEL) for airborne asbestos is prescribed by Ontario Regulation 490/09 *Designated Substances*, as amended. Work procedures and personal protective equipment must be used to ensure that workers are not exposed to airborne asbestos levels that exceed this TWAEL.

Prior to building renovation or demolition, all asbestos-containing materials must be removed. The following paragraphs present recommendations for the removal of ACMs:

- Removal of non-friable transite and vinyl floor tiles with suspected asbestos-containing associated mastic can be conducted utilizing Type 1 asbestos precautionary measures as

per O.Reg. 278/05, as amended, provided the material is wetted to control the spread of dust or fibres, and the work is done only be means of non-powered hand-held tools. If these conditions cannot be met, then more stringent (Type 2 or Type 3) work procedures are required (e.g. power tool removal).

The following recommendations apply to ACMs or suspected ACMs:

- Appropriate work procedures and precautionary measures must be used, as outlined in O.Reg. 278/05, as amended, when performing work that may disturb ACMs or suspected ACMs, including prior to building demolition.
- Disturbance and/or removal of ACMs must be appropriately recorded as part of the building's Asbestos Management Plan.
- If ACMs or suspected ACMs become damaged and worker exposure to the material is likely to occur, the damaged material must be repaired or removed following work procedures outlined in O. Reg. 278/05, as amended.

Disposal of asbestos waste is controlled by the Ontario Environmental Protection Act, R.R.O., 1990, Regulation 347, General – Waste Management, as amended. This regulation requires that asbestos waste is sealed in double containers resistant to punctures and tears, and appropriately labeled. The waste must be transported by licensed waste carrier and disposed at a waste disposal site that is licensed to receive asbestos waste. The transport of the waste to the disposal site is controlled by the federal Transportation of Dangerous Goods Act, 1992 (TDGA).

Although every attempt was made to look above and beneath solid building material finishes, some ACMs may be concealed, and thus may not have been visible or apparent at the time of the DSS site visit. Should any previously unidentified suspect ACMs be encountered as part of the project work, these materials are to be treated as ACMs and handled accordingly, unless sampling proves otherwise.

Materials that have not been analyzed but are visibly similar to other materials identified as asbestos-containing, must be considered asbestos-containing unless proven otherwise by laboratory analysis.

5.2. Lead

Lead was detected in the paint sample collected from one of the Sites. Lead is also suspected to be present in solder on the joints of copper piping and emergency light batteries.

Surface coatings containing elevated concentrations of lead can pose a health risk to humans if ingested or inhaled. Such lead-containing surface coatings are also a risk to the environment with the potential to contaminate soil and groundwater. Paints with elevated lead content can also pose a health risk to workers while completing renovations or demolition work within the building.

The Occupational Health and Safety Branch of the Ontario MOL has published the Guideline: Lead on Construction Projects. This document classifies all lead disturbances as type 1, Type 2a,

Type 2b, Type 3a, or Type 3b work, and assigns different levels of respiratory protection and work procedures for each classification. In the absence of specific legislation for lead on construction projects, this guideline should be followed when disturbing lead-containing materials.

DST recommends that disturbances to lead-containing paint should avoid operations that generate high levels of dust (e.g. sanding, grinding) and that should these operations be required, appropriate precautionary measures be implemented for worker exposure.

The disposal of construction waste containing lead is governed by O. Reg. 347- General – Waste Management, as amended. The transport of the waste to the disposal site is controlled by the federal Transportation of Dangerous Goods Act (TDGA), 1992.

Prior to or during renovation work, the following additional procedures should be performed with respect to other anticipated lead-containing materials:

- Copper piping with soldered fittings can be cut a small distance (e.g. 50 mm) from the joints to avoid direct disturbance of the lead material.
- Emergency light batteries and other batteries should be removed when decommissioned and disposed of as lead-containing waste.

5.3. Mercury

There is no regulation that specifically governs the disturbance of mercury on construction projects. When removal of the fluorescent light tubes is required, the tubes should be removed intact from the fixtures. This prevents worker exposure to mercury vapour, particularly if the tubes were energized shortly before removal. Other sources of liquid mercury should be removed in a similar fashion (intact) to prevent worker exposure.

The TWAEL for mercury is prescribed by *Ontario Regulation 490/09 Designated Substances*, as amended. Work procedures and personal protective equipment must be used to ensure that workers are not exposed to airborne mercury levels that exceed this TWAEL.

Liquid mercury is classified as a hazardous waste under *O. Reg. 347/90,* as amended. The transport of the waste to a disposal site is controlled by *O. Reg. 347/90* and by the federal TDGA and the Ontario Dangerous Goods Transportation Act. It is now common practice to recycle fluorescent light tubes, and other items containing mercury, recovering the component materials, and avoiding the generation of hazardous waste.

5.4. Silica

Silica is suspected to be present in concrete materials such as, masonry block, exterior brick and mortar, ceiling tiles, and vinyl floor tiles.

The Occupational Health and Safety Branch of the Ontario Ministry of Labour have published *Guideline: Silica on Construction Projects*. This document classifies all silica disturbances as

Type 1, Type 2 or Type 3 work, and assigns different levels of respiratory protection and work procedures for each classification. This guideline should be followed during disturbance of silica-containing materials.

As a general rule, it is preferable to use more stringent dust suppression techniques and engineering controls as opposed to relying on respiratory protection to control worker exposure. Respiratory protection should only be relied on as a last resort when dust suppression techniques and engineering controls fail to control worker exposure.

The TWAEL for airborne silica is prescribed by *Ontario Regulation 490/09 Designated Substances*, as amended. Work procedures and personal protective equipment must be used to ensure that workers are not exposed to airborne silica levels that exceed this exposure limit.

6.0 LIMITATIONS

This report is intended for client use only. Any use of this document by a third party, or any reliance on or decisions made based on the findings described in this report, are the sole responsibility of such third parties, and DST Consulting Engineers Inc. accepts no responsibility for damages, suffered by any third party as a result of decisions made or actions conducted based on this report. No other warranties are implied or expressed.

The data, conclusions and recommendations which are presented in this report, and the quality thereof, are based on a scope of work authorized by the Client. The sampling program included asbestos and paint sampling in select representative areas for laboratory analysis. Note, however, that no scope of work, no matter how exhaustive, can identify all potential contaminants. This report therefore cannot warranty that all conditions on or off the site are represented by those identified at specific locations.

Any recommendations and conclusions provided that are based on conditions or assumptions reported herein will inherently include any uncertainty associated with those conditions or assumptions.

Note also that standards, guidelines and practices related to environmental investigations may change with time. Those which were applied at the time of this investigation may be obsolete or unacceptable at a later date.

Any comments given in this report on potential abatement problems and possible methods are intended only for the guidance of the designer. The scope of work may not be sufficient to determine all of the factors that may affect construction, clean-up methods and/or costs. Contractors bidding on this project or undertaking clean-ups should, therefore, make their own interpretation of the factual information presented and draw their own conclusions as to how the conditions may affect their work.

Any results from an analytical laboratory or other subcontractor reported herein have been carried out by others, and DST Consulting Engineers Inc. cannot warranty their accuracy. Similarly, DST cannot warranty the accuracy of information supplied by the client.

7.0 CLOSURE

DST appreciates this opportunity to offer our services to the Ontario Clean Water Agency. Should you or your colleagues have any questions regarding this report or require additional information, please do not hesitate to contact the undersigned at your convenience.
Sincerely,

DST CONSULTING ENGINEERS INC.

Haley Leclair,
Hazardous Materials Technician
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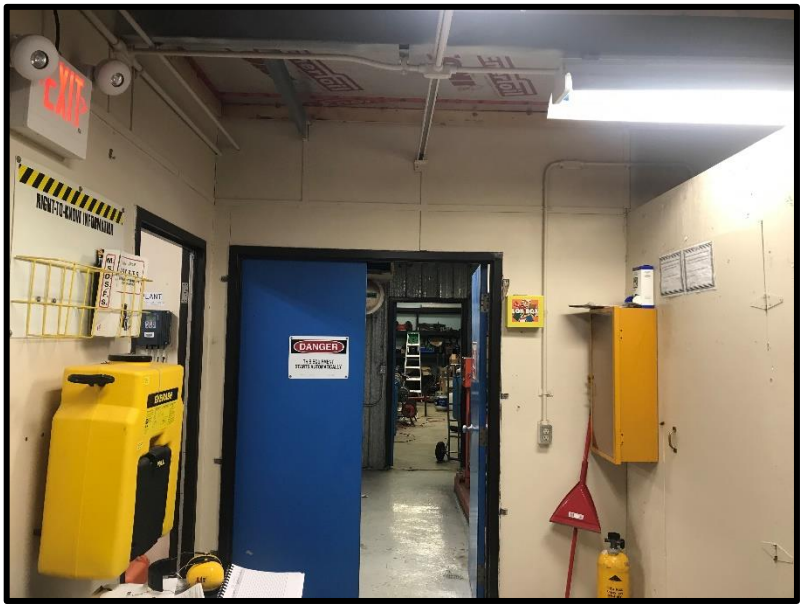
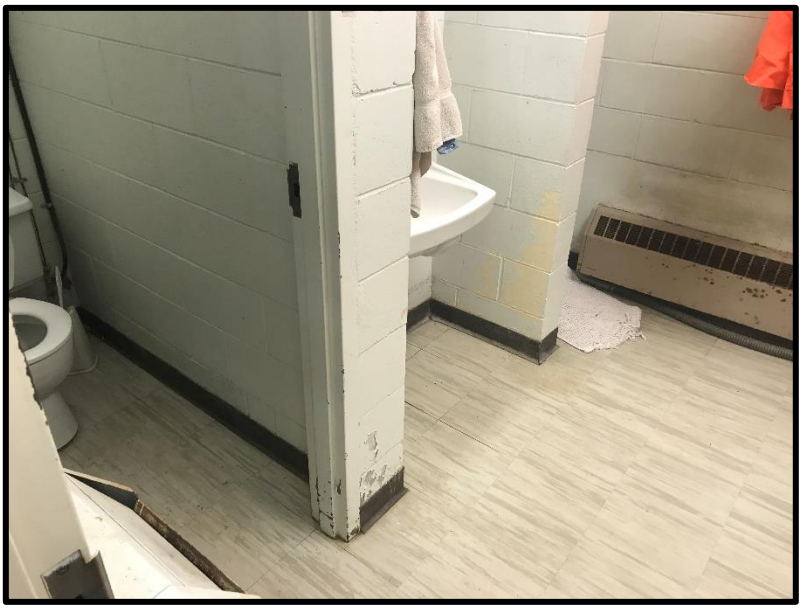
APPENDIX A

Site Photographs



Photograph 1: Entrance way (Wastewater Treatment Plant - Longlac)
Asbestos-Containing transite board (Sample L1A-C).



Photograph 2: Bathroom (Water Treatment Plant - Nakina)
Asbestos-containing vinyl floor tiles (Sample N2A-C).

APPENDIX B

Laboratory Certificate of Analysis – Asbestos and Lead

EMSL Canada Inc.

2756 Slough Street Mississauga, ON L4T 1G3
Phone/Fax: (289) 997-4602 / (289) 997-4607
http://www.EMSL.com / torontolab@emsl.com

EMSL Canada Order 552100612
Customer ID: 55DST51
Customer PO: 55DST51
Project ID:

Attn: Haley Leclair
DST CONSULTING ENGINEERS INC.
605 HEWITSON STREET
THUNDER BAY, ON P7B 5V5

Phone: (807) 623-2929
Fax: (807) 623-1792
Collected: 1/21/2021
Received: 1/15/2020
Analyzed: 1/22/2021

Proj: 02100047.000

Test Report: Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05 via EPA600/R-93/116 Method

Client Sample ID: L-1A ***Lab Sample ID:*** **552100612-0001**
Sample Description: Wastewater Treatment Plant/Transite Board

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	1/21/2021	Gray/White	0.0%	85.0%	**15% Chrysotile**	

Client Sample ID: L-1B ***Lab Sample ID:*** **552100612-0002**
Sample Description: Wastewater Treatment Plant/Transite Board

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	1/21/2021				Positive Stop (Not Analyzed)	

Client Sample ID: L-1C ***Lab Sample ID:*** **552100612-0003**
Sample Description: Wastewater Treatment Plant/Transite Board

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	1/21/2021				Positive Stop (Not Analyzed)	

Client Sample ID: L-2A ***Lab Sample ID:*** **552100612-0004**
Sample Description: BOILER ROOM - WATER TREATMENT PLANT/PIPE WRAPPING

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	1/21/2021	Gray/Beige	60.0%	40.0%	None Detected	

Client Sample ID: L-2B ***Lab Sample ID:*** **552100612-0005**
Sample Description: BOILER ROOM - WATER TREATMENT PLANT/PIPE WRAPPING

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	1/21/2021	Gray/Beige	60.0%	40.0%	None Detected	

Client Sample ID: L-2C ***Lab Sample ID:*** **552100612-0006**
Sample Description: BOILER ROOM - WATER TREATMENT PLANT/PIPE WRAPPING

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	1/22/2021	White	30.0%	70.0%	None Detected	

Client Sample ID: L-3A ***Lab Sample ID:*** **552100612-0007**
Sample Description: BATHROOM/LAUNDRY ROOM - WASTE WATER PLANT/2' X 4' WHITE CEILING TILE

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	1/21/2021	Gray	80.0%	20.0%	None Detected	

EMSL Canada Inc.

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EMSL Canada Order 552100612
Customer ID: 55DST51
Customer PO: 55DST51
Project ID:

Test Report: Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05 via EPA600/R-93/116 Method

Client Sample ID: L-3B **Lab Sample ID:** **552100612-0008**

Sample Description: BATHROOM/LAUNDRY ROOM - WASTE WATER PLANT/2' X 4' WHITE CEILING TILE

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	1/21/2021	Gray	80.0%	20.0%	None Detected	

Client Sample ID: L-3C **Lab Sample ID:** **552100612-0009**

Sample Description: BATHROOM/LAUNDRY ROOM - WASTE WATER PLANT/2' X 4' WHITE CEILING TILE

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	1/22/2021	Gray	75.0%	25.0%	None Detected	

Client Sample ID: L-4A **Lab Sample ID:** **552100612-0010**

Sample Description: WATER TREATMENT ROOM - WASTE WATER PLANT/PIPE WRAPPING

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	1/21/2021	White/Blue	55.0%	45.0%	None Detected	

Client Sample ID: L-4B **Lab Sample ID:** **552100612-0011**

Sample Description: WATER TREATMENT ROOM - WASTE WATER PLANT/PIPE WRAPPING

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	1/21/2021	White/Blue	55.0%	45.0%	None Detected	

Client Sample ID: L-4C **Lab Sample ID:** **552100612-0012**

Sample Description: WATER TREATMENT ROOM - WASTE WATER PLANT/PIPE WRAPPING

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	1/22/2021	White	60.0%	40.0%	None Detected	

Client Sample ID: L-5A **Lab Sample ID:** **552100612-0013**

Sample Description: ROOM 1 - MAIN COLLECTION STATION BUILDING/PIPE WRAPPING

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	1/21/2021	White	80.0%	20.0%	None Detected	

Client Sample ID: L-5B **Lab Sample ID:** **552100612-0014**

Sample Description: ROOM 1 - MAIN COLLECTION STATION BUILDING/PIPE WRAPPING

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	1/21/2021	White	80.0%	20.0%	None Detected	

Client Sample ID: L-5C **Lab Sample ID:** **552100612-0015**

Sample Description: ROOM 1 - MAIN COLLECTION STATION BUILDING/PIPE WRAPPING

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	1/22/2021	White	90.0%	10.0%	None Detected	

EMSL Canada Inc.

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

EMSL Canada Order 552100612
Customer ID: 55DST51
Customer PO: 55DST51
Project ID:

Test Report: Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05 via EPA600/R-93/116 Method

Client Sample ID: N-1A **Lab Sample ID:** **552100612-0016**
Sample Description: MAIN ROOM - WASTE WATER PLANT/PIPE WRAPPING

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	1/21/2021	White	45.0%	55.0%	None Detected	

Client Sample ID: N-1B **Lab Sample ID:** **552100612-0017**
Sample Description: MAIN ROOM - WASTE WATER PLANT/PIPE WRAPPING

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	1/21/2021	White/Beige	45.0%	55.0%	None Detected	

Client Sample ID: N-1C **Lab Sample ID:** **552100612-0018**
Sample Description: MAIN ROOM - WASTE WATER PLANT/PIPE WRAPPING

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	1/22/2021	Gray/White	75.0%	25.0%	None Detected	

Client Sample ID: N-2A-Floor Tile **Lab Sample ID:** **552100612-0019**
Sample Description: Water Treatment Plant/12" x 12" Beige Vinyl Floor Tile

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	1/21/2021	Gray	0.0%	98.0%	**2% Chrysotile**	

Client Sample ID: N-2A-Mastic **Lab Sample ID:** **552100612-0019A**
Sample Description: Water Treatment Plant/12" x 12" Beige Vinyl Floor Tile

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	1/21/2021	Beige	0.0%	100.0%	None Detected	

Client Sample ID: N-2B **Lab Sample ID:** **552100612-0020**
Sample Description: Water Treatment Plant/12" x 12" Beige Vinyl Floor Tile

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	1/21/2021				Positive Stop (Not Analyzed)	

Client Sample ID: N-2C **Lab Sample ID:** **552100612-0021**
Sample Description: Water Treatment Plant/12" x 12" Beige Vinyl Floor Tile

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	1/21/2021				Positive Stop (Not Analyzed)	

Client Sample ID: N-3A **Lab Sample ID:** **552100612-0022**
Sample Description: BATHROOM - WASTE WATER PLANT/2' X 4' WHITE CEILING TILE

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	1/21/2021	Tan	90.0%	10.0%	None Detected	

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EMSL Canada Order 552100612
Customer ID: 55DST51
Customer PO: 55DST51
Project ID:

Test Report: Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05 via EPA600/R-93/116 Method

Client Sample ID: N-3B **Lab Sample ID:** **552100612-0023**
Sample Description: BATHROOM - WASTE WATER PLANT/2' X 4' WHITE CEILING TILE

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	1/21/2021	Tan	90.0%	10.0%	None Detected	

Client Sample ID: N-3C **Lab Sample ID:** **552100612-0024**
Sample Description: BATHROOM - WASTE WATER PLANT/2' X 4' WHITE CEILING TILE

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	1/22/2021	Brown	90.0%	10.0%	None Detected	

Client Sample ID: N-4A **Lab Sample ID:** **552100612-0025**
Sample Description: BOILER ROOM - WATER LIFT STATION/INSULATION

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	1/21/2021	Pink/Beige	90.0%	10.0%	None Detected	

Client Sample ID: N-4B **Lab Sample ID:** **552100612-0026**
Sample Description: BOILER ROOM - WATER LIFT STATION/INSULATION

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	1/21/2021	Pink/Beige	90.0%	10.0%	None Detected	

Client Sample ID: N-4C **Lab Sample ID:** **552100612-0027**
Sample Description: BOILER ROOM - WATER LIFT STATION/INSULATION

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	1/22/2021	Yellow/Beige	80.0%	20.0%	None Detected	

Client Sample ID: N-5A-Pipe Wrap **Lab Sample ID:** **552100612-0028**
Sample Description: BOILER ROOM - WATER LIFT STATION/PIPE WRAP

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	1/21/2021	White	55.0%	45.0%	None Detected	

Client Sample ID: N-5A-Insulation **Lab Sample ID:** **552100612-0028A**
Sample Description: BOILER ROOM - WATER LIFT STATION/PIPE WRAP

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	1/21/2021	Gray	15.0%	85.0%	None Detected	

Client Sample ID: N-5B **Lab Sample ID:** **552100612-0029**
Sample Description: BOILER ROOM - WATER LIFT STATION/PIPE WRAP

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	1/21/2021	Gray/White	48.0%	52.0%	None Detected	

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EMSL Canada Order 552100612
Customer ID: 55DST51
Customer PO: 55DST51
Project ID:

Test Report: Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05 via EPA600/R-93/116 Method

Client Sample ID: N-5C-Pipe Wrap ***Lab Sample ID:*** **552100612-0030**

Sample Description: BOILER ROOM - WATER LIFT STATION/PIPE WRAP

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	1/22/2021	White	80.0%	20.0%	None Detected	

Client Sample ID: N-5C-Insulation ***Lab Sample ID:*** **552100612-0030A**

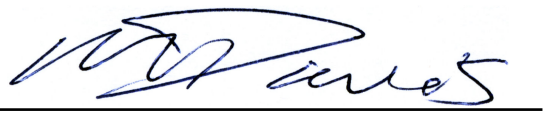
Sample Description: BOILER ROOM - WATER LIFT STATION/PIPE WRAP

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	1/22/2021	Gray	60.0%	40.0%	None Detected	

Analyst(s):

Caroline Allen PLM (20)
Natalie D'Amico PLM (9)

Reviewed and approved by:



Matthew Davis or other approved signatory
or Other Approved Signatory

None Detected = <0.1%. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted. This report must not be used to claim product endorsement by NVLAP of any agency or the U.S. Government

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Report amended: 02/10/202113:51:58 Replaces amended report from: 02/10/202112:35:57 Reason Code: Client-Change to Sample ID