

Industrial Hygiene and Environmental Consulting

1783 Highway 20, RR#2
Allanburg, Ontario
L0S 1A0
Phone: 1-888-271-2111

**Designated Substances and Hazardous Materials Assessment
(Specific to Planned Renovations)**

WSP Canada Inc.

867 Lakeshore Road
Burlington, Ontario

Submitted To: WSP Canada Inc.

Issued Date: August 18, 2015

OESN Project #: 00540.001

1.0 INTRODUCTION

1.1 OVERVIEW

In August 2015, Ontario Environmental & Safety Network Ltd. (OESN) was contracted by WSP Canada Inc. to supply consulting services to conduct a job specific designated substances and hazardous materials assessment (DSS) for select areas within the office building, located at 867 Lakeshore Road, Burlington, Ontario.

The purpose of the job specific assessment was to identify and confirm designated substances through visual observation and bulk sampling. The assessment was based on the renovation plans supplied by WSP Canada Inc. Analytical findings and observations made during the assessment have been applied in order to identify designated substances and provide recommendations to WSP Canada Inc. for the proper removal and waste disposal of the designated substance identified.

1.2 SCOPE OF WORK

The scope of work included the following work tasks and services:

1. To conduct an intrusive comprehensive survey to identify, locate and quantify all infrastructure-related designated substances within specific rooms surveyed.
2. To bulk sample representative materials using professional judgment and following regulatory requirements.
3. To document observations made with regards to designated materials in preparation for renovation activities.
4. To provide conclusions and recommendations outlining remediation measures and waste disposal procedures for substances identified as a hazard.

1.3 LEGISLATIVE REQUIREMENTS

The submission of this report is based on the following provincial health and safety legal requirements.

Owner

Section 30 of The Ontario Occupational Health and Safety Act and Regulations for Construction requires owners before beginning a project, to assess for designated substances prior to renovation, alteration or demolition.

The assessment is to produce a list of all designated substances present at the site and if any work on a project is tendered, the tenders shall include, as part of the tendering information, a copy of the list.

Prospective constructors of a project are to receive a copy of the list before entering into a binding contract with the owner.

The constructor for a project is to ensure each prospective contractor and subcontractor working on the project is informed of the list before entering a contract and work is supplied on the project.



An owner, who fails to comply with *Section 30*, is liable to the constructor and every contractor and subcontractor, who suffers any loss or damages as the result of the subsequent discovery of a designated substance on the project.

A constructor, who fails to comply with *Section 30*, is liable to every contractor and subcontractor who suffers any loss or damages as the result of the subsequent discovery of a designated substance on the project.¹

Reporting

The provincial asbestos regulation, *Ontario Regulation 278/05 Designated Substance – Asbestos on Construction Projects and in Buildings and Repair Operations*² prescribes the methods and procedures and states the standards for establishing the type and amount of asbestos in a material.

Analytical results contained in this report were achieved by adhering to the standards, methods and procedures stated in the regulation.³

1.4 PROJECT SPECIFIC REQUIREMENTS

Due to the nature of the planned renovation project, the following designated substances/hazardous materials were considered during the assessment:

- Arsenic in paint coatings
- Asbestos in building materials
- Lead in paint coatings
- Mercury in paint coatings

2.0 OBSERVATIONS

The inspection schedule was based on the architectural drawings for demolition. Information provided in this section is for materials observed at the site and suspected of containing a designated substance.

2.1 DESIGNATED SUBSTANCES

2.1.1 ASBESTOS

Flooring - Materials considered for testing included one type of vinyl floor tile located in room L758.

Walls – Materials considered for testing included plaster identified within room L757 and L757A as well as a drywall board material observed within the penthouse.

Ceilings – Materials considered for testing included plaster observed within L757 and L757A

Mechanical – Materials on the mechanical components were not observed within the spaces scheduled for renovations.

¹ *Occupational Health & Safety Act for Construction Project R.S.O. 1990, c. O.1, s. 30.*

² *Amended to 479/10.*

³ *Section 3, 8 and Table 1 Page R-48*



Other – Materials considered for testing included shingle tar on the roof top level around the pressure vent for room L757A and the mastic for the base cove identified around the perimeter of room L757.

2.1.2 MERCURY

Surface Coatings - Seven different paint coatings observed within the project areas were collected and analyzed for mercury content.

2.1.3 LEAD

Surface Coatings - Seven different paint coatings observed within the project areas were collected and analyzed for lead content.

2.1.4 ARSENIC

Surface Coatings - Seven different paint coatings observed within the project areas were collected and analyzed for arsenic content.

2.1.5 SILICA-CONTAINING MATERIALS

Materials suspected for containing silica (e.g. concrete, concrete block, etc.) were observed throughout the project areas.

3.0 ANALYTICAL RESULTS

3.1 DESIGNATED SUBSTANCES

3.1.1 ASBESTOS

The regulated limit for establishing asbestos content in materials underneath the Province of Ontario is 0.5% asbestos by dry weight. Analytical results were achieved by adhering to the standards, methods and procedures stated in the regulation.⁴

The following materials in the project area meet the criteria definition of asbestos-containing materials (ACM):

1. Floor tile – 12" x 12" (sample code: HF-01)
 - Non-friable material
 - Identified within room L758
 - Approximately 12 square feet

3.1.2 SURFACE COATINGS (PAINT) LEAD

The Federal regulatory limit for the concentration of total lead present in a surface coating material must not exceed 90 µg/g⁵. The following surface coatings meet the definition of lead-containing:

⁴ Section 3, 8 and Table 1 Page R-48

⁵ Surface Coating Materials Regulation SOR/2005-109, June 2011 references 90 µg/g for lead.



1. Red paint (sample code: P01)
2. Grey/Blue paint (sample code: P03)
3. Black paint (sample code: P04)
4. Yellow paint (sample code: P05)
5. Orange paint (sample code: P06)
6. Aqua paint (sample code: P07)

3.1.3 SURFACE COATINGS (PAINT) MERCURY

The Federal regulatory limit for the concentration of total mercury present in a surface coating material must not exceed 10 µg/g.⁶ Mercury concentrations was not detected above the regulated limit for any of the paint samples collected and analyzed.

3.1.4 SURFACE COATINGS (PAINT) ARSENIC

Provincial and Federal regulated limits have not been established for arsenic content in surface coatings material as of the writing of this report. Arsenic was not detected above the method of detection.

4.0 RECOMMENDATIONS

4.1 ASBESTOS

Removal of asbestos-containing non-friable floor tile shall be conducted underneath Type 1 asbestos operations as per Section 14 of O. Reg. 278/05, as amended.

4.2 SURFACE COATING MATERIALS - LEAD

Removal of lead-containing surface coating materials need to comply with the requirement with the Ministry of Labour, Guideline: Lead on Construction Projects, April 2011.

4.3 SILICA-CONTAINING MATERIALS

Removal of materials suspected to contain silica (e.g. concrete products, etc.) need to comply with the requirements outlined within the Ministry of Labour, Guideline: Silica on Construction Projects, April 2011.

5.0 DISPOSAL REQUIREMENT

5.1 ASBESTOS

The management of asbestos waste is legislated under Section 17 of the Environmental Protection Act, Ontario Regulation 347.⁷ The regulation permits the disposal of asbestos waste in any landfill site approved for the disposal of municipal waste. Contractors solicited to execute the asbestos operation work should inform the landfill site prior to delivery to ensure acceptance. Proof of disposal should also be collected and submitted to building owner for record keeping.

⁶ *Surface Coating Materials Regulation SOR/2005-109, June 2011*

⁷ Amended to 348/12



5.2 SURFACE COATING MATERIALS

Surface coating samples collected were not submitted for toxic characteristics leachate procedure (TCLP) testing as per O. Reg. 347, as amended. It is advised that during demolition, a representative sample of the bulk debris be sent to an accredited laboratory for TCLP analysis for waste stream identification validation.

Surface coating materials classified as leachable waste shall be segregated from other building materials and disposed of at a landfill accepting leachate waste. A copy of the chain of custody forms and analytical sample results should be available to the landfill if requested.

6.0 LIMITATIONS

The material condition findings are relevant for the date of our site visit and should not be relied upon to represent conditions at later dates.

The findings in this assessment are limited to the building materials observed in rooms or building spaces fully accessed during the time of inspection. All materials were assessed at the discretion of the inspectors.

7.0 CLOSURE

OESN has produced the findings contained in this report in compliance with applicable Provincial and Federal legislative requirements and using sound professional judgment and industry best practices.

Please call our office if you have any questions regarding the content of this report.

Regards,

Reviewed by,



Trisha McPherson
Field Consultant
Hazardous Materials Division
tmcpherson@oesn.net



Jeff Drummond
Project Manager
Hazardous Materials Division
jdrummond@oesn.net



Appendix A: Representative Photos

Materials Sampled Photo Log - Flooring Finishes



Floor Tile - 12" x 12" (HF-01)

Analytical Result: 2% Chrysotile Asbestos

End of Section

Materials Sampled Photo Log - Wall Finishes



Wall Material (HW-01)

Analytical Result: Non Asbestos-Containing



Plaster Wall - Base and Skim (HW-02)

Analytical Result: Non Asbestos-Containing

Materials Sampled Photo Log - Ceiling Finishes



Plaster Ceiling - Base and Skim (HC-01)

Analytical Result: Non Asbestos-Containing

End of Section



Materials Sampled Photo Log - Other Finishes



Shingle Tar - Roof Top at Pressure Hatch (HM-01)

Analytical Result: Non Asbestos-Containing



Base Cove Mastic (HM-02)

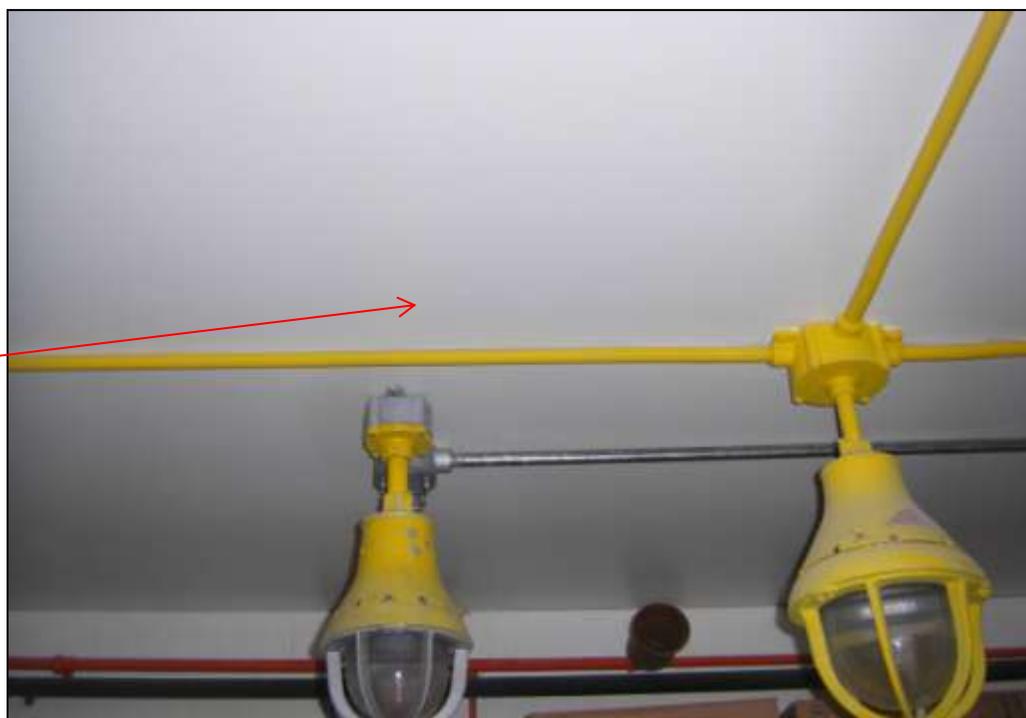
Analytical Result: Non Asbestos-Containing

Materials Sampled Photo Log - Surface Coatings



Red Paint (P01)

Analytical Result: Lead-Containing



Off White Paint (P02)

Analytical Result: Non Lead-Containing

Materials Sampled Photo Log - Surface Coatings



Grey/Blue Paint (P03)

Analytical Result: Lead-Containing



Black Paint (P04)

Analytical Result: Lead-Containing

Materials Sampled Photo Log - Surface Coatings



Yellow Paint (P05)

Analytical Result: Lead-Containing



Orange Paint (P06)

Analytical Result: Lead-Containing

Materials Sampled Photo Log - Surface Coatings



Aqua Paint (P07)

Analytical Result: Lead-Containing

End of Section



Appendix B: Analytical Results



August 11, 2015

Ontario Environmental & Safety Network, LTD.
RR #2 1783 Highway 20C
Allanburg, ON L0S 1A0

CLIENT PROJECT: 00540.001
CEI LAB CODE: B15-5084

Dear Customer:

Enclosed are asbestos analysis results for PLM Bulk samples received at our laboratory on August 6, 2015. The samples were analyzed for asbestos using polarizing light microscopy (PLM) per the EPA 600 Method.

Sample results containing >1% asbestos are considered asbestos-containing materials (ACMs) per EPA regulatory requirements. The detection limit for the EPA 600 Method is <1% asbestos by weight as determined by visual estimation.

Thank you for your business and we look forward to continuing good relations. If you have any questions, please feel free to call our office at 919-481-1413.

Kind Regards,

A handwritten signature in black ink, appearing to read "Tianbao Bai".

Tianbao Bai, Ph.D., CIH
Laboratory Director





ASBESTOS ANALYTICAL REPORT
By: Polarized Light Microscopy

Prepared for

Ontario Environmental & Safety Network, LTD.

CLIENT PROJECT: 00540.001

CEI LAB CODE: B15-5084

TEST METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

REPORT DATE: 08/11/15

TOTAL SAMPLES ANALYZED: 3

SAMPLES >1% ASBESTOS: 1

TEL: 866-481-1412

www.ceilabs.com



Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: 00540.001

CEI LAB CODE: B15-5084

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
00540.001-F01		B66238A	Off-white	Floor Tile	Chrysotile 2%
		B66238B	Black	Mastic	None Detected
00540.001-F02		B66239A		Sample Not Analyzed per COC	
		B66239B	Black	Mastic	None Detected
00540.001-F03		B66240A		Sample Not Analyzed per COC	
		B66240B	Black	Mastic	None Detected



ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Ontario Environmental & Safety Network, LTD.
RR #2 1783 Highway 20C
Allanburg, ON L0S 1A0

CEI Lab Code: B15-5084
Date Received: 08-06-15
Date Analyzed: 08-11-15
Date Reported: 08-11-15

Project: 00540.001

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
00540.001- F01 B66238A	Floor Tile	Heterogeneous Off-white Non-fibrous Bound	98%	Vinyl	2% Chrysotile
B66238B	Mastic	Heterogeneous Black Non-fibrous Bound	100%	Mastic	None Detected
00540.001- F02 B66239A	Sample Not Analyzed per COC				
B66239B	Mastic	Heterogeneous Black Non-fibrous Bound	100%	Mastic	None Detected
00540.001- F03 B66240A	Sample Not Analyzed per COC				
B66240B	Mastic	Heterogeneous Black Non-fibrous Bound	100%	Mastic	None Detected



August 11, 2015

Ontario Environmental & Safety Network, LTD.
RR #2 1783 Highway 20C
Allanburg, ON L0S 1A0

CLIENT PROJECT: 00540.001
CEI LAB CODE: B15-5082

Dear Customer:

Enclosed are asbestos analysis results for PLM Bulk samples received at our laboratory on August 6, 2015. The samples were analyzed for asbestos using polarizing light microscopy (PLM) per the EPA 600 Method.

Sample results containing >1% asbestos are considered asbestos-containing materials (ACMs) per EPA regulatory requirements. The detection limit for the EPA 600 Method is <1% asbestos by weight as determined by visual estimation.

Thank you for your business and we look forward to continuing good relations. If you have any questions, please feel free to call our office at 919-481-1413.

Kind Regards,

A handwritten signature in black ink, appearing to read "Tianbao Bai".

Tianbao Bai, Ph.D., CIH
Laboratory Director





ASBESTOS ANALYTICAL REPORT
By: Polarized Light Microscopy

Prepared for

Ontario Environmental & Safety Network, LTD.

CLIENT PROJECT: 00540.001

CEI LAB CODE: B15-5082

TEST METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

REPORT DATE: 08/11/15

TOTAL SAMPLES ANALYZED: 6

SAMPLES >1% ASBESTOS:

TEL: 866-481-1412

www.ceilabs.com



Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: 00540.001

CEI LAB CODE: B15-5082

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
00540.001-W01		B66226	White	Wall Material	None Detected
00540.001-W02		B66227	White	Wall Material	None Detected
00540.001-W03		B66228	White	Wall Material	None Detected
00540.001-W04	Layer 1	B66229	White	Plaster Skim Coat	None Detected
	Layer 2	B66229	Gray	Plaster Base Coat	None Detected
00540.001-W05	Layer 1	B66230	White	Plaster Skim Coat	None Detected
	Layer 2	B66230	Gray	Plaster Base Coat	None Detected
00540.001-W06	Layer 1	B66231	White	Plaster Skim Coat	None Detected
	Layer 2	B66231	Gray	Plaster Base Coat	None Detected



ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Ontario Environmental & Safety Network, LTD.
 RR #2 1783 Highway 20C
 Allanburg, ON L0S 1A0

CEI Lab Code: B15-5082
Date Received: 08-06-15
Date Analyzed: 08-11-15
Date Reported: 08-11-15

Project: 00540.001

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous		Non-Fibrous		
00540.001- W01 B66226	Wall Material	Heterogeneous	15%	Cellulose	75%	Gypsum	None Detected
		White	<1%	Fiberglass	10%	Silicates	
		Fibrous			<1%	Paint	
		Bound					
00540.001- W02 B66227	Wall Material	Heterogeneous	15%	Cellulose	75%	Gypsum	None Detected
		White	<1%	Fiberglass	10%	Silicates	
		Fibrous			<1%	Paint	
		Bound					
00540.001- W03 B66228	Wall Material	Heterogeneous	15%	Cellulose	75%	Gypsum	None Detected
		White	<1%	Fiberglass	10%	Silicates	
		Fibrous			<1%	Paint	
		Bound					
00540.001- W04 Layer 1 B66229	Plaster Skim Coat	Heterogeneous			85%	Binder	None Detected
		White			10%	Silicates	
		Non-fibrous			5%	Paint	
		Bound					
Layer 2 B66229	Plaster Base Coat	Heterogeneous	<1%	Cellulose	65%	Binder	None Detected
		Gray			35%	Silicates	
		Fibrous					
		Bound					
00540.001- W05 Layer 1 B66230	Plaster Skim Coat	Heterogeneous			85%	Binder	None Detected
		White			10%	Silicates	
		Non-fibrous			5%	Paint	
		Bound					
Layer 2 B66230	Plaster Base Coat	Heterogeneous	<1%	Cellulose	65%	Binder	None Detected
		Gray			35%	Silicates	
		Fibrous					
		Bound					



ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Ontario Environmental & Safety Network, LTD.
 RR #2 1783 Highway 20C
 Allanburg, ON L0S 1A0

CEI Lab Code: B15-5082
Date Received: 08-06-15
Date Analyzed: 08-11-15
Date Reported: 08-11-15

Project: 00540.001

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
00540.001- W06 Layer 1 B66231	Plaster Skim Coat	Heterogeneous	85%	Binder	None Detected
		White	10%	Silicates	
		Non-fibrous	5%	Paint	
		Bound			
Layer 2 B66231	Plaster Base Coat	Heterogeneous	<1%	Cellulose	None Detected
		Gray	65%	Binder	
		Fibrous	35%	Silicates	
		Bound			

B15 5082 @
B06226 B06231

Chain of Custody Record

COC 1 of 1

Laboratory: <u>CEI</u>				Analysis																												
Sample Date: <u>Aug. 5, 2015</u>		Job Number: <u>00540.001</u>																														
Quotation#:				<table border="1"> <tr> <td>PLM Bulk</td> <td>PLM Point Count</td> <td>PLM Gravimetric</td> <td>TEM Bulk</td> <td></td> <td></td> <td rowspan="4">Results By:</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>				PLM Bulk	PLM Point Count	PLM Gravimetric	TEM Bulk			Results By:																		
PLM Bulk	PLM Point Count	PLM Gravimetric	TEM Bulk							Results By:																						
Job Reference: <u>WSP Canada Inc. : 867 Lakeshore Rd. DSS</u>																																
Contact Name: <u>Lise Tappay</u>																																
Contact Email: <u>ltappay@ocsn.net</u>																																
HM #	Sample #	Sample ID	Location	PLM Bulk	PLM Point Count	PLM Gravimetric	TEM Bulk																									
<u>HW01</u>	<u>00540.001-W01</u>	<u>Wall Material</u>	<u>Penthouse</u>	<u>X</u>																												
<u>HW01</u>	<u>00540.001-W02</u>	<u>↓</u>	<u>↓</u>	<u>X</u>						<input type="checkbox"/> 4 hour																						
<u>HW01</u>	<u>00540.001-W03</u>	<u>↓</u>	<u>↓</u>	<u>X</u>						<input type="checkbox"/> 24 hour																						
<u>HW02</u>	<u>00540.001-W04</u>	<u>plaster wall - Base + skin</u>	<u>L757</u>	<u>X</u>						<input type="checkbox"/> 2 B Days																						
<u>HW02</u>	<u>00540.001-W05</u>	<u>↓</u>	<u>L757A</u>	<u>X</u>						<input checked="" type="checkbox"/> 3 B Days																						
<u>HW02</u>	<u>00540.001-W06</u>	<u>↓</u>	<u>L757</u>	<u>X</u>						<input type="checkbox"/> 5 B Days																						
										<input type="checkbox"/> Other:																						
Comments:				Method of Delivery:		<input checked="" type="checkbox"/> Positive stop on analyses identified above with '*'		Total # samples shipped:		<u>6</u>																						
Relinquished By (Print & Sign):		Received by Driver/Depot:		Received at Lab:		Verified By:																										
<u>T. McPherson</u>				<u>1050</u> <u>8/6/15</u>																												
Date/Time:		Date/Time:		Date/Time:		Date/Time:																										
<u>Aug. 5, 2015</u>																																



Ontario Environmental & Safety Network Ltd.



August 11, 2015

Ontario Environmental & Safety Network, LTD.
RR #2 1783 Highway 20C
Allanburg, ON L0S 1A0

CLIENT PROJECT: 00540.001
CEI LAB CODE: B15-5085

Dear Customer:

Enclosed are asbestos analysis results for PLM Bulk samples received at our laboratory on August 6, 2015. The samples were analyzed for asbestos using polarizing light microscopy (PLM) per the EPA 600 Method.

Sample results containing >1% asbestos are considered asbestos-containing materials (ACMs) per EPA regulatory requirements. The detection limit for the EPA 600 Method is <1% asbestos by weight as determined by visual estimation.

Thank you for your business and we look forward to continuing good relations. If you have any questions, please feel free to call our office at 919-481-1413.

Kind Regards,

A handwritten signature in black ink, appearing to read "Tianbao Bai".

Tianbao Bai, Ph.D., CIH
Laboratory Director





ASBESTOS ANALYTICAL REPORT
By: Polarized Light Microscopy

Prepared for

Ontario Environmental & Safety Network, LTD.

CLIENT PROJECT: 00540.001

CEI LAB CODE: B15-5085

TEST METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

REPORT DATE: 08/11/15

TOTAL SAMPLES ANALYZED: 3

SAMPLES >1% ASBESTOS:

TEL: 866-481-1412

www.ceilabs.com



Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: 00540.001

CEI LAB CODE: B15-5085

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
00540.001-C01	Layer 1	B66241	White	Plaster Skim Coat	None Detected
	Layer 2	B66241	Gray	Plaster Base Coat	None Detected
00540.001-C02	Layer 1	B66242	White	Plaster Skim Coat	None Detected
	Layer 2	B66242	Gray	Plaster Base Coat	None Detected
00540.001-C03	Layer 1	B66243	White	Plaster Skim Coat	None Detected
	Layer 2	B66243	Gray	Plaster Base Coat	None Detected



ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Ontario Environmental & Safety Network, LTD.
 RR #2 1783 Highway 20C
 Allanburg, ON L0S 1A0

CEI Lab Code: B15-5085
Date Received: 08-06-15
Date Analyzed: 08-11-15
Date Reported: 08-11-15

Project: 00540.001

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
00540.001- C01	Plaster Skim Coat	Heterogeneous White	85% Binder		None Detected
			10% Silicates		
Layer 1 B66241		Non-fibrous Bound	5% Paint		
Layer 2 B66241	Plaster Base Coat	Heterogeneous Gray Fibrous Bound	<1% Cellulose	65% Binder 35% Silicates	None Detected
00540.001- C02	Plaster Skim Coat	Heterogeneous White	85% Binder		None Detected
			10% Silicates		
Layer 1 B66242		Non-fibrous Bound	5% Paint		
Layer 2 B66242	Plaster Base Coat	Heterogeneous Gray Fibrous Bound	<1% Cellulose	65% Binder 35% Silicates	None Detected
00540.001- C03	Plaster Skim Coat	Heterogeneous White	85% Binder		None Detected
			10% Silicates		
Layer 1 B66243		Non-fibrous Bound	5% Paint		
Layer 2 B66243	Plaster Base Coat	Heterogeneous Gray Fibrous Bound	<1% Cellulose	65% Binder 35% Silicates	None Detected



August 11, 2015

Ontario Environmental & Safety Network, LTD.
RR #2 1783 Highway 20C
Allanburg, ON L0S 1A0

CLIENT PROJECT: 00540.001
CEI LAB CODE: B15-5083

Dear Customer:

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Tianbao Bai, Ph.D., CIH
Laboratory Director





ASBESTOS ANALYTICAL REPORT
By: Polarized Light Microscopy

Prepared for

Ontario Environmental & Safety Network, LTD.

CLIENT PROJECT: 00540.001

CEI LAB CODE: B15-5083

TEST METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

REPORT DATE: 08/11/15

TOTAL SAMPLES ANALYZED: 6

SAMPLES >1% ASBESTOS:

TEL: 866-481-1412

www.ceilabs.com



Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: 00540.001

CEI LAB CODE: B15-5083

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
00540.001-M01		B66232	Black	Shingle Tar	None Detected
00540.001-M02		B66233	Black	Shingle Tar	None Detected
00540.001-M03		B66234	Black	Shingle Tar	None Detected
00540.001-M04		B66235	Brown	Base Cove Mastic	None Detected
00540.001-M05		B66236	Brown	Base Cove Mastic	None Detected
00540.001-M06		B66237	Brown	Base Cove Mastic	None Detected



ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Ontario Environmental & Safety Network, LTD.
 RR #2 1783 Highway 20C
 Allanburg, ON L0S 1A0

CEI Lab Code: B15-5083
Date Received: 08-06-15
Date Analyzed: 08-11-15
Date Reported: 08-11-15

Project: 00540.001

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous	Cellulose	Non-Fibrous		
00540.001-M01 B66232	Shingle Tar	Heterogeneous Black Fibrous Bound	<1%	Cellulose	85% 10% 5%	Tar Silicates Non-Fibrous Debris	None Detected
00540.001-M02 B66233	Shingle Tar	Heterogeneous Black Fibrous Bound	<1%	Cellulose	85% 10% 5%	Tar Silicates Non-Fibrous Debris	None Detected
00540.001-M03 B66234	Shingle Tar	Heterogeneous Black Fibrous Bound	<1%	Cellulose	85% 10% 5%	Tar Silicates Non-Fibrous Debris	None Detected
00540.001-M04 B66235	Base Cove Mastic	Heterogeneous Brown Fibrous Bound	<1%	Cellulose	100%	Mastic	None Detected
00540.001-M05 B66236	Base Cove Mastic	Heterogeneous Brown Fibrous Bound	<1%	Cellulose	100%	Mastic	None Detected
00540.001-M06 B66237	Base Cove Mastic	Heterogeneous Brown Fibrous Bound	<1%	Cellulose	100%	Mastic	None Detected

B15 5083 (6)
B00232 B00237

Chain of Custody Record
COC | of |

Laboratory: CEI

Sample Date: Aug. 5, 2015 Job Number: 00540.001

Quotation#:

Job Reference: WSP Canada Inc. - 867 Lakeshore Rd. OSS

Contact Name: Lisa Tappay

Contact Email: ltappay@oesn.net

Analysis

HM #	Sample #	Sample ID	Location	PLM Bulk	PLM Point Count	PLM Gravimetric	TEM Bulk	Results By:
HM01	00540.001-M01	Shingle Tar - rooftop @ pressure hatch	Roof	X				<input type="checkbox"/> 4 hour <input type="checkbox"/> 24 hour <input type="checkbox"/> 2 B Days <input checked="" type="checkbox"/> 3 B Days <input type="checkbox"/> 5 B Days <input type="checkbox"/> Other:
HM01	00540.001-M02	↓	↓	X				
HM01	00540.001-M03	↓	↓	X				
HM02	00540.001-M04	Base Cove Mastic	L757	X				
HM02	00540.001-M05	↓	↓	X				
HM02	00540.001-M06	↓	↓	X				

Comments: Method of Delivery: Positive stop on analyses identified above with '+' Total # samples shipped: 6

Relinquished By (Print & Sign): T. McPherson Received by Driver/Depot: Received at Lab: 1050 8/6/15 Verified By:

Date/Time: Aug. 5, 2015 Date/Time: Date/Time: Date/Time:



Certificate of Analysis

Ontario Environmental & Safety Network Ltd. (St.)

184 Scott Street, Unit 8 & 9
St. Catharines, ON L2N 1H1
Attn: Lisa Tappay

Client PO:
Project: WSP Canada Inc: 867 Lakeshore Rd DSS 00540.001
Custody: 3588

Report Date: 11-Aug-2015
Order Date: 6-Aug-2015

Order #: 1532260

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

Parcel ID	Client ID
1532260-01	P01 - Red - Penthouse
1532260-02	P02 - Off White - L757
1532260-03	P03 - Grey/Blue - L757
1532260-04	P04 - Black - L757
1532260-05	P05 - Yellow - L757A
1532260-06	P06 - Orange - L757
1532260-07	P07 - Aqua - L757A

Approved By:



Mark Foto, M.Sc.
Lab Supervisor

Certificate of Analysis

Client: Ontario Environmental & Safety Network Ltd. (St.)

Report Date: 11-Aug-2015

Order Date: 6-Aug-2015

Client PO:

Project Description: WSP Canada Inc: 867 Lakeshore Rd DSS 00540.001

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Mercury by CVAA	EPA 7471A - CVAA, digestion	11-Aug-15	11-Aug-15
Metals, ICP-MS	EPA 6020 - Digestion, ICP-MS	10-Aug-15	10-Aug-15

Certificate of Analysis

Report Date: 11-Aug-2015

 Client: **Ontario Environmental & Safety Network Ltd. (St.)**

Order Date: 6-Aug-2015

Client PO:

 Project Description: **WSP Canada Inc: 867 Lakeshore Rd DSS 00540.001**

Client ID:	P01 - Red - Penthouse	P02 - Off White - L757	P03 - Grey/Blue - L757	P04 - Black - L757
Sample Date:	05-Aug-15	05-Aug-15	05-Aug-15	05-Aug-15
Sample ID:	1532260-01	1532260-02	1532260-03	1532260-04
MDL/Units	Paint	Paint	Paint	Paint

Metals

Arsenic	50 ug/g	<50	<50	<50	<50
Lead	5 ug/g	32700	70	778	204
Mercury	2 ug/g	3	4	<2	6

Client ID:	P05 - Yellow - L757A	P06 - Orange - L757	P07 - Aqua - L757A	-
Sample Date:	05-Aug-15	05-Aug-15	05-Aug-15	-
Sample ID:	1532260-05	1532260-06	1532260-07	-
MDL/Units	Paint	Paint	Paint	-

Metals

Arsenic	50 ug/g	<50	<50	<50	-
Lead	5 ug/g	32700	43300	5880	-
Mercury	2 ug/g	<2	3	<2	-

Certificate of Analysis

Report Date: 11-Aug-2015

 Client: **Ontario Environmental & Safety Network Ltd. (St.)**

Order Date: 6-Aug-2015

Client PO:

Project Description: WSP Canada Inc: 867 Lakeshore Rd DSS 00540.001
Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	---------------	------	------------	-----	-----------	-------

Metals

Arsenic	ND	50	ug/g						
Lead	ND	5	ug/g						
Mercury	ND	2	ug/g						

Certificate of Analysis

Report Date: 11-Aug-2015

Client: **Ontario Environmental & Safety Network Ltd. (St.)**

Order Date: 6-Aug-2015

Client PO:

Project Description: WSP Canada Inc: 867 Lakeshore Rd DSS 00540.001

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Metals									
Arsenic	ND	50	ug/g	ND			0.0	50	
Lead	1950	5	ug/g	1960			0.1	50	
Mercury	ND	2	ug/g	2.5			0.0	35	

Certificate of Analysis

Report Date: 11-Aug-2015

 Client: **Ontario Environmental & Safety Network Ltd. (St.)**

Order Date: 6-Aug-2015

Client PO:

Project Description: WSP Canada Inc: 867 Lakeshore Rd DSS 00540.001
Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Metals									
Arsenic	56.3		ug/L	0.2	112	70-130			
Lead	139		ug/L	78.2	122	70-130			
Mercury	17.3	2	ug/g	2.5	98.7	70-130			

Certificate of Analysis

Client: **Ontario Environmental & Safety Network Ltd. (St.)**

Report Date: 11-Aug-2015

Order Date: 6-Aug-2015

Client PO:

Project Description: WSP Canada Inc: 867 Lakeshore Rd DSS 00540.001

Qualifier Notes:

None

Sample Data Revisions

None

Work Order Revisions / Comments:

None

Other Report Notes:

n/a: not applicable

ND: Not Detected

MDL: Method Detection Limit

Source Result: Data used as source for matrix and duplicate samples

%REC: Percent recovery.

RPD: Relative percent difference.

OTTAWA • KINGSTON • NIAGARA • MISSISSAUGA • SARNIA

Page 1 of 1

Client Name: <u>Ontario Environmental + Safety Network</u>	Project Reference: <u>WSP Canada Inc: 867 Lakeshore Rd</u>	TAT: <input checked="" type="checkbox"/> Regular [] 3 Day [] 2 Day [] 1 Day Date Required: _____
Contact Name: <u>Lisa Tappay</u>	Quote #: <u>00540.001</u> <u>DSS</u>	
Address: <u>164 Scott St., units 8+9</u> <u>St. Catharines, ON L2N 1H1</u>	PO #	
Telephone: <u>(905) 988-1554</u>	Email Address: <u>ltappay@oesn.net</u>	

Criteria: [] O. Reg. 153/04 Table ___ [] O. Reg. 153/11 (Current) Table ___ [] RSC Filing [] O. Reg. 558/00 [] PWQO [] CCME [] SUB (Storm) [] SUB (Sanitary) Municipality: _____ [] Other: _____

Matrix Type: S (Soil/Sed.) GW (Ground Water) SW (Surface Water) SS (Storm/Sanitary Sewer) P (Paint) A (Air) O (Other)

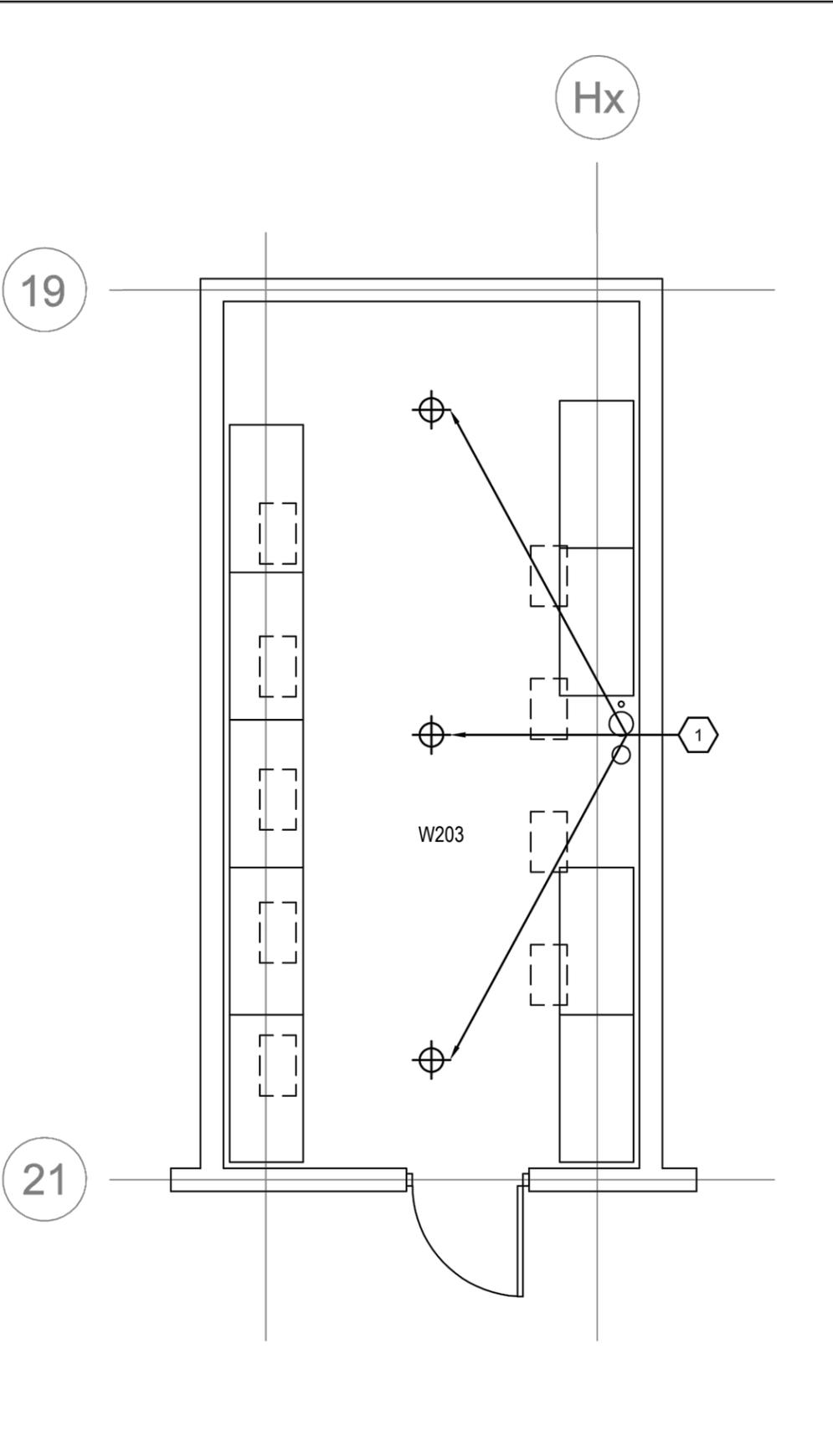
Required Analyses

Parcel Order Number: <u>1532260</u>		Matrix	Air Volume	# of Containers	Sample Taken		Lead	Mercury	Arsenic								
Sample ID/Location Name					Date	Time											
1	<u>P01 - Red - Penthouse</u>	<u>P</u>	<u>-</u>	<u>1</u>	<u>08/05/15</u>	<u>-</u>	<u>X</u>	<u>X</u>	<u>X</u>								
2	<u>P02 - off White - L757</u>	<u>P</u>	<u>-</u>	<u>1</u>		<u>-</u>	<u>X</u>	<u>X</u>	<u>X</u>								
3	<u>P03 - Grey/Blue - L757</u>	<u>P</u>	<u>-</u>	<u>1</u>		<u>-</u>	<u>X</u>	<u>X</u>	<u>X</u>								
4	<u>P04 - Black - L757</u>	<u>P</u>	<u>-</u>	<u>1</u>		<u>-</u>	<u>X</u>	<u>X</u>	<u>X</u>								
5	<u>P05 - Yellow - L757A</u>	<u>P</u>	<u>-</u>	<u>1</u>		<u>-</u>	<u>X</u>	<u>X</u>	<u>X</u>								
6	<u>P06 - Orange - L757</u>	<u>P</u>	<u>-</u>	<u>1</u>		<u>-</u>	<u>X</u>	<u>X</u>	<u>X</u>								
7	<u>P07 - Aqua - L757A</u>	<u>P</u>	<u>-</u>	<u>1</u>		<u>-</u>	<u>X</u>	<u>X</u>	<u>X</u>								
8																	
9																	
10																	

Comments: _____ Method of Delivery: P. up

Relinquished By (Print & Sign): <u>T. McPherson</u>	Received by Driver/Depot: <u>Niagara</u> <u>B. Homenick</u>	Received at Lab: <u>SUNEPORN</u> <u>DOKMAI</u>	Verified By: <u>D. Cherebas</u>
Date/Time: <u>Aug 5, 2015</u>	Date/Time: <u>Aug 13, 2015 13:45</u>	Date/Time: <u>AUG 07, 2015 10:30</u>	Date/Time: <u>AUG 10, 2015</u>
Temperature: <u>NA</u> °C	Temperature: <u>NA</u> °C	Temperature: <u>NA</u> °C	pH Verified [] By: <u>NA</u>

Appendix C: Sample Location Drawings



NOTE:
REFERENCE WSP PROJECT No : KW405-13-0764

TITLE:
DESIGNATED SUBSTANCES SURVEY

CUSTOMER:
WSP CANADA INC

LOCATION:
867 LAKESHORE ROAD
BURLINGTON, ONTARIO

LEGEND

00540.001-W01 NON ASBESTOS-CONTAINING SAMPLE NUMBER

00540.001-P01 PAINT SAMPLE NUMBER

ASBESTOS-CONTAINING MATERIALS

PAINT RESULTS TABLE

DRAWING PAINT CODE	PAINT DESCRIPTION	ARSENIC CONTENT (µg/g)	LEAD CONTENT (µg/g)	MERCURY CONTENT (µg/g)
01	RED	N1	32700	N2
02	OFF WHITE	N1	N2	N2
03	GREY / BLUE	N1	778	N1
04	BLACK	N1	204	N2
05	YELLOW	N1	32700	N1
06	ORANGE	N1	43300	N2
07	AQUA	N1	5880	N1

TABLE NOTE:
N1 Below Method of Analytical Detection (MDL)
N2 Below regulated limit



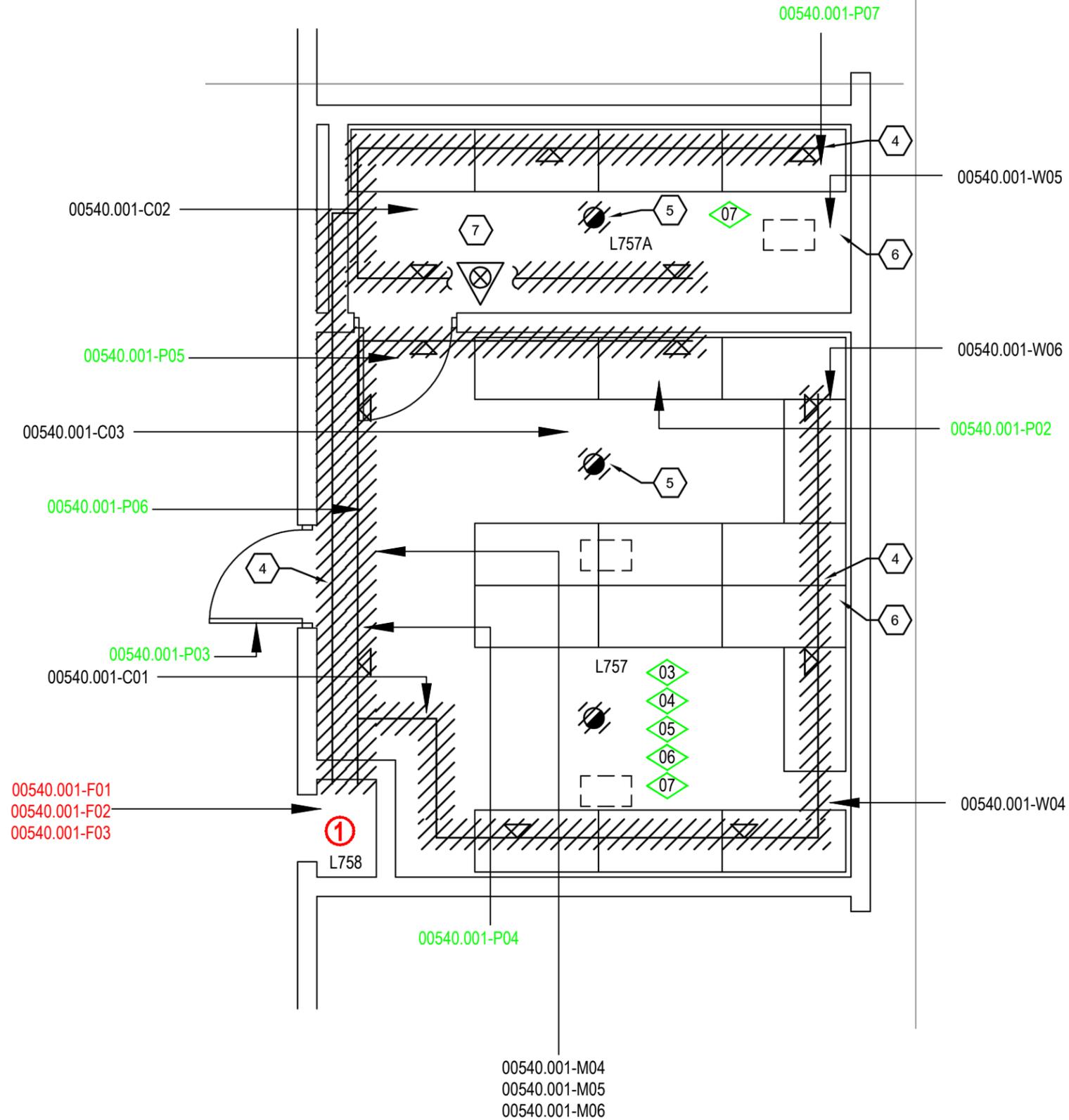
REV. 0 SCALE: N. T. S.

DRAWN BY: T. CORTES CHECKED BY: J. D. GALLEY

DATE: AUGUST 2015

OESN JOB No: 00540.001

DWG #: **WSP-867LRB-2015-01**



00540.001-F01
00540.001-F02
00540.001-F03

NOTE:
REFERENCE WSP PROJECT No : KW405-13-0764

TITLE:
DESIGNATED SUBSTANCES SURVEY

CUSTOMER:
WSP CANADA INC

LOCATION:
867 LAKESHORE ROAD
BURLINGTON, ONTARIO

- LEGEND**
- 00540.001-W01 NON ASBESTOS-CONTAINING SAMPLE NUMBER
 - 00540.001-F01 ASBESTOS-CONTAINING SAMPLE NUMBER
 - 00540.001-P01 PAINT SAMPLE NUMBER

- ASBESTOS-CONTAINING MATERIALS**
- ① FLOOR TILE 12" x 12" - (HF-01)

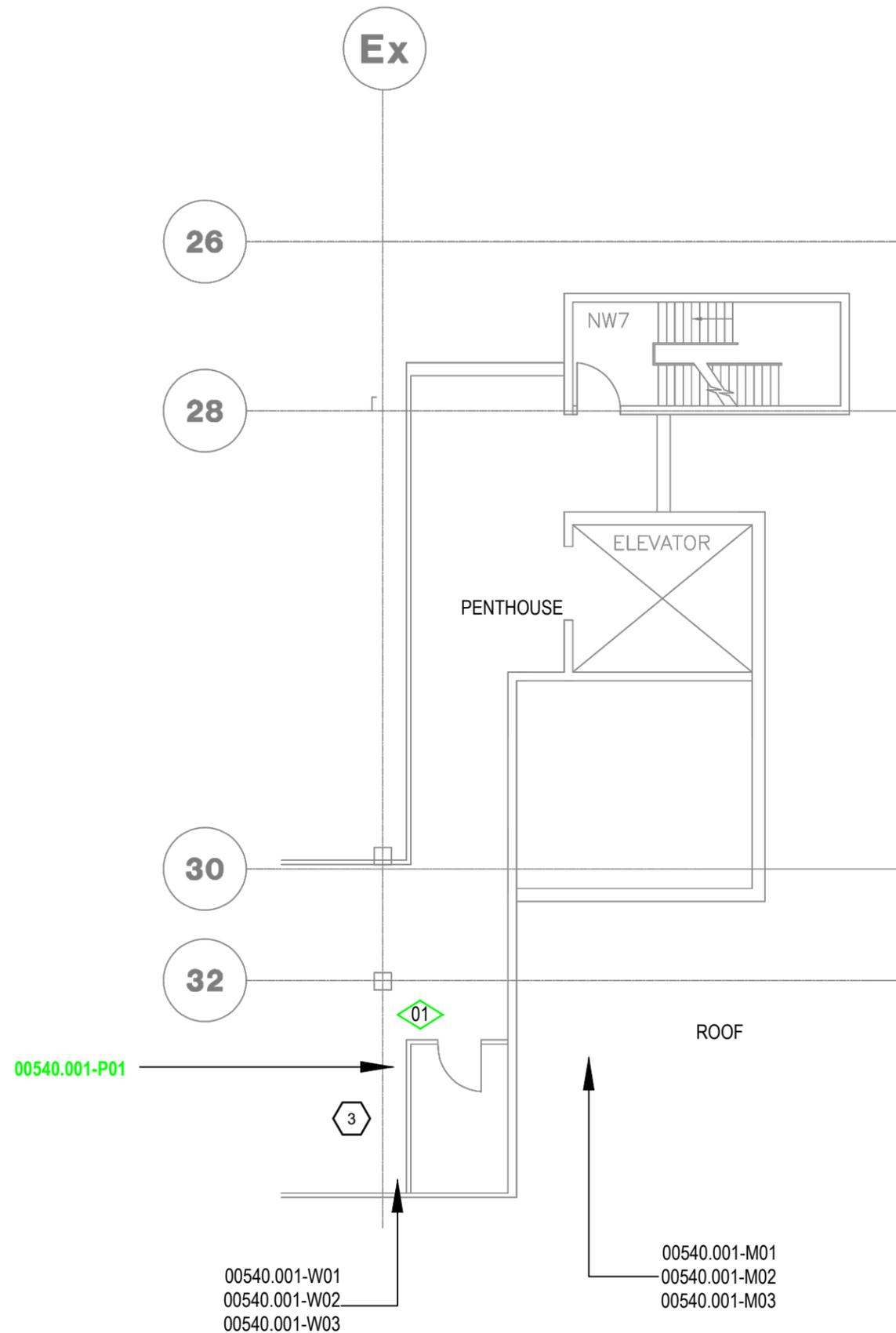
PAINT RESULTS TABLE

DRAWING PAINT CODE	PAINT DESCRIPTION	ARSENIC CONTENT (µg/g)	LEAD CONTENT (µg/g)	MERCURY CONTENT (µg/g)
01	RED	N1	32700	N2
02	OFF WHITE	N1	N2	N2
03	GREY / BLUE	N1	778	N1
04	BLACK	N1	204	N2
05	YELLOW	N1	32700	N1
06	ORANGE	N1	43300	N2
07	AQUA	N1	5880	N1

TABLE NOTE:
N1 Below Method of Analytical Detection (MDL)
N2 Below regulated limit



REV. 0 SCALE: N. T. S.
DRAWN BY: T. CORTES CHECKED BY: J. D. GALLEY
DATE: AUGUST 2015
OESN JOB No: 00540.001
DWG #: WSP-867LRB-2015-02



NOTE:
REFERENCE WSP PROJECT No : KW405-13-0764

TITLE:
DESIGNATED SUBSTANCES SURVEY

CUSTOMER:
WSP CANADA INC

LOCATION:
867 LAKESHORE ROAD
BURLINGTON, ONTARIO

LEGEND

00540.001-W01 NON ASBESTOS-CONTAINING SAMPLE NUMBER

00540.001-P01 PAINT SAMPLE NUMBER

ASBESTOS-CONTAINING MATERIALS

PAINT RESULTS TABLE

DRAWING PAINT CODE	PAINT DESCRIPTION	ARSENIC CONTENT (µg/g)	LEAD CONTENT (µg/g)	MERCURY CONTENT (µg/g)
01	RED	N1	32700	N2
02	OFF WHITE	N1	N2	N2
03	GREY / BLUE	N1	778	N1
04	BLACK	N1	204	N2
05	YELLOW	N1	32700	N1
06	ORANGE	N1	43300	N2
07	AQUA	N1	5880	N1

TABLE NOTE:
N1 Below Method of Analytical Detection (MDL)
N2 Below regulated limit



REV: 0 SCALE: N. T. S.

DRAWN BY: T. CORTES CHECKED BY: J. D. GALLEY

DATE: AUGUST 2015

OESN JOB No: 00540.001

DWG #: **WSP-867LRB-2015-03**