

ANALYTICAL NARRATIVE

The note(s) below pertain to the sample(s) and analytical data reported herein:

Quantitative results are listed as approximate % asbestos. Results are based on calibrated visual estimation of materials. All results <1% asbestos (Trace) have been confirmed by the analysis of a duplicate slide. As per the method, all "negative" or BDL samples have been confirmed by triplicate analyses. Due to the nature of the samples the following measurements of uncertainty may apply:

% Asbestos	Uncertainty
1%	± 2%
5%	± 4%
10%	± 5%
>20%	± 10%

Due to the complexity of analyzing floor tile by PLM, the client may want to consider having "negative" floor tiles analyzed further by an alternative method such as TEM.

Samples are archived by TTL Associates for a period of thirty days. Samples may be retained for a longer period of time or returned to the client upon written request.

Laboratory Accreditation:

U.S. Department of Commerce, National Institute of Standards and Technology(NIST), National Voluntary Laboratory Accreditation Program (NVLAP), Lab #101594-0. Accredited to the Interim Method for the Determination of Asbestos in Bulk Insulation Samples, EPA Method EPA-600/M4-82-020 and the Method for the Determination of Asbestos in Bulk Building Materials, EPA/600/R-93/116.

This report may not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. This report relates only to the items tested, and may not be reproduced, except in full, without the written approval of the laboratory.

Report Key:

BDL = Below Detection Level
 n/a = not applicable
 HSA = Homogeneous Sampling Area

Detection Level: 1% asbestos fibers greater than one micrometer in length.

POLARIZED LIGHT MICROSCOPY ANALYTICAL RESULTS

METHOD NUMBER:	EPA/600/R-93/116, July, 1993; 40 CFR, Ch. 1 (7-1-93 ed.), Part 763, Subpart F, Appendix A, pages 293-299
BATCH NUMBER:	2PLM008517
DATE ANALYZED:	August 16, 2017
ANALYST:	Myron Gasiorowski

LAB No.	Sample ID	HSA No.	SAMPLE LOCATION	LAYER DESCRIPTION	NON-ASBESTOS COMPONENTS	APPROXIMATE % ASBESTOS
232055	1294801-18A Layer A	18	Main roof, black membrane roofing	Black Rubber Sheet	88% Binder, 12% Synthetic Fibers	BDL
232055	1294801-18A Layer B	18	same	Black Backing	10% Binder, 80% Cellulose, 10% Fiberglass	BDL
232055	1294801-18A Layer C	18	same	Yellow Foam Insulation	100% Binder	BDL
232056	1294801-18B Layer A	18	East porch roof, black membrane roofing	Black Rubber Sheet	88% Binder, 12% Synthetic Fibers	BDL
232056	1294801-18B Layer B	18	same	Yellow Adhesive	100% Binder	BDL
232056	1294801-18B Layer C	18	same	Black Backing	10% Binder, 80% Cellulose, 10% Fiberglass	BDL
232056	1294801-18B Layer D	18	same	Yellow Foam Insulation	100% Binder	BDL
232057	1294801-19A	19	Main roof, flashing edge, grey roof caulk	Grey Caulk	100% Binder	BDL
232058	1294801-19B	19	North addition roof, edge top flashing, grey roof caulk	Grey Caulk	100% Binder	BDL

POLARIZED LIGHT MICROSCOPY ANALYTICAL RESULTS

Page 4 of 5

METHOD NUMBER:	EPA/600/R-93/116, July, 1993; 40 CFR, Ch. 1 (7-1-93 ed.), Part 763, Subpart F, Appendix A, pages 293-299
BATCH NUMBER:	2PLM008517
DATE ANALYZED:	August 16, 2017
ANALYST:	Myron Gasiorowski

LAB No.	Sample ID	HSA No.	SAMPLE LOCATION	LAYER DESCRIPTION	NON-ASBESTOS COMPONENTS	APPROXIMATE % ASBESTOS
232059	1294801-20A Layer A	20	Main roof, white roof caulk	Grey Caulk	100% Binder	BDL
232059	1294801-20A Layer B	20	same	Tan Caulk	100% Binder	BDL
232060	1294801-20B	20	Main roof, white roof caulk	Grey Caulk	100% Binder	BDL
232061	1294801-21A	21	Main roof, beige roof caulk	Tan Caulk	99% Binder, 1% Polyethylene	BDL
232062	1294801-21B	21	Main roof, beige roof caulk	Tan Caulk	99% Binder, 1% Polyethylene	BDL
232063	1294801-22A Layer A	22	North addition roof, black rubber membrane roof with ballast	Black Rubber Sealant	100% Binder	BDL
232063	1294801-22A Layer B	22	same	Black Rubber Sheet	88% Binder, 12% Synthetic Fibers	BDL
232063	1294801-22A Layer C	22	same	Silver/Tan Foam Insulation	100% Binder	BDL
232063	1294801-22A Layer D	22	same	Tan Fiber Board	8% Binder, 92% Cellulose	BDL
232064	1294801-22B Layer A	22	North addition roof, black rubber membrane roof with ballast	Black Rubber Sealant	100% Binder	BDL

POLARIZED LIGHT MICROSCOPY ANALYTICAL RESULTS

Page 5 of 5

METHOD NUMBER:	EPA/600/R-93/116, July, 1993; 40 CFR, Ch. 1 (7-1-93 ed.), Part 763, Subpart F, Appendix A, pages 293-299
BATCH NUMBER:	2PLM008517
DATE ANALYZED:	August 16, 2017
ANALYST:	Myron Gasiorowski

LAB No.	Sample ID	HSA No.	SAMPLE LOCATION	LAYER DESCRIPTION	NON-ASBESTOS COMPONENTS	APPROXIMATE % ASBESTOS
232064	1294801-22B Layer B	22	same	Black Rubber Sheet	88% Binder, 12% Synthetic Fibers	BDL
232064	1294801-22B Layer C	22	same	Silver/Tan Foam Insulation	100% Binder	BDL
232064	1294801-22B Layer D	22	same	Tan Fiber Board	8% Binder, 92% Cellulose	BDL
232065	1294801-23A	23	North addition roof, black roof caulk	Black Tar	100% Binder	BDL
232066	1294801-23B	23	North addition roof, black roof caulk	Black Tar	100% Binder	BDL