



Stantec Consulting Services Inc.  
12075 Corporate Parkway, Suite 200 Mequon WI 53092

September 21, 2016  
File: 193703931

**Attention: Nicolas Sparacio, AICP**  
Community Development Director  
City of Manitowoc  
900 Quay Street  
Manitowoc, WI 54220-4543

Dear Mr. Sparacio:

**Reference: Pre-Demolition Inspection for Asbestos and Lead Paint**  
**1512 Washington Street Manitowoc, Wisconsin**  
**USEPA Cooperative Agreement No. BF-00E01529-0**  
**Stantec Project No. 193703931**

On behalf of the City of Manitowoc (City), Stantec Consulting Services Inc. (Stantec) has conducted a pre-demolition inspection at the vacant former commercial Brownfield property located at 1512 Washington Street in Manitowoc, Wisconsin (herein referred to as the "Site"). The location of the Site relative to adjacent streets is illustrated on Figure 1. This inspection was completed utilizing Brownfield site assessment grant funds provided to the City by the United States Environmental Protection Agency (USEPA) in 2015 under cooperative agreement no. BF-00E01529-0. This work was completed in compliance with the Site-Specific Sampling and Analysis Plan prepared by Stantec on July 6, 2016 and approved by USEPA on July 11, 2016.

## **BACKGROUND AND PROBLEM STATEMENT**

To facilitate investigation, remediation, demolition, and redevelopment of this large brownfield, the Community Development Authority of the City of Manitowoc acquired the Site by condemnation and is beginning the planning process to abate the remaining asbestos, remove remaining hazardous materials, and raze the multi-story industrial buildings to complete phase two of the cleanup originally agreed to between EJ Spirtas Manitowoc, LLC (the previous Site owner) and the USEPA.

A building inspection report was completed in December 2009 by STN Environmental JV (STN) under the Targeted Brownfields Assistance (TBA) program from USEPA. The report identified a variety of building materials requiring special handling and disposal prior to building demolition activities. Documentation suggests some of these materials have been removed; however, recent unpublished work suggests a release of asbestos (and potentially lead paint) to the building, soil, and/or the adjacent rights-of-way. The Stantec (2016) Phase I Environmental Site Assessment recommended an updated pre-demolition lead paint, asbestos, and hazardous material survey to further evaluate the recognized environmental condition related to building materials. In addition, prior to proposed demolition, a pre-demolition/renovation inspection for asbestos containing materials (ACM) and lead paint was warranted to identify the location, type, quantity, and condition of potentially hazardous waste materials to evaluate and plan for abatement activities.



September 21, 2016  
 Mr. Nicolas Sparacio  
 Page 2 of 3

**Reference:** Pre-Demolition/Renovation Inspection for Asbestos and Lead Paint  
 1512 Washington Street; Manitowoc, Wisconsin  
 USEPA Cooperative Agreement No. BF-00E01529-0

**INSPECTION METHODS AND RESULTS**

A pre-demolition/renovation inspection for ACM and lead paint was completed in the remaining buildings on August 11-17, 2016 by NorthStar Environmental Testing, LLC (NorthStar). After completing an assessment of the subsurface tunnel network (Stantec, 2016), NorthStar extended the pre-demolition inspection into the tunnel network on September 6, 2016. A supplemental assessment was conducted by NorthStar on September 9, 2016 following an onsite meeting with asbestos staff from the Wisconsin Department of Natural Resources. The laboratory reports and certifications, field calibration documentation, licensure/accreditation documentation, site diagrams/sample location figures, photographs of ACMs, and sample inventory tables are included in the NorthStar report provided in Attachment A.

In summary, NorthStar collected and submitted 136 bulk samples of building material to CEI Labs, Inc. (CEI) under chain of custody procedures for asbestos determination using EPA Method 600/R-93/116 and EPA Method 600M4-82-020. As detailed in Attachment A, a variety of ACMs in various condition were identified that would affect demolition throughout the buildings. NorthStar noted all friable ACMs (as well as non-friable ACM that would likely be made friable by the intended demolition) are required to be abated prior to disturbance. Non-friable ACM (confirmed or assumed) remaining during demolition must be disposed of properly as demolition debris at an approved landfill. ACM abatement must be performed by a licensed asbestos company utilizing trained and certified workers/supervisor per the Wisconsin Department of Health Service asbestos regulation 159.

A portable energy-dispersive x-ray fluorescent spectrometer (ED-XRF) was used by NorthStar to measure the concentration of lead in building materials at approximately 1,770 locations. Weathered lead based paint in poor condition was identified by NorthStar on most of the porous surfaces.

**DATA QUALITY ASSURANCE / QUALITY CONTROL**

As noted in the Stantec (2015) project Quality Assurance Project Plan (QAPP), field duplicate and matrix spike/matrix spike duplicate samples will be used to evaluate the quality of data collected during implementation of the two Assessment Grants. As this inspection focused on laboratory analysis of asbestos containing material and field ED-XRF analysis of lead paint, collection of field duplicate and matrix spike/matrix spike duplicate samples during the inspection was not practical. Therefore, the quality assurance/quality control evaluation will focus on asbestos point count results compared to bulk measurements and ED-XRF calibration data.

Asbestos concentrations determined using bulk and corresponding point count techniques are summarized in the table below and indicate the bulk analysis adequately represented the asbestos content of the material.

Sample ID	Asbestos Concentration (Bulk Count)	Asbestos Concentration (Point Count)
584-39	< 1%	0.14%
584-61	< 1%	0.25%



September 21, 2016  
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Page 3 of 3

**Reference:** Pre-Demolition/Renovation Inspection for Asbestos and Lead Paint  
1512 Washington Street; Manitowoc, Wisconsin  
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Field calibration documentation provided in Attachment A is summarized on Table 1 and indicates the calibration of the ED-XRF spectrometer was confirmed each day using a 1 milligram per square centimeter standard prior to initiation of work and confirmed again after the inspection. The calibration was confirmed twice during the day on August 15, 2016. An additional blank calibration standard was measured each day prior to and after the inspection. As ED-XRF confirmation measurements of the two calibration standards are within project-specific guidelines described in the Stantec (2015) QAPP, ED-XRF data are considered suitable for use in this inspection.

We trust this information meets your needs. Please do not hesitate to call with any questions.

Regards,

**STANTEC CONSULTING SERVICES INC.**

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Brownfields Project Manager  
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**STANTEC CONSULTING SERVICES INC.**

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**STANTEC CONSULTING SERVICES INC.**

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QA/QC Manager  
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Attachments: Table  
Figure  
A – Inspection Report

#### **LIMITATIONS**

Stantec's observations, findings, and opinions should not be considered as scientific certainties, but only as opinion based on our professional judgment concerning the significance of the data gathered during the course of this investigation. Specifically, Stantec cannot represent that the Site does not contain any hazardous or toxic materials/wastes or other latent conditions beyond that observed by Stantec during the course of the investigation. Additionally, due to limitations of this investigation process and the necessary use of data furnished by others, Stantec and its subcontractors cannot assume liability if actual conditions differ from the information presented in this report.

# TABLE



Table 1  
 ED-XRF Calibration Measurements  
 1512 Washington Street  
 Manitowoc, Wisconsin

Date	Type	Triplicate Average (mg/cm <sup>2</sup> )	Expected Value (mg/cm <sup>2</sup> )
8/11/2016	Pre-Inspection	0.9	1
8/11/2016	Post-Inspection	1.0	1
8/12/2016	Pre-Inspection	1.1	1
8/12/2016	Post-Inspection	1.1	1
8/15/2016	Pre-Inspection	1.0	1
8/15/2016	Mid-Day	1.0	1
8/15/2016	Mid-Day	1.0	1
8/15/2016	Post-Inspection	1.0	1
8/16/2016	Pre-Inspection	1.0	1
8/16/2016	Post-Inspection	1.0	1

Date	Type	Measurement (mg/cm <sup>2</sup> )	Expected Value (mg/cm <sup>2</sup> )
8/11/2016	Pre-Inspection	-0.1	0
8/11/2016	Post-Inspection	-0.1	0
8/12/2016	Pre-Inspection	-0.2	0
8/12/2016	Post-Inspection	0.0	0
8/15/2016	Pre-Inspection	-0.4	0
8/15/2016	Mid-Day	-0.3	0
8/15/2016	Mid-Day	-0.2	0
8/15/2016	Post-Inspection	-0.6	0
8/16/2016	Pre-Inspection	-0.1	0
8/16/2016	Post-Inspection	-0.3	0

Notes:

mg/cm<sup>2</sup> = milligrams per square centimeter

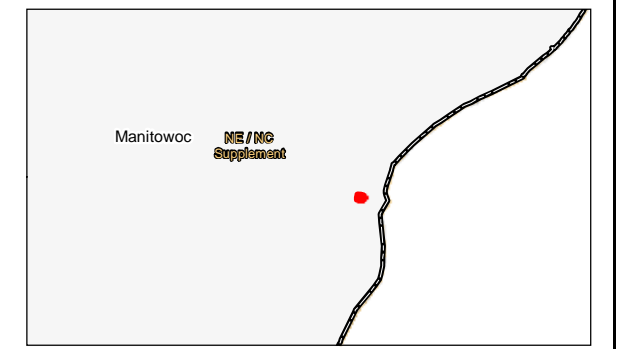
**FIGURE**





Figure No.  
**1**  
 Title  
**Figure 1**  
**Site Location and 2014 Ortho**  
 Client/Project  
 City of Manitowoc  
 USEPA Brownfield Assessment Grant  
 Hazardous Substances  
 0 65 130 Feet  
 1937003931  
 Prepared by HLB on 5-24-16

Legend  
 Target Site  
 Parcels  

Notes  
 1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803  
 2. Feet  
 3. Data Sources Include:  
 Orthophotography: 2015 City of Manitowoc



R:\Data\Manitowoc\Map\1512\_Washington\01.mxd - Revised: 2016-05-24 By: bbyers



# ATTACHMENT A

## INSPECTION REPORT

**Central Wisconsin Office:**

817 Oak Ridge Rd  
Mosinee, WI 54455  
Tel: 715.693.6112  
Fax: 715.693.1225

**Fox Cities Office:**

1835 E. Edgewood Drive  
Suite 10542  
Appleton, WI 54913  
Tel: 920.422.4888

**Madison Office:**

1310 Mendota Street  
Suite 121  
Madison, WI 53714  
Tel: 608.827.6761

# PRE-DEMOLITION INSPECTION: ASBESTOS & LEAD PAINT

## Stantec Consulting Services, Inc.

**Site:**

Mirro Building No. 9  
1512 Washington Street  
Manitowoc, WI 54220

**Work Area:**

Pre-Demolition

Inspection Dates: August 11-17, 2016  
September 6 & 9, 2016

Report Date: September 20, 2016

NorthStar No. 160-584

Submitted By:  
NorthStar Environmental Testing, LLC.



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September 20, 2016

Stantec Consulting Services, Inc.  
12075 Corporate Parkway, Suite 200  
Mequon, WI 53092

**Reference: Pre-Demolition Inspection  
Mirro Building No. 9  
1512 Washington Street  
Manitowoc, WI 54220**

NorthStar Environmental Testing, LLC was contracted by Stantec Consulting Services Inc. to complete a pre-demolition inspection to identify the presence of materials containing asbestos and building components with lead-based paint from throughout the facility located at 1512 Washington Street in Manitowoc, Wisconsin. The inspection was conducted by Jamie Brzezinski, Larry Pawlus, Andrew Schilling and Aaron Stroud of NorthStar Environmental Testing, LLC (NorthStar) from August 11 to 17 and September 6 & 9, 2016.

**Asbestos materials and lead-based paint were identified in various areas throughout the property. Please review the report in its entirety for more detailed information.**

Prepared by:  
NorthStar Environmental Testing, LLC.  
1835 E. Edgewood Drive  
Suite 10542  
Appleton, WI 54913

Provided to:  
Stantec Consulting Services Inc.  
12075 Corporate Parkway, Suite 200  
Mequon, WI 53092

Date of Site Visits: August 11-17, 2016, September 6 & 9, 2016

NorthStar Environmental Testing, LLC.

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David Barrett  
Owner, Senior Project Manager

---

Aaron Stroud  
Operations Manager  
All-108183 / LRA-108183



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## **TABLE OF CONTENTS**

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<b>INSPECTION SUMMARY.....</b>	<b>Page 1</b>
<b>ASBESTOS SAMPLING SUMMARY.....</b>	<b>Page 2</b>
<b>ASBESTOS MATERIAL SUMMARY.....</b>	<b>Pages 3 - 4</b>
<b>ASBESTOS RECOMMENDATIONS.....</b>	<b>Page 5</b>
<b>SURVEY LIMITATIONS.....</b>	<b>Page 5</b>
<b>ANALYTICAL DISCUSSION.....</b>	<b>Page 5</b>
<b>REMARKS.....</b>	<b>Page 6</b>
 <b>APPENDICES</b>	
<b>A) Asbestos Materials (Abatement).....</b>	<b>6 Pages</b>
<b>B) Building Diagrams (Asbestos).....</b>	<b>8 Pages</b>
<b>C) Photo Log (Asbestos).....</b>	<b>5 Pages</b>
<b>D) Sample Log (Asbestos).....</b>	<b>9 Pages</b>
<b>E) Laboratory Analysis (Asbestos).....</b>	<b>53 Pages</b>
<b>F) Lead Paint Testing Report.....</b>	<b>44 Pages</b>
<b>G) Building Diagrams (Lead).....</b>	<b>7 Pages</b>
<b>H) NorthStar Certifications.....</b>	<b>2 Pages</b>



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September 20, 2016

Stantec Consulting Services Inc.  
 12075 Corporate Parkway, Suite 200  
 Mequon, WI 53092

Project:	Asbestos Pre-Demolition Inspection
Site Address:	Mirro Building No. 9 1512 Washington Street Manitowoc, WI 54220
Work Area:	Pre-Demolition
Survey Date:	August 11 to 17, 2016 September 6 & 9, 2016
NorthStar No:	160-584

NorthStar Environmental Testing, LLC (NorthStar) was authorized by Stantec Consulting Services Inc. to conduct a pre-demolition survey for the presence of accessible suspect asbestos containing materials (ACM) for the following site.

Previous asbestos sampling and abatement had occurred prior to NorthStar's site visit. NorthStar was requested to site verify asbestos materials and approximate quantities for materials still present within the structure.

**INSPECTION SUMMARY:**

Site Address:	Mirro Building No. 9 1512 Washington Street Manitowoc, WI 54220			
County:	Manitowoc County			
Structure Type:	Commercial			
Bldg Age:	1904 (approximate original), Multiple Additions			
Size (ft <sup>2</sup> ):	750,000 ft <sup>2</sup>			
Floors:	7 (south), 5 (center), 6 (north)			
# of Structures:	3 main structures			
Inspector:	Aaron Stroud	Cert:	All-108183	Asbestos Company: CAP-925800
Survey Date:	August 11 to 17, 2016 September 6 & 9, 2016			
Comments:	Some areas of the building were unsafe at the time of inspection due to leaks from unmaintained roofing. No current roofing samples were taken. Please refer to previous sampling data. Any suspect materials, if encountered, which differ from those tested should be assumed to contain asbestos and sampled if/when necessary.			



**ASBESTOS SAMPLING SUMMARY:**

Number of Samples:	136
Number Analyzed:	136 Polarized Light Microscopy & 2 Point Count Analysis
<b>Asbestos Material:</b>	<p>Square D: Transite Electrical Panels            Cutler Hammer: Push Button Panels            Cutler Hammer: Motor Control Panels            GE: Slate Electrical Panels            GE: Transite Electrical Panels            AB: Push Button Panels            Transformer Box: Black Isolator            Square D: Small Black Isolators            Cutler Hammer: White Electrical Isolator            Cutler Hammer: White Insulation Paper            Black Box Electrical Isolators            Gray Fiberglass Window Sill Wrap            Black Window Perimeter Tar            Joint Compound            Westinghouse: Black Compressed Board            AB: Red Electrical Isolator            Black Window Glazing            Kiln Gasket            Red Brick Debris            12" Tan Floor Tile &amp;                Black Adhesive            White Window Perimeter Caulk            12" Brown Floor Tile &amp;                Black Adhesive            White Ceiling Board            White Panel (loose on floor)            9" Brown Floor Tile            White Cloth Vibration Joint            12" Orange Floor Tile            Black Roof Flashing (debris)            Black Roofing Felt (debris)</p>
<b>Asbestos Material (previous sampling)</b>	<p>Pipe Fitting Insulation &amp; Pipe Insulation            Transite Waste &amp; Debris            Black Tar (on foam insulation) (Mirro tower)</p>
<b>Assumed ACM:</b>	<p>Elevator Electrical Components (transite, slate)            Elevator Brake Pads            Electrical Component (debris)</p>
Laboratory:	CEI Labs, Inc. NVLAP: 101768-0
Analysis Date:	<p>August 23, 2016            August 29, 2016 (point count analysis)            September 8, 2016            September 13, 2016</p>

The attached *Bulk Sample Log-in* contains complete sample analysis data.

**ASBESTOS MATERIAL SUMMARY:**

**Confirmed ACBM, or presumed ACBM** that will require abatement prior to disturbance by mechanical demolition:

<b>Material</b>	<b>Quantity (approx)</b>	<b>Comment/Condition</b>
Square D or GE Electrical Panel: Transite Electrical Panels	71 each	Cat. II non-friable (some contain a friable paper)
Cutler Hammer / AB: Push Button Panels	63 each	Cat. II non-friable
Cutler Hammer: Motor Control Panels	23 each	Cat. II non-friable (some contain a friable paper)
GE Slate Electrical Panels	3 each	Cat. II non-friable (some contain a friable paper)
Transformer Box: Black Electrical Isolator	1 each	Cat. II non-friable (room 126, ground floor, 6 story)
Square D Panel: Small Black Isolators	25 each	Cat. II non-friable
Cutler Hammer: White Electrical Isolator	21 each	Cat. II non-friable (some contain a friable paper)
Large Transformer: Black Box Electrical Isolators	1 square foot	Cat. II non-friable (room 221, second floor, 6 story)
<sup>1</sup> Gray Fiberglass Window Sill Wrap	15,250 square feet	Friable (window sills & north building exterior)
Westinghouse: Black Compressed Board	1 each	Cat. II non-friable (room 426, fourth floor, 6 story)
Black Window Glazing (in metal divider wall)	12 ft <sup>2</sup>	Cat. II non-friable (room 619, sixth floor, 6 story)
Kiln Gasket	2 ft <sup>2</sup>	Cat. II non-friable / 4' round
Red Brick Debris	64 ft <sup>2</sup>	Friable / in pit
12" Tan Floor Tile & Black Adhesive (on wood)	1,440 ft <sup>2</sup>	Friable (floor tile)/Cat. II non-friable (Adh) (room 205, second floor, 7 story)
White Ceiling Board	36 ft <sup>2</sup>	Friable / (room 508 closet, fifth floor, 7 story)
White Panel (loose on Floor)	8 ft <sup>2</sup> 2 ft <sup>2</sup>	Friable / (room 603 closet, sixth floor, 7 story) (room 701 closet, seventh floor, 7 story)
White Cloth Vibration Joint	2 ft <sup>2</sup>	Friable / (room 716, seventh floor, 7 story)
Pipe Insulation & Pipe Fittings	233 linear feet 45 each	Friable / Assumed (multiple areas, small quantities)
Pipe Insulation & Pipe Fittings	1,050 linear feet 78 each	Friable (tunnels)
Transite Debris	120 cubic feet	Cat. II non-friable / Assumed (room 116, first floor, 5 story)
Elevator Electrical Components (transite, slate, brake pads)	not quantified	Cat. II non-friable / Assumed (elevator penthouses, 9 each)
Electrical Isolators (debris pile)	25 ft <sup>2</sup>	Cat. II non-friable (room 221, second floor, 6 story)

<sup>1</sup> Wisconsin DNR has deemed this a friable material requiring abatement prior to demolition.

**Non-friable, or presumed ACBM**, in good condition, on cementitious materials that may remain in place during mechanical demolition **unless the concrete/brick is going to be recycled or crushed**:

Material	Quantity (approx)	Comment/Condition
<sup>2</sup> Black Window Sill Tar and/or White Window Caulk	1,358 ft <sup>2</sup> (679 openings)	Cat. II non-friable
<sup>3</sup> Black Roof Flashing	not quantified	Cat. I non-friable / rubble pile 3-story building
<sup>3</sup> Black Roofing Felt	not quantified	Cat. I non-friable / rubble pile 3-story building
Black Tar (on foam / conc. block)	142 ft <sup>2</sup>	Cat. II non-friable / previous sampling (1,420 ft <sup>2</sup> total surface area, mirro tower)

<sup>2</sup> Black window sill tar (interior) and white window caulk (exterior) are present to varying degrees on window openings. Estimated 2 ft<sup>2</sup> per window opening.

<sup>3</sup> Requires proper landfill disposal.

**Non-friable, or presumed ACBM**, in good condition, on wood substrates that may remain in place during mechanical demolition process but requires proper landfill disposal:

Material	Quantity (approx)	Comment/Condition
*Joint Compound	800 ft <sup>2</sup>	Cat. II non-friable /total wall surface area (room 424, fourth floor, 6 story)
12" Brown Floor Tile & Black Adhesive (on wood, two locations)	112 ft <sup>2</sup>	Cat. I & II non-friable / (room 314, third floor, 7 story)
9" Brown Floor Tile (on wood, under carpet, adh. non-acm)	160 ft <sup>2</sup>	Cat. I non-friable / (room 704 east, seventh floor, 7 story)
12" Orange Floor Tile (on wood, adh. non-acm)	400 ft <sup>2</sup>	Cat. I non-friable / (room 718, seventh floor, 7 story)
Roofing Materials / Roof Flashings	not quantified	Cat. I non-friable

\*Joint compound was found to contain 3% chrysotile. It was then composited with the drywall and found to be <1% chrysotile (allowable by USEPA for demolition process). Abatement of the joint compound material would be required prior to disturbance by normal renovation practices if the building were renovated instead of demolished.

The following areas were inaccessible or excluded at the time of inspection and may contain additional quantities of suspect asbestos containing materials:

Area
Areas of the building were occupied at the time of inspection which may have limited access. Roofing materials and electrical panels are assumed to contain asbestos and should be sampled if/when necessary. Any suspect materials, if encountered, which differ from those tested should be assumed to contain asbestos and sampled if/when necessary.

## **ASBESTOS RECOMMENDATION:**

All friable ACBM as well as non-friable ACBM that would likely be made friable by the intended renovation or demolition processes are required to be abated prior to disturbance.

Non-friable ACBM (confirmed or assumed) remaining during demolition must be disposed of properly as demolition debris at an approved landfill. Non-friable materials typically require abatement prior to any material recycling procedure. For any building that will be subject to burning, all confirmed and presumed ACBM must be removed.

Abatement shall be performed by an abatement company utilizing trained and certified worker/supervisor and further licensed as an asbestos company by the Wisconsin Department of Health Service (DHS), asbestos regulation 159.

Refer to Wisconsin Department of Natural Resources (WDNR) 447; and DHS 159 for complete information on requirements for asbestos abatement and asbestos material disposal.

## **SURVEY LIMITATIONS:**

Sample results, quantities and recommendation are limited to areas that were accessible to us during the investigation. Additional presumed-ACBM that may have been located in spaces not accessible during our investigation, hidden from view, or not sampled at the client's request may require additional sampling prior to disturbance by renovation or demolition activity. Typical areas that may be inaccessible during an investigation include: wall or ceiling cavities; electrical components/wiring, equipment interiors; chimneys/flues/stacks; spaces requiring confined space entry procedures. Additional materials not accessible during a typical building materials survey include items such as miscellaneous caulking, sealants and construction adhesives that are not readily accessible to sampling as they are often located between layers of building components. These materials are typically non-friable in nature but may require further sampling to confirm or deny the presence of asbestos.

**Additional presumed ACBM encountered during renovation or demolition activity, that differs from materials sampled or described during this survey must be assumed to contain asbestos and be abated or be sampled to determine asbestos content prior to disturbance.**

Material quantities are listed according to visible estimates at the time of the survey. It is recommended that all quantities be further verified by building owner or abatement contractor prior to project design, bidding and/or DNR notification purposes.

## **ANALYTICAL DISCUSSION:**

Bulk sample analysis for asbestos was performed by polarized light microscopy (PLM); method EPA 600/r-93-116. Samples showing a result of "None Detected" were found to contain no asbestos in any analyzed portion of the sample.

USEPA defines an ACBM as one that contains greater than one percent asbestos. For a sample result showing less than one percent (<1%) of asbestos, the material can be may be treated as a non-asbestos containing material. The building owner or client should be aware that exposure to asbestos is still possible following disturbance of material with a trace or <1% of asbestos present and that worker protection procedures may be necessary.

**REMARKS:**

The survey and subsequent report has been performed according to applicable regulations and generally accepted industry standards and practices in this locality under similar conditions. Information provided to us by building owner/occupant, client or other interested party that may have been utilized in the performance and reporting of the survey was accepted in good faith and can only be assumed to be accurate. The findings and recommendations made are representative of our professional opinion based on currently available information, no other warranty is implied or intended.

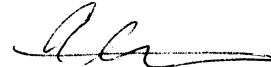
Please contact us if you have any questions regarding the presented information or the project in general.

Sincerely,

NorthStar Environmental Testing, LLC.



David Barrett  
Senior Project Manager



Aaron Stroud  
Operations Manager

# **Stantec Consulting Services Inc.**

**Mirro Building No. 9  
1512 Washington Street  
Manitowoc, WI 54220**

**September 2016**

**ASBESTOS MATERIAL SUMMARY:**

**Confirmed ACBM, or presumed ACBM** that will require abatement prior to disturbance by mechanical demolition:

<b>Building Area</b>	<b>Material</b>	<b>Quantity (approx)</b>	<b>Comment/Condition</b>
<b>Five / Seven Story Building (south building)</b>			
106	Square D: Transite Electrical Panel	1 ft <sup>2</sup> (1 each)	South Wall - East
107	AB: Push Button Panel/Switch	2 ft <sup>2</sup> (2 each)	
107A	Square D: Transite Electrical Panel	2 ft <sup>2</sup> (2 each)	
108	Cutler Hammer: White Electrical Isolator	2 ft <sup>2</sup> (2 each)	
108	Pipe Insulation	10 linear feet	Stair #6
109	Cutler Hammer: Motor Control	3 ft <sup>2</sup> (3 each)	
109	Cutler Hammer: White Electrical Isolator	2 ft <sup>2</sup> (2 each)	
110	Pipe Insulation & Pipe Fittings	1 linear foot & 1 each	At ceiling
111	Cutler Hammer: Push Button Panel	2 ft <sup>2</sup> (2 each)	
111	Cutler Hammer: Transite	1 ft <sup>2</sup> (1 each)	South Wall, By Stair
111	Cutler Hammer: White Electrical Isolator	6 ft <sup>2</sup> (6 each)	
111	GE Electrical Panel: Transite Electrical Panel	1 ft <sup>2</sup> (1 each)	South – East
111	Cutler Hammer: White Paper Insulation	3 ft <sup>2</sup> (3 each)	Center – East Friable
111	AB: Push Button Panel	1 ft <sup>2</sup> (1 each)	North Center – Column
111	Square D: Transite Electrical Panel	1 ft <sup>2</sup> (1 each)	Center
111	Pipe Insulation & Pipe Fittings	2 linear feet (2 each)	At ceiling, By 112 Stair
111 (Stair #7)	Pipe Insulation & Pipe Fittings	1 linear feet (1 each)	Aircell in wall cavity
111B Storage	Square D: Transite Electrical Panel	1 ft <sup>2</sup> (1 each)	
112A	Pipe Insulation & Pipe Fittings	70 linear feet & 15 each	At ceiling
113	Square D: Transite Electrical Panel	2 ft <sup>2</sup> (2 each)	
115 Receiving	Pipe Insulation & Pipe Fittings	20 linear feet (6 each)	At Ceiling
115 Receiving	AB: Push Button Panel	3 ft <sup>2</sup> (3 each)	
115 Receiving	Square D: Transite Electrical Panel	2 ft <sup>2</sup> (2 each)	By 116 & Southwest

Building Area	Material	Quantity (approx)	Comment/Condition
115 Receiving	Cutler Hammer: Motor Control Panel	1 ft <sup>2</sup> (1 each)	
115 Receiving	Square D Panel: Small Black Isolator	2 ft <sup>2</sup> (2 each)	
115 Receiving	GE Electrical Panel: Transite Electrical Panel	2 ft <sup>2</sup> (2 each)	Southwest
116 Load Dock	Pipe Insulation & Pipe Fittings	30 linear feet (3 each)	
116 Load Dock	20 Gallon Container ACM debris (transite)	20 Gallons (1 each)	
116 Load Dock	Transite Debris	120 cubic feet	Pile
118	Square D: Transite Electrical Panel	1 ft <sup>2</sup> (1 each)	
118	Cutler Hammer: Motor Control Panel	1 ft <sup>2</sup> (1 each)	
118	Square D Panel: Small Black Isolator	2 ft <sup>2</sup> (2 each)	
119	Cutler Hammer: Transite Electrical Panel	1 ft <sup>2</sup> (1 each)	Southwest – Column
120	AB: Push Button Panel	1 ft <sup>2</sup> (1 each)	
121	AB: Push Button Panel	4 ft <sup>2</sup> (4 each)	
121	Cutler Hammer: Motor Control Panel	1 ft <sup>2</sup> (1 each)	Northwest
204	Square D: Transite Electrical Panel	1 ft <sup>2</sup> (1 each)	East
205	12" Tan Floor Tile & Black Adhesive	1,440 ft <sup>2</sup>	Friable on Wood
205	Pipe Insulation	1 linear feet	Southwest – West at Ceiling
208	Square D Panel: Small Black Isolator	1 ft <sup>2</sup> (1 each)	
208	Square D: Transite Electrical Panel	1 ft <sup>2</sup> (1 each)	
208	AB: Push Button Panel	2 ft <sup>2</sup> (2 each)	
215	Pipe Insulation	3 linear feet	Closet – Northwest
219	GE Electrical Panel: Transite Electrical Panel	1 ft <sup>2</sup> (1 each)	White Paper (friable)
301	Cutler Hammer: Motor Control Panel	1 ft <sup>2</sup> (1 each)	
307	Cutler Hammer: Motor Control Panel	1 ft <sup>2</sup> (1 each)	
405	Square D: Transite Electrical Panel	1 ft <sup>2</sup> (1 each)	Southeast
405	AB: Push Button Panel	2 ft <sup>2</sup> (2 each)	Brown Paper



Building Area	Material	Quantity (approx)	Comment/Condition
405	Cutler Hammer: White Electrical Isolator	1 ft <sup>2</sup> (1 each)	
405	Aircell Debris	10 linear feet	North Center
412	Cutler Hammer: White Electrical Isolator	1 ft <sup>2</sup> (1 each)	
418	Pipe Fittings	4 each	
502	Square D Panel: Small Black Isolator	1 ft <sup>2</sup> (1 each)	
502	Square D: Transite Electrical Panel	1 ft <sup>2</sup> (1 each)	
505	Square D: Transite Electrical Panel	1 ft <sup>2</sup> (2 each)	Closet
508	White Ceiling Board	36 ft <sup>2</sup>	Closet
513	Square D: Transite Electrical Panel	2 ft <sup>2</sup> (2 each)	1 North 1 South
513	Square D Panel: Small Gray Isolator	1 ft <sup>2</sup> (1 each)	North White Paper – Friable
518	Pipe Fitting	1 each	
603	AB: Push Button Panel	5 ft <sup>2</sup> (5 each)	
603	White Ceiling Board	8 ft <sup>2</sup>	Closet – Loose on Floor
603	Square D: Transite Electrical Panel	2 ft <sup>2</sup> (2 each)	Southwest
607	Square D: Transite Electrical Panel	2 ft <sup>2</sup> (2 each)	North
608	Square D: Transite Electrical Panel	1 ft <sup>2</sup> (1 each)	West
612	Square D Panel: Small Black Isolator	1 ft <sup>2</sup> (1 each)	Closet
617	Square D: Transite Electrical Panel	1 ft <sup>2</sup> (1 each)	West
701	White Ceiling Board	25 ft <sup>2</sup>	Closet – Loose on Floor
705	Square D Panel: Small Black Isolator	1 ft <sup>2</sup> (1 each)	
716	White Cloth Vibration Joint	2 ft <sup>2</sup> (2 each)	
Penthouse (Stair #5, Northeast)	Elevator Brake Shoe	1 ft <sup>2</sup>	Assumed
Penthouse (Stair #5, Northeast)	Slate Electrical Panel	not quantified	Assumed
Penthouse (Stair #5, Northeast)	Square D Panel: Insulation Paper	1 ft <sup>2</sup>	Assumed
Penthouse (Stair #7, South)	GE Electrical Panel: Transite Electrical Panel	1 ft <sup>2</sup> (1 each)	
Penthouse (Stair #7, South)	Slate Electrical Panel	24 ft <sup>2</sup>	Assumed

Building Area	Material	Quantity (approx)	Comment/Condition
Penthouse (Stair #7, South)	Elevator Brake Shoes	1 ft <sup>2</sup> (1 each)	Assumed
Penthouse (Stair #8, North)	Transite Board	100 ft <sup>2</sup>	Assumed
Penthouse (Stair #8, North)	Slate Electrical Board	8 ft <sup>2</sup>	Assumed
Penthouse (Stair #8, North)	Elevator Brake Shoe	1 ft <sup>2</sup>	Assumed
Penthouse (Stair #8, North)	Square D Panel: Small Black Isolator	1 ft <sup>2</sup> (1 each)	
Penthouse (Center Stair)	Elevator Brake Shoes	1 ft <sup>2</sup> (1 each)	Assumed
Penthouse (Center Stair)	Slate Board & Transite	18 ft <sup>2</sup>	Assumed
Penthouse (2 each)	Inaccessible – assume elevator electrical / shoes	not quantified	Assumed
Exterior South Building	Gray Fiberglass Window Sill Wrap	3,020 ft <sup>2</sup>	
<b>Six Story Building (north building)</b>			
Tunnel (south)	Felt Pipe Insulation & Pipe Fittings	50 linear feet 7 each	By S#1 & S#2
Tunnel (south)	Aircell Pipe Insulation & Pipe Fittings	30 linear feet 10 each	By S#3
Tunnel (south)	Asbestos Debris	not quantified	By M#3 Minimal - Clean
Tunnel (north)	Felt Pipe Insulation & Pipe Fittings	970 linear feet 51 each	Throughout
Tunnel (north)	Aircell Pipe Insulation & Pipe Fittings	70 linear feet 10 each	By M#8
124 Load Dock	Cutler Hammer: Motor Control Panel	6 ft <sup>2</sup> (6 each)	
124 Load Dock	Square D: Transite Electrical Panel	4 ft <sup>2</sup> (4 each)	South Center
124 Load Dock	Square D Panel: Small Black Isolator	1 ft <sup>2</sup> (1 each)	Southwest
124 Load Dock	Pipe Insulation & Pipe Fittings	50 linear feet (9 each)	33 linear feet at high ceiling
124 Load Dock	AB: Push Button Panel	1 ft <sup>2</sup> (1 each)	
125	Pipe Insulation & Pipe Fittings	1 linear feet (1 each)	Southwest, At Ceiling
126	Cutler Hammer: Motor Control	2 ft <sup>2</sup> (2 each)	North Wall – West (friable paper)
126	GE Dial Electrical Panel: Slate	2 ft <sup>2</sup> (2 each)	White Paper - Friable
126	AB: Push Button Panel	3 ft <sup>2</sup> (3 each)	
126	Cutler Hammer: Push Button Panel	4 ft <sup>2</sup> (4 each)	

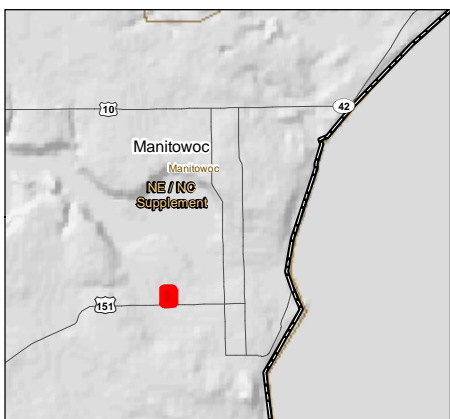
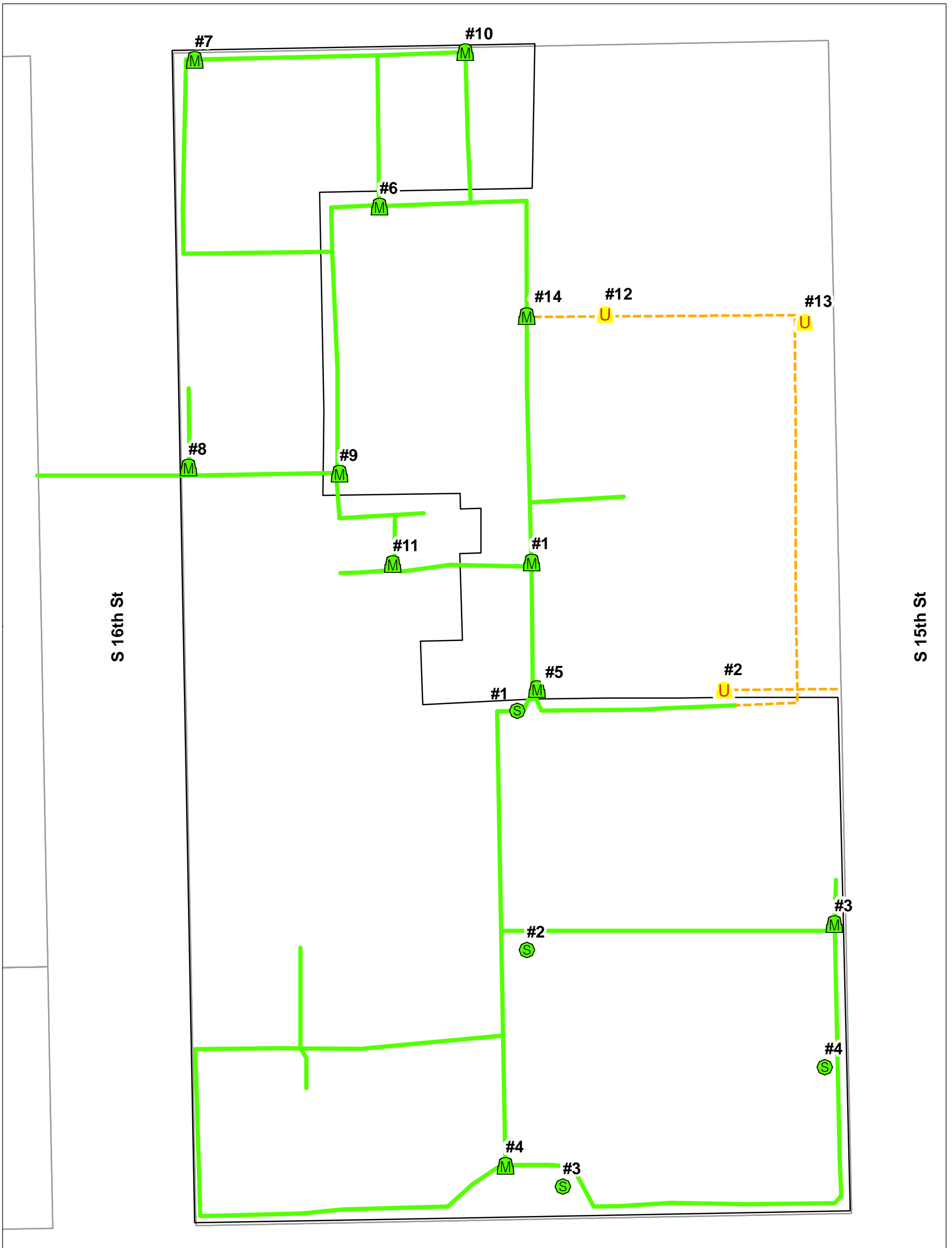
Building Area	Material	Quantity (approx)	Comment/Condition
126	Large Transformer: Black Box Electrical Isolator	1 ft <sup>2</sup> (1 each)	
126	Square D: Transite Electrical Panel	3 ft <sup>2</sup> (3 each)	
126	GE Electrical Panel: Transite Electrical Panel	4 ft <sup>2</sup> (4 each)	
126	Square D Panel: Small Black Isolator	7 ft <sup>2</sup> (7 each)	
127	Square D: Transite Electrical Panel	1 ft <sup>2</sup> (1 each)	N07 Column
127	Unlabeled: Black	1 ft <sup>2</sup> (1 each)	North Wall - East
127	Cutler Hammer: Push Button Panel	2 ft <sup>2</sup> (2 each)	North Wall - Center
127	Square D: Transite Electrical Panel	1 ft <sup>2</sup> (1 each)	North Wall - Center
128 Men's Restroom	Pipe Insulation & Pipe Fittings	2 linear feet (1 each)	
130 (Stair #2 Entry)	Pipe Insulation & Pipe Fittings	2 linear feet (2 each)	
220 (Stair #2)	Pipe Insulation	6 linear feet	
221	Electrical Debris Pile	25 ft <sup>2</sup>	Assumed
221	Square D: Transite Electrical Panel	2 ft <sup>2</sup> (2 each)	Column 2M 08 & East Wall - Center
221	Square D Panel: Small Black Isolator	3 ft <sup>2</sup> (3 each)	Column 2M 11 & Column 2M 16
221	Cutler Hammer: White Electrical Isolator	1 ft <sup>2</sup> (1 each)	White Paper - Friable
221	Large Transformer: Black Box Electrical Isolator	1 ft <sup>2</sup> (4 each)	Southeast
223	AB: Push Button Panel	1 ft <sup>2</sup> (1 each)	Northeast
223	Square D: Transite Electrical Panel	1 ft <sup>2</sup> (1 each)	Northeast
223	Cutler Hammer: Push Button Panel	2 ft <sup>2</sup> (2 each)	
223	Square D Panel: Small Black Isolator	2 ft <sup>2</sup> (2 each)	
323	Square D: Transite Electrical Panel	5 ft <sup>2</sup> (5 each)	
324	Square D Panel: Small Black Isolator	2 ft <sup>2</sup> (2 each)	
324	Square D: Transite Electrical Panel	4 ft <sup>2</sup> (4 each)	
422 (Stair #2)	Pipe Insulation	1 linear feet	At Ceiling
423	AB: Push Button Panel	1 ft <sup>2</sup> (1 each)	

Building Area	Material	Quantity (approx)	Comment/Condition
426	AB: Push Button Panel	2 ft <sup>2</sup> (2 each)	
426	Square D: Transite Electrical Panel	1 ft <sup>2</sup> (1 each)	
426	Westinghouse: Black Compressed Board	1 ft <sup>2</sup> (1 each)	
426	Cutler Hammer: White Electrical Isolator	1 ft <sup>2</sup> (1 each)	
520 (Stair #2)	Pipe Insulation	1 linear feet	At Ceiling
521	AB: Push Button Panel	10 ft <sup>2</sup> (10 each)	Black
521	AB: Push Button Panel	1 ft <sup>2</sup> (1 each)	Red
619	AB: Push Button Panel	10 ft <sup>2</sup> (10 each)	
619	Cutler Hammer: Motor Control Panel	4 ft <sup>2</sup> (4 each)	
619	Square D: Transite Electrical Panel	1 ft <sup>2</sup> (1 each)	
619	Cutler Hammer: Push Button Panel	1 ft <sup>2</sup> (1 each)	
619	Square D: Transite Electrical Panel	1 ft <sup>2</sup> (1 each)	
619	GE Slate Electrical Panel	1 ft <sup>2</sup> (1 each)	Assumed
619	Black Window Glazing (in metal divider wall)	12 ft <sup>2</sup>	
622	Cutler Hammer: Motor Control Panel	4 ft <sup>2</sup> (4 each)	
622	Square D: Transite Electrical Panel	12 ft <sup>2</sup> (12 each)	
622	Cutler Hammer: White Electrical Isolator	3 ft <sup>2</sup> (3 each)	
622	GE Electrical Panel: Transite Electrical Panel	2 ft <sup>2</sup> (2 each)	
622	Square D Panel: Small Black Isolator	1 ft <sup>2</sup> (1 each)	
622	AB: Push Button Panel	2 ft <sup>2</sup> (2 each)	
Penthouse (Stair #2, west)	Square D: Electrical Panel	1 ft <sup>2</sup>	Assumed
Penthouse (Stair #2, west)	Elevator Brake Shoe	1 each	Assumed
Penthouses (north & south)	Square D: Electrical Panel Elevator Brake	not quantified	Assumed / Inaccessible
Exterior North Building	Gray Fiberglass Window Sill Wrap	12,230 ft <sup>2</sup>	On columns & foundation

**Stantec Consulting Services Inc.**

**Mirro Building No. 9  
1512 Washington Street  
Manitowoc, WI 54220**

**September 2016**



**Notes**  
 Coordinate System: NAD 1983 StatePlane Wisconsin  
 South FIPS 4803 Feet  
 Orthophotography Source: 2014, City of Manitowoc

**Legend**

- Corner of Building
- Tunnel Entrances**
- Confirmed-Floor Access-Way
- Confirmed-Stairwell
- Unconfirmed-Manway
- Confirmed
- Unconfirmed

Figure No.  
**2**

Title  
**Figure 2 Subsurface Tunnel Network and Access Locations**

Client/Project  
 City of Manitowoc  
 USEPA Brownfield Assessment Grant  
 Hazardous Substances



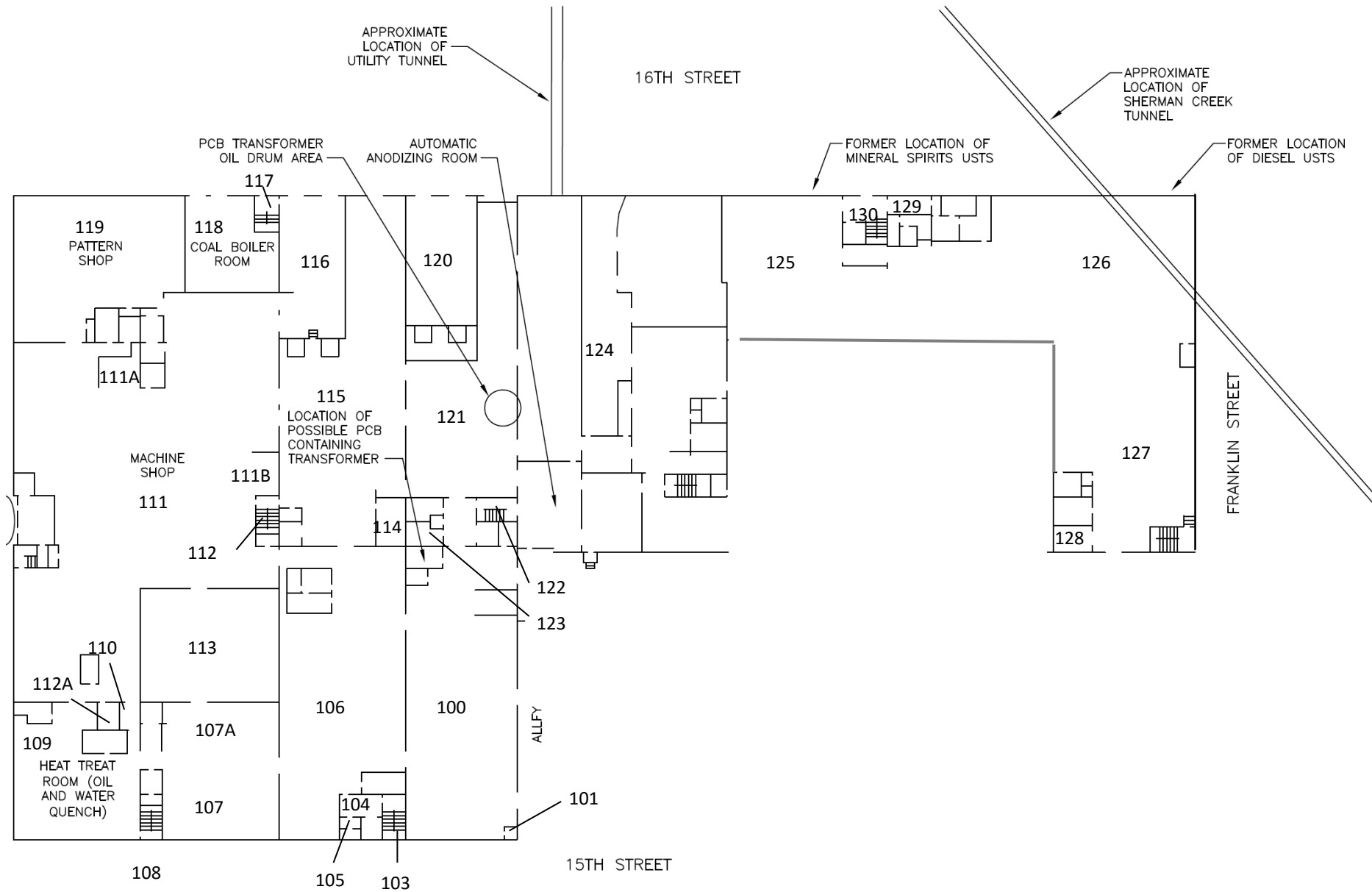
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**Feet**

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 Prepared by HLB on 8-31-16

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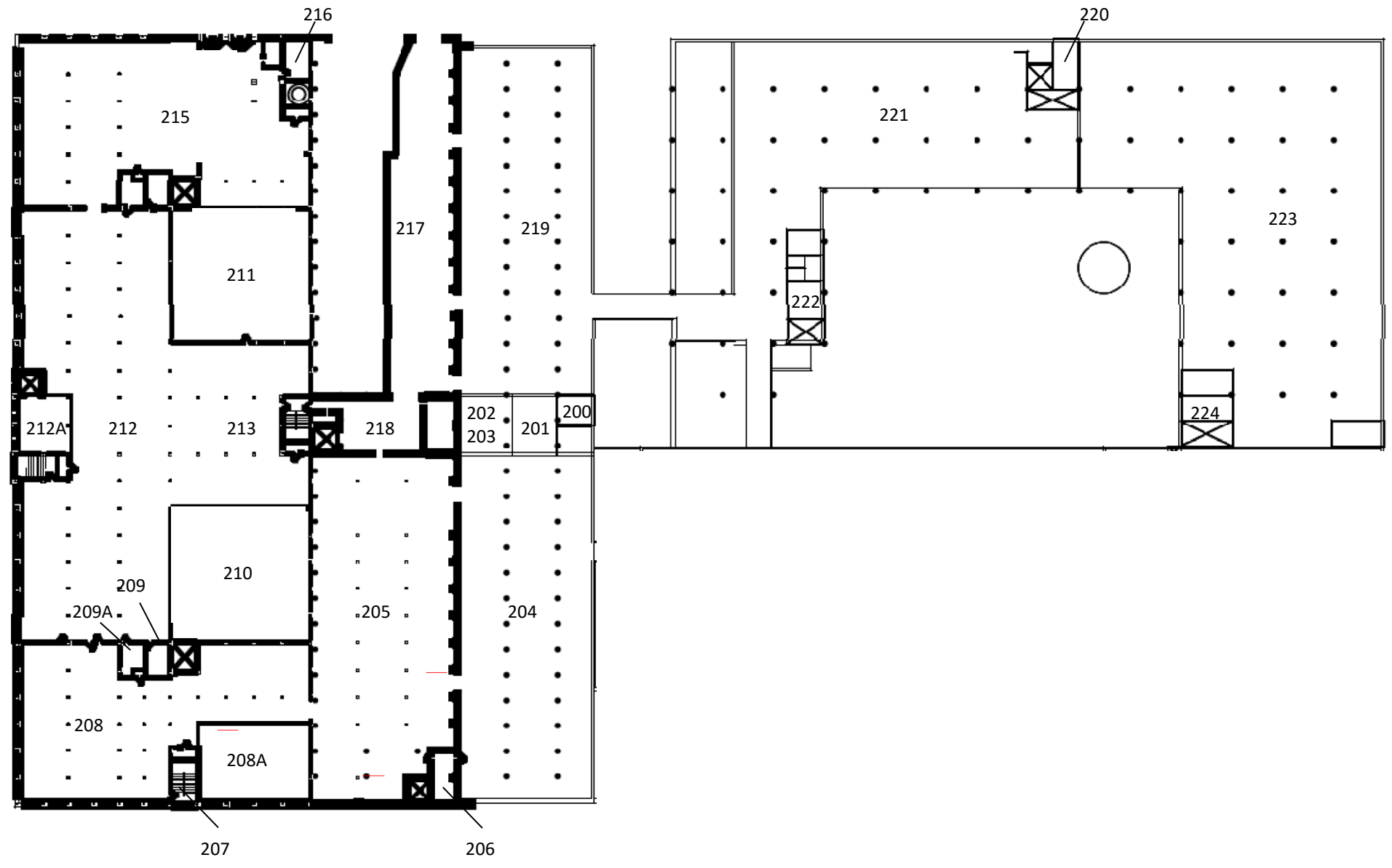
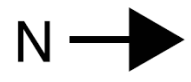




**Ground Floor Plan**

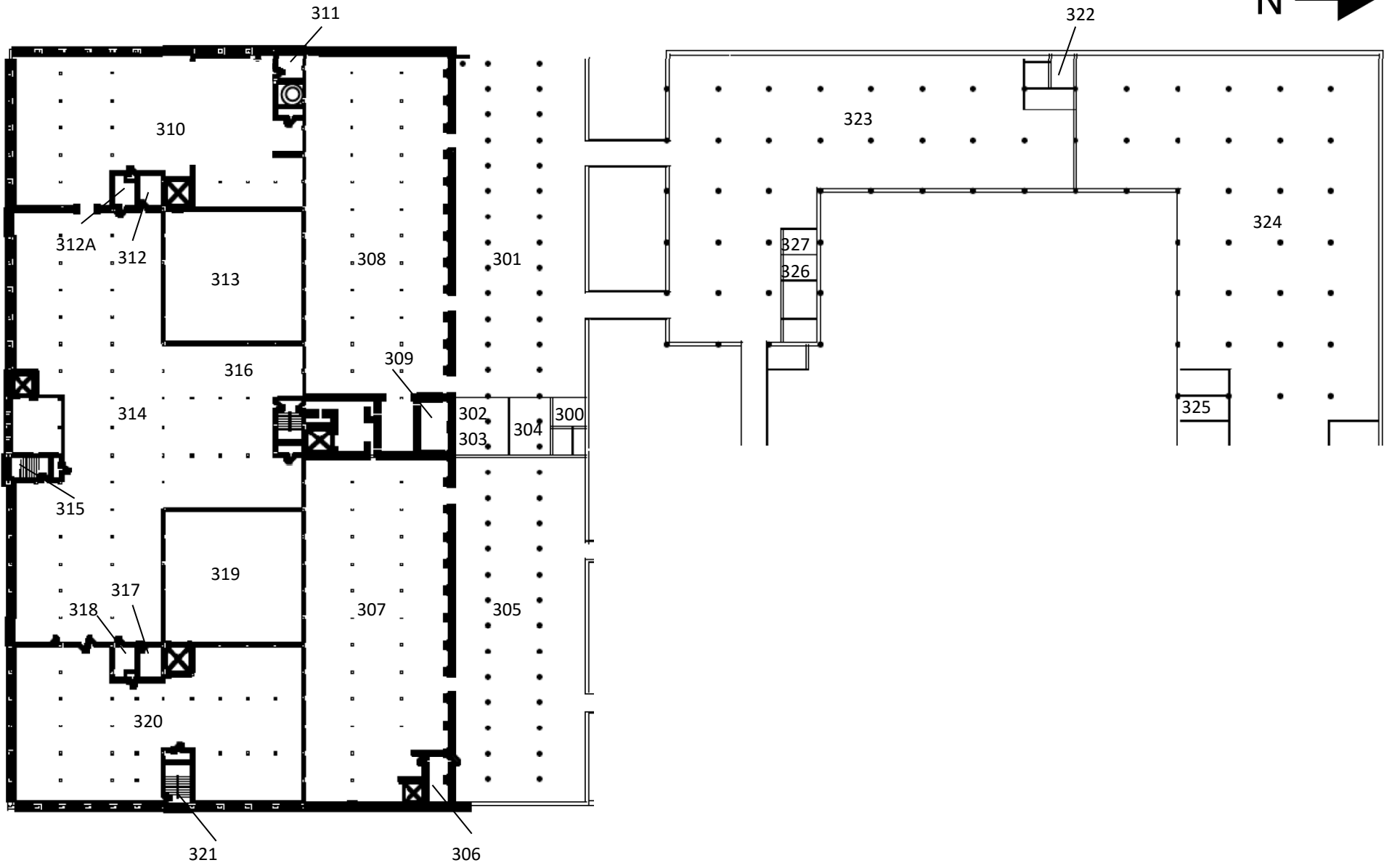


2nd Floor Plan

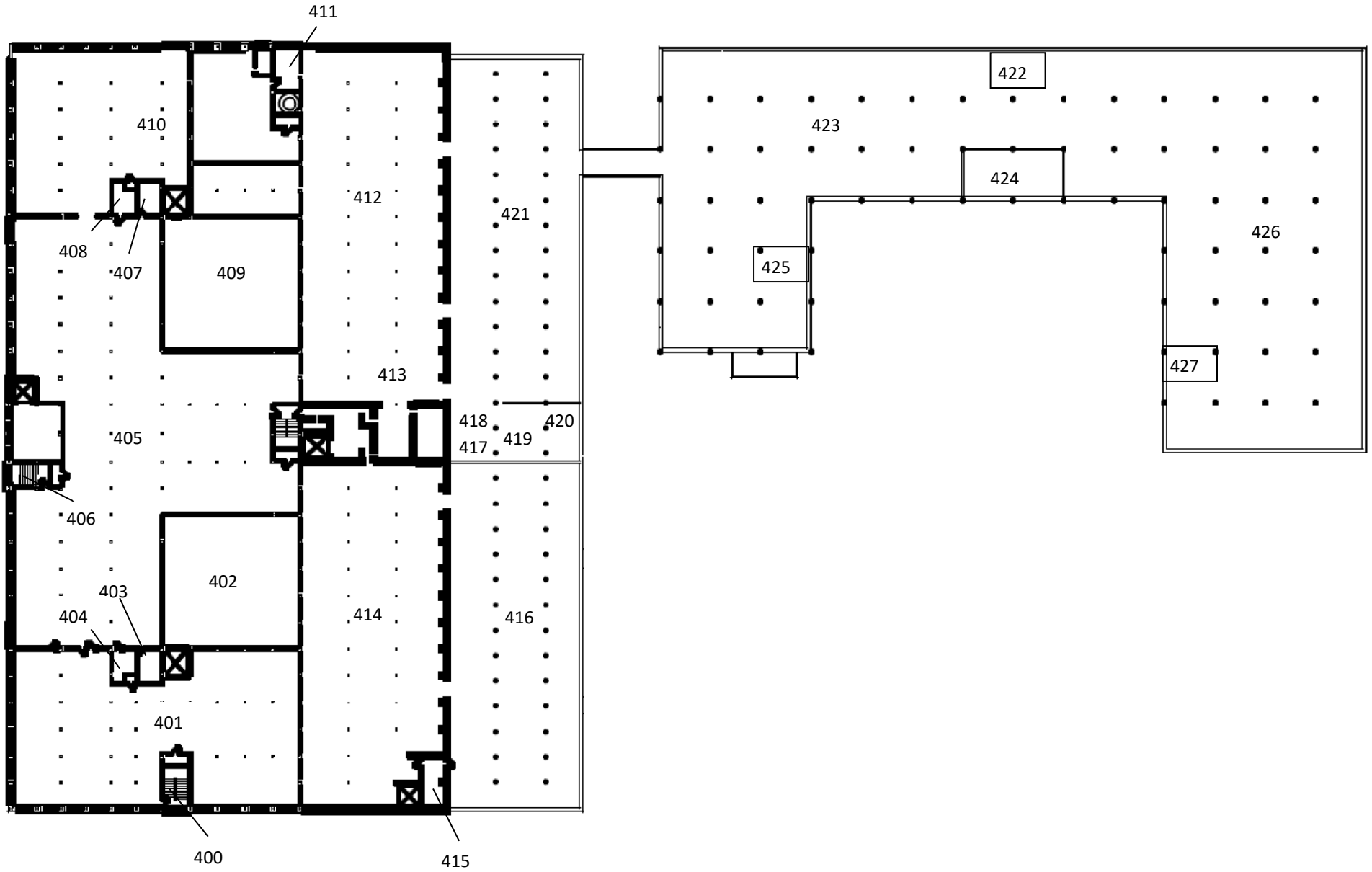




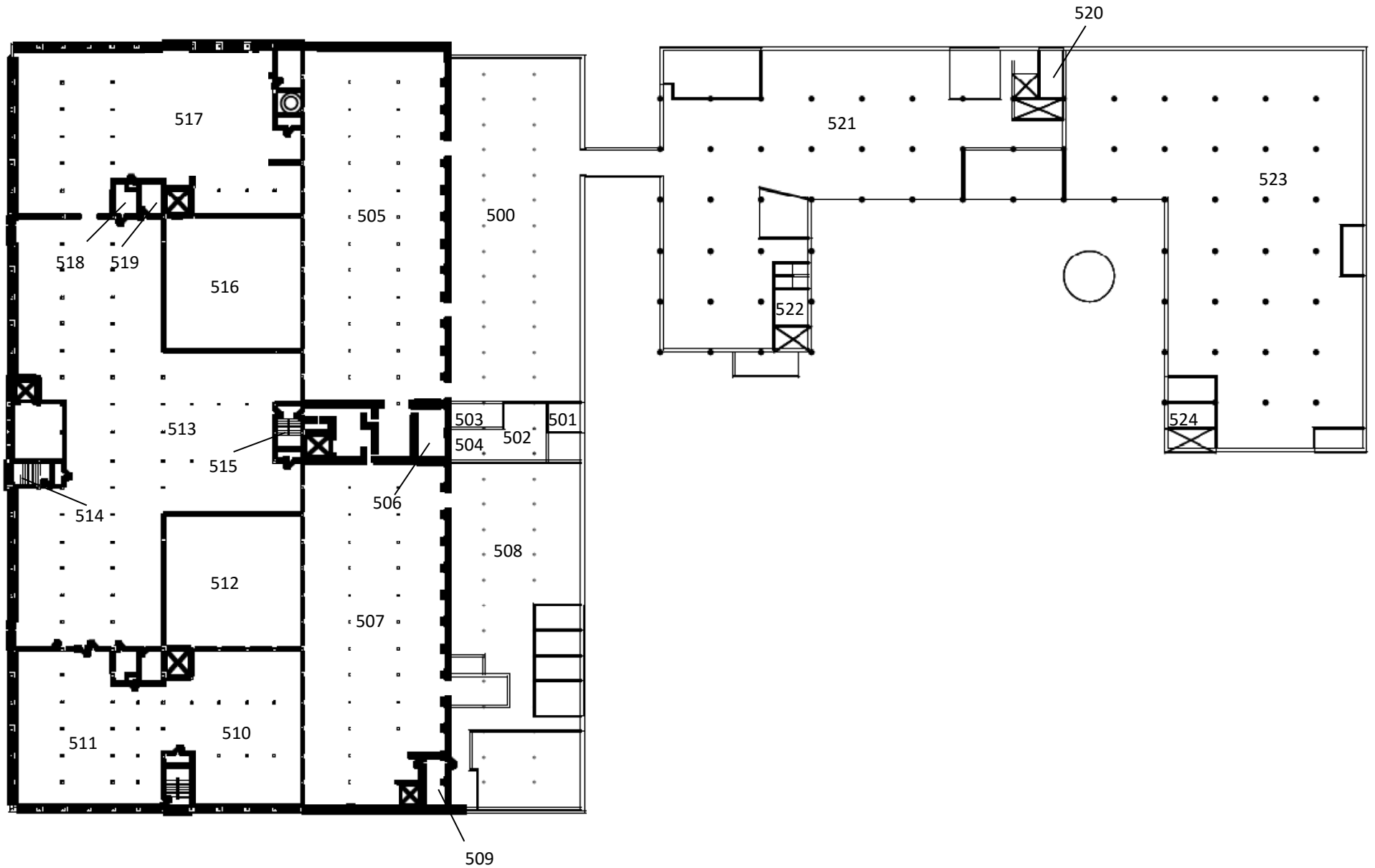
**3rd Floor Plan**



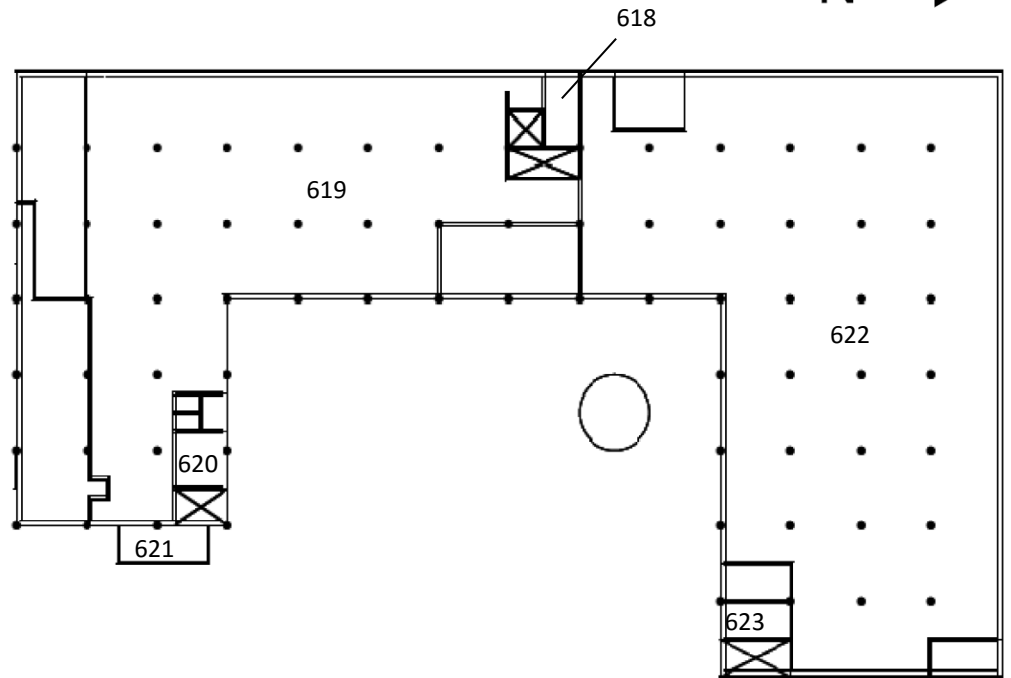
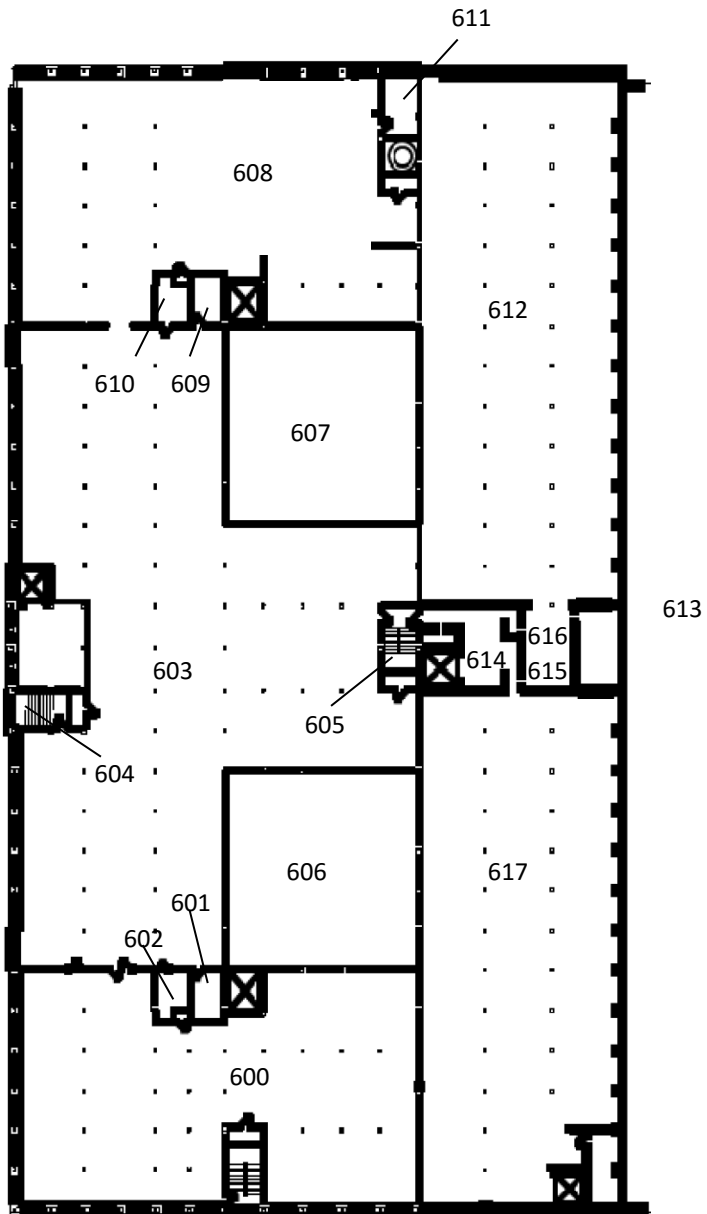
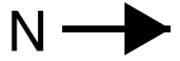
**4th Floor Plan**



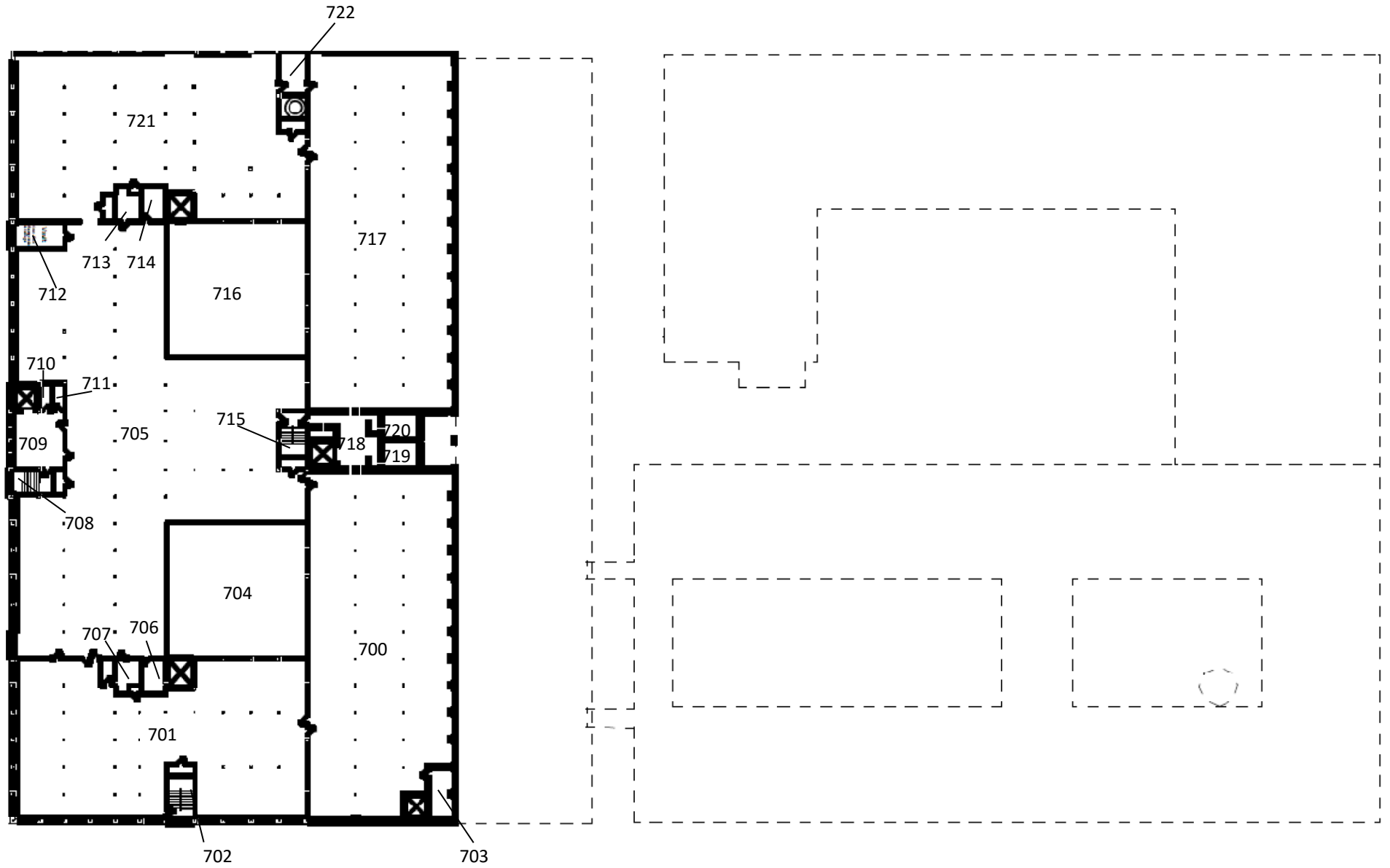
5th Floor Plan



**6th Floor Plan**



**7th Floor Plan**



**Stantec Consulting Services Inc.**

**Mirro Building No. 9  
1512 Washington Street  
Manitowoc, WI 54220**

**September 2016**

# PHOTO LOG



Photo 1: Exterior (east, south)



Photo 4: Exterior (west, north)



Photo 2: Exterior (east, north)



Photo 5: Exterior (west)



Photo 3: Exterior (north)



Photo 6: Exterior (south)





Photo 7: Square D – Transite Panel



Photo 10: AB – Push Button

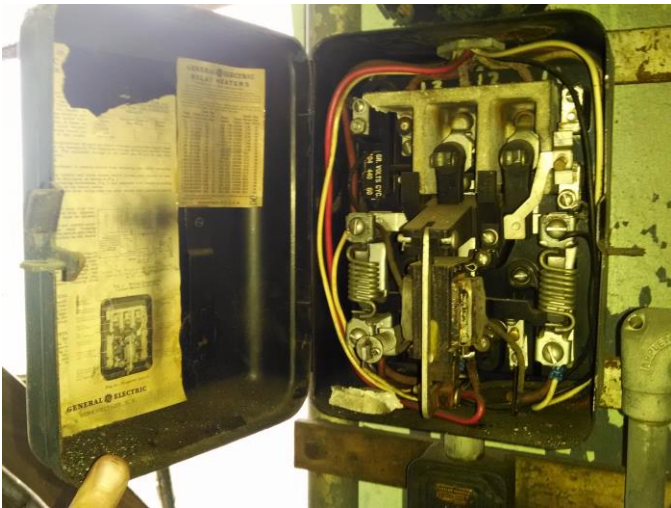


Photo 8: GE – Transite Panel



Photo 11: Cutler Hammer – Motor Control



Photo 9: Cutler Hammer – Push Button



Photo 12: GE Slate Electrical Panel





**Photo 13: Transformer Box: Black Isolator**



**Photo 16: Large Transformer: Black Box Electrical**



**Photo 14: Square D: Small Black Isolators**



**Photo 17: Gray Fiberglass Window Sill Wrap (south building)**



**Photo 15: Cutler Hammer: White Isolator**



**Photo 18: Gray Fiberglass Window Sill Wrap (north building, tower)**





**Photo 19: Black Window Glazing**



**Photo 22: 12" Tan Floor Tile**



**Photo 20: Kiln Gasket**



**Photo 23: White Ceiling Board / White Panel**



**Photo 21: Red Brick Debris**



**Photo 24: Pipe Insulation & Pipe Fittings (representative)**





**Photo 25: Transite Debris**



**Photo 28: Elevator Transite (representative)**



**Photo 26: Transite Debris**



**Photo 29: Elevator Brake Shoe (representative)**



**Photo 27: Elevator Electrical (representative)**



**Photo 30: Electrical Isolators (debris pile)**

**Stantec Consulting Services Inc.**

**Mirro Building No. 9  
1512 Washington Street  
Manitowoc, WI 54220**

**September 2016**

### BULK SAMPLE LOG-IN

<b>CLIENT:</b>	Stantec Consulting Services Inc.	<b>NORTHSTAR NO.</b>	160-584
<b>LOCATION:</b>	1512 Washington St - Manitowoc, WI	<b>DATE COLLECTED:</b>	8/12/16 to 8/17/16
<b>WORK AREA:</b>	Mirro Aluminum Company	<b>TECH:</b>	Aaron Stroud

Sample ID	Level	Room / Area Info	Sample Info	Content
584-1	1	127 (column N07)	Square D: Transite Electrical Isolator	<b>15% Chrysotile</b>
584-2	1	127 (north wall – east)	Cutler Hammer: Gray Electrical Isolator	None Detected
584-3	1	127 (north wall – east)	Unlabeled: Black Electrical Isolator	<b>15% Chrysotile</b>
584-4	1	127 (north wall – center)	Cutler Hammer (push button): Black Isolator	<b>10% Chrysotile</b>
584-5	1	127 (north wall – center)	Square D: Slate Electrical Isolator	None Detected
584-6	1	127 (north wall – west)	Cutler Hammer (motor control): White Paper	<b>65% Chrysotile</b>
584-7	1	127 (north wall – west)	Trumbull: Slate Electrical Isolator	None Detected
584-8	1	127 (north wall – west)	GE (dial): Slate Electrical Isolator	<b>15% Chrysotile</b>
584-9	1	127 (north wall – west)	Bulldog: Gray Electrical Isolator	None Detected
584-10	1	126 (west wall – north)	Bulldog: Black Electrical Isolator	None Detected
584-11	1	126 (west wall – north)	GE: Transite Electrical Isolator	<b>15% Chrysotile</b>
584-12	1	126 (west wall – north)	AB (push button): Black Isolator	<b>15% Chrysotile</b>
584-13	1	127 (column N03)	Transformer Box: Black Electrical Isolator	<b>10% Chrysotile</b>
584-14	1	127 (column N10)	ITE: Gray Electrical Isolator	None Detected
584-15	1	126 (column N32)	Square D: Small Black Electrical Isolator	<b>10% Chrysotile</b>
584-16	1	126 (column N34)	GE (dial): White Paper	<b>65% Chrysotile</b>
584-17	2	220 (Stair #2)	White Porcelain Electrical Isolator	None Detected
584-18	2	220 (Stair #2)	White Electrical Conduit	None Detected

<b>Lab Info:</b>	CEI Labs	<b>Date Analyzed:</b>	8/23/16	<b>Page:</b>	1 of 7
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### BULK SAMPLE LOG-IN

<b>CLIENT:</b>	Stantec Consulting Services Inc.	<b>NORTHSTAR NO.</b>	160-584
<b>LOCATION:</b>	1512 Washington St - Manitowoc, WI	<b>DATE COLLECTED:</b>	8/12/16 to 8/17/16
<b>WORK AREA:</b>	Mirro Aluminum Company	<b>TECH:</b>	Aaron Stroud

Sample ID	Level	Room / Area Info	Sample Info	Content
584-19	2	221 (east wall – center)	Cutler Hammer: White Electrical Isolator (gray)	<b>20% Chrysotile</b>
584-20	2	221 (east wall – center)	Cutler Hammer: White Paper (gray)	<b>65% Chrysotile</b>
584-21	2	221 (southeast – large panel)	Black Box Electrical Isolator	<b>10% Chrysotile</b>
584-22	2	221 (southeast – large panel)	Brown Paneling	None Detected
584-23	2	221 (southeast – large panel)	Black Paneling	None Detected
584-24	2	221 (southeast – large panel)	Brown Support Member	None Detected
584-25	2	223 (green equipment)	AB: Black Electrical Isolator	None Detected
584-26	2	223 (green equipment)	Red Gasket	None Detected
584-27	2	223 (green equipment)	Slate Debris	None Detected
584-28	Ext	223 Exterior (west)	Gray Fiberglass Window Sill Wrap	<b>5% Chrysotile</b>
584-29	2	223 (west wall)	Black Window Sill Tar	<b>5% Chrysotile</b>
584-30	3	323 (southwest)	ITE: Tan Paper (black)	None Detected
584-31	3	323 (southeast)	Lagging Cloth (on fiberglass insulation)	None Detected
584-32	3	323 (southeast)	Square D: Gray Paper (transite)	None Detected
584-33	3	324 (south wall – center)	Black Window Sill Tar	<b>5% Chrysotile</b>
584-34	4	423 (southwest)	Westinghouse: Black Electrical Isolator	None Detected
584-35	4	423 (southwest)	Westinghouse: Black Paper (black)	None Detected
584-36	Ext	423 Exterior (west wall)	Window Glazing	None Detected

<b>Lab Info:</b>	CEI Labs	<b>Date Analyzed:</b>	8/16/16	<b>Page:</b>	2 of 7
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### BULK SAMPLE LOG-IN

<b>CLIENT:</b>	Stantec Consulting Services Inc.	<b>NORTHSTAR NO.</b>	160-584
<b>LOCATION:</b>	1512 Washington St - Manitowoc, WI	<b>DATE COLLECTED:</b>	8/12/16 to 8/17/16
<b>WORK AREA:</b>	Pre-Renovation	<b>TECH:</b>	Aaron Stroud

Sample ID	Level	Room / Area Info	Sample Info	Content
584-37	4	424 Office	Drywall	None Detected
584-38	4	424 Office	Joint Compound	<b>3% Chrysotile</b>
584-39	4	424 Office	Composite (only if either is positive)	<1% Chrysotile Point Count: 0.14%
584-40	4	426 (northwest)	Square D: Gray Electrical Isolator	None Detected
584-41	4	426 (northwest)	Square D: Gray Flexible Isolator (gray)	None Detected
584-42	4	426 (northwest)	Westinghouse: Black Compressed Board	<b>50% Chrysotile</b>
584-43	4	427 Restroom	Floor Leveling Compound	None Detected
584-44	5	521 (southwest)	AB: Red Electrical Isolator	<b>10% Chrysotile</b>
584-45	5	521 (east wall)	Black Window Sill Tar	<b>5% Chrysotile</b>
584-46	5	521 (southwest room)	Floor Leveling Compound	None Detected
584-47	6	619 (southwest)	Slate Electrical Panel	None Detected
584-48	6	619 (south metal wall )	Black Window Glazing	<b>5% Chrysotile</b>
584-49	Ext	Tower Penthouse	Gray Fiberglass Wrap	<b>5% Chrysotile</b>
584-50	1	100 (east wall)	Window Glazing	None Detected
584-51	1	100 (northwest)	White Flooring Underlayment Debris	None Detected
584-52	1	100 (northwest)	Green Vinyl Sheet Flooring Debris	None Detected
584-53	1	100 (northwest)	Gray Compressed Board Debris	None Detected
584-54	1	100 (northwest)	Red Flooring Underlayment Debris	None Detected

<b>Lab Info:</b>	CEI Labs	<b>Date Analyzed:</b>	8/23/16	<b>Page:</b>	3 of 7
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### BULK SAMPLE LOG-IN

<b>CLIENT:</b>	Stantec Consulting Services Inc.	<b>NORTHSTAR NO.</b>	160-584
<b>LOCATION:</b>	1512 Washington St - Manitowoc, WI	<b>DATE COLLECTED:</b>	8/12/16 to 8/17/16
<b>WORK AREA:</b>	Pre-Renovation	<b>TECH:</b>	Aaron Stroud

Sample ID	Level	Room / Area Info	Sample Info	Content
584-55	1	100 (northwest)	Black Flooring Underlayment Debris	None Detected
584-56	1	103 (Stair #5)	Tan Flooring Underlayment Debris	None Detected
584-57	1	104	Fiberboard Ceiling Panels	None Detected
584-58	1	107	Window Glazing (wood windows)	None Detected
584-59	1	109	Kiln Gasket	<b>70% Chrysotile</b>
584-60	1	109	Kiln Gray Mortar	None Detected
584-61	1	109	Kiln Pink Fire Brick	<1% Chrysotile Point Count: 0.25%
584-62	1	109	Kiln Gray Plaster Lining	<1% Chrysotile
584-63	1	109	Red Brick Debris (in pit)	None Detected
584-64	1	109	Pink Brick Debris (in pit)	None Detected
584-65	1	109	Red Brick Debris (in pit)	<b>15% Amosite</b> <b>5% Chrysotile</b>
584-66	1	111	Cutler Hammer: White Electrical Isolator (gray)	<b>50% Chrysotile</b>
584-67	1	111	Tar (on wood flooring)	None Detected
584-68	1	111 (south vestibule)	2'x2' Textured Ceiling Tile	None Detected
584-69	1	118 (south)	Boiler Interior Packing	None Detected
584-70	1	118 (center)	Boiler Interior Packing	None Detected
584-71	1	118 (north)	Boiler Interior Packing	None Detected
584-72	1	121 (north wall)	Window Glazing Debris	None Detected

<b>Lab Info:</b>	CEI Labs	<b>Date Analyzed:</b>	8/23/16	<b>Page:</b>	4 of 7
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### BULK SAMPLE LOG-IN

<b>CLIENT:</b>	Stantec Consulting Services Inc.	<b>NORTHSTAR NO.</b>	160-584
<b>LOCATION:</b>	1512 Washington St - Manitowoc, WI	<b>DATE COLLECTED:</b>	8/12/16 to 8/17/16
<b>WORK AREA:</b>	Pre-Renovation	<b>TECH:</b>	Aaron Stroud

Sample ID	Level	Room / Area Info	Sample Info	Content
584-73	2	202 Men's	Red Flooring Underlayment Debris	None Detected
584-74	2	204 (west)	Tan Flooring Patch	None Detected
584-75	2	204 (closet)	White Paper Debris	None Detected
584-76	2	205 (east)	12" Tan Floor Tile	<b>3% Chrysotile</b>
584-77	2	205 (east)	Black Floor Tile Adhesive	<b>3% Chrysotile</b>
584-78	2	207 (Stair #6)	Black Tar (on window perimeter)	<b>10% Chrysotile</b>
584-79	2	207 (Stair #6)	White Window Caulk (on window perimeter)	<b>3% Chrysotile</b>
584-80	Ext	208 Exterior	Gray Fiberglass Window Sill Wrap	<b>5% Chrysotile</b>
584-81	2	208	Black Flooring Underlayment	None Detected
584-82	2	208A	White Ceiling Paper	None Detected
584-83	2	Women's Restroom (west)	Felt Pipe Insulation	None Detected
584-84	2	215	Cutler Hammer: White Elect. Isolator (gray, new)	<b>10% Chrysotile</b>
584-85	3	305	AH (fire control): Gray Electrical Isolator	None Detected
584-86	Ext	307 Exterior (east)	Gray Window Sill Mastic	<b>3% Chrysotile</b>
584-87	3	307	Square D: Gray Paper Insulation (gray)	None Detected
584-88	3	307 (northwest)	White Powder Debris (on floor)	None Detected
584-89	3	313 (north)	Window Glazing (remnant)	None Detected
584-90	3	314 (south - center)	12" Brown Floor Tile	<b>3% Chrysotile</b>

<b>Lab Info:</b>	CEI Labs	<b>Date Analyzed:</b>	8/23/16	<b>Page:</b>	5 of 7
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### BULK SAMPLE LOG-IN

<b>CLIENT:</b>	Stantec Consulting Services Inc.	<b>NORTHSTAR NO.</b>	160-584
<b>LOCATION:</b>	1512 Washington St - Manitowoc, WI	<b>DATE COLLECTED:</b>	8/12/16 to 8/17/16
<b>WORK AREA:</b>	Pre-Renovation	<b>TECH:</b>	Aaron Stroud

Sample ID	Level	Room / Area Info	Sample Info	Content
584-91	3	314 (south – center)	Black Floor Tile Adhesive	<b>3% Chrysotile</b>
584-92	4	401	Slate Electrical Panel	None Detected
584-93	4	405	Bulldog: Brown Insulation Paper (gray)	None Detected
584-94	4	414 (northwest)	Cal-Sil Pipe Insulation	None Detected
584-95	4	419	Black Tar (on wood flooring)	None Detected
584-96	5	505 (northeast)	Silver Fiberboard Wall Paneling	None Detected
584-97	5	508 (closet)	White Ceiling Board	<b>65% Chrysotile</b>
584-98	6	603 (closet)	White Panel (loose on floor)	<b>65% Chrysotile</b>
584-99	6	606	Window Glazing (elevator window)	None Detected
584-100	6	615	Cal-Sil Pipe Insulation	None Detected
584-101	7	701	9" Brown Floor Tile	None Detected
584-102	7	701	Gray Flooring Felt	None Detected
584-103	7	701	Plaster Ceiling (skim coat)	None Detected
584-104	7	701	Plaster Ceiling (base coat)	None Detected
584-105	7	701	Gray Wall Adhesive	None Detected
584-106	7	704 (east)	9" Brown Floor Tile	<b>3% Chrysotile</b>
584-107	7	704 (east)	Tan Floor Tile Adhesive	None Detected
584-108	7	704 (east)	Black Flooring Underlayment	None Detected

<b>Lab Info:</b>	CEI Labs	<b>Date Analyzed:</b>	8/23/16	<b>Page:</b>	6 of 7
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**BULK SAMPLE LOG-IN**

<b>CLIENT:</b>	Stantec Consulting Services Inc.	<b>NORTHSTAR NO.</b>	160-584
<b>LOCATION:</b>	1512 Washington St - Manitowoc, WI	<b>DATE COLLECTED:</b>	8/12/16 to 8/17/16
<b>WORK AREA:</b>	Pre-Renovation	<b>TECH:</b>	Aaron Stroud

Sample ID	Level	Room / Area Info	Sample Info	Content
584-109	7	705 (southwest)	Gray Flooring Felt	None Detected
584-110	7	705 (southwest)	Brown Flooring Adhesive	None Detected
584-111	7	716	Green Vinyl Sheet Flooring	None Detected
584-112	7	716	Black Flooring Adhesive	None Detected
584-113	7	716	White Cloth Vibration Joint	<b>70% Chrysotile</b>
584-114	7	718	12" Orange Floor Tile	<b>3% Chrysotile</b>
584-115	7	718	Tan Floor Tile Adhesive	None Detected
584-116	Ext	3-Story Rubble	Black Roof Flashing	<b>30% Chrysotile</b>
584-117	Ext	3-Story Rubble	Black Roofing Felt	<b>35% Chrysotile</b>
584-118	Ext	3-Story Rubble	Black Electrical Isolator	None Detected



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**ASBESTOS BULK SAMPLE LOG-IN**

<b>CLIENT:</b>	Stantec	<b>NORTHSTAR NO.</b>	160-584
<b>LOCATION:</b>	1512 Washington St - Manitowoc	<b>DATE COLLECTED:</b>	9/6/16
<b>WORK AREA:</b>	Mirro Aluminum Company	<b>TECH:</b>	Aaron Stroud

Sample ID	Level	Room / Area Info	Sample Info	Asbestos Content
584-119	Tunnel	Southeast Corner	Stacked Circular Fire Brick	None Detected
584-120	Tunnel	M#3 Tunnel Access (south)	Debris on Tunnel Floor	<b>20% Amosite</b>
584-121	Tunnel	S#1 Tunnel Access	Tar Paper at Ceiling	None Detected
584-122	Tunnel	S#1 Tunnel Access	Tar Paper at Ceiling	None Detected
584-123	Tunnel	S#2 Tunnel Access	Felt Pipe Insulation	<b>65% Chrysotile</b>
584-124	Tunnel	M#9 Tunnel Access	Pipe Fitting Insulation (felt)	<b>10% Chrysotile</b>
584-125	Tunnel	M#9 Tunnel Access	Felt Pipe Insulation	<b>65% Chrysotile</b>
584-126	Tunnel	M#10 Tunnel Access	Black Ash (under concrete floor)	None Detected
584-127	Tunnel	M#10 Tunnel Access	Black Ash (under concrete floor)	None Detected
584-128	Tunnel	M#10 Tunnel Access	Black Ash (under concrete floor)	None Detected

<b>Lab Info:</b>	CEI Labs, Inc.	<b>Date Analyzed:</b>	9/8/16	<b>Page:</b>	1 of 1
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### ASBESTOS BULK SAMPLE LOG-IN

<b>CLIENT:</b>	Stantec	<b>NORTHSTAR NO.</b>	160-584
<b>LOCATION:</b>	1512 Washington St - Manitowoc	<b>DATE COLLECTED:</b>	9/9/16
<b>WORK AREA:</b>	Mirro Aluminum Company	<b>TECH:</b>	Aaron Stroud

Sample ID	Level	Room / Area Info	Sample Info	Asbestos Content
584-129	Ext	North Building Exterior West (ground level)	Gray Fiberglass Wrap (Bottom Layer 1) (beige / reddish mortar)	None Detected
584-130	Ext	North Building Exterior West – ground level	Gray Fiberglass Wrap (Layer 2) (tan thick mortar)	None Detected
584-131	Ext	North Building Exterior West – ground level	Gray Fiberglass Wrap (Layer 3) (gray thick mortar)	None Detected
584-132	Ext	North Building Exterior West – ground level	Gray Fiberglass Wrap (Layer 4) (light gray thin layer)	<b>3% Chrysotile</b>
584-133	Ext	North Building Exterior North – ground level	Gray Fiberglass Wrap (Bottom Layer 1) (beige / reddish mortar)	None Detected
584-134	Ext	North Building Exterior North – ground level	Gray Fiberglass Wrap (Layer 2) (tan thick mortar)	None Detected
584-135	Ext	North Building Exterior North – ground level	Gray Fiberglass Wrap (Layer 3) (gray thick mortar)	None Detected
584-136	Ext	North Building Exterior North – ground level	Gray Fiberglass Wrap (Layer 4) (light gray thin layer)	<b>3% Chrysotile</b>

<b>Lab Info:</b>	CEI Labs, Inc.	<b>Date Analyzed:</b>	9/13/16	<b>Page:</b>	1 of 1
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**Stantec Consulting Services Inc.**

**Mirro Building No. 9  
1512 Washington Street  
Manitowoc, WI 54220**

**September 2016**



August 23, 2016

NorthStar Environmental Testing, LLC.  
817 Oak Ridge Road  
Mosinee, WI 54455

**CLIENT PROJECT:** Stantec- AS; 160-584  
**CEI LAB CODE:** A16-7520

Dear Customer:

Enclosed are asbestos analysis results for PLM Bulk samples received at our laboratory on August 19, 2016. 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





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**ASBESTOS ANALYTICAL REPORT**  
**By: Polarized Light Microscopy**

Prepared for

**NorthStar Environmental Testing, LLC.**

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CLIENT PROJECT: Stantec- AS; 160-584

CEI LAB CODE: A16-7520

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

REPORT DATE: 08/23/16

TOTAL SAMPLES ANALYZED: 118

# SAMPLES >1% ASBESTOS: 41

**TEL: 866-481-1412**

*[www.ceilabs.com](http://www.ceilabs.com)*





# Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: Stantec- AS; 160-584

CEI LAB CODE: A16-7520

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

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
584-1		A2214793	Gray	Transite Electrical Isolator	Chrysotile 15%
584-2		A2214794	Gray	Electrical Isolator	None Detected
584-3		A2214795	Black	Electrical Isolator	Chrysotile 15%
584-4		A2214796	Black	Electrical Isolator	Chrysotile 10%
584-5		A2214797	Gray	Slate Electrical Isolator	None Detected
584-6		A2214798	White,Gray	Paper	Chrysotile 65%
584-7		A2214799	Gray	Slate Electrical Isolator	None Detected
584-8		A2214800	Black	Slate Electrical Isolator	Chrysotile 15%
584-9		A2214801	Gray	Electrical Isolator	None Detected
584-10		A2214802	Black	Electrical Isolator	None Detected
584-11		A2214803	Gray	Transite Electrical Isolator	Chrysotile 15%
584-12		A2214804	Black	Electrical Isolator	Chrysotile 15%
584-13		A2214805	Black	Electrical Isolator	Chrysotile 10%
584-14		A2214806	Gray	Electrical Isolator	None Detected
584-15		A2214807	Black	Electrical Isolator	Chrysotile 10%
584-16		A2214808	White,Gray	Paper	Chrysotile 65%
584-17		A2214809	White	Porcelain Electrical Isolator	None Detected
584-18		A2214810	White,Black	Electrical Conduit	None Detected
584-19		A2214811	Gray,White	Electrical Isolator	Chrysotile 20%
584-20		A2214812	White,Gray	Paper	Chrysotile 65%
584-21		A2214813	Black	Electrical Isolator	Chrysotile 10%
584-22		A2214814	Brown	Paneling	None Detected
584-23		A2214815	Brown	Paneling	None Detected
584-24		A2214816	Brown	Support Member	None Detected
584-25		A2214817	Black	Electrical Isolator	None Detected
584-26		A2214818	Red	Gasket	None Detected
584-27		A2214819	Gray	Slate Debris	None Detected
584-28		A2214820	Gray,White	Window Sill Wrap	Chrysotile 5%
584-29		A2214821	Green,Black	Window Sill Tar	Chrysotile 5%
584-30		A2214822	Brown	Paper	None Detected
584-31		A2214823	White	Lagging Cloth	None Detected



# Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: Stantec- AS; 160-584

CEI LAB CODE: A16-7520

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

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
584-32		A2214824	Gray	Paper	None Detected
584-33		A2214825	Green,Black	Window Sill Tar	Chrysotile 5%
584-34		A2214826	Black	Electrical Isolator	None Detected
584-35		A2214827	Black	Paper	None Detected
584-36		A2214828	Off-white,Gray	Window Glazing	None Detected
584-37		A2214829	Tan,White	Drywall	None Detected
584-38		A2214830	Blue,Off-white	Joint Compound	Chrysotile 3%
584-39		A2214831	Blue,Off-white	Drywall/Joint Compound	Chrysotile <1%
584-40		A2214832	Gray	Electrical Isolator	None Detected
584-41		A2214833	Gray	Flexible Electrical Isolator	None Detected
584-42		A2214834	Black,White	Compressed Board	Chrysotile 50%
584-43		A2214835	Gray	Leveling Compound	None Detected
584-44		A2214836	Red	Electrical Isolator	Chrysotile 10%
584-45		A2214837	Green,Black	Window Sill Tar	Chrysotile 5%
584-46		A2214838	Gray	Leveling Compound	None Detected
584-47		A2214839	Gray	Slate Electrical Panel	None Detected
584-48		A2214840	Gray,Black	Window Glazing	Chrysotile 5%
584-49		A2214841	Gray,White	Fiberglass Wrap	Chrysotile 5%
584-50		A2214842	White	Window Glazing	None Detected
584-51		A2214843	Gray,Black	Flooring Underlayment	None Detected
584-52		A2214844	Green,Tan	Sheet Flooring	None Detected
584-53		A2214845	Gray	Compressed Board	None Detected
584-54		A2214846	Red,Black	Flooring Underlayment	None Detected
584-55		A2214847	Black	Flooring Underlayment	None Detected
584-56		A2214848	Tan	Flooring Underlayment	None Detected
584-57		A2214849	Tan,White	Fiberboard Ceiling Panel	None Detected
584-58		A2214850	Off-white,Beige	Window Glazing (wood Windows)	None Detected
584-59		A2214851	White,Gray	Kiln Gasket	Chrysotile 70%
584-60		A2214852	Gray	Kiln Mortar	None Detected
584-61		A2214853	Pink	Kiln Fire Brick	Chrysotile <1%



# Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: Stantec- AS; 160-584

CEI LAB CODE: A16-7520

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

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
584-62		A2214854	Gray	Kiln Plaster Lining	Chrysotile <1%
584-63		A2214855	Red	Brick Debris	None Detected
584-64		A2214856	Pink	Brick Debris	None Detected
584-65		A2214857	White,Gray	Debris	Amosite 15% Chrysotile 5%
584-66		A2214858	White	Electrical Isolator	Chrysotile 50%
584-67		A2214859	Black	Tar	None Detected
584-68		A2214860	White,Gray	Ceiling Tile	None Detected
584-69		A2214861	Gray	Boiler Interior Packing	None Detected
584-70		A2214862	Gray	Boiler Interior Packing	None Detected
584-71		A2214863	Gray	Boiler Interior Packing	None Detected
584-72		A2214864	Red	Window Glazing Debris	None Detected
584-73		A2214865	Red,Black	Flooring Underlayment	None Detected
584-74		A2214866	Tan	Flooring Patch	None Detected
584-75		A2214867	White	Paper Debris	None Detected
584-76		A2214868	Tan	Floor Tile	Chrysotile 3%
584-77		A2214869	Black	Floor Tile Adhesive	Chrysotile 3%
584-78		A2214870	Green,Black	Tar	Chrysotile 10%
584-79		A2214871	White,Off-white	Window Caulking	Chrysotile 3%
584-80		A2214872	Gray	Fiberglass Window Sill Wrap	Chrysotile 5%
584-81		A2214873	Black	Flooring Underlayment	None Detected
584-82		A2214874	White,Tan	Ceiling Paper	None Detected
584-83		A2214875	Black,Tan	Felt Pipe Insulation	None Detected
584-84		A2214876	White	Electrical Isolator	Chrysotile 10%
584-85		A2214877	Gray	Electrical Isolator	None Detected
584-86		A2214878	Gray	Window Sill Mastic	Chrysotile 3%
584-87		A2214879	Gray	Paper Insulation	None Detected
584-88		A2214880	White	Powder Debris	None Detected
584-89		A2214881	Gray,Green	Window Glazing	None Detected
584-90		A2214882	Brown	Floor Tile	Chrysotile 3%
584-91		A2214883	Black	Floor Tile Adhesive	Chrysotile 3%



# Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: Stantec- AS; 160-584

CEI LAB CODE: A16-7520

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

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
584-92		A2214884	Gray	Slate Electrical Panel	None Detected
584-93		A2214885	Brown	Insulation Paper	None Detected
584-94		A2214886	White	Cal-sil Pipe Insulation	None Detected
584-95		A2214887	Black	Tar	None Detected
584-96		A2214888	Silver,Tan	Fiberboard Wall Panel	None Detected
584-97		A2214889	White,Gray	Ceiling Board	Chrysotile 65%
584-98		A2214890	White,Gray	Panel	Chrysotile 65%
584-99		A2214891	Gray,Tan	Window Glazing	None Detected
584-100		A2214892	White	Cal-sil Pipe Insulation	None Detected
584-101		A2214893	Brown,Tan	Floor Tile (sheet Flooring)	None Detected
584-102		A2214894	Gray	Flooring Felt	None Detected
584-103		A2214895	Gray,White	Plaster Skim Coat	None Detected
584-104		A2214896	Gray	Plaster Base Coat	None Detected
584-105		A2214897	Gray	Wall Adhesive	None Detected
584-106		A2214898	Brown	Floor Tile	Chrysotile 3%
584-107		A2214899	Tan	Floor Tile Adhesive	None Detected
584-108		A2214900	Black	Flooring Underlayment	None Detected
584-109		A2214901	Gray	Flooring Felt	None Detected
584-110		A2214902	Brown	Flooring Adhesive	None Detected
584-111		A2214903	Green,Tan	Sheet Flooring	None Detected
584-112		A2214904	Black,Brown	Flooring Adhesive	None Detected
584-113		A2214905	White	Cloth Vibration Joint	Chrysotile 70%
584-114		A2214906	Orange	Floor Tile	Chrysotile 3%
584-115		A2214907	Tan	Floor Tile Adhesive	None Detected
584-116		A2214908	Black,Gray	Roof Flashing	Chrysotile 30%
584-117		A2214909	Black,Gray	Roof Felt	Chrysotile 35%
584-118		A2214910	Black	Electrical Isolator	None Detected



# ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

**Client:** NorthStar Environmental Testing, LLC.  
817 Oak Ridge Road  
Mosinee, WI 54455

**CEI Lab Code:** A16-7520  
**Date Received:** 08-19-16  
**Date Analyzed:** 08-22-16  
**Date Reported:** 08-23-16

**Project:** Stantec- AS; 160-584

## ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
<b>584-1</b> A2214793	Transite Electrical Isolator	Heterogeneous Gray Fibrous Bound	50%	Silicates 35% Binder	<b>15% Chrysotile</b>
<b>584-2</b> A2214794	Electrical Isolator	Heterogeneous Gray Non-fibrous Bound	70%	Silicates 30% Binder	<b>None Detected</b>
<b>584-3</b> A2214795	Electrical Isolator	Heterogeneous Black Fibrous Bound	50%	Silicates 35% Binder	<b>15% Chrysotile</b>
<b>584-4</b> A2214796	Electrical Isolator	Heterogeneous Black Fibrous Bound	90%	Binder	<b>10% Chrysotile</b>
<b>584-5</b> A2214797	Slate Electrical Isolator	Heterogeneous Gray Non-fibrous Bound	70%	Silicates 30% Binder	<b>None Detected</b>
<b>584-6</b> A2214798	Paper	Heterogeneous White, Gray Fibrous Bound	25% Cellulose	10% Binder	<b>65% Chrysotile</b>
<b>584-7</b> A2214799	Slate Electrical Isolator	Heterogeneous Gray Non-fibrous Bound	70%	Silicates 30% Binder	<b>None Detected</b>



# ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

**Client:** NorthStar Environmental Testing, LLC.  
 817 Oak Ridge Road  
 Mosinee, WI 54455

**CEI Lab Code:** A16-7520  
**Date Received:** 08-19-16  
**Date Analyzed:** 08-22-16  
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**Project:** Stantec- AS; 160-584

## ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS			ASBESTOS %
			Fibrous		Non-Fibrous	
<b>584-8</b> A2214800	Slate Electrical Isolator	Heterogeneous Black Fibrous Bound	85%		Binder	<b>15% Chrysotile</b>
<b>584-9</b> A2214801	Electrical Isolator	Heterogeneous Gray Non-fibrous Bound	70%		Silicates Binder	<b>None Detected</b>
<b>584-10</b> A2214802	Electrical Isolator	Heterogeneous Black Fibrous Bound	10%	Cellulose	90% Binder	<b>None Detected</b>
<b>584-11</b> A2214803	Transite Electrical Isolator	Heterogeneous Gray Fibrous Bound	50%		Silicates Binder	<b>15% Chrysotile</b>
<b>584-12</b> A2214804	Electrical Isolator	Heterogeneous Black Fibrous Bound	85%		Binder	<b>15% Chrysotile</b>
<b>584-13</b> A2214805	Electrical Isolator	Heterogeneous Black Fibrous Bound	90%		Binder	<b>10% Chrysotile</b>
<b>584-14</b> A2214806	Electrical Isolator	Heterogeneous Gray Non-fibrous Bound	70%		Silicates Binder	<b>None Detected</b>





# ASBESTOS BULK ANALYSIS

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## ASBESTOS BULK PLM, EPA 600 METHOD

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			Fibrous		Non-Fibrous		
<b>584-15</b> A2214807	Electrical Isolator	Heterogeneous Black Fibrous Bound			90%	Binder	<b>10% Chrysotile</b>
<b>584-16</b> A2214808	Paper	Heterogeneous White, Gray Fibrous Bound	25%	Cellulose	10%	Binder	<b>65% Chrysotile</b>
<b>584-17</b> A2214809	Porcelain Electrical Isolator	Heterogeneous White Non-fibrous Bound			80%	Silicates Binder	<b>None Detected</b>
<b>584-18</b> A2214810	Electrical Conduit	Heterogeneous White, Black Fibrous Bound	40%	Synthetic Fiber	5%	Tar Binder Rubber	<b>None Detected</b>
<b>584-19</b> A2214811	Electrical Isolator	Heterogeneous Gray, White Fibrous Bound			80%	Binder	<b>20% Chrysotile</b>
<b>584-20</b> A2214812	Paper	Heterogeneous White, Gray Fibrous Bound	25%	Cellulose	10%	Binder	<b>65% Chrysotile</b>
<b>584-21</b> A2214813	Electrical Isolator	Heterogeneous Black Fibrous Bound			90%	Binder	<b>10% Chrysotile</b>



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			Fibrous		Non-Fibrous		
<b>584-22</b> A2214814	Paneling	Heterogeneous Brown Fibrous Bound	90%	Cellulose	10%	Binder	<b>None Detected</b>
<b>584-23</b> A2214815	Paneling	Heterogeneous Brown Fibrous Bound	90%	Cellulose	10%	Binder	<b>None Detected</b>
<b>584-24</b> A2214816	Support Member	Heterogeneous Brown Fibrous Bound	90%	Cellulose	10%	Binder	<b>None Detected</b>
<b>584-25</b> A2214817	Electrical Isolator	Heterogeneous Black Fibrous Bound	15%	Fiberglass	85%	Binder	<b>None Detected</b>
<b>584-26</b> A2214818	Gasket	Heterogeneous Red Non-fibrous Bound			100%	Binder	<b>None Detected</b>
<b>584-27</b> A2214819	Slate Debris	Heterogeneous Gray Non-fibrous Bound			70%	Silicates 30% Binder	<b>None Detected</b>
<b>584-28</b> A2214820	Window Sill Wrap	Heterogeneous Gray,White Fibrous Bound	25%	Fiberglass	70%	Binder	<b>5% Chrysotile</b>



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			Fibrous		Non-Fibrous		
<b>584-29</b> A2214821	Window Sill Tar	Heterogeneous Green,Black Fibrous Bound	5%	Cellulose	90%	Tar	<b>5% Chrysotile</b>
<b>584-30</b> A2214822	Paper	Heterogeneous Brown Fibrous Bound	95%	Cellulose	5%	Binder	<b>None Detected</b>
<b>584-31</b> A2214823	Lagging Cloth	Heterogeneous White Fibrous Bound	95%	Fiberglass	5%	Binder	<b>None Detected</b>
<b>584-32</b> A2214824	Paper	Heterogeneous Gray Fibrous Bound	90%	Cellulose	10%	Binder	<b>None Detected</b>
<b>584-33</b> A2214825	Window Sill Tar	Heterogeneous Green,Black Fibrous Bound	5%	Cellulose	90%	Tar	<b>5% Chrysotile</b>
<b>584-34</b> A2214826	Electrical Isolator	Heterogeneous Black Fibrous Bound	10%	Cellulose	90%	Binder	<b>None Detected</b>
<b>584-35</b> A2214827	Paper	Heterogeneous Black Fibrous Bound	90%	Cellulose	10%	Binder	<b>None Detected</b>



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			Fibrous		Non-Fibrous		
<b>584-36</b> A2214828	Window Glazing	Heterogeneous Off-white, Gray Fibrous Bound	2%	Cellulose	5%	Paint Binder Calc Carb	<b>None Detected</b>
<b>584-37</b> A2214829	Drywall	Heterogeneous Tan, White Fibrous Bound	25%	Cellulose	75%	Gypsum	<b>None Detected</b>
<b>584-38</b> A2214830	Joint Compound	Heterogeneous Blue, Off-white Fibrous Bound	2%	Cellulose	5%	Paint Silicates Calc Carb	<b>3% Chrysotile</b>
<b>584-39</b> A2214831	Drywall/Joint Compound	Heterogeneous Blue, Off-white Fibrous Bound	20%	Cellulose	5%	Paint Calc Carb Gypsum	<b>&lt;1% Chrysotile</b>
Lab Notes: 3% Chrysotile in Joint Compound, <1% Chrysotile Overall							
<b>584-40</b> A2214832	Electrical Isolator	Heterogeneous Gray Non-fibrous Bound			70%	Silicates Binder	<b>None Detected</b>
<b>584-41</b> A2214833	Flexible Electrical Isolator	Heterogeneous Gray Fibrous Bound	80%	Cellulose	20%	Binder	<b>None Detected</b>
<b>584-42</b> A2214834	Compressed Board	Heterogeneous Black, White Fibrous Bound			50%	Binder	<b>50% Chrysotile</b>



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			Fibrous		Non-Fibrous		
<b>584-43</b> A2214835	Leveling Compound	Heterogeneous Gray Fibrous Bound	5%	Cellulose	50%	Silicates 45% Binder	<b>None Detected</b>
<b>584-44</b> A2214836	Electrical Isolator	Heterogeneous Red Fibrous Bound			90%	Binder	<b>10% Chrysotile</b>
<b>584-45</b> A2214837	Window Sill Tar	Heterogeneous Green,Black Fibrous Bound	5%	Cellulose	90%	Tar	<b>5% Chrysotile</b>
<b>584-46</b> A2214838	Leveling Compound	Heterogeneous Gray Fibrous Bound	2%	Cellulose	70%	Silicates 28% Binder	<b>None Detected</b>
<b>584-47</b> A2214839	Slate Electrical Panel	Heterogeneous Gray Non-fibrous Bound			70%	Silicates 30% Binder	<b>None Detected</b>
<b>584-48</b> A2214840	Window Glazing	Heterogeneous Gray,Black Fibrous Bound	5%	Cellulose	5%	Paint 85% Tar	<b>5% Chrysotile</b>
<b>584-49</b> A2214841	Fiberglass Wrap	Heterogeneous Gray,White Fibrous Bound	25%	Fiberglass	70%	Binder	<b>5% Chrysotile</b>



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			Fibrous		Non-Fibrous		
<b>584-50</b> A2214842	Window Glazing	Heterogeneous White Fibrous Bound	2%	Cellulose	48%	Binder	<b>None Detected</b>
					50%	Calc Carb	
<b>584-51</b> A2214843	Flooring Underlayment	Heterogeneous Gray,Black Fibrous Bound	90%	Cellulose	5%	Tar	<b>None Detected</b>
					5%	Binder	
<b>584-52</b> A2214844	Sheet Flooring	Heterogeneous Green,Tan Fibrous Bound	40%	Cellulose	50%	Vinyl	<b>None Detected</b>
					5%	Binder	
					5%	Mastic	
<b>584-53</b> A2214845	Compressed Board	Heterogeneous Gray Fibrous Bound	95%	Cellulose	5%	Binder	<b>None Detected</b>
<b>584-54</b> A2214846	Flooring Underlayment	Heterogeneous Red,Black Fibrous Bound	90%	Cellulose	5%	Tar	<b>None Detected</b>
					5%	Binder	
<b>584-55</b> A2214847	Flooring Underlayment	Heterogeneous Black Fibrous Bound	90%	Cellulose	10%	Tar	<b>None Detected</b>
<b>584-56</b> A2214848	Flooring Underlayment	Heterogeneous Tan Fibrous Bound	95%	Cellulose	5%	Binder	<b>None Detected</b>





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			Fibrous		Non-Fibrous		
<b>584-57</b> A2214849	Fiberboard Ceiling Panel	Heterogeneous Tan, White Fibrous Bound	90%	Cellulose	5%	Binder Paint	<b>None Detected</b>
<b>584-58</b> A2214850	Window Glazing (wood Windows)	Heterogeneous Off-white, Beige Fibrous Bound	2%	Cellulose	5%	Paint Binder Calc Carb	<b>None Detected</b>
<b>584-59</b> A2214851	Kiln Gasket	Heterogeneous White, Gray Fibrous Bound	20%	Cellulose	10%	Binder	<b>70% Chrysotile</b>
<b>584-60</b> A2214852	Kiln Mortar	Heterogeneous Gray Fibrous Bound	2%	Cellulose	70%	Silicates Binder	<b>None Detected</b>
<b>584-61</b> A2214853	Kiln Fire Brick	Heterogeneous Pink Fibrous Bound			70%	Silicates Binder	<b>&lt;1% Chrysotile</b>
<b>584-62</b> A2214854	Kiln Plaster Lining	Heterogeneous Gray Fibrous Bound			70%	Silicates Binder	<b>&lt;1% Chrysotile</b>
<b>584-63</b> A2214855	Brick Debris	Heterogeneous Red Fibrous Bound	2%	Cellulose	70%	Silicates Binder	<b>None Detected</b>



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			Fibrous		Non-Fibrous		
<b>584-64</b> A2214856	Brick Debris	Heterogeneous Pink Fibrous Bound	2%	Cellulose	70%	Silicates 28% Binder	<b>None Detected</b>
<b>584-65</b> A2214857	Debris	Heterogeneous White, Gray Fibrous Bound			50%	Calc Carb 30% Binder	<b>15% Amosite 5% Chrysotile</b>
Lab Notes: Sample Bag Does Not Match COC, Sample is a White Debris							
<b>584-66</b> A2214858	Electrical Isolator	Heterogeneous White Fibrous Bound			50%	Binder	<b>50% Chrysotile</b>
<b>584-67</b> A2214859	Tar	Heterogeneous Black Fibrous Bound	2%	Cellulose	98%	Tar	<b>None Detected</b>
<b>584-68</b> A2214860	Ceiling Tile	Heterogeneous White, Gray Fibrous Bound	50% 12%	Cellulose Fiberglass	35% 3%	Perlite Paint	<b>None Detected</b>
<b>584-69</b> A2214861	Boiler Interior Packing	Heterogeneous Gray Fibrous Bound	2%	Cellulose	70%	Silicates 28% Binder	<b>None Detected</b>
<b>584-70</b> A2214862	Boiler Interior Packing	Heterogeneous Gray Fibrous Bound	2%	Cellulose	70%	Silicates 28% Binder	<b>None Detected</b>



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			Fibrous		Non-Fibrous		
<b>584-71</b> A2214863	Boiler Interior Packing	Heterogeneous Gray Fibrous Bound	2%	Cellulose	70%	Silicates 28% Binder	<b>None Detected</b>
<b>584-72</b> A2214864	Window Glazing Debris	Heterogeneous Red Fibrous Bound	2%	Cellulose	48%	Binder 50% Calc Carb	<b>None Detected</b>
<b>584-73</b> A2214865	Flooring Underlayment	Heterogeneous Red,Black Fibrous Bound	90%	Cellulose	5%	Binder 5% Tar	<b>None Detected</b>
<b>584-74</b> A2214866	Flooring Patch	Heterogeneous Tan Fibrous Bound	95%	Cellulose	5%	Binder	<b>None Detected</b>
<b>584-75</b> A2214867	Paper Debris	Heterogeneous White Fibrous Bound	95%	Cellulose	5%	Binder	<b>None Detected</b>
<b>584-76</b> A2214868	Floor Tile	Heterogeneous Tan Fibrous Bound	2%	Cellulose	50%	Vinyl 45% Binder	<b>3% Chrysotile</b>
<b>584-77</b> A2214869	Floor Tile Adhesive	Heterogeneous Black Fibrous Bound	2%	Cellulose	95%	Mastic	<b>3% Chrysotile</b>



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			Fibrous		Non-Fibrous		
<b>584-78</b> A2214870	Tar	Heterogeneous Green,Black Fibrous Bound	5%	Cellulose	80%	Tar 5% Paint	<b>10% Chrysotile</b>
<b>584-79</b> A2214871	Window Caulking	Heterogeneous White,Off-white Fibrous Bound	2% 3%	Cellulose Talc	5% 37% 50%	Paint Binder Calc Carb	<b>3% Chrysotile</b>
<b>584-80</b> A2214872	Fiberglass Window Sill Wrap	Heterogeneous Gray Fibrous Bound	25%	Fiberglass	70%	Binder	<b>5% Chrysotile</b>
<b>584-81</b> A2214873	Flooring Underlayment	Heterogeneous Black Fibrous Bound	90%	Cellulose	10%	Tar	<b>None Detected</b>
<b>584-82</b> A2214874	Ceiling Paper	Heterogeneous White,Tan Fibrous Bound	90%	Cellulose	5% 5%	Paint Binder	<b>None Detected</b>
<b>584-83</b> A2214875	Felt Pipe Insulation	Heterogeneous Black,Tan Fibrous Bound	90%	Cellulose	5% 5%	Binder Tar	<b>None Detected</b>
<b>584-84</b> A2214876	Electrical Isolator	Heterogeneous White Fibrous Bound			90%	Binder	<b>10% Chrysotile</b>



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			Fibrous		Non-Fibrous		
<b>584-85</b> A2214877	Electrical Isolator	Heterogeneous Gray Non-fibrous Bound			70% 30%	Silicates Binder	<b>None Detected</b>
<b>584-86</b> A2214878	Window Sill Mastic	Heterogeneous Gray Fibrous Bound	2%	Cellulose	75% 20%	Binder Silicates	<b>3% Chrysotile</b>
<b>584-87</b> A2214879	Paper Insulation	Heterogeneous Gray Fibrous Bound	90%	Cellulose	10%	Binder	<b>None Detected</b>
<b>584-88</b> A2214880	Powder Debris	Heterogeneous White Fibrous Loose	2%	Cellulose	80% 18%	Calc Carb Silicates	<b>None Detected</b>
<b>584-89</b> A2214881	Window Glazing	Heterogeneous Gray,Green Fibrous Bound	2%	Cellulose	5% 43% 50%	Paint Binder Calc Carb	<b>None Detected</b>
<b>584-90</b> A2214882	Floor Tile	Heterogeneous Brown Fibrous Bound	2%	Cellulose	50% 45%	Vinyl Binder	<b>3% Chrysotile</b>
<b>584-91</b> A2214883	Floor Tile Adhesive	Heterogeneous Black Fibrous Bound	2%	Cellulose	95%	Mastic	<b>3% Chrysotile</b>



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<b>584-92</b> A2214884	Slate Electrical Panel	Heterogeneous Gray Non-fibrous Bound	70%	Silicates	30%	Binder	<b>None Detected</b>
<b>584-93</b> A2214885	Insulation Paper	Heterogeneous Brown Fibrous Bound	95%	Cellulose	5%	Binder	<b>None Detected</b>
<b>584-94</b> A2214886	Cal-sil Pipe Insulation	Heterogeneous White Non-fibrous Loosely Bound	100%	Foam			<b>None Detected</b>
<b>584-95</b> A2214887	Tar	Heterogeneous Black Fibrous Bound	2%	Cellulose	98%	Tar	<b>None Detected</b>
<b>584-96</b> A2214888	Fiberboard Wall Panel	Heterogeneous Silver, Tan Fibrous Bound	90%	Cellulose	5%	Paint Binder	<b>None Detected</b>
<b>584-97</b> A2214889	Ceiling Board	Heterogeneous White, Gray Fibrous Bound	25%	Cellulose	10%	Binder	<b>65% Chrysotile</b>
<b>584-98</b> A2214890	Panel	Heterogeneous White, Gray Fibrous Bound	25%	Cellulose	10%	Binder	<b>65% Chrysotile</b>





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<b>584-99</b> A2214891	Window Glazing	Heterogeneous Gray,Tan Fibrous Bound	2%	Cellulose	5%	Paint 43% Binder 50% Calc Carb	<b>None Detected</b>
<b>584-100</b> A2214892	Cal-sil Pipe Insulation	Heterogeneous White Non-fibrous Loosely Bound			100%	Foam	<b>None Detected</b>
<b>584-101</b> A2214893	Floor Tile (sheet Flooring)	Heterogeneous Brown,Tan Fibrous Bound	40%	Cellulose	50%	Vinyl 5% Binder 5% Mastic	<b>None Detected</b>
<b>584-102</b> A2214894	Flooring Felt	Heterogeneous Gray Fibrous Bound	85% 10%	Cellulose Synthetic Fiber	5%	Binder	<b>None Detected</b>
<b>584-103</b> A2214895	Plaster Skim Coat	Heterogeneous Gray,White Fibrous Bound	2%	Cellulose	5%	Paint 23% Silicates 70% Calc Carb	<b>None Detected</b>
<b>584-104</b> A2214896	Plaster Base Coat	Heterogeneous Gray Fibrous Bound	2% 3%	Cellulose Hair	50% 45%	Silicates Binder	<b>None Detected</b>
<b>584-105</b> A2214897	Wall Adhesive	Heterogeneous Gray Fibrous Bound	3%	Cellulose	97%	Mastic	<b>None Detected</b>



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## ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous		Non-Fibrous		
<b>584-106</b> A2214898	Floor Tile	Heterogeneous Brown Fibrous Bound	2%	Cellulose	50%	Vinyl Binder	<b>3% Chrysotile</b>
<b>584-107</b> A2214899	Floor Tile Adhesive	Heterogeneous Tan Fibrous Bound	2%	Cellulose	98%	Mastic	<b>None Detected</b>
<b>584-108</b> A2214900	Flooring Underlayment	Heterogeneous Black Fibrous Bound	90%	Cellulose	10%	Tar	<b>None Detected</b>
<b>584-109</b> A2214901	Flooring Felt	Heterogeneous Gray Fibrous Bound	85% 10%	Cellulose Synthetic Fiber	5%	Binder	<b>None Detected</b>
<b>584-110</b> A2214902	Flooring Adhesive	Heterogeneous Brown Fibrous Bound	2%	Cellulose	98%	Mastic	<b>None Detected</b>
<b>584-111</b> A2214903	Sheet Flooring	Heterogeneous Green,Tan Fibrous Bound	45%	Cellulose	50% 5%	Vinyl Binder	<b>None Detected</b>
<b>584-112</b> A2214904	Flooring Adhesive	Heterogeneous Black,Brown Fibrous Bound	3%	Cellulose	97%	Mastic	<b>None Detected</b>



# ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

**Client:** NorthStar Environmental Testing, LLC.  
 817 Oak Ridge Road  
 Mosinee, WI 54455

**CEI Lab Code:** A16-7520  
**Date Received:** 08-19-16  
**Date Analyzed:** 08-22-16  
**Date Reported:** 08-23-16

**Project:** Stantec- AS; 160-584

## ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous	Cellulose	Non-Fibrous	Binder	
<b>584-113</b> A2214905	Cloth Vibration Joint	Heterogeneous White Fibrous Bound	25%	Cellulose	5%	Binder	<b>70% Chrysotile</b>
<b>584-114</b> A2214906	Floor Tile	Heterogeneous Orange Fibrous Bound	2%	Cellulose	50%	Vinyl 45% Binder	<b>3% Chrysotile</b>
<b>584-115</b> A2214907	Floor Tile Adhesive	Heterogeneous Tan Fibrous Bound	2%	Cellulose	98%	Mastic	<b>None Detected</b>
<b>584-116</b> A2214908	Roof Flashing	Heterogeneous Black,Gray Fibrous Bound	20%	Cellulose	50%	Tar	<b>30% Chrysotile</b>
<b>584-117</b> A2214909	Roof Felt	Heterogeneous Black,Gray Fibrous Bound	35%	Cellulose	30%	Tar	<b>35% Chrysotile</b>
<b>584-118</b> A2214910	Electrical Isolator	Heterogeneous Black Fibrous Bound	20%	Cellulose	80%	Binder	<b>None Detected</b>



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**LEGEND:**    Non-Anth        = Non-Asbestiform Anthophyllite  
                 Non-Trem        = Non-Asbestiform Tremolite  
                 Calc Carb        = Calcium Carbonate

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

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**LIMIT OF DETECTION:** <1% by visual estimation

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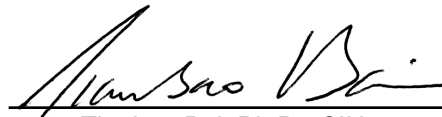
**REGULATORY LIMIT:** >1% by weight

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Due to the limitations of the EPA 600 method, nonfriable organically bound materials (NOBs) such as vinyl floor tiles can be difficult to analyze via polarized light microscopy (PLM). EPA recommends that all NOBs analyzed by PLM, and found not to contain asbestos, be further analyzed by Transmission Electron Microscopy (TEM). Please note that PLM analysis of dust and soil samples for asbestos is not covered under NVLAP accreditation.

This report relates only to the samples tested or analyzed and may not be reproduced, except in full, without written approval by CEI Labs, Inc. CEI Labs makes no warranty representation regarding the accuracy of client submitted information in preparing and presenting analytical results. Interpretation of the analytical results is the sole responsibility of the client. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. Government.

**ANALYST:**   
Ryan Williams

**APPROVED BY:**   
Tianbao Bai, Ph.D., CIH  
Laboratory Director





107 New Edition Court, Cary, NC 27511  
 Tel: 866-481-1412; Fax: 919-481-1442

# CHAIN OF CUSTODY

(118) A16-7520  
 A2214793-  
 A2214910

LAB USE ONLY:
CEI Lab Code:
CEI Lab I.D. Range:

COMPANY CONTACT INFORMATION	
Company: NorthStar Environmental Testing	Client #: 25143
Address: 817 Oak Ridge Road	Job Contact: Aaron Stroud
Mosinee, WI 54455	Email: info@northstartesting.com
	Tel: (920) 422-4881
Project Name: <i>Stantec-AS</i>	Fax:
Project ID #: 160-584	P.O. #:

ASBESTOS	METHOD	TURN AROUND TIME						
		4 HR*	8 HR*	12 HR*	1 DAY	2 DAY	3 DAY	5 DAY
PLM BULK	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PLM POINT COUNT (400)	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLM POINT COUNT (1000)	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLM GRAVIMETRIC	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLM GRAV w POINT COUNT	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PCM AIR	NIOSH 7400	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM AIR	AHERA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM AIR	EPA Level II	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM AIR	NIOSH 7402	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM BULK	CHATFIELD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM DUST WIPE	ASTM D6480-05	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM DUST MICROVAC	ASTM D5755-03	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM QUALITATIVE	CEI LABS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OTHER:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LEAD PAINT	METHOD	4 HR*	8 HR*	12 HR*	24 HR	2 DAY	3 DAY	5 DAY
LEAD PAINT	EPA SW846 7000B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LEAD WIPE	EPA SW846 7000B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LEAD SOIL	EPA SW846 7000B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LEAD AIR	NIOSH 7082	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OTHER:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

REMARKS:		<input checked="" type="checkbox"/> Accept Samples <input type="checkbox"/> Reject Samples	
Relinquished By:	Date/Time	Received By:	Date/Time
<i>[Signature]</i>	3/10/16	AL	8/19/16 9:00

\*Call to confirm RUSH analysis.

Samples will be disposed of 30 days after analysis



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Tel: 920.422.4888

Madison Office:  
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Madison, WI 53714  
Tel: 608.827.6761

AK-7520

**BULK SAMPLE LOG-IN**

<b>CLIENT:</b>	Stantec	<b>NORTHSTAR NO.</b>	160-584
<b>LOCATION:</b>	1512 Washington St - Manitowoc	<b>DATE COLLECTED:</b>	8/12/16 to 8/17/16
<b>WORK AREA:</b>	Mirro Aluminum Company	<b>TECH:</b>	Aaron Stroud

Sample ID	Level	Room / Area Info	Sample Info	Content
584-1	1	127 (column N07)	Square D: Transite Electrical Isolator	
584-2	1	127 (north wall – east)	Cutler Hammer: Gray Electrical Isolator	
584-3	1	127 (north wall – east)	Unlabeled: Black Electrical Isolator	
584-4	1	127 (north wall – center)	Cutler Hammer (push button): Black Isolator	
584-5	1	127 (north wall – center)	Square D: Slate Electrical Isolator	
584-6	1	127 (north wall – west)	Cutler Hammer (motor control): White Paper	
584-7	1	127 (north wall – west)	Trumbull: Slate Electrical Isolator	
584-8	1	127 (north wall – west)	GE (dial): Slate Electrical Isolator	
584-9	1	127 (north wall – west)	Bulldog: Gray Electrical Isolator	
584-10	1	126 (west wall – north)	Bulldog: Black Electrical Isolator	
584-11	1	126 (west wall – north)	GE: Transite Electrical Isolator	
584-12	1	126 (west wall – north)	AB (push button): Black Isolator	
584-13	1	127 (column N03)	Transformer Box: Black Electrical Isolator	
584-14	1	127 (column N10)	ITE: Gray Electrical Isolator	
584-15	1	126 (column N32)	Square D: Small Black Electrical Isolator	
584-16	1	126 (column N34)	GE (dial): White Paper	
584-17	2	220 (Stair #2)	White Porcelain Electrical Isolator	
584-18	2	220 (Stair #2)	White Electrical Conduit	

<b>Lab Info:</b>	CEI Labs	<b>Date Analyzed:</b>	x/xx/xx	<b>Page:</b>	1 of 7
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AK-7520

**BULK SAMPLE LOG-IN**

<b>CLIENT:</b>	Stantec	<b>NORTHSTAR NO.</b>	160-584
<b>LOCATION:</b>	1512 Washington St - Manitowoc	<b>DATE COLLECTED:</b>	8/12/16 to 8/17/16
<b>WORK AREA:</b>	Mirro Aluminum Company	<b>TECH:</b>	Aaron Stroud

Sample ID	Level	Room / Area Info	Sample Info	Content
584-19	2	221 (east wall – center)	Cutler Hammer: White Electrical Isolator (gray)	
584-20	2	221 (east wall – center)	Cutler Hammer: White Paper (gray)	
584-21	2	221 (southeast – large panel)	Black Box Electrical Isolator	
584-22	2	221 (southeast – large panel)	Brown Paneling	
584-23	2	221 (southeast – large panel)	Black Paneling	
584-24	2	221 (southeast – large panel)	Brown Support Member	
584-25	2	223 (green equipment)	AB: Black Electrical Isolator	
584-26	2	223 (green equipment)	Red Gasket	
584-27	2	223 (green equipment)	Slate Debris	
584-28	Ext	223 Exterior (west)	Gray Fiberglass Window Sill Wrap	
584-29	2	223 (west wall)	Black Window Sill Tar	
584-30	3	323 (southwest)	ITE: Tan Paper (black)	
584-31	3	323 (southeast)	Lagging Cloth (on fiberglass insulation)	
584-32	3	323 (southeast)	Square D: Gray Paper (transite)	
584-33	3	324 (south wall – center)	Black Window Sill Tar	
584-34	4	423 (southwest)	Westinghouse: Black Electrical Isolator	
584-35	4	423 (southwest)	Westinghouse: Black Paper (black)	
584-36	Ext	423 Exterior (west wall)	Window Glazing	

<b>Lab Info:</b>	CEI Labs	<b>Date Analyzed:</b>	x/xx/xx	<b>Page:</b>	2 of 7
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416-7520

**BULK SAMPLE LOG-IN**

<b>CLIENT:</b>	Stantec	<b>NORTHSTAR NO.</b>	160-584
<b>LOCATION:</b>	1512 Washington St - Manitowoc	<b>DATE COLLECTED:</b>	8/12/16 to 8/17/16
<b>WORK AREA:</b>	Mirro Aluminum Company	<b>TECH:</b>	Aaron Stroud

Sample ID	Level	Room / Area Info	Sample Info	Content
584-37	4	424 Office	Drywall	
584-38	4	424 Office	Joint Compound	
584-39	4	424 Office	Composite (only if either is positive)	
584-40	4	426 (northwest)	Square D: Gray Electrical Isolator	
584-41	4	426 (northwest)	Square D: Gray Flexible Isolator (gray)	
584-42	4	426 (northwest)	Westinghouse: Black Compressed Board	
584-43	4	427 Restroom	Floor Leveling Compound	
584-44	5	521 (southwest)	AB: Red Electrical Isolator	
584-45	5	521 (east wall)	Black Window Sill Tar	
584-46	5	521 (southwest room)	Floor Leveling Compound	
584-47	6	619 (southwest)	Slate Electrical Panel	
584-48	6	619 (south metal wall )	Black Window Glazing	
584-49	Ext	Tower Penthouse	Gray Fiberglass Wrap	
584-50	1	100 (east wall)	Window Glazing	
584-51	1	100 (northwest)	White Flooring Underlayment Debris	
584-52	1	100 (northwest)	Green Vinyl Sheet Flooring Debris	
584-53	1	100 (northwest)	Gray Compressed Board Debris	
584-54	1	100 (northwest)	Red Flooring Underlayment Debris	

<b>Lab Info:</b>	CEI La bs	<b>Date Analyzed:</b>	x/xx/xx	<b>Page:</b>	3 of 7
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A16-7520

**BULK SAMPLE LOG-IN**

<b>CLIENT:</b>	Stantec	<b>NORTHSTAR NO.:</b>	160-584
<b>LOCATION:</b>	1512 Washington St - Manitowoc	<b>DATE COLLECTED:</b>	8/12/16 to 8/17/16
<b>WORK AREA:</b>	Mirro Aluminum Company	<b>TECH:</b>	Aaron Stroud

Sample ID	Level	Room / Area Info	Sample Info	Content
584-55	1	100 (northwest)	Black Flooring Underlayment Debris	
584-56	1	103 (Stair #5)	Tan Flooring Underlayment Debris	
584-57	1	104	Fiberboard Ceiling Panels	
584-58	1	107	Window Glazing (wood windows)	
584-59	1	109	Kiln Gasket	
584-60	1	109	Kiln Gray Mortar	
584-61	1	109	Kiln Pink Fire Brick	
584-62	1	109	Kiln Gray Plaster Lining	
584-63	1	109	Red Brick Debris (in pit)	
584-64	1	109	Pink Brick Debris (in pit)	
584-65	1	109	Red Brick Debris (in pit)	
584-66	1	111	Cutler Hammer: White Electrical Isolator (gray)	
584-67	1	111	Tar (on wood flooring)	
584-68	1	111 (south vestibule)	2'x2' Textured Ceiling Tile	
584-69	1	118 (south)	Boiler Interior Packing	
584-70	1	118 (center)	Boiler Interior Packing	
584-71	1	118 (north)	Boiler Interior Packing	
584-72	1	121 (north wall)	Window Glazing Debris	

<b>Lab Info:</b>	CEI Labs	<b>Date Analyzed:</b>	x/xx/xx	<b>Page:</b>	4 of 7
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AK-7520

**BULK SAMPLE LOG-IN**

<b>CLIENT:</b>	Stantec	<b>NORTHSTAR NO.</b>	160-584
<b>LOCATION:</b>	1512 Washington St - Manitowoc	<b>DATE COLLECTED:</b>	8/12/16 to 8/17/16
<b>WORK AREA:</b>	Mirro Aluminum Company	<b>TECH:</b>	Aaron Stroud

Sample ID	Level	Room / Area Info	Sample Info	Content
584-73	2	202 Men's	Red Flooring Underlayment Debris	
584-74	2	204 (west)	Tan Flooring Patch	
584-75	2	204 (closet)	White Paper Debris	
584-76	2	205 (east)	12" Tan Floor Tile	
584-77	2	205 (east)	Black Floor Tile Adhesive	
584-78	2	207 (Stair #6)	Black Tar (on window perimeter)	
584-79	2	207 (Stair #6)	White Window Caulk (on window perimeter)	
584-80	Ext	208 Exterior	Gray Fiberglass Window Sill Wrap	
584-81	2	208	Black Flooring Underlayment	
584-82	2	208A	White Ceiling Paper	
584-83	2	Women's Restroom (west)	Felt Pipe Insulation	
584-84	2	215	Cutler Hammer: White Elect. Isolator (gray, new)	
584-85	3	305	AH (fire control): Gray Electrical Isolator	
584-86	Ext	307 Exterior (east)	Gray Window Sill Mastic	
584-87	3	307	Square D: Gray Paper Insulation (gray)	
584-88	3	307 (northwest)	White Powder Debris (on floor)	
584-89	3	313 (north)	Window Glazing (remnant)	
584-90	3	314 (south - center)	12" Brown Floor Tile	

<b>Lab Info:</b>	CEI Labs	<b>Date Analyzed:</b>	x/xx/xx	<b>Page:</b>	5 of 7
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AIC 2520

**BULK SAMPLE LOG-IN**

<b>CLIENT:</b>	Stantec	<b>NORTHSTAR NO.</b>	160-584
<b>LOCATION:</b>	1512 Washington St - Manitowoc	<b>DATE COLLECTED:</b>	8/12/16 to 8/17/16
<b>WORK AREA:</b>	Mirro Aluminum Company	<b>TECH:</b>	Aaron Stroud

Sample ID	Level	Room / Area Info	Sample Info	Content
584-91	3	314 (south - center)	Black Floor Tile Adhesive	
584-92	4	401	Slate Electrical Panel	
584-93	4	405	Bulldog: Brown Insulation Paper (gray)	
584-94	4	414 (northwest)	Cal-Sil Pipe Insulation	
584-95	4	419	Black Tar (on wood flooring)	
584-96	5	505 (northeast)	Silver Fiberboard Wall Paneling	
584-97	5	508 (closet)	White Ceiling Board	
584-98	6	603 (closet)	White Panel (loose on floor)	
584-99	6	606	Window Glazing (elevator window)	
584-100	6	615	Cal-Sil Pipe Insulation	
584-101	7	701	9" Brown Floor Tile	
584-102	7	701	Gray Flooring Felt	
584-103	7	701	Plaster Ceiling (skim coat)	
584-104	7	701	Plaster Ceiling (base coat)	
584-105	7	701	Gray Wall Adhesive	
584-106	7	704 (east)	9" Brown Floor Tile	
584-107	7	704 (east)	Tan Floor Tile Adhesive	
584-108	7	704 (east)	Black Flooring Underlayment	

<b>Lab Info:</b>	CEI Labs	<b>Date Analyzed:</b>	x/xx/xx	<b>Page:</b>	6 of 7
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AK-7528



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**BULK SAMPLE LOG-IN**

<b>CLIENT:</b>	Stantec	<b>NORTHSTAR NO.</b>	160-584
<b>LOCATION:</b>	1512 Washington St - Manitowoc	<b>DATE COLLECTED:</b>	8/12/16 to 8/17/16
<b>WORK AREA:</b>	Mirro Aluminum Company	<b>TECH:</b>	Aaron Stroud

Sample ID	Level	Room / Area Info	Sample Info	Content
584-109	7	705 (southwest)	Gray Flooring Felt	
584-110	7	705 (southwest)	Brown Flooring Adhesive	
584-111	7	716	Green Vinyl Sheet Flooring	
584-112	7	716	Black Flooring Adhesive	
584-113	7	716	White Cloth Vibration Joint	
584-114	7	718	9" Orange Floor Tile	
584-115	7	718	Tan Floor Tile Adhesive	
584-116	Ext	3-Story Rubble	Black Roof Flashing	
584-117	Ext	3-Story Rubble	Black Roofing Felt	
584-118	Ext	3-Story Rubble	Black Electrical Isolator	

<b>Lab Info:</b>	CEI Labs	<b>Date Analyzed:</b>	x/xx/xx	<b>Page:</b>	7 of 7
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August 29, 2016

City of Manitowac  
1512 Washington Street  
Manitowac, WI 54220

**CLIENT PROJECT:** Stantec- AS; 160-584  
**CEI LAB CODE:** A16-7520.1

Dear Customer:

Enclosed are asbestos analysis results for PLM bulk samples received at our laboratory on August 24, 2016. The samples were analyzed for asbestos using polarized light microscopy (PLM) point count per the EPA 600 Method.

Sample results containing > 1% asbestos are considered asbestos-containing materials (ACMs) per the EPA regulatory requirements. The detection limit for the EPA 600 method is 0.25% for 400 point counts, or 0.1% for 1,000 point counts.

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





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**ASBESTOS ANALYTICAL REPORT**  
**By: Polarized Light Microscopy**

Prepared for

**City of Manitowac**

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CLIENT PROJECT: Stantec- AS; 160-584

CEI LAB CODE: A16-7520.1

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

REPORT DATE: 08/29/16

**TEL: 866-481-1412**

*[www.ceilabs.com](http://www.ceilabs.com)*





# ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

**Client:** City of Manitowac  
1512 Washington Street  
Manitowac, WI 54220

**CEI Lab Code:** A16-7520.1  
**Date Received:** 08-24-16  
**Date Analyzed:** 08-25-16  
**Date Reported:** 08-29-16

**Project:** Stantec- AS; 160-584

## ASBESTOS POINT COUNT PLM, EPA 600 METHOD

Client ID	Lab ID	Material Description	POINTS		ASBESTOS	
			Total	Asbestos	%	
584-39	A2214831	Joint Compound	400	11	2.8%	Chrysotile
	A2214831	Drywall/Joint Compound (Composite Result from Point Count)			0.14%	Chrysotile
Lab Notes: Joint Compound is 5% of Overall Sample, 0.14% Chrysotile Overall						
584-61	A2214853	Kiln Fire Brick	400	1	0.25%	Chrysotile



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**LEGEND:** None

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

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**LIMIT OF DETECTION:** 0.25% by 400 points or 0.1% by 1,000 points

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**REGULATORY LIMIT:** >1% by weight

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This report relates only to the samples tested or analyzed and may not be reproduced, except in full, without written approval by CEI Labs, Inc. CEI Labs makes no warranty representation regarding the accuracy of client submitted information in preparing and presenting analytical results. Interpretation of the analytical results is the sole responsibility of the client. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. Government.

**ANALYST:** \_\_\_\_\_

  
Ryan Williams

**APPROVED BY:** \_\_\_\_\_

  
Tianbao Bai, Ph.D., CIH  
Laboratory Director



**RE: Laboratory Report for Stantec- AS; 160-584 (A16-7520)**

From: Aaron Stroud  
Sent: Wed, Aug 24, 2016 at 5:01 pm  
To: 'CEI Labs, Inc.'

---

Hello, Could I please have a point count analysis on samples 584-39 and 584-61? Standard TAT. Thanks!!

Please let me know if you have any questions.

Thanks and have a great day,

**Aaron Stroud**

Aaron Stroud  
Operations Manager

**NorthStar Environmental Testing, LLC.**  
**1835 E. Edgewood Drive**  
**Suite 10542**  
**Appleton, WI 54913**

Office: 920.422.4888  
Cell: 920.422.4881  
[www.northstartesting.com](http://www.northstartesting.com)

**ASBESTOS \* LEAD PAINT \* MOLD \* INDOOR AIR QUALITY**

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**From:** CEI Labs, Inc. [mailto:[asbestos@ceilabs.com](mailto:asbestos@ceilabs.com)]  
**Sent:** Tuesday, August 23, 2016 11:28 AM  
**To:** [info@northstartesting.com](mailto:info@northstartesting.com)  
**Subject:** Laboratory Report for Stantec- AS; 160-584 (A16-7520)

CEI LABS HAS MOVED

Our new address is 730 SE Maynard Road, Cary, NC 27511.

Attached is the laboratory report for your recently submitted samples. Please print out a copy for your records.

We appreciate your business,

CEI Labs, Inc.  
(866) 481-1412

The contents contained in this email are confidential and legally protected. If you happen to receive this email in error, please call our office and delete immediately.



September 20, 2016

Stantec  
12075 Corporate Parkway Ste 200  
Mequon, WI 53092-2649

**CLIENT PROJECT:** Santec - AS; 160-584  
**CEI LAB CODE:** B16-7517

Dear Customer:

Enclosed are asbestos analysis results for PLM Bulk samples received at our laboratory on September 8, 2016. 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





**AMENDED**

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**ASBESTOS ANALYTICAL REPORT**  
**By: Polarized Light Microscopy**

Prepared for

**Stantec**

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CLIENT PROJECT: Santec - AS; 160-584

CEI LAB CODE: B16-7517

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

REPORT DATE: 09/08/16

TOTAL SAMPLES ANALYZED: 10

# SAMPLES >1% ASBESTOS: 5

**TEL: 866-481-1412**

*www.ceilabs.com*



AMENDED

# Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: Santec - AS; 160-584

CEI LAB CODE: B16-7517

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

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
584-119		B204569	Tan	Fire Brick	None Detected
584-120		B204570	White	Debris	Amosite 20%
584-121		B204571	Black	Tar Paper	None Detected
584-122		B204572	Black	Tar Paper	None Detected
584-123	Layer 1	B204573	Black	Felt Pipe Insulation	Chrysotile 65%
	Layer 2	B204573	Gray	Paper Insulation	Chrysotile 10%
584-124		B204574	Gray	Pipe Fitting Insulation	Chrysotile 10%
584-125		B204575	Black,Gray	Felt Pipe Insulation	Chrysotile 65%
584-126		B204576	Black	Ash	None Detected
584-127		B204577	Black	Ash	None Detected
584-128		B204578	Black	Ash	None Detected



**AMENDED**

# ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

**Client:** Stantec  
 12075 Corporate Parkway Ste 200  
 Mequon, WI 53092-2649

**CEI Lab Code:** B16-7517  
**Date Received:** 09-08-16  
**Date Analyzed:** 09-08-16  
**Date Reported:** 09-08-16

**Project:** Santec - AS; 160-584

## ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous		Non-Fibrous		
584-119 B204569	Fire Brick	Homogeneous	3%	*Other	10%	Silicates	<b>None Detected</b>
		Tan			87%	Binder	
		Non-fibrous Bound					
Lab Notes: *Other - Heat or chemically altered Chrysotile. Structures are no longer asbestiform.							
584-120 B204570	Debris	Homogeneous			80%	Binder	<b>20% Amosite</b>
		White					
		Fibrous Loose					
584-121 B204571	Tar Paper	Homogeneous	85%	Cellulose	15%	Tar	<b>None Detected</b>
		Black					
		Fibrous Bound					
584-122 B204572	Tar Paper	Homogeneous	85%	Cellulose	15%	Tar	<b>None Detected</b>
		Black					
		Fibrous Bound					
584-123 Layer 1 B204573	Felt Pipe Insulation	Homogeneous	20%	Cellulose	15%	Tar	<b>65% Chrysotile</b>
		Black					
		Fibrous Bound					
Layer 2 B204573	Paper Insulation	Homogeneous	80%	Cellulose	5%	Binder	<b>10% Chrysotile</b>
		Gray	5%	Hair			
		Fibrous Loosely Bound					
584-124 B204574	Pipe Fitting Insulation	Homogeneous	65%	Fiberglass	25%	Binder	<b>10% Chrysotile</b>
		Gray					
		Fibrous Loose					





AMENDED

# ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

**Client:** Stantec  
12075 Corporate Parkway Ste 200  
Mequon, WI 53092-2649

**CEI Lab Code:** B16-7517  
**Date Received:** 09-08-16  
**Date Analyzed:** 09-08-16  
**Date Reported:** 09-08-16

**Project:** Santec - AS; 160-584

## ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous		Non-Fibrous		
<b>584-125</b> B204575	Felt Pipe Insulation	Homogeneous Black, Gray Fibrous Loosely Bound	20%	Cellulose	10%	Binder	<b>65% Chrysotile</b>
<b>584-126</b> B204576	Ash	Homogeneous Black Non-fibrous Bound			5%	Silicates	<b>None Detected</b>
<b>584-127</b> B204577	Ash	Homogeneous Black Non-fibrous Bound			5%	Silicates	<b>None Detected</b>
<b>584-128</b> B204578	Ash	Homogeneous Black Non-fibrous Bound			5%	Silicates	<b>None Detected</b>



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**LEGEND:**    Non-Anth        = Non-Asbestiform Anthophyllite  
                 Non-Trem        = Non-Asbestiform Tremolite  
                 Calc Carb        = Calcium Carbonate

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

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**LIMIT OF DETECTION:** <1% by visual estimation

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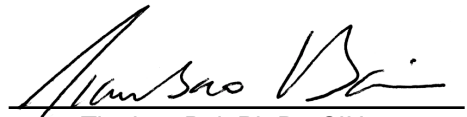
**REGULATORY LIMIT:** >1% by weight

---

Due to the limitations of the EPA 600 method, nonfriable organically bound materials (NOBs) such as vinyl floor tiles can be difficult to analyze via polarized light microscopy (PLM). EPA recommends that all NOBs analyzed by PLM, and found not to contain asbestos, be further analyzed by Transmission Electron Microscopy (TEM). Please note that PLM analysis of dust and soil samples for asbestos is not covered under NVLAP accreditation.

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**ANALYST:**   
Gary A. Swanson

**APPROVED BY:**   
Tianbao Bai, Ph.D., CIH  
Laboratory Director





107 New Edition Court, Cary, NC 27511  
 Tel: 866-481-1412; Fax: 919-481-1442

# CHAIN OF CUSTODY

<b>LAB USE ONLY:</b>
CEI Lab Code: <u>BIG-7517 (10)</u>
CEI Lab I.D. Range: <u>B204569-B204578</u>

COMPANY CONTACT INFORMATION	
Company: NorthStar Environmental Testing	Client #: 25143
Address: 817 Oak Ridge Road	Job Contact: Aaron Stroud
Mosinee, WI 54455	Email: info@northstartesting.com
	Tel: (920) 422-4881
Project Name: <u>Stantec-KS</u>	Fax:
Project ID #: 160- <u>584</u>	P.O. #:

ASBESTOS	METHOD	TURN AROUND TIME						
		4 HR*	8 HR*	12 HR*	1 DAY	2 DAY	3 DAY	5 DAY
PLM BULK	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLM POINT COUNT (400)	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLM POINT COUNT (1000)	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLM GRAVIMETRIC	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLM GRAV w POINT COUNT	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PCM AIR	NIOSH 7400	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM AIR	AHERA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM AIR	EPA Level II	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM AIR	NIOSH 7402	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM BULK	CHATFIELD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM DUST WIPE	ASTM D6480-05	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM DUST MICROVAC	ASTM D5755-03	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM QUALITATIVE	CEI LABS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OTHER:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LEAD PAINT	METHOD	4 HR*	8 HR*	12 HR*	24 HR	2 DAY	3 DAY	5 DAY
LEAD PAINT	EPA SW846 7000B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LEAD WIPE	EPA SW846 7000B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LEAD SOIL	EPA SW846 7000B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LEAD AIR	NIOSH 7082	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OTHER:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

REMARKS:		<input checked="" type="checkbox"/> Accept Samples <input type="checkbox"/> Reject Samples	
<del>* By noon on 9/8/16</del>			
Relinquished By:	Date/Time	Received By:	Date/Time
	9/7/16	AC	9/8/16
			9:20

\*Call to confirm RUSH analysis. Samples will be disposed of 30 days after analysis

**ASBESTOS BULK SAMPLE LOG-IN**

B16-7517

<b>CLIENT:</b>	Stantec	<b>NORTHSTAR NO.:</b>	160-584
<b>LOCATION:</b>	1512 Washington St - Manitowoc	<b>DATE COLLECTED:</b>	9/6/16
<b>WORK AREA:</b>	Mirro Aluminum Company	<b>TECH:</b>	Aaron Stroud

Sample ID	Level	Room / Area Info	Sample Info	Asbestos Content
584-119	Tunnel	Southeast Corner	Stacked Circular Fire Brick	
584-120		M#3 Tunnel Access (south)	Debris on Tunnel Floor	
584-121		S#1 Tunnel Access	Tar Paper at Ceiling	
584-122		S#1 Tunnel Access	Tar Paper at Ceiling	
584-123		S#2 Tunnel Access	Felt Pipe Insulation	
584-124		M#9 Tunnel Access	Pipe Fitting Insulation (felt)	
584-125		M#9 Tunnel Access	Felt Pipe Insulation	
584-126		M#10 Tunnel Access	Black Ash (under concrete floor)	
584-127		M#10 Tunnel Access	Black Ash (under concrete floor)	
584-128		M#10 Tunnel Access	Black Ash (under concrete floor)	



September 13, 2016

NorthStar Environmental Testing, LLC.  
817 Oak Ridge Road  
Mosinee, WI 54455

**CLIENT PROJECT:** Stantec Mirro; 160-584  
**CEI LAB CODE:** B16-7612

Dear Customer:

Enclosed are asbestos analysis results for PLM Bulk samples received at our laboratory on September 12, 2016. 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





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**ASBESTOS ANALYTICAL REPORT**  
**By: Polarized Light Microscopy**

Prepared for

**NorthStar Environmental Testing, LLC.**

---

CLIENT PROJECT: Stantec Mirro; 160-584

CEI LAB CODE: B16-7612

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

REPORT DATE: 09/13/16

TOTAL SAMPLES ANALYZED: 8

# SAMPLES >1% ASBESTOS: 2

**TEL: 866-481-1412**

*[www.ceilabs.com](http://www.ceilabs.com)*



# Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: Stantec Mirro; 160-584

CEI LAB CODE: B16-7612

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

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
584-129		B205324	Gray,Off-white	Wrap	None Detected
584-130		B205325	Gray	Wrap	None Detected
584-131		B205326	Gray	Wrap	None Detected
584-132		B205327	Gray	Wrap	<b>Chrysotile 3%</b>
584-133		B205328	Gray	Wrap	None Detected
584-134		B205329	Gray	Wrap	None Detected
584-135		B205330	Gray	Wrap	None Detected
584-136		B205331	Gray	Wrap	<b>Chrysotile 3%</b>



# ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

**Client:** NorthStar Environmental Testing, LLC.  
817 Oak Ridge Road  
Mosinee, WI 54455

**CEI Lab Code:** B16-7612  
**Date Received:** 09-12-16  
**Date Analyzed:** 09-13-16  
**Date Reported:** 09-13-16

**Project:** Stantec Mirro; 160-584

## ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous		Non-Fibrous		
<b>584-129</b> B205324	Wrap	Heterogeneous Gray,Off-white Fibrous Bound	<1%	Cellulose	50%	Calc Carb 40% Silicates 10% Binder	<b>None Detected</b>
<b>584-130</b> B205325	Wrap	Heterogeneous Gray Fibrous Bound	<1%	Cellulose	50%	Calc Carb 40% Silicates 10% Binder	<b>None Detected</b>
<b>584-131</b> B205326	Wrap	Heterogeneous Gray Fibrous Bound	<1%	Cellulose	50%	Calc Carb 40% Silicates 10% Binder	<b>None Detected</b>
<b>584-132</b> B205327	Wrap	Heterogeneous Gray Fibrous Bound	<1%	Cellulose	50%	Calc Carb 37% Silicates 10% Paint	<b>3% Chrysotile</b>
<b>584-133</b> B205328	Wrap	Heterogeneous Gray Fibrous Bound	<1%	Cellulose	50%	Calc Carb 40% Silicates 10% Binder	<b>None Detected</b>
<b>584-134</b> B205329	Wrap	Heterogeneous Gray Fibrous Bound	<1%	Cellulose	50%	Calc Carb 40% Silicates 10% Binder	<b>None Detected</b>
<b>584-135</b> B205330	Wrap	Heterogeneous Gray Fibrous Bound	<1%	Cellulose	50%	Calc Carb 40% Silicates 10% Binder	<b>None Detected</b>





# ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

**Client:** NorthStar Environmental Testing, LLC.  
817 Oak Ridge Road  
Mosinee, WI 54455

**CEI Lab Code:** B16-7612  
**Date Received:** 09-12-16  
**Date Analyzed:** 09-13-16  
**Date Reported:** 09-13-16

**Project:** Stantec Mirro; 160-584

## ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous	Non-Fibrous			
584-136 B205331	Wrap	Heterogeneous	<1%	Cellulose	50%	Calc Carb	<b>3% Chrysotile</b>
		Gray			37%	Silicates	
		Fibrous			10%	Paint	
		Bound					



---

**LEGEND:** Non-Anth = Non-Asbestiform Anthophyllite  
Non-Trem = Non-Asbestiform Tremolite  
Calc Carb = Calcium Carbonate

---

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

---

**LIMIT OF DETECTION:** <1% by visual estimation

---

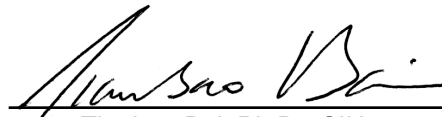
**REGULATORY LIMIT:** >1% by weight

---

Due to the limitations of the EPA 600 method, nonfriable organically bound materials (NOBs) such as vinyl floor tiles can be difficult to analyze via polarized light microscopy (PLM). EPA recommends that all NOBs analyzed by PLM, and found not to contain asbestos, be further analyzed by Transmission Electron Microscopy (TEM). Please note that PLM analysis of dust and soil samples for asbestos is not covered under NVLAP accreditation.

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**ANALYST:**   
Scott Minyard

**APPROVED BY:**   
Tianbao Bai, Ph.D., CIH  
Laboratory Director





107 New Edition Court, Cary, NC 27511  
 Tel: 866-481-1412; Fax: 919-481-1442

# CHAIN OF CUSTODY

<b>LAB USE ONLY:</b>
CEI Lab Code: <u>B16-7612 (8)</u>
CEI Lab I.D. Range: <u>B205324-B205331</u>

COMPANY CONTACT INFORMATION	
Company: NorthStar Environmental Testing	Client#: <u>bill to Stantec</u> <b>SB</b>
Address: bill to Stantec	Job Contact: Dave Barrett
results to NorthStar	Email: info@northstartesting.com
	Tel: (715) 693-6112
Project Name: Stantec Mirro	Fax: (715) 693-1225
Project ID #: 160-584	P.O. #:

ASBESTOS	METHOD	TURN AROUND TIME						
		4 HR*	8 HR*	12 HR*	1 DAY	2 DAY	3 DAY	5 DAY
PLM BULK	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLM POINT COUNT (400)	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLM POINT COUNT (1000)	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLM GRAVIMETRIC	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLM GRAV w POINT COUNT	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PCM AIR	NIOSH 7400	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM AIR	AHERA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM AIR	EPA Level II	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM AIR	NIOSH 7402	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM BULK	CHATFIELD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM DUST WIPE	ASTM D6480-05	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM DUST MICROVAC	ASTM D5755-03	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM QUALITATIVE	CEI LABS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OTHER:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LEAD PAINT	METHOD	4 HR*	8 HR*	12 HR*	24 HR	2 DAY	3 DAY	5 DAY
LEAD PAINT	EPA SW846 7000B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LEAD WIPE	EPA SW846 7000B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LEAD SOIL	EPA SW846 7000B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LEAD AIR	NIOSH 7082	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OTHER:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

REMARKS:		<input checked="" type="checkbox"/> Accept Samples	<input type="checkbox"/> Reject Samples
Relinquished By:	Date/Time	Received By:	Date/Time
	9 / 9 /16	AA	9/21/16 9:20

\*Call to confirm RUSH analysis.

Samples will be disposed of 30 days after analysis



**Central Wisconsin Office:**  
817 Oak Ridge Rd  
Mosinee, WI 54455  
Tel: 715.693.6112  
Fax: 715.693.1225

**Fox Cities Office:**  
1835 E. Edgewood Drive  
Suite 10542  
Appleton, WI 54913  
Tel: 920.422.4888

**Madison Office:**  
1310 Mendota Street  
Suite 121  
Madison, WI 53714  
Tel: 608.827.6761

**ASBESTOS BULK SAMPLE LOG-IN**

<b>CLIENT:</b>	Stantec Consulting Services, Inc.	<b>NORTHSTAR NO.</b>	160-584
<b>LOCATION:</b>	1512 Washington St – Manitowoc, WI	<b>DATE COLLECTED:</b>	9/09/16
<b>WORK AREA:</b>	Mirro - Exterior Coatings	<b>TECH:</b>	Aaron Stroud

<b>Sample ID</b>	<b>Room / Area Info</b>	<b>Sample Info</b>	<b>Asbestos Content</b>
584-129	North Building Exterior West – ground level	Gray Fiberglass Wrap Layer 1 beige with reddish top	
584-130	North Building Exterior West – ground level	Gray Fiberglass Wrap Layer 2 tan (thick)	
584-131	North Building Exterior West – ground level	Gray Fiberglass Wrap Layer 3 gray	
584-132	North Building Exterior West – ground level	Gray Fiberglass Wrap Layer 4 light gray (thin)	
584-133	North Building Exterior North – ground level	Gray Fiberglass Wrap Layer 1 beige with reddish top	
584-134	North Building Exterior North – ground level	Gray Fiberglass Wrap Layer 2 tan (thick)	
584-135	North Building Exterior North – ground level	Gray Fiberglass Wrap Layer 3 gray	
584-136	North Building Exterior North – ground level	Gray Fiberglass Wrap Layer 4 light gray (thin)	

**Stantec Consulting Services Inc.**

**Mirro Building No. 9  
1512 Washington Street  
Manitowoc, WI 54220**

**September 2016**



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*Asbestos • Lead Paint • Mold • Indoor Air Quality • Industrial Hygiene*

September 20, 2016

Stantec Consulting Services Inc.  
12075 Corporate Parkway, Suite 200  
Mequon, WI 53092

Project:	Lead Paint Inspection (limited)
Site Address:	Mirro Building No. 9 1512 Washington Street Manitowoc, WI 54220
Work Area:	Pre-Demolition
Site Date:	August 11 to 16, 2016
NorthStar No:	160-584

NorthStar Environmental Testing, LLC (NorthStar) was authorized by Stantec Consulting Services Inc. to perform limited, non-destructive inspection for the presence of lead in paint on designated surfaces prior to potential disturbance by specific demolition activity.

Testing for lead based paint was limited to representative areas. A surface-by-surface visual assessment of painted components was conducted at the property to determine which areas/substrates to test.

**TESTING SUMMARY (XRF):**

Testing Date:	August 11 to 16, 2016
Building/Site:	Mirro Building No. 9 1512 Washington Street Manitowoc, WI 54220
Building Contact:	Harris Byers (Stantec Consulting Services Inc.) Phone: 414.581.6476
Work Area:	Pre-Demolition
Materials Tested Pre-Demolition:	Cementitious painted surfaces (primarily floors, walls, columns & ceilings)
<b>Lead Paint for Demolition Items:</b>	<b>Lead paint was identified for various surfaces throughout the property. Please see testing data for specific locations.</b>
<b>Visual Assessment:</b>	<b>Deteriorated lead-based paint was noted in multiple areas throughout the structure.</b>
Sampling Tech:	Aaron Stroud
Cert No.:	LRA-108183
Lead Company:	HFS-925800 Expiration Date: 08/01/2017
Testing Equipment:	RMD LPA-1 XRF analyzer, Serial Number: 3499
Comment:	Sampling was limited to representative surfaces on cementitious materials within accessible areas of the building. Any additional items not specifically tested should be assumed to contain lead unless additional testing proves otherwise.

**DISCUSSION:**

The testing performed was limited in scope and does not constitute a full lead paint inspection. Demolition activity beyond the anticipated work scope specified at the time of our site visit may require additional testing prior to disturbance.

The United States Federal Government through the Environmental Protection Agency (EPA) and Housing and Urban Development (HUD) defines lead-based paint as equal to or greater than 1.0 mg/cm<sup>2</sup> measured by XRF analysis, or 0.5% (5000 ppm) measured by weight through laboratory analysis. The State of Wisconsin has adopted the same definition of lead bearing paint (mainly for residential HUD applications) as that which is equal to or greater than 1.0 mg/cm<sup>2</sup> or 0.5% (5000 ppm) respectively.

Our non-destructive testing by x-ray fluorescence has been performed in an attempt to screen for areas with quantifiable lead above regulatory limits on painted substrates. The reportable limit of detection is essentially 1.0 mg/cm<sup>2</sup> by XRF analysis and therefore paint chip analysis would be recommended for a more accurate determination of lead in paint below this level or for results to rule out lead in any quantifiable amount. The testing equipment is calibrated against a known standard before and after actual substrate testing.

For worker exposure applications, lead in any quantifiable amount, and disturbance of the material creating dust and/or fumes and subsequent potential worker exposure would be regulated by the OSHA lead in construction standard (29 CFR 1926.62).

**REMARKS:**

The testing and subsequent report has been performed according to applicable regulations and generally accepted industry standards and practices in this locality under similar conditions. Information provided to us by the building owner/occupant, client or other interested party that may have been utilized in the performance and reporting of the testing was accepted in good faith and can only be assumed to be accurate. The findings and recommendations made are representative of our professional opinion based on currently available information; no other warranty is implied or intended.

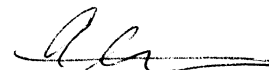
Please contact us if you have any questions regarding the presented information or the project in general.

Submitted By,

NorthStar Environmental Testing, LLC.



David Barrett  
Senior Project Manager



Aaron Stroud  
Operations Manager

Attach: testing data

**LEAD PAINT XRF TESTING DATA**

CLIENT:	Stantec Consulting Services Inc.	NORTHSTAR NO.	160-584
LOCATION:	1512 Washington St – Manitowoc, WI	SITE DATE:	August 11, 2016
WORK AREA:	Pre-Demolition	TECH:	L Pawlus

Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm <sup>2</sup> )
Interior Room 999 Pre-Calibration 8/11/16								
1								1
2								0.9
3								0.9
4								-0.1
Interior Room 001 100								
5	A	Wall	U Lft		Poor	Brick	Green	0.4
6	A	Wall	U Ctr		Poor	Brick	Green	0.1
7	A	Wall	L Ctr		Poor	Brick	Gray	>9.9
8	B	Wall	L Lft		Poor	Brick	Gray	0.2
9	B	Wall	U Lft		Poor	Brick	Green	-0.3
10	B	Wall	U Ctr		Poor	Brick	Green	0.5
11	B	Wall	L Ctr		Poor	Brick	Gray	>9.9
12	B	Wall	L Rgt		Poor	Brick	Gray	5.5
13	B	Wall	U Rgt		Poor	Brick	Green	0.5
14	C	Wall	L Lft		Poor	Brick	White	>9.9
15	C	Wall	U Lft		Poor	Brick	Green	0.4
16	C	Wall	U Rgt		Poor	Brick	Green	0.5
17	C	Wall	L Rgt		Poor	Brick	Dk Green	>9.9
63	A	Ceiling			Poor	Wood	Green	0.1
Interior Room 002 101								
18	A	Wall	U Ctr		Poor	Brick	Silver	0.4
Interior Room 003 102								
19	A	Wall	U Ctr		Poor	Brick	White	-0.1
20	D	Wall	U Ctr		Poor	Brick	White	0
Interior Room 004 103								
21	C	Wall	U Ctr		Poor	Brick	White	0.3
22	C	Wall	L Ctr		Poor	Brick	Green	0.2
23	B	Wall	L Ctr		Poor	Brick	Green	0
24	B	Wall	U Ctr		Poor	Brick	White	0.1
Interior Room 005 104								
25	D	Wall	U Ctr		Poor	Brick	White	0.2
26	A	Wall	U Ctr		Poor	Brick	White	-0.1
27	B	Wall	U Ctr		Poor	Brick	White	-0.4
28	C	Wall	U Ctr		Poor	Brick	White	0.3
Interior Room 006 105								
29	D	Wall	U Ctr		Poor	Brick	White	0
30	B	Wall	U Ctr		Poor	Brick	White	0.1
Interior Room 007 106								
31	D	Wall	L Rgt		Poor	Brick	Dk Green	7.7
32	D	Wall	U Rgt		Poor	Brick	Green	-0.4
33	A	Wall	U Ctr		Poor	Brick	Green	-0.5
34	A	Wall	L Ctr		Poor	Brick	Dk Green	>9.9

\* Wall A is the road side (15<sup>th</sup> Street) of the building (east). Walls B/C/D are determined clockwise from Wall A.



Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm <sup>2</sup> )
35	B	Wall	L Lft		Poor	Brick	Dk Green	>9.9
36	B	Wall	U Lft		Poor	Brick	Green	0
37	A	Column	Lft		Poor	Brick	Green	3.2
38	B	Wall	L Ctr		Poor	Brick	Dk Green	>9.9
39	B	Wall	U Ctr		Poor	Brick	Green	0.3
40	C	Wall	U Lft		Poor	Brick	Green	-0.4
41	C	Wall	L Lft		Poor	Brick	Dk Green	>9.9
42	C	Wall	L Rgt		Poor	Brick	Dk Green	>9.9
43	C	Wall	U Rgt		Poor	Brick	Green	>9.9
44	C	Wall	U Ctr		Poor	Brick	Green	-0.1
45	C	Wall	U Rgt		Poor	Brick	Green	0
46	D	Wall	U Lft		Poor	Brick	Green	-0.2
47	D	Wall	L Lft		Poor	Brick	Dk Green	>9.9
48	C	Column	Ctr		Poor	Brick	Green	-0.1
49	C	Column	Ctr		Poor	Brick	Dk Green	>9.9
50	D	Wall	L Ctr		Poor	Brick	Dk Green	>9.9
51	D	Wall	U Ctr		Poor	Brick	Green	-0.1
52	D	Column	Ctr		Poor	Brick	Green	0
53	D	Column	Ctr		Poor	Brick	Dk Green	>9.9
62	A	Ceiling			Poor	Wood	Green	0
Interior Room 008 107								
54	D	Wall	U Rgt		Poor	Brick	Silver	0.1
55	C	Column	Ctr		Poor	Brick	Silver	0
56	B	Wall	U Ctr		Poor	Brick	Silver	0.2
Interior Room 009 108								
57	A	Wall	U Ctr		Poor	Brick	Green	0.2
58	A	Wall	L Ctr		Poor	Brick	Dk Green	0
59	B	Wall	U Ctr		Poor	Brick	Green	0
60	B	Wall	U Ctr		Poor	Brick	Green	0.1
61	B	Wall	L Ctr		Poor	Brick	Dk Green	0.2
Interior Room 010 109								
64	D	Ceiling			Poor	Wood	Gray	0
66	B	Wall	U Ctr		Poor	Brick	Yellow	0.1
67	C	Wall	U Ctr		Poor	Brick	Yellow	-0.1
68	D	Wall	U Rgt		Poor	Brick	Yellow	0.3
69	D	Ceiling			Poor	Concrete	Yellow	0.2
70	D	Wall	U Rgt		Poor	Brick	Green	0.5
71	D	Wall	L Rgt		Poor	Brick	Dk Green	0.4
72	A	Wall	L Lft		Poor	Brick	Dk Green	0.3
73	A	Wall	U Lft		Poor	Brick	Green	0.4
74	A	Wall	U Ctr		Poor	Brick	Green	-0.1
75	A	Wall	L Ctr		Poor	Concrete	Dk Green	0.6
76	B	Wall	L Ctr		Poor	Concrete	Dk Green	0.4
77	B	Wall	U Ctr		Poor	Brick	Green	0.7
78	C	Wall	U Ctr		Poor	Brick	Green	0.3
79	C	Wall	L Ctr		Poor	Brick	Dk Green	0.5
80	D	Wall	L Lft		Poor	Brick	Dk Green	0.7
81	D	Wall	U Lft		Poor	Brick	Green	0.6
82	C	Wall	U Lft		Poor	Brick	Tan	>9.9
83	A	Column	Ctr		Poor	Concrete	Dk Green	0.7
Interior Room 011 110								
65	A	Wall	U Rgt		Poor	Brick	Yellow	>9.9

\* Wall A is the road side (15<sup>th</sup> Street) of the building (east). Walls B/C/D are determined clockwise from Wall A.

Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm <sup>2</sup> )
84	D	Column		Ctr	Poor	Concrete	Green	0.2
Interior Room 012 111								
85	A	Wall		U Ctr	Poor	Brick	Yellow	0.4
91	A	Wall		U Rgt	Poor	Brick	Green	0.3
92	A	Wall		L Rgt	Poor	Brick	Dk Green	0.5
93	B	Wall		L Lft	Poor	Concrete	Dk Green	0.7
94	B	Wall		U Lft	Poor	Brick	Green	0.6
95	D	Wall		U Lft	Poor	Brick	Green	0.5
96	D	Wall		L Lft	Poor	Brick	Dk Green	0.4
97	B	Column		Ctr	Poor	Concrete	Green	0.6
98	B	Column		Ctr	Poor	Concrete	Gray	0.7
99	B	Wall		L Ctr	Poor	Concrete	Dk Green	0.4
100	B	Wall		U Ctr	Poor	Brick	Green	-0.1
101	B	Quality		U Ctr	Poor	Brick	Green	0
102	B	Wall		U Rgt	Poor	Brick	Green	0
103	B	Wall		U Rgt	Poor	Concrete	Dk Green	0.4
104	C	Wall		L Lft	Poor	Brick	Dk Green	0.3
105	C	Wall		U Lft	Poor	Brick	Green	0.2
106	D	Wall		U Lft	Poor	Brick	Green	-0.1
107	D	Wall		L Lft	Poor	Brick	Dk Green	0
108	B	Ceiling			Poor	Wood	Gray	-0.1
111	C	Wall		U Ctr	Poor	Brick	Silver	0
112	C	Wall		U Rgt	Poor	Brick	Silver	-0.1
113	C	Ceiling			Poor	Concrete	Silver	0.2
114	D	Wall		U Lft	Poor	Brick	Silver	0.4
115	D	Column		Lft	Poor	Concrete	Silver	0
116	D	Ceiling			Poor	Wood	Silver	-0.2
125	D	Wall		U Rgt	Poor	Brick	White	0.1
126	D	Wall		L Rgt	Poor	Brick	Green	0.7
127	A	Wall		L Lft	Poor	Brick	Green	-0.2
128	A	Wall		U Lft	Poor	Brick	White	-0.2
Interior Room 013 112								
86	B	Wall		U Ctr	Poor	Brick	Tan	0.5
87	C	Wall		U Ctr	Poor	Brick	Tan	0.3
88	D	Wall		U Ctr	Poor	Brick	Tan	0.5
89	A	Wall		U Ctr	Poor	Brick	Tan	0.4
90	A	Ceiling			Poor	Concrete	Tan	0.6
Interior Room 014 111A								
109	B	Wall		U Ctr	Poor	Brick	Silver	0.3
110	C	Wall		U Ctr	Poor	Brick	Silver	0.3
Interior Room 015 111B								
117	D	Wall		U Ctr	Poor	Brick	White	0.3
118	D	Wall		L Ctr	Poor	Brick	Green	0.3
119	A	Wall		L Ctr	Poor	Brick	Green	0.1
120	A	Wall		U Ctr	Poor	Brick	White	0.1
Interior Room 016 112								
121	C	Wall		U Ctr	Poor	Brick	Silver	0.6
122	D	Wall		U Ctr	Poor	Brick	Silver	0
123	A	Wall		U Ctr	Poor	Brick	Silver	0.2
124	B	Wall		U Ctr	Poor	Brick	Silver	0.2
Interior Room 017 113								
129	C	Wall		U Ctr	Poor	Brick	Silver	-0.1

\* Wall A is the road side (15<sup>th</sup> Street) of the building (east). Walls B/C/D are determined clockwise from Wall A.

Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm <sup>2</sup> )
130	D	Wall	U Ctr		Poor	Brick	Silver	0.1
131	A	Wall	U Ctr		Poor	Brick	Silver	0.1
132	A	Wall	U Rgt		Poor	Brick	Green	0.5
133	A	Column	Ctr		Poor	Concrete	Green	-0.3
134	D	Column	Ctr		Poor	Concrete	Silver	-0.2
135	D	Ceiling			Poor	Wood	Silver	0
Interior Room 018 114								
136	C	Wall	U Ctr		Poor	Brick	Silver	-0.1
137	D	Wall	U Ctr		Poor	Brick	Silver	0.2
138	A	Wall	U Ctr		Poor	Brick	Silver	0
139	B	Wall	U Ctr		Poor	Brick	Silver	0.1
Interior Room 019 115								
140	A	Wall	U Ctr		Poor	Brick	Green	0.7
141	A	Wall	L Ctr		Poor	Brick	Dk Green	>9.9
142	B	Wall	L Lft		Poor	Brick	Dk Green	5.3
143	B	Wall	U Lft		Poor	Brick	Green	0.2
144	B	Wall	U Ctr		Poor	Brick	Green	0.1
145	B	Wall	L Ctr		Poor	Brick	Dk Green	0.1
146	B	Wall	L Rgt		Poor	Brick	Dk Green	0
147	B	Wall	U Rgt		Poor	Brick	Green	0.2
148	B	Wall	U Rgt		Poor	Conc Block	Green	0
149	B	Wall	L Rgt		Poor	Conc Block	Dk Green	0.6
150	C	Wall	U Rgt		Poor	Brick	Silver	0
151	C	Quality	U Rgt		Poor	Brick	Silver	-0.1
152	D	Wall	U Lft		Poor	Brick	Silver	-0.1
153	D	Wall	L Lft		Poor	Concrete	Silver	>9.9
154	D	Wall	U Ctr		Poor	Brick	Green	0
155	D	Wall	L Ctr		Poor	Brick	Dk Green	0.2
156	D	Wall	L Rgt		Poor	Brick	Dk Green	>9.9
157	D	Wall	U Rgt		Poor	Brick	Green	-0.3
158	D	Wall	L Ctr		Poor	Brick	Dk Green	>9.9
159	D	Column	Ctr		Poor	Concrete	Dk Green	>9.9
160	D	Column	Ctr		Poor	Concrete	Green	-0.1
161	D	Ceiling			Poor	Wood	Green	0.1
Interior Room 020 116								
162	B	Wall	L Lft		Poor	Concrete	Dk Green	>9.9
163	B	Wall	U Lft		Poor	Brick	Green	-0.1
164	B	Wall	U Rgt		Poor	Brick	Green	-0.1
165	B	Wall	L Rgt		Poor	Concrete	Dk Green	>9.9
166	D	Wall	L Lft		Poor	Concrete	Dk Green	-0.1
167	D	Wall	U Lft		Poor	Conc Block	Green	-0.1
168	B	Wall	U Ctr		Poor	Brick	Green	0
169	A	Wall	L Ctr		Poor	Concrete	Dk Green	0
Interior Room 021 117								
170	D	Wall	U Ctr		Poor	Brick	Gray	>9.9
Interior Room 022 118								
171	B	Wall	U Rgt		Poor	Brick	Silver	0.3
172	B	Wall	L Rgt		Poor	Concrete	Gray	1.6
173	C	Wall	L Ctr		Poor	Concrete	Gray	2.2
174	C	Wall	U Ctr		Poor	Brick	Silver	-0.1
175	D	Wall	U Lft		Poor	Brick	Silver	0.2
176	D	Wall	L Lft		Poor	Brick	Gray	6.6

\* Wall A is the road side (15<sup>th</sup> Street) of the building (east). Walls B/C/D are determined clockwise from Wall A.

Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm <sup>2</sup> )
177	D	Chimney	Ctr		Poor	Brick	Gray	>9.9
178	D	Chimney	Ctr		Poor	Brick	Silver	0.5
179	A	Wall	U Ctr		Poor	Brick	Silver	-0.3
180	A	Wall	L Ctr		Poor	Concrete	Gray	2.4
Interior Room 023 119								
181	A	Wall	U Lft		Poor	Brick	Green	0.2
182	A	Wall	L Lft		Poor	Brick	Dk Green	0.4
183	A	Wall	L Ctr		Poor	Brick	Dk Green	0.4
184	A	Wall	U Ctr		Poor	Brick	Green	0.4
185	A	Wall	U Rgt		Poor	Brick	Green	0.2
186	A	Wall	L Rgt		Poor	Brick	Dk Green	0.3
187	B	Wall	L Lft		Poor	Brick	Dk Green	0.5
188	B	Wall	U Lft		Poor	Brick	Green	0.4
189	B	Wall	U Rgt		Poor	Brick	Green	0.6
190	B	Wall	L Rgt		Poor	Brick	Dk Green	0.3
191	C	Wall	L Lft		Poor	Brick	Dk Green	0.8
192	C	Wall	U Lft		Poor	Brick	Green	0.5
193	C	Wall	U Rgt		Poor	Brick	Green	0.1
194	C	Wall	L Rgt		Poor	Brick	Dk Green	0.2
195	D	Wall	L Ctr		Poor	Brick	Dk Green	0.3
196	D	Wall	U Ctr		Poor	Brick	Green	0.7
197	D	Column	Ctr		Poor	Concrete	Green	0.5
198	D	Column	Ctr		Poor	Concrete	Dk Green	0.7
199	A	Ceiling			Poor	Wood	Gray	0
Interior Room 024 120								
200	A	Wall	U Ctr		Poor	Conc Block	Green	-0.3
201	A	Quality	U Ctr		Poor	Conc Block	Green	-0.3
202	A	Wall	L Ctr		Poor	Conc Block	Dk Green	0.2
203	B	Wall	L Lft		Poor	Brick	Dk Green	-0.2
204	B	Wall	U Lft		Poor	Brick	Green	0.3
205	B	Wall	U Ctr		Poor	Brick	Green	>9.9
206	B	Wall	L Ctr		Poor	Concrete	Gray	0.2
207	C	Wall	U Ctr		Poor	Brick	Green	-0.1
208	D	Wall	L Ctr		Poor	Concrete	Dk Green	0
209	D	Wall	U Ctr		Poor	Conc Block	Green	0
Interior Room 025 121								
210	C	Wall	U Ctr		Poor	Conc Block	Green	-0.2
211	C	Wall	L Ctr		Intact	Conc Block	Dk Green	0.3
212	C	Wall	L Rgt		Intact	Brick	Gray	>9.9
213	C	Wall	U Rgt		Intact	Brick	White	-0.1
214	D	Wall	U Lft		Intact	Brick	White	0.2
215	D	Wall	L Lft		Intact	Brick	Gray	9.4
216	D	Wall	L Ctr		Intact	Brick	Gray	>9.9
217	D	Wall	U Ctr		Intact	Brick	White	-0.1
218	A	Wall	U Ctr		Intact	Brick	Green	0.4
219	A	Wall	L Ctr		Intact	Brick	Dk Green	>9.9
220	B	Wall	L Ctr		Intact	Brick	Dk Green	>9.9
221	B	Wall	U Ctr		Intact	Brick	Green	0.4
222	D	Ceiling			Intact	Wood	Green	0
Interior Room 026 122								
223	C	Wall	U Ctr		Intact	Brick	Silver	8.3
224	D	Wall	U Ctr		Intact	Brick	Silver	7.9

\* Wall A is the road side (15<sup>th</sup> Street) of the building (east). Walls B/C/D are determined clockwise from Wall A.

Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm <sup>2</sup> )
225	A	Wall	U Ctr		Intact	Brick	Silver	9.2
226	B	Wall	U Ctr		Intact	Brick	Silver	3.5
227	A	Ceiling			Intact	Concrete	Silver	0.2
Interior Room 027 123								
228	A	Wall	U Ctr		Poor	Brick	White	>9.9
229	A	Wall	L Ctr		Poor	Brick	Green	>9.9
230	B	Wall	L Ctr		Poor	Brick	Green	>9.9
231	B	Wall	U Ctr		Poor	Brick	White	8.5
232	D	Ceiling			Poor	Concrete	White	6.1
Interior Room 028 123A								
233	A	Wall	U Ctr		Poor	Brick	Silver	0.6
234	A	Wall	L Ctr		Poor	Brick	Tan	>9.9
235	B	Wall	L Ctr		Poor	Brick	Tan	7
236	B	Wall	U Ctr		Poor	Brick	Silver	0.5
237	D	Ceiling			Poor	Concrete	Silver	0
Interior Room 029 200								
238	B	Wall	U Ctr		Poor	Brick	Silver	7.6
239	C	Wall	U Ctr		Poor	Brick	Silver	>9.9
240	D	Wall	U Ctr		Poor	Brick	Silver	>9.9
241	A	Wall	U Ctr		Poor	Brick	Silver	>9.9
242	B	Ceiling			Poor	Concrete	Silver	0.6
Interior Room 030 201								
243	D	Wall	U Ctr		Poor	Brick	Green	4.4
244	D	Wall	L Ctr		Poor	Brick	Dk Green	>9.9
245	B	Wall	L Ctr		Poor	Brick	Dk Green	7.7
246	B	Wall	U Ctr		Poor	Brick	Green	>9.9
Interior Room 031 202								
247	D	Wall	U Ctr		Poor	Brick	White	>9.9
248	A	Wall	U Ctr		Poor	Brick	White	>9.9
249	B	Wall	U Ctr		Poor	Brick	White	>9.9
250	C	Wall	U Ctr		Poor	Brick	White	4.9
251	C	Quality	U Ctr		Poor	Brick	White	5.2
Interior Room 032 203								
252	A	Wall	L Ctr		Poor	Brick	Gray	>9.9
253	A	Wall	U Ctr		Poor	Brick	White	5
254	B	Wall	U Ctr		Poor	Brick	White	6.9
255	B	Wall	L Ctr		Poor	Brick	Gray	9.2
256	D	Ceiling			Poor	Concrete	Tan	3.6
Interior Room 033 204								
257	C	Ceiling			Poor	Wood	Green	-0.1
258	C	Wall	U Ctr		Poor	Brick	Green	0.3
259	C	Wall	L Ctr		Poor	Brick	Dk Green	9.5
260	D	Wall	L Lft		Poor	Brick	Dk Green	9.7
261	D	Wall	U Lft		Poor	Brick	Green	0.4
262	D	Column	Lft		Poor	Concrete	Green	5.7
263	D	Column	Lft		Poor	Concrete	Dk Green	7.6
264	D	Wall	L Rgt		Poor	Brick	Dk Green	>9.9
265	A	Wall	L Ctr		Poor	Brick	Dk Green	>9.9
266	A	Wall	U Ctr		Poor	Brick	Green	0.4
267	B	Wall	U Lft		Poor	Brick	Green	0
268	B	Wall	L Lft		Poor	Brick	Dk Green	>9.9
269	B	Wall	L Ctr		Poor	Brick	Dk Green	>9.9

\* Wall A is the road side (15<sup>th</sup> Street) of the building (east). Walls B/C/D are determined clockwise from Wall A.

Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm <sup>2</sup> )
270	B	Wall	L Rgt		Poor	Brick	Dk Green	>9.9
271	B	Wall	U Rgt		Poor	Brick	Green	0.3
Interior Room 034 205								
272	C	Wall	L Ctr		Poor	Brick	Dk Green	8.9
273	C	Wall	U Ctr		Poor	Brick	Green	-0.3
274	B	Wall	U Rgt		Poor	Brick	Green	0.3
275	B	Wall	L Rgt		Poor	Brick	Dk Green	>9.9
276	B	Wall	L Lft		Poor	Brick	Tan	>9.9
277	A	Wall	L Ctr		Poor	Brick	Tan	>9.9
278	D	Wall	L Rgt		Poor	Brick	Tan	>9.9
279	D	Wall	U Rgt		Poor	Brick	Tan	0
280	B	Wall	U Lft		Poor	Brick	Tan	0
281	A	Column	Ctr		Poor	Concrete	Tan	>9.9
282	A	Column	Ctr		Poor	Concrete	Tan	0.3
283	A	Ceiling			Poor	Wood	Tan	-0.1
284	D	Ceiling			Poor	Wood	Green	0.1
285	D	Column	Ctr		Poor	Concrete	Green	0
286	D	Column	Ctr		Poor	Concrete	Dk Green	>9.9
287	D	Wall	L Ctr		Poor	Brick	Dk Green	>9.9
288	D	Wall	U Ctr		Poor	Brick	Green	-0.2
289	A	Wall	L Lft		Poor	Brick	Tan	>9.9
290	A	Wall	U Lft		Poor	Brick	Tan	0.2
Interior Room 035 206								
291	C	Wall	U Ctr		Poor	Brick	Green	0.7
292	C	Wall	L Ctr		Poor	Brick	Dk Green	0.1
293	D	Wall	L Ctr		Poor	Brick	Dk Green	-0.1
294	D	Wall	U Ctr		Poor	Brick	Green	-0.1
Interior Room 999 Post Calibration 8/11/16								
295								1
296								1
297								0.9
298								-0.1

- The State of Wisconsin defines lead bearing paint as that which is equal to or greater than 1.0 mg/cm<sup>2</sup>.
- Readings with a negative value (i.e. -0.1) are equivalent to 0.0

**LEAD PAINT XRF TESTING DATA**

CLIENT:	Stantec Consulting Services Inc.	NORTHSTAR NO.	160-584
LOCATION:	1512 Washington St – Manitowoc, WI	SITE DATE:	August 12, 2016
WORK AREA:	Pre-Demolition	TECH:	L Pawlus

Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm2)
Interior Room 999 Pre-Calibration 8/12/16								
1								1.1
2								1.2
3								1.1
4								-0.2
Interior Room 001 208A								
5	A	Wall	U Ctr		Poor	Brick	Green	0.3
6	A	Wall	L Ctr		Poor	Brick	Dk Green	0.4
7	B	Wall	L Ctr		Poor	Brick	Dk Green	0.1
8	B	Wall	U Ctr		Poor	Brick	Green	0
9	A	Ceiling			Poor	Wood	White	0
Interior Room 002 207								
10	D	Wall	U Ctr		Poor	Brick	White	-0.3
11	D	Wall	L Ctr		Poor	Brick	Green	0
12	A	Wall	L Ctr		Poor	Brick	Green	0.6
13	B	Wall	U Ctr		Poor	Brick	White	0.3
Interior Room 003 208								
14	A	Wall	U Ctr		Poor	Brick	Silver	0.6
15	C	Wall	U Ctr		Poor	Brick	Silver	0.1
16	B	Column	Ctr		Poor	Concrete	Silver	-0.2
17	C	Wall	U Rgt		Poor	Brick	Silver	-0.1
18	D	Wall	U Ctr		Poor	Brick	Silver	-0.2
19	D	Ceiling			Poor	Wood	Silver	0
Interior Room 004 209								
20	B	Wall	U Ctr		Poor	Brick	Silver	-0.1
21	B	Wall	L Ctr		Poor	Brick	Tan	0.6
22	A	Wall	L Ctr		Poor	Brick	Tan	0.4
23	A	Wall	U Ctr		Poor	Brick	Silver	0.4
Interior Room 005 210								
24	A	Wall	L Rgt		Poor	Brick	Silver	-0.1
25	B	Wall	L Ctr		Poor	Brick	Silver	-0.1
26	C	Wall	L Ctr		Poor	Brick	Silver	0
27	D	Wall	L Ctr		Poor	Brick	Silver	0
28	D	Column	Ctr		Poor	Concrete	Silver	-0.2
29	D	Ceiling			Poor	Wood	Silver	0
Interior Room 006 211								
30	B	Wall	U Ctr		Poor	Brick	White	0
31	B	Wall	L Ctr		Poor	Brick	Blue	0.7
32	C	Wall	L Ctr		Poor	Brick	Blue	0.7
33	C	Wall	U Ctr		Poor	Brick	White	0.2
Interior Room 007 212								
34	A	Wall	U Lft		Poor	Brick	Silver	0.5
35	D	Wall	L Rgt		Poor	Brick	Silver	0.3

\* Wall A is the road side (15<sup>th</sup> Street) of the building (east). Walls B/C/D are determined clockwise from Wall A.

Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm2)
36	A	Column	Ctr		Poor	Concrete	Silver	0.5
37	A	Ceiling			Poor	Wood	Silver	0.1
38	C	Ceiling			Poor	Wood	Green	0
41	B	Wall	L Rgt		Poor	Brick	Dk Green	0.5
42	B	Wall	U Rgt		Poor	Brick	Green	0.6
43	C	Wall	U Lft		Poor	Brick	Green	0.7
44	C	Wall	L Lft		Poor	Brick	Dk Green	0.7
45	D	Wall	L Lft		Poor	Brick	Dk Green	0.8
46	D	Wall	U Lft		Poor	Brick	Green	0.4
47	C	Wall	U Rgt		Poor	Brick	Green	0.2
48	C	Wall	L Rgt		Poor	Brick	Dk Green	0.7
49	D	Wall	U Ctr		Poor	Brick	Green	0
50	D	Wall	L Ctr		Poor	Brick	Dk Green	0.4
51	D	Quality	L Ctr		Poor	Brick	Dk Green	0.5
52	D	Column	Ctr		Poor	Concrete	Dk Green	0.3
53	D	Column	Ctr		Poor	Concrete	Green	0.2
54	A	Wall	U Lft		Poor	Brick	Green	0.6
55	A	Wall	L Lft		Poor	Brick	Dk Green	0.5
56	D	Column	Ctr		Poor	Concrete	Dk Green	0.7
57	D	Column	Ctr		Poor	Concrete	Green	0.6
Interior Room 008 212A								
39	A	Wall	U Ctr		Poor	Brick	Tan	0.2
40	B	Wall	U Ctr		Poor	Brick	Tan	0
Interior Room 009 213								
58	C	Wall	U Ctr		Poor	Brick	Silver	0
59	B	Wall	U Ctr		Poor	Brick	Silver	0.1
Interior Room 010 214								
60	A	Wall	L Ctr		Poor	Brick	Silver	0
61	B	Wall	L Ctr		Poor	Brick	Silver	0.6
62	C	Wall	L Ctr		Poor	Brick	Silver	0.7
63	D	Wall	L Ctr		Poor	Brick	Silver	-0.1
64	D	Column	Ctr		Poor	Concrete	Silver	0
65	C	Ceiling			Poor	Wood	Silver	-0.1
Interior Room 011 215								
66	A	Wall	U Ctr		Poor	Brick	Green	0
67	A	Wall	L Ctr		Poor	Brick	Dk Green	0.3
68	B	Wall	L Lft		Poor	Brick	Dk Green	0
69	B	Wall	U Lft		Poor	Brick	Green	0.2
70	C	Wall	U Ctr		Poor	Brick	Green	0.2
71	C	Wall	L Ctr		Poor	Brick	Dk Green	0.3
72	C	Column	Ctr		Poor	Concrete	Dk Green	<b>1.8</b>
73	C	Column	Ctr		Poor	Concrete	Green	<b>1.4</b>
74	D	Wall	U Lft		Poor	Brick	Green	0.1
75	D	Wall	L Lft		Poor	Brick	Dk Green	0.1
76	D	Ceiling			Poor	Wood	Green	-0.1
Interior Room 012 216								
77	D	Wall	L Ctr		Poor	Wood	Gray	<b>&gt;9.9</b>
78	D	Wall	U Ctr		Poor	Wood	White	-0.1
Interior Room 013 217								
79	A	Wall	L Ctr		Poor	Brick	Dk Green	<b>&gt;9.9</b>
80	A	Wall	U Ctr		Poor	Brick	Green	0.4
81	B	Wall	U Lft		Poor	Brick	Green	-0.2

\* Wall A is the road side (15<sup>th</sup> Street) of the building (east). Walls B/C/D are determined clockwise from Wall A.



Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm2)
82	B	Wall	L Lft		Poor	Brick	Dk Green	>9.9
83	D	Wall	L Rgt		Poor	Brick	Dk Green	>9.9
84	D	Wall	U Rgt		Poor	Brick	Green	0.2
85	D	Ceiling			Poor	Wood	Green	0
86	B	Column	Ctr		Poor	Concrete	Green	0
87	B	Column	Ctr		Poor	Concrete	Dk Green	6.3
Interior Room 014 218								
88	C	Wall	U Ctr		Poor	Brick	Silver	0.2
89	D	Wall	U Ctr		Poor	Brick	Silver	0.3
90	B	Wall	U Ctr		Poor	Brick	Silver	-0.1
Interior Room 015 219								
91	B	Wall	L Lft		Poor	Brick	Dk Green	9.5
92	B	Wall	U Lft		Poor	Brick	Green	0.4
93	B	Wall	U Rgt		Poor	Brick	Green	>9.9
94	B	Wall	L Rgt		Poor	Brick	Dk Green	>9.9
95	C	Wall	L Ctr		Poor	Brick	Dk Green	>9.9
96	C	Wall	U Ctr		Poor	Brick	Green	>9.9
97	C	Column	Ctr		Poor	Concrete	Green	>9.9
98	D	Wall	L Ctr		Poor	Brick	Dk Green	>9.9
99	D	Wall	U Ctr		Poor	Brick	Green	0.2
100	A	Wall	U Rgt		Poor	Brick	Green	>9.9
101	A	Quality	U Rgt		Poor	Brick	Green	>9.9
102	A	Wall	L Rgt		Poor	Brick	Dk Green	8.8
103	A	Ceiling			Poor	Wood	Green	0
Interior Room 016 300								
104	A	Wall	L Ctr		Poor	Brick	Gray	>9.9
105	A	Wall	U Ctr		Poor	Brick	Silver	-0.1
106	C	Wall	L Ctr		Poor	Brick	Gray	>9.9
Interior Room 017 301								
107	A	Wall	L Lft		Poor	Brick	Dk Green	>9.9
108	A	Wall	U Lft		Poor	Brick	Green	0.5
109	B	Wall	U Rgt		Poor	Brick	Green	0.5
110	D	Wall	L Rgt		Poor	Brick	Dk Green	>9.9
111	A	Wall	L Rgt		Poor	Brick	Dk Green	6.6
112	A	Wall	U Rgt		Poor	Brick	Green	0.1
113	B	Wall	U Lft		Poor	Brick	Green	0.3
114	B	Wall	L Lft		Poor	Brick	Dk Green	8.2
115	B	Wall	L Rgt		Poor	Brick	Dk Green	>9.9
116	B	Wall	U Rgt		Poor	Brick	Green	1.5
117	B	Ceiling			Poor	Wood	Green	0.1
118	A	Column	Rgt		Poor	Concrete	Green	1.8
Interior Room 018 302								
119	C	Wall	U Ctr		Poor	Brick	Tan	6.9
120	C	Ceiling			Poor	Concrete	Tan	7.5
Interior Room 019 303								
121	A	Wall	U Ctr		Poor	Brick	Blue	4.8
Interior Room 020 304								
122	B	Wall	U Ctr		Poor	Brick	Green	0.5
123	B	Wall	L Ctr		Poor	Brick	Dk Green	>9.9
124	C	Ceiling			Poor	Concrete	Green	0.6
Interior Room 021 305								
125	C	Wall	L Rgt		Poor	Brick	Gray	>9.9

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Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm2)
126	C	Wall	U Rgt		Poor	Brick	White	0.5
127	D	Wall	U Lft		Poor	Brick	White	0.7
128	D	Wall	L Lft		Poor	Brick	Gray	>9.9
129	B	Wall	L Rgt		Poor	Brick	Gray	>9.9
130	B	Wall	U Rgt		Poor	Brick	White	0.7
131	B	Wall	L Lft		Poor	Brick	Tan	8.8
132	B	Wall	U Lft		Poor	Brick	Tan	-0.1
133	A	Wall	U Ctr		Poor	Brick	Tan	0.5
134	A	Wall	L Ctr		Poor	Brick	Tan	8.3
135	B	Column	Ctr		Poor	Concrete	Gray	8
136	B	Column	Ctr		Poor	Concrete	Tan	0
137	B	Ceiling			Poor	Wood	White	0.1
Interior Room 022 306								
138	D	Wall	L Ctr		Poor	Brick	Dk Green	0.1
139	D	Wall	U Ctr		Poor	Brick	Green	0.2
Interior Room 023 307								
140	A	Wall	U Ctr		Poor	Brick	Green	0.2
141	A	Wall	L Ctr		Poor	Brick	Dk Green	9.2
142	B	Wall	L Lft		Poor	Brick	Dk Green	9.6
143	B	Wall	U Lft		Poor	Brick	Green	0.1
144	B	Wall	L Rgt		Poor	Brick	Dk Green	>9.9
145	B	Wall	U Rgt		Poor	Brick	Green	0.2
146	C	Wall	U Ctr		Poor	Brick	Green	-0.2
147	C	Wall	L Ctr		Poor	Brick	Dk Green	>9.9
148	D	Wall	L Lft		Poor	Brick	Dk Green	7.3
149	D	Wall	U Lft		Poor	Brick	Green	-0.1
150	D	Column	Ctr		Poor	Concrete	Green	-0.1
151	D	Quality	Ctr		Poor	Concrete	Green	-0.3
152	D	Column	Ctr		Poor	Concrete	Dk Green	2.5
153	D	Wall	L Rgt		Poor	Brick	Dk Green	>9.9
154	D	Wall	U Rgt		Poor	Brick	Green	0.1
155	A	Ceiling			Poor	Wood	Green	0.3
Interior Room 024 308								
156	D	Ceiling			Poor	Wood	Green	0
157	B	Wall	U Ctr		Poor	Brick	Green	0
158	B	Wall	L Ctr		Poor	Brick	Dk Green	>9.9
159	C	Wall	L Ctr		Poor	Brick	Dk Green	>9.9
160	C	Wall	U Ctr		Poor	Brick	Green	0
161	D	Wall	U Lft		Poor	Brick	Green	0.2
162	D	Wall	L Lft		Poor	Brick	Dk Green	>9.9
163	D	Wall	L Rgt		Poor	Brick	Dk Green	>9.9
164	D	Wall	U Rgt		Poor	Brick	Green	0.1
165	A	Wall	U Ctr		Poor	Brick	Green	0.3
166	A	Wall	L Ctr		Poor	Brick	Dk Green	4.6
167	B	Wall	L Lft		Poor	Brick	Dk Green	8.7
168	B	Wall	U Lft		Poor	Brick	Green	0.1
169	B	Column	Lft		Poor	Concrete	Green	-0.1
170	B	Column	Lft		Poor	Concrete	Dk Green	>9.9
Interior Room 025 309								
171	D	Wall	U Ctr		Poor	Brick	Tan	-0.3
172	D	Wall	L Ctr		Poor	Brick	Brown	0
173	B	Wall	L Ctr		Poor	Brick	Brown	0

\* Wall A is the road side (15<sup>th</sup> Street) of the building (east). Walls B/C/D are determined clockwise from Wall A.

Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm2)
174	B	Wall	U Ctr		Poor	Brick	Tan	0.4
Interior Room 026 310								
175	A	Wall	U Rgt		Poor	Brick	Green	0
176	A	Wall	L Rgt		Poor	Brick	Dk Green	0.1
177	B	Wall	L Ctr		Poor	Brick	Dk Green	0
178	B	Wall	U Ctr		Poor	Brick	Green	0.1
179	C	Wall	U Ctr		Poor	Brick	Green	0.1
180	C	Wall	L Ctr		Poor	Brick	Dk Green	0.7
181	C	Column	Ctr		Poor	Concrete	Dk Green	<b>2</b>
182	C	Column	Ctr		Poor	Concrete	Green	<b>1.6</b>
183	D	Wall	U Ctr		Poor	Brick	Green	-0.1
184	D	Wall	L Ctr		Poor	Brick	Dk Green	0
185	A	Wall	L Lft		Poor	Brick	Dk Green	0
186	A	Wall	U Lft		Poor	Brick	Green	0.3
189	B	Ceiling			Poor	Wood	Green	-0.1
Interior Room 027 311								
187	D	Wall	U Ctr		Poor	Brick	White	-0.1
188	D	Wall	L Ctr		Poor	Brick	Gray	<b>&gt;9.9</b>
Interior Room 028 312A								
190	D	Wall	U Ctr		Poor	Brick	Tan	0.2
191	D	Wall	L Ctr		Poor	Brick	Brown	0.4
Interior Room 029 312								
192	D	Wall	L Ctr		Poor	Brick	Tan	0.2
193	D	Wall	U Ctr		Poor	Brick	Silver	0.2
Interior Room 030 313								
194	B	Wall	L Ctr		Poor	Brick	Silver	0.3
195	A	Wall	L Ctr		Poor	Brick	Silver	0
196	D	Wall	L Ctr		Poor	Brick	Silver	0.3
197	A	Wall	L Ctr		Poor	Brick	Silver	0
198	A	Column	Ctr		Poor	Concrete	Silver	-0.1
199	A	Ceiling			Poor	Wood	Silver	0
Interior Room 031 314								
200	C	Ceiling			Poor	Wood	Green	-0.1
201	C	Quality			Poor	Wood	Green	-0.2
202	C	Wall	U Lft		Poor	Brick	Green	-0.1
203	C	Wall	L Lft		Poor	Brick	Dk Green	0.3
204	B	Wall	L Rgt		Poor	Brick	Dk Green	0.3
205	B	Wall	U Rgt		Poor	Brick	Green	0.6
206	B	Wall	U Ctr		Poor	Brick	Green	0.6
207	B	Wall	L Ctr		Poor	Brick	Dk Green	0.7
208	A	Wall	L Rgt		Poor	Brick	Dk Green	0.5
209	A	Wall	U Rgt		Poor	Brick	Green	0
210	A	Wall	U Ctr		Poor	Brick	Green	0.2
211	A	Wall	L Ctr		Poor	Brick	Dk Green	0.5
212	D	Wall	L Rgt		Poor	Brick	Dk Green	0.7
213	D	Wall	U Rgt		Poor	Brick	Green	0.8
214	A	Wall	U Lft		Poor	Brick	Green	0.4
215	A	Wall	L Lft		Poor	Brick	Dk Green	0.7
216	D	Wall	L Ctr		Poor	Brick	Dk Green	0.4
217	D	Wall	U Ctr		Poor	Brick	Green	0.3
218	C	Wall	U Rgt		Poor	Brick	Green	0.4
219	C	Wall	L Rgt		Poor	Brick	Dk Green	0.2

\* Wall A is the road side (15<sup>th</sup> Street) of the building (east). Walls B/C/D are determined clockwise from Wall A.

Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm2)
220	B	Column	Ctr		Poor	Concrete	Dk Green	0.3
221	B	Column	Ctr		Poor	Concrete	Green	0.3
Interior Room 032 315								
222	A	Wall	U Ctr		Poor	Brick	Green	0
223	A	Wall	L Ctr		Poor	Brick	Dk Green	0.2
Interior Room 033 316								
224	D	Wall	U Ctr		Poor	Brick	Silver	0.4
Interior Room 034 317								
225	D	Wall	U Ctr		Poor	Brick	Tan	-0.1
226	D	Wall	L Ctr		Poor	Brick	Brown	0.2
Interior Room 035 318								
227	D	Wall	U Ctr		Poor	Brick	Tan	0.2
228	D	Wall	L Ctr		Poor	Brick	Brown	0.5
Interior Room 036 319								
229	C	Wall	L Ctr		Poor	Brick	Silver	0.4
230	B	Wall	L Ctr		Poor	Brick	Silver	0.1
231	A	Wall	L Ctr		Poor	Brick	Silver	0.4
232	D	Wall	L Ctr		Poor	Brick	Silver	0
233	D	Column	Ctr		Poor	Concrete	Silver	0.2
234	D	Ceiling			Poor	Wood	Silver	-0.1
Interior Room 037 320								
235	C	Wall	U Rgt		Poor	Brick	Green	0
236	C	Wall	L Rgt		Poor	Brick	Dk Green	-0.1
237	D	Wall	L Ctr		Poor	Brick	Dk Green	0
238	D	Wall	U Ctr		Poor	Brick	Green	-0.1
239	A	Wall	U Lft		Poor	Brick	Green	-0.4
240	A	Wall	L Lft		Poor	Brick	Dk Green	0.3
241	B	Wall	L Lft		Poor	Brick	Dk Green	0.2
242	B	Wall	U Lft		Poor	Brick	Green	0.1
243	A	Column	Ctr		Poor	Concrete	Green	-0.1
244	A	Column	Ctr		Poor	Concrete	Dk Green	-0.1
Interior Room 037 321								
245	A	Ceiling			Poor	Wood	Green	-0.2
Interior Room 038 321								
246	D	Wall	U Ctr		Poor	Brick	Green	0.3
247	D	Wall	L Ctr		Poor	Brick	Dk Green	-0.1
Interior Room 039 400								
248	D	Wall	L Ctr		Poor	Brick	Green	0.4
249	D	Wall	U Ctr		Poor	Brick	White	0.1
Interior Room 040 401								
250	A	Wall	U Ctr		Poor	Brick	Gray	0.3
251	A	Quality	U Ctr		Poor	Brick	Gray	0.1
252	D	Wall	U Rgt		Poor	Brick	Gray	0
253	C	Wall	U Ctr		Poor	Brick	Gray	0.1
254	C	Column	Ctr		Poor	Concrete	Gray	-0.3
255	C	Ceiling			Poor	Wood	Gray	0.1
256	A	Wall	U Lft		Poor	Brick	Gray	-0.2
257	D	Wall	U Ctr		Poor	Brick	Gray	0.5
258	C	Wall	U Rgt		Poor	Brick	Gray	0.1
Interior Room 041 402								
259	A	Wall	L Ctr		Poor	Brick	Silver	0.5

\* Wall A is the road side (15<sup>th</sup> Street) of the building (east). Walls B/C/D are determined clockwise from Wall A.

Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm2)
260	B	Wall	L Ctr		Poor	Brick	Silver	0.2
261	C	Wall	L Ctr		Poor	Brick	Silver	0
262	D	Wall	L Ctr		Poor	Brick	Silver	-0.1
263	A	Column	Ctr		Poor	Concrete	Silver	-0.1
264	A	Ceiling			Poor	Wood	Silver	0.1
Interior Room 042 403								
265	D	Wall	U Ctr		Poor	Brick	Tan	0.5
266	D	Wall	L Ctr		Poor	Brick	Brown	0.4
267	D	Ceiling			Poor	Concrete	Tan	0.3
Interior Room 043 404								
268	D	Wall	U Ctr		Poor	Brick	Tan	0
269	D	Wall	L Ctr		Poor	Brick	Brown	0.5
Interior Room 044 405								
270	D	Wall	L Rgt		Poor	Brick	Silver	0.5
271	A	Wall	U Rgt		Poor	Brick	Silver	0.5
272	B	Wall	U Lft		Poor	Brick	Silver	0.8
273	B	Column	Lft		Poor	Concrete	Silver	0.8
274	A	Wall	L Ctr		Poor	Brick	Silver	<b>2.4</b>
275	A	Wall	L Lft		Poor	Brick	Silver	0.8
276	D	Wall	U Ctr		Poor	Brick	Silver	<b>1</b>
277	C	Wall	L Rgt		Poor	Brick	Silver	<b>1</b>
278	D	Wall	L Lft		Poor	Brick	Silver	<b>1.3</b>
279	C	Wall	U Lft		Poor	Brick	Silver	0.4
280	B	Wall	U Rgt		Poor	Brick	Silver	<b>1</b>
281	B	Ceiling			Poor	Wood	Silver	-0.2
Interior Room 045 406								
282	A	Wall	U Ctr		Poor	Brick	White	0
283	A	Wall	L Ctr		Poor	Brick	Gray	0.2
Interior Room 046 407								
284	D	Wall	U Ctr		Poor	Brick	Tan	0
285	D	Wall	L Ctr		Poor	Brick	Brown	0.5
286	D	Ceiling			Poor	Concrete	Tan	0.6
Interior Room 047 408								
287	D	Wall	U Ctr		Poor	Brick	Tan	0.4
288	D	Wall	L Ctr		Poor	Brick	Brown	0
289	D	Ceiling			Poor	Concrete	Tan	0
Interior Room 048 409								
290	A	Wall	U Rgt		Poor	Brick	Green	-0.2
291	A	Wall	L Rgt		Poor	Brick	Dk Green	0.3
292	B	Wall	L Lft		Poor	Brick	Dk Green	-0.2
293	B	Wall	U Lft		Poor	Brick	Green	0.6
294	C	Wall	U Ctr		Poor	Brick	Green	0.2
295	C	Wall	L Ctr		Poor	Brick	Dk Green	0.6
296	D	Wall	L Ctr		Poor	Brick	Dk Green	-0.1
297	D	Wall	U Ctr		Poor	Brick	Green	0.6
298	D	Column	Ctr		Poor	Concrete	Green	-0.1
299	D	Column	Ctr		Poor	Concrete	Dk Green	0.4
300	D	Ceiling			Poor	Wood	Green	-0.1
301	D	Quality			Poor	Wood	Green	-0.1
Interior Room 049 410								
302	A	Ceiling			Poor	Wood	Silver	0
303	D	Wall	U Rgt		Poor	Brick	Silver	0.2

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Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm2)
304	D	Wall	L Rgt		Poor	Brick	Tan	-0.2
305	D	Wall	U Lft		Poor	Brick	Silver	0.2
306	C	Wall	U Ctr		Poor	Brick	Silver	0
307	B	Wall	U Rgt		Poor	Brick	Silver	0.3
308	B	Column	Rgt		Poor	Concrete	Silver	<b>2.2</b>
Interior Room 050 411								
309	D	Wall	U Ctr		Poor	Brick	White	-0.4
310	D	Wall	L Ctr		Poor	Brick	Gray	<b>&gt;9.9</b>
Interior Room 051 412								
311	B	Wall	L Lft		Poor	Brick	Gray	<b>9.6</b>
312	B	Wall	U Lft		Poor	Brick	White	0
313	B	Wall	U Rgt		Poor	Brick	Green	0
314	B	Wall	L Rgt		Poor	Brick	Dk Green	<b>&gt;9.9</b>
315	C	Wall	L Ctr		Poor	Brick	Dk Green	<b>&gt;9.9</b>
316	C	Wall	U Ctr		Poor	Brick	Green	0.1
317	D	Wall	U Lft		Poor	Brick	Green	0
318	D	Wall	L Lft		Poor	Brick	Dk Green	<b>&gt;9.9</b>
319	C	Ceiling			Poor	Wood	Green	-0.2
320	D	Ceiling			Poor	Wood	White	-0.1
321	D	Wall	U Ctr		Poor	Brick	White	0.2
322	D	Wall	L Ctr		Poor	Brick	Gray	<b>9.6</b>
323	B	Wall	L Lft		Poor	Brick	Gray	<b>&gt;9.9</b>
324	B	Wall	U Lft		Poor	Brick	White	-0.1
325	B	Wall	U Ctr		Poor	Brick	White	0.5
326	B	Wall	L Ctr		Poor	Brick	Gray	<b>&gt;9.9</b>
Interior Room 052 413								
327	D	Wall	U Ctr		Poor	Brick	Silver	-0.2
328	A	Wall	U Ctr		Poor	Brick	Silver	0.2
Interior Room 053 414								
329	C	Wall	U Ctr		Poor	Brick	White	0
330	C	Wall	L Ctr		Poor	Brick	Gray	<b>&gt;9.9</b>
331	B	Wall	L Ctr		Poor	Brick	Gray	<b>&gt;9.9</b>
332	B	Wall	U Ctr		Poor	Brick	White	-0.1
333	B	Wall	L Lft		Poor	Brick	Tan	<b>8</b>
334	B	Wall	U Lft		Poor	Brick	Tan	0.3
335	A	Wall	U Ctr		Poor	Brick	Tan	0
336	A	Wall	L Ctr		Poor	Brick	Tan	<b>&gt;9.9</b>
337	D	Wall	U Rgt		Poor	Wood	Tan	<b>&gt;9.9</b>
338	D	Wall	L Rgt		Poor	Brick	Tan	<b>&gt;9.9</b>
339	D	Wall	U Rgt		Poor	Brick	Tan	0
340	A	Column	Ctr		Poor	Concrete	Tan	<b>&gt;9.9</b>
341	A	Column	Ctr		Poor	Concrete	Tan	-0.2
342	A	Ceiling			Poor	Wood	Tan	0
343	B	Ceiling			Poor	Wood	Green	0
344	D	Wall	U Ctr		Poor	Brick	White	-0.1
345	D	Wall	L Ctr		Poor	Brick	Gray	<b>&gt;9.9</b>
346	B	Column	Ctr		Poor	Brick	Gray	<b>&gt;9.9</b>
347	B	Column	Ctr		Poor	Brick	White	-0.2
Interior Room 054 416								
348	B	Ceiling			Poor	Wood	Silver	0.1
352	A	Wall	U Ctr		Poor	Brick	Green	0.2
353	A	Wall	L Ctr		Poor	Brick	Gray	<b>&gt;9.9</b>

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Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm2)
354	B	Wall	L Lft		Poor	Brick	Gray	>9.9
355	B	Wall	U Lft		Poor	Brick	Green	0.6
356	B	Wall	U Ctr		Poor	Brick	Green	0.5
357	B	Wall	L Ctr		Poor	Brick	Gray	>9.9
358	C	Wall	L Ctr		Poor	Brick	Gray	>9.9
359	C	Wall	U Ctr		Poor	Brick	Gray	0.6
360	D	Wall	L Lft		Poor	Brick	Gray	7.7
361	D	Wall	U Lft		Poor	Brick	Green	0.4
362	D	Column	Lft		Poor	Concrete	Gray	7.8
Interior Room 055 415								
349	D	Wall	U Ctr		Poor	Brick	White	0.4
350	D	Wall	L Ctr		Poor	Brick	Gray	0.2
351	D	Quality	L Ctr		Poor	Brick	Gray	0.1
Interior Room 056 417								
363	A	Wall	U Ctr		Poor	Brick	Tan	9.2
Interior Room 057 418								
364	C	Wall	U Ctr		Poor	Brick	Tan	5.2
365	C	Ceiling			Poor	Concrete	Tan	0.2
Interior Room 058 419								
366	B	Wall	L Ctr		Poor	Brick	Dk Green	>9.9
367	B	Wall	U Ctr		Poor	Brick	Green	0.7
368	B	Ceiling			Poor	Concrete	Green	0.5
Interior Room 059 421								
369	A	Ceiling			Poor	Wood	White	0
370	D	Wall	U Rgt		Poor	Brick	White	0.3
371	D	Wall	L Rgt		Poor	Brick	Green	>9.9
372	A	Wall	L Lft		Poor	Brick	Green	>9.9
373	A	Wall	U Lft		Poor	Brick	White	0.7
374	B	Wall	L Lft		Poor	Brick	Green	9.7
375	B	Wall	U Lft		Poor	Brick	White	0.6
376	C	Wall	L Lft		Poor	Brick	Dk Green	>9.9
Interior Room 060 500								
377	A	Wall	L Rgt		Poor	Brick	Dk Green	1.3
378	A	Wall	U Rgt		Poor	Brick	Green	0.7
379	B	Wall	L Lft		Poor	Brick	Dk Green	1.6
380	A	Column	Lft		Poor	Concrete	Dk Green	1.1
Interior Room 061 501								
381	D	Wall	L Ctr		Poor	Brick	Gray	7.7
382	D	Wall	U Ctr		Poor	Brick	Silver	0.6
Interior Room 062 502								
383	B	Wall	U Ctr		Poor	Brick	Green	7.5
Interior Room 063 503								
384	C	Wall	U Ctr		Poor	Brick	Tan	7.1
Interior Room 064 504								
385	A	Wall	U Ctr		Poor	Brick	Tan	6.2
Interior Room 065 505								
386	D	Wall	L Rgt		Poor	Brick	Dk Green	>9.9
387	D	Wall	U Rgt		Poor	Brick	Green	0.1
388	C	Wall	L Ctr		Poor	Brick	Dk Green	>9.9
389	C	Wall	U Ctr		Poor	Brick	Green	0.5
390	B	Wall	U Rgt		Poor	Brick	Green	0.6

\* Wall A is the road side (15<sup>th</sup> Street) of the building (east). Walls B/C/D are determined clockwise from Wall A.

Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm2)
391	B	Wall	L Rgt		Poor	Brick	Dk Green	8.4
392	C	Ceiling			Poor	Wood	Green	-0.1
393	A	Column	Ctr		Poor	Concrete	Dk Green	>9.9
394	A	Column	Ctr		Poor	Concrete	Green	0
395	A	Wall	U Ctr		Poor	Brick	Green	0
396	A	Wall	L Ctr		Poor	Brick	Dk Green	>9.9
402	D	Wall	L Rgt		Poor	Brick	Silver	>9.9
403	D	Wall	U Rgt		Poor	Brick	Silver	0.2
Interior Room 066 506								
397	D	Wall	L Ctr		Poor	Brick	Green	-0.2
398	D	Wall	U Ctr		Poor	Brick	White	0
399	A	Wall	U Ctr		Poor	Brick	White	0.2
400	A	Wall	L Ctr		Poor	Brick	Green	0.1
401	A	Quality	L Ctr		Poor	Brick	Green	0.2
Interior Room 067 507								
404	C	Wall	L Rgt		Poor	Brick	Tan	4.1
405	C	Wall	U Rgt		Poor	Brick	Tan	0.1
406	D	Wall	U Lft		Poor	Brick	Tan	-0.1
407	D	Wall	L Lft		Poor	Brick	Tan	>9.9
408	D	Wall	L Ctr		Poor	Brick	Tan	>9.9
409	D	Wall	U Ctr		Poor	Brick	Tan	0.5
410	A	Wall	U Ctr		Poor	Brick	Tan	-0.3
411	A	Wall	L Ctr		Poor	Brick	Tan	>9.9
412	B	Wall	L Lft		Poor	Brick	Tan	>9.9
413	B	Wall	U Lft		Poor	Brick	Tan	-0.1
414	B	Wall	U Rgt		Poor	Brick	Tan	-0.1
415	B	Wall	L Rgt		Poor	Brick	Tan	>9.9
416	B	Column	Ctr		Poor	Concrete	Brown	>9.9
417	B	Column	Ctr		Poor	Concrete	Tan	0.1
418	D	Ceiling			Poor	Wood	Tan	0
Interior Room 068 508								
419	B	Wall	U Ctr		Poor	Brick	Tan	0
420	B	Wall	L Ctr		Poor	Brick	Green	1.2
Interior Room 069 509								
421	D	Wall	L Ctr		Poor	Brick	Gray	0.1
422	D	Wall	U Ctr		Poor	Brick	White	0
Interior Room 070 510								
423	D	Wall	U Lft		Poor	Brick	Black	1.7
424	C	Wall	U Rgt		Poor	Brick	Black	0.9
425	B	Wall	U Rgt		Poor	Brick	Black	1.3
426	B	Ceiling			Poor	Wood	Black	-0.2
427	A	Ceiling			Poor	Wood	Silver	0.1
428	A	Wall	U Lft		Poor	Brick	Tan	0.5
429	A	Wall	U Rgt		Poor	Brick	Tan	1
430	C	Wall	L Lft		Poor	Brick	Tan	1.1
431	C	Wall	U Lft		Poor	Brick	Tan	0.5
Interior Room 071 511								
432	C	Wall	U Ctr		Poor	Brick	Silver	0.5
433	D	Wall	U Rgt		Poor	Brick	Silver	0.5
434	A	Wall	U Lft		Poor	Brick	Silver	0.9
435	B	Wall	U Lft		Poor	Brick	Silver	1
436	C	Wall	U Lft		Poor	Brick	Silver	0.9

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Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm <sup>2</sup> )
437	C	Column	Lft		Poor	Concrete	Silver	0.3
Interior Room 999 Post Calibration 8/12/16								
438								1.1
439								1
440								1.1
441								0

- The State of Wisconsin defines lead bearing paint as that which is equal to or greater than 1.0 mg/cm<sup>2</sup>.
- Readings with a negative value (i.e. -0.1) are equivalent to 0.0

**LEAD PAINT XRF TESTING DATA**

CLIENT:	Stantec Consulting Services Inc.	NORTHSTAR NO.	160-584
LOCATION:	1512 Washington St – Manitowoc, WI	SITE DATE:	August 15, 2016
WORK AREA:	Pre-Demolition	TECH:	A Stroud

Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm <sup>2</sup> )
Interior Room 999 Pre-Calibration 8/15/16								
1								1
2								1.1
3								1
4								-0.4
Interior Room 001 512								
5	A	Wall	L Lft		Poor	Brick	Silver	-0.2
6	A	Wall	U Lft		Poor	Brick	Silver	-0.1
7	A	Wall	L Rgt		Poor	Brick	Silver	-0.3
8	A	Wall	U Rgt		Poor	Brick	Silver	-0.1
9	B	Wall	L Lft		Poor	Brick	Silver	-0.2
10	B	Wall	U Lft		Poor	Brick	Silver	-0.2
11	B	Wall	L Rgt		Poor	Brick	Silver	-0.3
12	B	Wall	U Rgt		Poor	Brick	Silver	-0.3
13	C	Wall	L Lft		Poor	Brick	Silver	-0.1
14	C	Wall	U Lft		Poor	Brick	Silver	0
15	C	Wall	L Rgt		Poor	Brick	Silver	-0.2
16	C	Wall	U Rgt		Poor	Brick	Silver	0
17	D	Wall	L Lft		Poor	Brick	Silver	-0.2
18	D	Wall	U Lft		Poor	Brick	Silver	-0.2
19	D	Wall	L Rgt		Poor	Brick	Silver	-0.2
20	D	Wall	U Rgt		Poor	Brick	Silver	-0.4
21	A	Column	Ctr	L column	Poor	Concrete	Silver	-0.1
22	A	Ceiling			Poor	Wood	Silver	0
Interior Room 002 513								
23	A	Window	Lft	Sill	Poor	Concrete	Silver	1.2
24	A	Wall	L Ctr		Poor	Brick	Silver	1.1
25	A	Wall	U Ctr		Poor	Brick	Silver	-0.1
26	A	Wall	L Lft		Poor	Brick	Silver	1.1
27	D	Wall	U Rgt		Poor	Brick	Silver	1.3
28	D	Wall	L Rgt		Poor	Brick	Silver	1.1
29	D	Wall	U Ctr		Poor	Brick	Silver	0.4
30	D	Wall	L Ctr		Poor	Brick	Silver	0.4
31	D	Wall	U Lft		Poor	Brick	Silver	0.4
32	D	Wall	L Lft		Poor	Brick	Silver	1.3
33	C	Wall	U Rgt		Poor	Brick	Silver	0.3
34	C	Wall	L Rgt		Poor	Brick	Silver	0.3
35	C	Window	Rgt	Sill	Poor	Concrete	Silver	0
36	C	Wall	L Ctr		Poor	Brick	Yellow	3.7
37	C	Wall	U Ctr		Poor	Brick	Silver	1.7
38	C	Wall	L Ctr		Poor	Brick	Silver	0.3
39	C	Wall	U Ctr		Poor	Brick	Silver	0.2
40	D	Wall	U Lft		Poor	Brick	Silver	1.6

\* Wall A is the road side (15<sup>th</sup> Street) of the building (east). Walls B/C/D are determined clockwise from Wall A.

Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm <sup>2</sup> )
41	D	Wall	L Lft		Poor	Brick	Silver	3.5
42	D	Wall	U Lft		Poor	Brick	Silver	2.1
43	D	Wall	L Lft		Poor	Brick	Silver	2
44	D	Wall	U Lft		Poor	Brick	Silver	1.2
45	D	Wall	L Lft		Poor	Brick	Silver	2
46	C	Wall	U Ctr		Poor	Brick	Silver	1.1
47	C	Wall	L Ctr		Poor	Brick	Silver	1.2
48	C	Wall	U Lft		Poor	Brick	Silver	1.8
49	C	Wall	L Lft		Poor	Brick	Silver	2.2
50	B	Wall	U Rgt		Poor	Brick	Silver	1.7
51	B	Quality	Rgt		Poor	Brick	Silver	1.9
52	B	Wall	L Rgt		Poor	Brick	Silver	2.5
53	B	Wall	U Ctr		Poor	Brick	Silver	1
54	B	Wall	L Ctr		Poor	Brick	Silver	2
55	B	Wall	U Ctr		Poor	Brick	Silver	2.2
56	B	Wall	L Ctr		Poor	Brick	Silver	1.3
57	B	Wall	U Ctr		Poor	Brick	Silver	1.4
58	B	Wall	L Ctr		Poor	Brick	Silver	1.4
59	B	Wall	U Lft		Poor	Brick	Silver	1.1
60	B	Wall	L Lft		Poor	Brick	Silver	3.1
61	A	Wall	U Ctr		Poor	Brick	Silver	1.9
62	A	Wall	L Ctr		Poor	Brick	Silver	1.4
63	D	Wall	U Rgt		Poor	Brick	Silver	1.2
64	D	Wall	L Rgt		Poor	Brick	Silver	1
65	D	Window	Rgt	Sill	Poor	Concrete	Silver	1.2
66	A	Column	Ctr	L column	Poor	Concrete	Silver	0.5
67	D	Ceiling			Poor	Wood	Silver	-0.2
68	C	Column	Ctr	L column	Poor	Concrete	Silver	0.6
Interior Room 003 514								
69	D	Wall	U Ctr		Poor	Brick	White	-0.1
70	D	Wall	L Ctr		Poor	Brick	Gray	-0.2
71	C	Wall	L Ctr		Poor	Brick	Gray	-0.1
72	C	Wall	U Ctr		Poor	Brick	White	0.3
73	B	Wall	U Ctr		Poor	Brick	White	0
74	B	Wall	L Ctr		Poor	Brick	Gray	-0.1
75	A	Wall	L Ctr		Poor	Brick	Gray	-0.3
76	A	Wall	U Ctr		Poor	Brick	White	-0.3
Interior Room 004 515								
77	B	Wall	U Ctr		Poor	Brick	Silver	0
78	C	Wall	U Ctr		Poor	Brick	Silver	-0.2
79	D	Wall	U Ctr		Poor	Brick	Silver	0.1
80	A	Wall	U Ctr		Poor	Brick	Silver	-0.3
Interior Room 005 516								
81	A	Floor			Poor	Wood	Silver	-0.3
82	A	Wall	L Rgt		Poor	Brick	Silver	-0.1
83	A	Wall	U Rgt		Poor	Brick	Silver	-0.1
84	A	Wall	L Lft		Poor	Brick	Silver	-0.3
85	A	Wall	U Lft		Poor	Brick	Silver	-0.2
86	D	Wall	L Rgt		Poor	Brick	Silver	-0.3
87	D	Wall	U Rgt		Poor	Brick	Silver	0.1
88	D	Wall	L Lft		Poor	Brick	Silver	-0.2
89	D	Wall	U Lft		Poor	Brick	Silver	-0.1

\* Wall A is the road side (15<sup>th</sup> Street) of the building (east). Walls B/C/D are determined clockwise from Wall A.

Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm <sup>2</sup> )
90	C	Wall	L Rgt		Poor	Brick	Silver	-0.3
91	C	Wall	U Rgt		Poor	Brick	Silver	0
92	C	Wall	L Lft		Poor	Brick	Silver	-0.1
93	C	Wall	U Lft		Poor	Brick	Silver	0.1
94	B	Wall	L Ctr		Poor	Brick	Silver	-0.3
95	B	Wall	U Ctr		Poor	Brick	Silver	-0.1
96	B	Window	Ctr	Sill	Poor	Concrete	Silver	0
97	C	Column	Ctr	L column	Poor	Concrete	Silver	-0.4
Interior Room 006 517								
98	A	Ceiling			Poor	Wood	Silver	-0.2
99	A	Column	Ctr	L column	Poor	Concrete	Silver	0.4
100	A	Wall	L Lft		Poor	Brick	Silver	-0.4
101	A	Wall	U Lft		Poor	Brick	Silver	-0.2
102	D	Wall	L Rgt		Poor	Brick	Silver	-0.3
103	D	Wall	U Rgt		Poor	Brick	Silver	0.6
104	D	Wall	L Lft		Poor	Brick	Silver	-0.4
105	D	Wall	U Lft		Poor	Brick	Silver	-0.2
106	C	Wall	L Rgt		Poor	Brick	Silver	0
107	C	Wall	U Rgt		Poor	Brick	Silver	-0.1
108	C	Wall	L Ctr		Poor	Brick	Silver	-0.1
109	C	Wall	U Ctr		Poor	Brick	Silver	-0.1
110	C	Wall	L Lft		Poor	Brick	Silver	0.1
111	C	Wall	U Lft		Poor	Brick	Silver	-0.1
112	B	Wall	L Rgt		Poor	Brick	Silver	-0.1
113	B	Wall	U Rgt		Poor	Brick	Silver	-0.1
114	B	Wall	L Lft		Poor	Brick	Silver	-0.2
115	B	Wall	U Lft		Poor	Brick	Silver	-0.1
116	A	Wall	L Rgt		Poor	Brick	Silver	0.1
117	A	Wall	U Rgt		Poor	Brick	Silver	-0.2
Interior Room 007 518								
118	A	Wall	L Ctr		Poor	Brick	Tan	-0.3
119	A	Wall	U Ctr		Poor	Brick	Silver	0.5
120	D	Wall	L Ctr		Poor	Brick	Tan	0
121	D	Wall	U Ctr		Poor	Brick	Silver	0
122	C	Wall	L Ctr		Poor	Brick	Tan	0.1
123	C	Wall	U Ctr		Poor	Brick	Silver	0
124	B	Wall	L Ctr		Poor	Brick	Tan	0.2
125	B	Wall	U Ctr		Poor	Brick	Silver	0
Interior Room 008 519								
126	A	Wall	L Ctr		Poor	Brick	Brown	-0.1
127	A	Wall	U Ctr		Poor	Brick	Tan	-0.2
128	D	Wall	L Ctr		Poor	Brick	Brown	0.4
129	D	Wall	U Ctr		Poor	Brick	Tan	-0.1
130	C	Wall	L Ctr		Poor	Brick	Brown	-0.1
131	C	Wall	U Ctr		Poor	Brick	Tan	-0.1
132	B	Wall	L Ctr		Poor	Brick	Brown	0.1
133	B	Wall	U Ctr		Poor	Brick	Tan	-0.2
Interior Room 009 600								
134	B	Ceiling			Poor	Wood	Silver	-0.1
135	B	Column	Lft	L column	Poor	Concrete	Silver	-0.5
136	C	Wall	L Lft		Poor	Brick	Silver	0.3
137	C	Wall	U Lft		Poor	Brick	Silver	0.6

\* Wall A is the road side (15<sup>th</sup> Street) of the building (east). Walls B/C/D are determined clockwise from Wall A.

Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm <sup>2</sup> )
138	B	Wall	L Rgt		Poor	Brick	Silver	0.1
139	B	Wall	U Rgt		Poor	Brick	Silver	<b>1.3</b>
140	B	Wall	L Ctr		Poor	Brick	Silver	<b>1.2</b>
141	B	Wall	U Ctr		Poor	Brick	Silver	0.3
142	B	Wall	L Lft		Poor	Brick	Silver	0.4
143	B	Wall	U Lft		Poor	Brick	Silver	<b>1.3</b>
144	A	Wall	L Rgt		Poor	Brick	Silver	0.3
145	A	Wall	U Rgt		Poor	Brick	Silver	0.4
146	A	Wall	L Ctr		Poor	Brick	Silver	0.6
147	A	Wall	U Ctr		Poor	Brick	Silver	<b>2.8</b>
148	A	Wall	L Ctr		Poor	Brick	Silver	0.2
149	A	Wall	U Ctr		Poor	Brick	Silver	0.2
150	A	Wall	L Ctr		Poor	Brick	Silver	0.2
151	A	Wall	U Ctr		Poor	Brick	Silver	0.2
152	A	Wall	L Ctr		Poor	Brick	Silver	0.7
153	A	Wall	U Ctr		Poor	Brick	Silver	<b>1</b>
154	A	Wall	L Lft		Poor	Brick	Silver	0.5
155	A	Wall	U Lft		Poor	Brick	Silver	<b>1.2</b>
156	D	Wall	L Rgt		Poor	Brick	Silver	0.5
157	D	Wall	U Rgt		Poor	Brick	Silver	0.5
158	D	Wall	L Lft		Poor	Brick	White	0.6
159	D	Wall	U Lft		Poor	Brick	White	0.7
160	C	Wall	L Rgt		Poor	Brick	White	0.6
161	C	Wall	U Rgt		Poor	Brick	White	<b>1.1</b>
162	C	Wall	L Ctr		Poor	Brick	White	0.1
163	C	Wall	U Ctr		Poor	Brick	White	<b>1</b>
164	C	Wall	U Ctr		Poor	Brick	White	0.2
165	C	Wall	U Ctr		Poor	Brick	Silver	0
Interior Room 010 601								
166	C	Wall	L Ctr		Poor	Brick	Gray	-0.1
167	C	Wall	U Ctr		Poor	Brick	White	0
168	B	Wall	L Ctr		Poor	Brick	Gray	0.4
169	B	Wall	U Ctr		Poor	Brick	White	-0.2
170	A	Wall	L Rgt		Poor	Brick	Gray	-0.2
171	A	Wall	U Rgt		Poor	Brick	White	-0.2
172	A	Wall	L Lft		Poor	Brick	Gray	0.1
173	A	Wall	U Lft		Poor	Brick	White	-0.1
Interior Room 011 602								
174	C	Wall	L Ctr		Poor	Brick	Green	-0.2
175	C	Wall	U Ctr		Poor	Brick	Silver	-0.1
176	B	Wall	L Ctr		Poor	Brick	Green	-0.3
177	B	Wall	U Ctr		Poor	Brick	Silver	0
178	A	Wall	L Ctr		Poor	Brick	Green	0.4
179	A	Wall	U Ctr		Poor	Brick	Silver	0
180	D	Wall	L Ctr		Poor	Brick	Green	0.2
181	D	Wall	U Ctr		Poor	Brick	Silver	-0.2
Interior Room 012 603								
182	A	Ceiling			Poor	Wood	Silver	0
183	A	Column	Lft	L column	Poor	Concrete	Green	-0.4
184	A	Wall	L Ctr		Poor	Brick	Green	0
185	A	Wall	U Ctr		Poor	Brick	Green	-0.1
186	A	Wall	L Rgt		Poor	Brick	Silver	-0.3

\* Wall A is the road side (15<sup>th</sup> Street) of the building (east). Walls B/C/D are determined clockwise from Wall A.

Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm <sup>2</sup> )
187	A	Wall	U Rgt		Poor	Brick	Silver	-0.1
188	B	Wall	L Lft		Poor	Brick	Silver	-0.3
189	B	Wall	U Lft		Poor	Brick	Silver	-0.2
190	B	Wall	L Ctr		Poor	Brick	Silver	-0.1
191	B	Wall	U Ctr		Poor	Brick	Silver	-0.2
192	B	Wall	L Ctr		Poor	Brick	Gray	-0.1
193	B	Wall	U Ctr		Poor	Brick	White	-0.1
194	B	Wall	L Ctr		Poor	Brick	Gray	<b>2</b>
195	B	Wall	U Ctr		Poor	Brick	White	<b>1.3</b>
196	B	Wall	L Ctr		Poor	Brick	Gray	<b>1.2</b>
197	B	Wall	U Ctr		Poor	Brick	White	<b>1.2</b>
198	B	Wall	L Ctr		Poor	Brick	Gray	0.3
199	B	Wall	U Ctr		Poor	Brick	White	0.2
200	B	Wall	L Ctr		Poor	Brick	Gray	0.7
201	B	Wall	U Ctr		Poor	Brick	White	0.6
202	B	Wall	L Rgt		Poor	Brick	White	0.1
203	B	Wall	U Rgt		Poor	Brick	White	0.7
204	B	Wall	L Rgt		Poor	Brick	White	0.6
205	B	Wall	U Rgt		Poor	Brick	White	<b>1</b>
206	B	Wall	L Rgt		Poor	Brick	White	<b>2.1</b>
207	B	Wall	L Rgt		Poor	Brick	White	<b>1.1</b>
208	C	Wall	L Lft		Poor	Brick	White	0.2
209	C	Quality	Lft		Poor	Brick	White	0.2
210	C	Wall	U Lft		Poor	Brick	White	<b>1.2</b>
211	C	Wall	L Ctr		Poor	Brick	White	0.4
212	C	Wall	U Ctr		Poor	Brick	White	<b>1.9</b>
213	D	Wall	L Lft		Poor	Brick	White	<b>1.4</b>
214	D	Wall	U Lft		Poor	Brick	White	0.6
215	D	Wall	L Lft		Poor	Brick	White	0.2
216	D	Wall	U Lft		Poor	Brick	White	-0.1
217	C	Wall	L Rgt		Poor	Brick	Tan	0.3
218	C	Wall	U Rgt		Poor	Brick	Tan	0.1
219	C	Wall	L Rgt		Poor	Brick	Green	-0.3
220	C	Wall	U Rgt		Poor	Brick	Green	-0.3
221	D	Wall	L Ctr		Poor	Brick	Green	-0.2
222	D	Wall	U Ctr		Poor	Brick	Green	0
223	D	Wall	L Ctr		Poor	Brick	Green	-0.4
224	D	Wall	U Ctr		Poor	Brick	Green	0.1
225	D	Wall	L Rgt		Poor	Brick	Green	-0.4
226	D	Wall	U Rgt		Poor	Brick	Green	-0.3
227	A	Wall	L Lft		Poor	Brick	Green	-0.3
228	A	Wall	U Lft		Poor	Brick	Green	-0.3
229	A	Wall	L Ctr		Poor	Brick	Silver	-0.2
230	A	Wall	U Ctr		Poor	Brick	Silver	-0.2
231	D	Wall	L Rgt		Poor	Brick	Silver	-0.3
232	D	Wall	U Rgt		Poor	Brick	Silver	-0.2
233	D	Wall	L Rgt		Poor	Brick	Silver	-0.2
234	D	Wall	U Rgt		Poor	Brick	Silver	0
235	A	Column	Lft	L column	Poor	Concrete	Green	-0.8
Interior Room 013 604								
236	C	Wall	L Ctr		Poor	Brick	Gray	0.3
237	C	Wall	U Ctr		Poor	Brick	White	-0.2

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Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm <sup>2</sup> )
238	D	Wall	L Ctr		Poor	Brick	Gray	0
239	D	Wall	U Ctr		Poor	Brick	White	-0.4
240	A	Wall	L Ctr		Poor	Brick	Gray	-0.1
241	A	Wall	U Ctr		Poor	Brick	White	-0.2
242	B	Wall	L Ctr		Poor	Brick	Gray	0
243	B	Wall	U Ctr		Poor	Brick	White	0
Interior Room 014 605								
244	B	Wall	U Ctr		Poor	Brick	Silver	-0.5
245	C	Wall	U Ctr		Poor	Brick	Silver	0
246	D	Wall	U Ctr		Poor	Brick	Silver	-0.2
247	A	Wall	U Ctr		Poor	Brick	Silver	-0.3
Interior Room 015 606								
248	A	Ceiling			Poor	Wood	Silver	-0.1
249	A	Wall	L Lft		Poor	Brick	Silver	-0.5
250	A	Wall	U Lft		Poor	Brick	Silver	-0.3
251	A	Wall	L Rgt		Poor	Brick	Green	0
252	A	Wall	U Rgt		Poor	Brick	Green	-0.1
253	B	Wall	L Lft		Poor	Brick	Green	-0.2
254	B	Wall	U Lft		Poor	Brick	Green	0.1
255	B	Wall	L Rgt		Poor	Brick	Green	0.1
256	B	Wall	U Rgt		Poor	Brick	Green	-0.2
257	C	Wall	L Lft		Poor	Brick	Green	-0.1
258	C	Wall	U Lft		Poor	Brick	Green	-0.1
259	C	Wall	L Rgt		Poor	Brick	Green	0
260	C	Wall	U Rgt		Poor	Brick	Green	-0.4
261	C	Quality	Rgt		Poor	Brick	Green	-0.1
262	D	Wall	L Lft		Poor	Brick	Green	0.1
263	D	Wall	U Lft		Poor	Brick	Green	-0.3
264	D	Wall	L Rgt		Poor	Brick	Silver	-0.5
265	D	Wall	U Rgt		Poor	Brick	Silver	-0.2
266	A	Column	Ctr	L column	Poor	Concrete	Silver	-0.7
Interior Room 999 Mid Day Calibration 8/15/16								
267								1
268								1.1
269								1
270								-0.3
Interior Room 016 607								
271	A	Ceiling			Poor	Wood	Silver	0
272	A	Column	Ctr	L column	Poor	Concrete	Silver	-0.2
273	A	Wall	L Lft		Poor	Brick	Silver	0
274	A	Wall	U Lft		Poor	Brick	Silver	0.3
275	A	Wall	L Rgt		Poor	Brick	Silver	-0.3
276	A	Wall	U Rgt		Poor	Brick	Silver	0.3
277	B	Wall	L Lft		Poor	Brick	Silver	-0.2
278	B	Wall	U Lft		Poor	Brick	Silver	-0.2
279	B	Wall	L Rgt		Poor	Brick	Silver	-0.4
280	B	Wall	U Rgt		Poor	Brick	Silver	-0.1
281	C	Wall	L Lft		Poor	Brick	Silver	-0.1
282	C	Wall	U Lft		Poor	Brick	Silver	0
283	C	Wall	L Rgt		Poor	Brick	Silver	-0.2
284	C	Wall	U Rgt		Poor	Brick	Silver	-0.4
285	D	Wall	L Lft		Poor	Brick	Silver	0.2

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Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm <sup>2</sup> )
286	D	Wall	U Lft		Poor	Brick	Silver	0.1
287	D	Wall	L Rgt		Poor	Brick	Silver	-0.2
288	D	Wall	U Rgt		Poor	Brick	Silver	-0.1
Interior Room 017 608								
289	C	Ceiling			Poor	Wood	Silver	-0.1
290	C	Column	Rgt	L column	Poor	Concrete	Silver	-0.4
291	A	Wall	L Lft		Poor	Brick	Silver	-0.1
292	A	Wall	U Lft		Poor	Brick	Silver	-0.2
293	A	Wall	L Ctr		Poor	Brick	Silver	-0.2
294	A	Wall	U Ctr		Poor	Brick	Silver	-0.3
295	A	Wall	L Ctr		Poor	Brick	Silver	0.2
296	A	Wall	U Ctr		Poor	Brick	Silver	-0.2
297	A	Wall	L Rgt		Poor	Brick	Gray	0
298	A	Quality	Rgt		Poor	Brick	Gray	-0.2
299	A	Wall	U Rgt		Poor	Brick	White	-0.3
300	B	Wall	L Lft		Poor	Brick	Gray	-0.1
301	B	Wall	U Lft		Poor	Brick	White	-0.3
302	B	Wall	L Rgt		Poor	Brick	Gray	-0.1
303	B	Wall	U Rgt		Poor	Brick	White	-0.3
304	C	Wall	L Lft		Poor	Brick	Gray	-0.2
305	C	Wall	U Lft		Poor	Brick	White	-0.3
306	C	Wall	L Ctr		Poor	Brick	Gray	0.2
307	C	Wall	U Ctr		Poor	Brick	White	0.1
308	C	Wall	L Rgt		Poor	Brick	Yellow	0
309	C	Wall	U Rgt		Poor	Brick	Yellow	-0.3
310	D	Wall	L Lft		Poor	Brick	Yellow	-0.3
311	D	Wall	U Lft		Poor	Brick	Yellow	-0.1
312	D	Wall	L Ctr		Poor	Brick	Silver	-0.1
313	D	Wall	U Ctr		Poor	Brick	Silver	-0.1
314	D	Wall	L Rgt		Poor	Brick	Silver	0
315	D	Wall	U Rgt		Poor	Brick	Silver	-0.3
Interior Room 018 609								
316	A	Wall	U Ctr		Poor	Brick	Gray	0
317	D	Wall	U Ctr		Poor	Brick	Gray	0
318	C	Wall	U Ctr		Poor	Brick	Gray	-0.2
319	B	Wall	U Ctr		Poor	Brick	Gray	-0.1
Interior Room 019 610								
320	A	Wall	U Ctr		Poor	Brick	Gray	0.1
321	D	Wall	U Ctr		Poor	Brick	Gray	0.2
322	C	Wall	U Ctr		Poor	Brick	Gray	-0.1
323	B	Wall	U Ctr		Poor	Brick	Gray	0
Interior Room 020 611								
324	B	Wall	L Ctr		Poor	Brick	Gray	>9.9
325	B	Wall	U Ctr		Poor	Brick	White	-0.4
326	A	Wall	L Ctr		Poor	Brick	Gray	>9.9
327	A	Wall	U Ctr		Poor	Brick	White	-0.1
328	D	Wall	L Ctr		Poor	Brick	Gray	>9.9
329	D	Wall	U Ctr		Poor	Brick	White	-0.4
330	C	Wall	L Ctr		Poor	Brick	Gray	>9.9
331	C	Wall	U Ctr		Poor	Brick	White	-0.3
Interior Room 021 612								
332	C	Ceiling			Poor	Wood	Tan	>9.9

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Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm <sup>2</sup> )
333	C	Column	Ctr	L column	Poor	Concrete	Orange	>9.9
334	A	Wall	L Lft		Poor	Brick	Green	>9.9
335	A	Wall	U Lft		Poor	Brick	White	>9.9
336	A	Wall	L Ctr		Poor	Brick	Green	>9.9
337	A	Wall	U Ctr		Poor	Brick	White	>9.9
338	A	Wall	L Rgt		Poor	Brick	Green	>9.9
339	A	Wall	U Rgt		Poor	Brick	White	>9.9
340	B	Wall	L Lft		Poor	Brick	Green	>9.9
341	B	Wall	U Lft		Poor	Brick	White	>9.9
342	B	Wall	L Ctr		Poor	Brick	Green	7.5
343	B	Wall	U Ctr		Poor	Brick	White	>9.9
344	B	Wall	L Rgt		Poor	Brick	Green	>9.9
345	B	Wall	U Rgt		Poor	Brick	White	>9.9
346	C	Wall	L Lft		Poor	Brick	Green	8.3
347	C	Wall	U Lft		Poor	Brick	White	>9.9
348	C	Wall	L Rgt		Poor	Brick	Green	7
349	C	Wall	U Rgt		Poor	Brick	White	>9.9
350	D	Wall	L Lft		Poor	Brick	Green	>9.9
351	D	Quality	Lft		Poor	Brick	Green	>9.9
352	D	Wall	U Lft		Poor	Brick	White	>9.9
Interior Room 022 613								
353	A	Ceiling			Poor	Wood	Silver	0.1
354	A	Wall	L Lft		Poor	Brick	White	-0.4
355	B	Wall	L Ctr		Poor	Brick	White	-0.3
356	B	Wall	U Ctr		Poor	Brick	White	-0.2
357	C	Wall	L Ctr		Poor	Brick	White	-0.3
358	D	Wall	L Ctr		Poor	Brick	White	-0.2
Interior Room 023 614								
359	A	Ceiling			Poor	Wood	Tan	>9.9
360	A	Wall	L Ctr		Poor	Brick	Tan	>9.9
361	A	Wall	U Ctr		Poor	Brick	Tan	>9.9
362	B	Wall	U Ctr		Poor	Brick	Tan	1.5
363	C	Wall	U Ctr		Poor	Brick	Tan	>9.9
364	D	Wall	U Ctr		Poor	Brick	Tan	>9.9
Interior Room 024 615								
365	A	Wall	L Ctr		Poor	Brick	Tan	>9.9
366	D	Wall	U Ctr		Poor	Brick	Tan	>9.9
367	C	Wall	U Ctr		Poor	Brick	Tan	>9.9
368	B	Wall	U Ctr		Poor	Brick	Tan	>9.9
Interior Room 025 616								
369	A	Wall	U Ctr		Poor	Brick	Tan	>9.9
Interior Room 026 617								
370	C	Ceiling			Poor	Wood	Tan	>9.9
371	C	Column	Ctr	L column	Poor	Concrete	Tan	>9.9
372	A	Wall	L Ctr		Poor	Brick	Silver	>9.9
373	A	Wall	U Ctr		Poor	Brick	Silver	>9.9
374	B	Wall	L Ctr		Poor	Brick	Silver	>9.9
375	B	Wall	U Ctr		Poor	Brick	Silver	>9.9
376	C	Wall	L Lft		Poor	Brick	Silver	>9.9
377	C	Wall	U Lft		Poor	Brick	Silver	>9.9
378	D	Wall	L Ctr		Poor	Brick	Silver	8.6
379	D	Wall	U Ctr		Poor	Brick	Silver	>9.9

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Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm <sup>2</sup> )
Interior Room 027 700								
380	A	Ceiling			Poor	Wood	White	0.2
381	A	Column	Ctr	L column	Poor	Concrete	White	>9.9
382	A	Wall	U Lft		Poor	Wood	White	-0.2
383	A	Wall	L Rgt		Poor	Brick	Tan	-0.3
384	A	Wall	U Rgt		Poor	Brick	Tan	>9.9
385	B	Wall	L Lft		Poor	Brick	Tan	>9.9
386	B	Wall	U Lft		Poor	Brick	Tan	>9.9
387	B	Wall	L Ctr		Poor	Brick	Tan	>9.9
388	B	Wall	U Ctr		Poor	Brick	Tan	>9.9
389	B	Wall	L Rgt		Poor	Brick	Tan	>9.9
390	B	Wall	U Rgt		Poor	Brick	Tan	>9.9
391	C	Wall	L Lft		Poor	Brick	Tan	>9.9
392	C	Wall	U Lft		Poor	Brick	Tan	>9.9
393	C	Wall	L Rgt		Poor	Brick	Green	>9.9
394	C	Wall	U Rgt		Poor	Brick	Green	>9.9
395	D	Wall	L Lft		Poor	Brick	Green	>9.9
396	D	Wall	U Lft		Poor	Brick	Green	>9.9
397	D	Wall	L Ctr		Poor	Brick	White	>9.9
Interior Room 028 701								
398	D	Ceiling			Poor	Plaster	Tan	0.1
399	D	Column	Ctr	L column	Poor	Concrete	Tan	0.1
400	A	Wall	L Lft		Poor	Brick	Tan	-0.1
401	A	Quality	Lft		Poor	Brick	Tan	-0.2
402	A	Wall	U Lft		Poor	Brick	Tan	0
403	A	Window	Lft	Sill	Poor	Concrete	Green	-0.1
404	A	Wall	L Ctr		Poor	Brick	Tan	0.2
405	A	Wall	U Ctr		Poor	Brick	Tan	0.1
406	A	Wall	L Ctr		Poor	Brick	White	-0.1
407	A	Wall	U Ctr		Poor	Brick	White	-0.1
408	A	Wall	L Rgt		Poor	Brick	Tan	0.2
409	A	Wall	U Rgt		Poor	Brick	Tan	-0.3
410	A	Wall	U Rgt		Poor	Brick	Tan	0.5
411	C	Wall	L Lft		Poor	Brick	Green	0.3
412	C	Wall	U Lft		Poor	Brick	Green	0.3
413	C	Wall	L Ctr		Poor	Brick	Green	0.2
414	C	Wall	U Ctr		Poor	Brick	Green	0.1
415	C	Wall	L Rgt		Poor	Brick	White	-0.1
416	C	Wall	U Rgt		Poor	Brick	White	0
417	D	Wall	L Lft		Poor	Brick	White	0.6
418	D	Wall	U Lft		Poor	Brick	Tan	0.6
419	D	Wall	L Rgt		Poor	Brick	Tan	0.5
420	D	Wall	U Rgt		Poor	Brick	Tan	0.5
Interior Room 029 702								
421	B	Wall	L Ctr		Poor	Brick	Green	0.1
422	B	Wall	U Ctr		Poor	Brick	White	-0.1
423	C	Wall	L Ctr		Poor	Brick	Green	0.1
424	C	Wall	U Ctr		Poor	Brick	White	-0.1
425	D	Wall	L Ctr		Poor	Brick	Green	-0.2
426	D	Wall	U Ctr		Poor	Brick	White	-0.5
427	A	Wall	L Ctr		Poor	Brick	Green	0.3
428	A	Wall	U Ctr		Poor	Brick	White	0

\* Wall A is the road side (15<sup>th</sup> Street) of the building (east). Walls B/C/D are determined clockwise from Wall A.

Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm <sup>2</sup> )
Interior Room 030 703								
429	A	Wall	L Ctr		Poor	Brick	Green	-0.2
430	A	Wall	U Ctr		Poor	Brick	White	-0.1
431	B	Wall	L Ctr		Poor	Brick	Green	>9.9
432	B	Wall	U Ctr		Poor	Brick	White	-0.3
433	C	Wall	L Ctr		Poor	Brick	Green	>9.9
434	C	Wall	U Ctr		Poor	Brick	White	-0.1
435	D	Wall	L Ctr		Poor	Brick	Green	>9.9
436	D	Wall	U Ctr		Poor	Brick	White	-0.3
Interior Room 031 704								
437	A	Ceiling			Poor	Wood	White	-0.3
438	A	Column	Ctr	L column	Poor	Concrete	White	-0.3
439	A	Wall	L Lft		Poor	Brick	Green	0.2
440	A	Wall	U Lft		Poor	Brick	Green	-0.1
441	A	Wall	L Rgt		Poor	Brick	White	-0.1
442	A	Wall	U Rgt		Poor	Brick	White	0.2
443	B	Wall	L Lft		Poor	Brick	White	-0.2
444	B	Wall	U Lft		Poor	Brick	White	0.1
445	C	Wall	L Lft		Poor	Brick	White	0
446	C	Wall	U Lft		Poor	Brick	White	0.2
447	C	Wall	L Rgt		Poor	Brick	White	0
448	C	Wall	U Rgt		Poor	Brick	White	-0.2
449	D	Wall	L Ctr		Poor	Brick	White	-0.1
450	D	Wall	U Ctr		Poor	Brick	White	-0.5
451	D	Quality	Ctr		Poor	Brick	White	0
Interior Room 032 705								
452	A	Ceiling			Poor	Wood	Tan	0.5
453	A	Column	Ctr	L column	Poor	Concrete	Tan	0.6
454	A	Wall	L Ctr		Poor	Brick	Tan	0.2
455	A	Wall	U Ctr		Poor	Brick	Tan	0.2
456	A	Wall	L Ctr		Poor	Brick	Green	0.4
457	A	Wall	U Ctr		Poor	Brick	Green	-0.2
458	A	Wall	L Rgt		Poor	Brick	White	0.7
459	A	Wall	U Rgt		Poor	Brick	White	0.1
460	B	Wall	L Lft		Poor	Brick	White	0.5
461	B	Wall	U Lft		Poor	Brick	White	0
462	B	Wall	L Lft		Poor	Brick	White	0.3
463	B	Wall	U Lft		Poor	Brick	White	-0.2
464	B	Wall	L Ctr		Poor	Brick	Green	0.3
465	B	Wall	U Ctr		Poor	Brick	White	-0.1
466	B	Wall	L Ctr		Poor	Brick	White	0.1
467	B	Wall	U Ctr		Poor	Brick	White	0.3
468	B	Wall	L Rgt		Poor	Brick	Gray	-0.1
469	B	Wall	U Rgt		Poor	Brick	Gray	-0.2
470	B	Wall	L Rgt		Poor	Brick	White	0.7
471	B	Wall	U Rgt		Poor	Brick	White	-0.1
472	C	Wall	L Lft		Poor	Brick	White	1.1
473	C	Wall	U Lft		Poor	Brick	White	1
474	C	Wall	L Ctr		Poor	Brick	Green	0
475	C	Wall	U Ctr		Poor	Brick	Tan	0.3
476	C	Wall	L Rgt		Poor	Brick	Green	0.3
477	C	Wall	U Rgt		Poor	Brick	Tan	0

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Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm <sup>2</sup> )
478	D	Wall	L Lft		Poor	Brick	Green	0.6
479	D	Wall	U Lft		Poor	Brick	Tan	-0.1
480	D	Wall	L Lft		Poor	Brick	White	0
481	D	Wall	U Lft		Poor	Brick	White	-0.3
482	C	Wall	L Rgt		Poor	Brick	White	0.5
483	C	Wall	U Rgt		Poor	Brick	White	0.3
484	C	Wall	L Rgt		Poor	Brick	White	0.3
485	C	Wall	U Rgt		Poor	Brick	White	0.6
486	D	Wall	L Ctr		Poor	Brick	White	0.5
487	D	Wall	U Ctr		Poor	Brick	White	0.6
488	D	Wall	L Ctr		Poor	Brick	White	0.1
489	D	Wall	U Ctr		Poor	Brick	White	0
490	D	Wall	L Ctr		Poor	Brick	White	0.5
491	D	Wall	U Ctr		Poor	Brick	White	0.5
492	A	Wall	L Lft		Poor	Brick	White	0.6
493	A	Wall	U Lft		Poor	Brick	White	0.4
Interior Room 033 706								
494	C	Wall	U Ctr		Poor	Drywall	White	-0.4
495	B	Wall	U Ctr		Poor	Drywall	White	-0.4
496	D	Wall	U Ctr		Poor	Brick	Tan	0.5
Interior Room 034 707								
497	D	Wall	U Ctr		Poor	Brick	Tan	0.1
498	C	Wall	U Ctr		Poor	Brick	Tan	0.5
499	B	Wall	U Ctr		Poor	Brick	Tan	-0.2
500	A	Wall	U Ctr		Poor	Brick	Tan	-0.3
501	A	Quality	Ctr		Poor	Brick	Tan	-0.2
Interior Room 035 708								
502	A	Wall	L Ctr		Poor	Brick	Gray	-0.5
503	A	Wall	U Ctr		Poor	Brick	White	-0.2
504	B	Wall	L Ctr		Poor	Brick	Gray	-0.3
505	B	Wall	U Ctr		Poor	Brick	White	-0.2
506	C	Wall	L Ctr		Poor	Brick	Gray	-0.2
507	C	Wall	U Ctr		Poor	Brick	White	-0.4
508	D	Wall	L Ctr		Poor	Brick	Gray	-0.3
509	D	Wall	U Ctr		Poor	Brick	White	-0.2
Interior Room 036 709								
510	A	Wall	L Ctr		Poor	Brick	Green	0.5
511	A	Wall	U Ctr		Poor	Plaster	Green	<b>9</b>
512	B	Wall	L Ctr		Poor	Brick	Green	0.1
513	B	Wall	U Ctr		Poor	Brick	Green	-0.1
514	C	Wall	L Ctr		Poor	Brick	Green	-0.2
515	C	Wall	U Ctr		Poor	Plaster	Green	<b>9.4</b>
516	D	Wall	L Ctr		Poor	Brick	Green	-0.2
517	D	Wall	U Ctr		Poor	Plaster	Green	<b>7.3</b>
518	D	Ceiling			Poor	Plaster	Green	0.6
Interior Room 037 710								
519	D	Wall	U Ctr		Poor	Plaster	White	-0.1
Interior Room 038 711								
520	D	Wall	U Ctr		Poor	Plaster	White	0
Interior Room 039 712								
521	A	Wall	L Lft		Poor	Plaster	Brown	-0.4
522	D	Wall	L Rgt		Poor	Plaster	Brown	-0.1

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Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm <sup>2</sup> )
Interior Room 040 713								
523	A	Wall	U Ctr		Poor	Brick	Tan	-0.1
524	B	Wall	U Ctr		Poor	Brick	Tan	0
525	C	Wall	U Ctr		Poor	Brick	Tan	0.4
526	D	Wall	U Ctr		Poor	Brick	Tan	0.3
Interior Room 041 714								
527	A	Wall	U Ctr		Poor	Brick	Tan	0
528	B	Wall	U Ctr		Poor	Brick	Tan	-0.1
529	C	Wall	U Ctr		Poor	Brick	Tan	0.4
530	D	Wall	U Ctr		Poor	Brick	Tan	0.2
Interior Room 042 715								
531	A	Wall	U Ctr		Poor	Brick	Gray	-0.1
532	B	Wall	U Ctr		Poor	Brick	Gray	-0.1
533	C	Wall	U Ctr		Poor	Brick	Gray	0.2
534	D	Wall	U Ctr		Poor	Brick	Gray	-0.1
Interior Room 043 716								
535	A	Ceiling			Poor	Wood	White	-0.1
536	A	Column	Ctr	L column	Poor	Concrete	White	-0.1
537	A	Wall	L Lft		Poor	Brick	White	0
538	A	Wall	U Lft		Poor	Brick	White	-0.2
539	A	Wall	L Rgt		Poor	Brick	Tan	-0.1
540	A	Wall	U Rgt		Poor	Brick	Tan	-0.2
541	B	Wall	L Lft		Poor	Brick	Tan	-0.3
542	B	Wall	U Lft		Poor	Brick	Tan	0.1
543	C	Wall	L Lft		Poor	Brick	Tan	0
544	C	Wall	U Lft		Poor	Brick	White	-0.1
545	C	Wall	L Rgt		Poor	Brick	White	-0.1
546	C	Wall	U Rgt		Poor	Brick	White	0
547	D	Wall	L Lft		Poor	Brick	White	0
548	D	Wall	U Lft		Poor	Brick	White	0
Interior Room 044 717								
549	B	Ceiling			Poor	Wood	White	0.6
550	B	Column	Ctr	L column	Poor	Concrete	White	>9.9
551	B	Quality	Ctr		Poor	Concrete	White	>9.9
552	A	Wall	L Lft		Poor	Brick	White	>9.9
553	A	Wall	U Lft		Poor	Brick	White	>9.9
554	A	Wall	L Rgt		Poor	Brick	White	>9.9
555	A	Wall	U Rgt		Poor	Brick	White	>9.9
556	B	Wall	L Lft		Poor	Brick	Tan	>9.9
557	B	Wall	U Lft		Poor	Brick	Tan	>9.9
558	B	Wall	L Rgt		Poor	Brick	White	>9.9
559	B	Wall	U Rgt		Poor	Brick	White	>9.9
560	C	Wall	L Ctr		Poor	Brick	White	>9.9
561	C	Wall	U Ctr		Poor	Brick	White	>9.9
562	D	Wall	L Ctr		Poor	Brick	White	>9.9
563	D	Wall	U Ctr		Poor	Brick	White	>9.9
Interior Room 045 718								
564	A	Wall	U Ctr		Poor	Brick	White	>9.9
565	B	Wall	U Ctr		Poor	Brick	White	>9.9
566	C	Wall	U Ctr		Poor	Brick	White	>9.9
567	D	Wall	U Ctr		Poor	Brick	White	>9.9
Interior Room 046 719								

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Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm <sup>2</sup> )
568	A	Wall	U Ctr		Poor	Brick	Gray	>9.9
569	B	Wall	U Ctr		Poor	Brick	Gray	>9.9
570	C	Wall	U Ctr		Poor	Brick	Gray	>9.9
571	D	Wall	U Ctr		Poor	Brick	Gray	>9.9
Interior Room 047 720								
572	A	Wall	U Ctr		Poor	Brick	Green	>9.9
573	B	Wall	U Ctr		Poor	Brick	Green	>9.9
574	C	Wall	U Ctr		Poor	Brick	Green	>9.9
575	D	Wall	U Ctr		Poor	Brick	Green	>9.9
Interior Room 048 721								
576	D	Ceiling			Poor	Wood	White	0
577	D	Column	Ctr	L column	Poor	Concrete	White	0.5
578	A	Wall	L Lft		Poor	Brick	White	0.2
579	A	Wall	U Lft		Poor	Brick	White	0.6
580	A	Wall	L Ctr		Poor	Brick	White	0.6
581	A	Wall	U Ctr		Poor	Brick	White	0
582	C	Wall	L Rgt		Poor	Brick	White	0.4
583	C	Wall	U Rgt		Poor	Brick	White	0
584	D	Wall	L Lft		Poor	Brick	White	0.3
585	D	Wall	U Lft		Poor	Brick	White	0.5
586	D	Wall	L Ctr		Poor	Brick	White	0.3
587	D	Wall	U Ctr		Poor	Brick	White	0.3
Interior Room 049 722								
588	A	Wall	L Ctr		Poor	Brick	Gray	>9.9
589	A	Wall	U Ctr		Poor	Brick	White	0.2
590	B	Wall	L Ctr		Poor	Brick	Gray	>9.9
591	B	Wall	U Ctr		Poor	Brick	White	-0.2
592	C	Wall	L Ctr		Poor	Brick	Gray	>9.9
593	C	Wall	U Ctr		Poor	Brick	White	-0.1
594	D	Wall	L Ctr		Poor	Brick	Gray	>9.9
595	D	Wall	U Ctr		Poor	Brick	White	-0.4
Interior Room 999 Mid Day Calibration 8/15/16								
596								0.9
597								1
598								1.1
599								-0.2
Interior Room 050 124								
600	A	Wall	L Ctr		Poor	Concrete	Green	-0.2
601	A	Quality	Ctr		Poor	Concrete	Green	-0.5
602	A	Wall	U Ctr		Poor	Concrete	Green	-0.4
603	B	Wall	L Lft		Poor	Concrete	Green	-0.3
604	B	Wall	U Lft		Poor	Brick	Green	0
605	B	Wall	L Rgt		Poor	Concrete	Green	0
606	B	Wall	U Rgt		Poor	Brick	Green	0.1
607	C	Wall	L Lft		Poor	Concrete	Green	0.2
608	C	Wall	U Lft		Poor	Concrete	Green	0.2
609	C	Wall	L Ctr		Poor	Brick	Green	0.1
610	C	Wall	U Ctr		Poor	Concrete	Green	0.2
611	D	Wall	L Lft		Poor	Conc Block	Green	-0.2
612	D	Wall	L Lft		Poor	Brick	Green	0.4
613	D	Wall	L Ctr		Poor	Concrete	Green	-0.1
614	D	Wall	U Ctr		Poor	Concrete	Green	0.3

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Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm <sup>2</sup> )
615	D	Wall	U Ctr		Poor	Concrete	Green	-0.1
616	D	Wall	L Rgt		Poor	Brick	Green	<b>4.9</b>
617	D	Wall	U Rgt		Poor	Plaster	Green	-0.1
619	D	Wall	U Rgt		Poor	Brick	Green	-0.1
620	D	Column	Rgt	L column	Poor	Concrete	Green	0.3
621	A	Ceiling			Poor	Concrete	Green	<b>2.4</b>
622	D	Ceiling			Poor	Concrete	Green	<b>1.9</b>
623	C	Ceiling			Poor	Concrete	Green	<b>1.6</b>
Interior Room 051 Elevator								
618	C	Wall	L Lft		Poor	Brick	Gray	0
Interior Room 051 125								
624	C	Ceiling			Poor	Concrete	Green	<b>4.9</b>
625	A	Wall	L Lft		Poor	Concrete	Green	0.1
626	A	Wall	U Lft		Poor	Concrete	Green	<b>&gt;9.9</b>
627	A	Wall	L Rgt		Poor	Concrete	Green	0.4
628	A	Wall	U Rgt		Poor	Concrete	Green	<b>4.2</b>
629	B	Wall	L Ctr		Poor	Brick	Silver	0.1
630	B	Wall	U Ctr		Poor	Brick	Silver	<b>&gt;9.9</b>
631	B	Wall	L Rgt		Poor	Brick	Green	0.1
632	B	Wall	U Rgt		Poor	Brick	Green	<b>7.3</b>
633	C	Wall	L Ctr		Poor	Concrete	Gray	-0.1
634	C	Wall	U Ctr		Poor	Concrete	Gray	0
635	C	Wall	L Rgt		Poor	Concrete	Green	0.1
636	C	Wall	U Rgt		Poor	Concrete	Green	-0.1
637	D	Wall	L Lft		Poor	Brick	Green	0.3
638	D	Wall	U Lft		Poor	Brick	Green	0.3
639	D	Wall	L Lft		Poor	Brick	Green	0.1
640	D	Wall	U Lft		Poor	Brick	Green	0.5
641	D	Wall	L Ctr		Poor	Concrete	Green	-0.3
642	D	Wall	U Ctr		Poor	Concrete	Green	0.6
Interior Room 052 126								
643	B	Ceiling			Poor	Concrete	Green	<b>3.6</b>
644	B	Column	Ctr	L column	Poor	Concrete	Green	0
645	D	Column	Ctr	L column	Poor	Concrete	Green	0
646	A	Wall	L Ctr		Poor	Concrete	Green	-0.1
647	A	Wall	U Ctr		Poor	Concrete	White	0.1
648	B	Wall	L Ctr		Poor	Concrete	Gray	0.5
649	B	Wall	U Ctr		Poor	Concrete	Gray	-0.1
650	C	Wall	L Lft		Poor	Plaster	Green	0.4
651	C	Quality	Lft		Poor	Plaster	Green	0.5
652	C	Wall	U Lft		Poor	Plaster	Green	0.6
653	C	Window	Ctr	Sill	Poor	Concrete	Gray	<b>&gt;9.9</b>
654	C	Wall	U Ctr		Poor	Concrete	Gray	<b>5.6</b>
655	C	Wall	L Rgt		Poor	Concrete	Gray	<b>&gt;9.9</b>
656	C	Wall	U Rgt		Poor	Concrete	Gray	<b>&gt;9.9</b>
657	D	Wall	L Ctr		Poor	Concrete	Green	<b>&gt;9.9</b>
658	D	Wall	U Ctr		Poor	Concrete	Green	<b>&gt;9.9</b>
659	D	Wall	L Rgt		Poor	Concrete	Gray	0
660	D	Wall	U Rgt		Poor	Concrete	Gray	0
Interior Room 053 127								
661	C	Ceiling			Poor	Concrete	Green	<b>3.1</b>
662	C	Column	Ctr	L column	Poor	Concrete	Green	0

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Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm <sup>2</sup> )
663	A	Wall	L Lft		Poor	Brick	Green	0.2
664	A	Wall	U Lft		Poor	Brick	Silver	0.1
665	A	Wall	L Lft		Poor	Concrete	Green	-0.1
666	A	Wall	U Lft		Poor	Concrete	Green	-0.1
667	B	Wall	L Lft		Poor	Plaster	Green	-0.2
668	B	Wall	U Lft		Poor	Plaster	Green	0.1
669	B	Wall	L Lft		Poor	Plaster	Green	0.2
670	B	Wall	U Lft		Poor	Plaster	Green	0.6
671	B	Wall	L Ctr		Poor	Concrete	Green	0
672	B	Wall	U Ctr		Poor	Concrete	Green	0.1
Interior Room 054 128								
673	A	Wall	L Ctr		Poor	Brick	Brown	0.6
674	A	Wall	U Ctr		Poor	Brick	Tan	0
675	B	Wall	L Ctr		Poor	Concrete	Gray	-0.2
676	C	Wall	L Ctr		Poor	Plaster	Gray	0.3
677	C	Wall	U Ctr		Poor	Plaster	Tan	-0.2
678	D	Wall	L Ctr		Poor	Plaster	Gray	0.3
679	D	Wall	U Ctr		Poor	Plaster	Tan	0.3
680	D	Ceiling			Poor	Concrete	Tan	<b>2.8</b>
Interior Room 055 129								
681	D	Wall	L Ctr		Poor	Plaster	Green	0.6
682	C	Wall	L Ctr		Poor	Plaster	Green	0.5
683	C	Wall	U Ctr		Poor	Plaster	White	0.6
684	B	Wall	L Ctr		Poor	Brick	Gray	0.6
685	B	Wall	U Ctr		Poor	Brick	Green	0.5
686	C	Ceiling			Poor	Concrete	Gray	<b>8.1</b>
Interior Room 056 130								
687	A	Wall	L Ctr		Poor	Brick	Gray	0.6
688	A	Wall	U Ctr		Poor	Brick	White	-0.1
689	B	Wall	L Ctr		Poor	Brick	Green	0.3
690	B	Wall	U Ctr		Poor	Brick	White	0.6
691	C	Wall	L Ctr		Poor	Concrete	Green	0.1
692	C	Wall	U Ctr		Poor	Concrete	White	0
693	D	Wall	L Ctr		Poor	Brick	Gray	<b>1</b>
694	D	Wall	U Ctr		Poor	Brick	White	-0.1
695	A	Ceiling			Poor	Concrete	Gray	0
Interior Room 057 220								
696	A	Wall	L Ctr		Poor	Brick	Gray	0.5
697	A	Wall	U Ctr		Poor	Brick	White	0.1
698	B	Wall	L Ctr		Poor	Brick	Gray	0.2
699	B	Wall	U Ctr		Poor	Brick	White	0.1
700	C	Wall	L Ctr		Poor	Concrete	Gray	0.3
701	C	Quality	Ctr		Poor	Concrete	Gray	0.3
702	C	Wall	U Ctr		Poor	Concrete	White	0
703	D	Wall	L Ctr		Poor	Brick	Gray	0.6
704	D	Wall	U Ctr		Poor	Brick	White	-0.2
705	A	Ceiling			Poor	Concrete	Gray	<b>1.7</b>
Interior Room 058 221								
706	D	Ceiling			Poor	Concrete	Green	<b>&gt;9.9</b>
707	D	Column	Ctr	L column	Poor	Concrete	Green	0.2
708	A	Wall	L Lft		Poor	Concrete	Green	0.3
709	A	Wall	U Lft		Poor	Concrete	Green	0.3

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Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm <sup>2</sup> )
710	A	Wall	L Ctr		Poor	Concrete	Green	0.5
711	A	Wall	U Ctr		Poor	Concrete	Green	0
712	D	Wall	L Ctr		Poor	Concrete	Gray	-0.3
713	D	Wall	U Ctr		Poor	Concrete	Gray	0.5
714	A	Wall	L Rgt		Poor	Brick	Green	0
715	A	Wall	U Rgt		Poor	Brick	Green	0.5
716	B	Wall	L Lft		Poor	Brick	Green	0.2
717	B	Wall	U Lft		Poor	Brick	Green	0.6
718	B	Wall	L Rgt		Poor	Brick	Green	0.6
719	B	Wall	U Rgt		Poor	Brick	Green	0.5
720	C	Wall	L Lft		Poor	Concrete	Green	0.2
721	C	Wall	U Lft		Poor	Concrete	Green	0.4
722	C	Wall	L Rgt		Poor	Concrete	Green	-0.2
723	C	Wall	U Rgt		Poor	Concrete	Green	0.4
724	D	Wall	L Lft		Poor	Brick	Green	0.3
725	D	Wall	U Lft		Poor	Brick	Green	0.6
726	D	Wall	L Ctr		Poor	Brick	Green	<b>1.8</b>
727	D	Wall	U Ctr		Poor	Brick	Green	0.6
728	D	Wall	L Ctr		Poor	Brick	Green	0.4
729	D	Wall	U Ctr		Poor	Brick	Green	-0.1
Interior Room 059 222								
730	A	Wall	L Ctr		Poor	Brick	Brown	0.1
731	A	Wall	U Ctr		Poor	Brick	Tan	0.2
732	B	Wall	L Ctr		Poor	Plaster	Brown	0.4
733	B	Wall	U Ctr		Poor	Plaster	Tan	0
734	C	Wall	L Ctr		Poor	Plaster	Brown	-0.3
735	C	Wall	U Ctr		Poor	Plaster	Tan	-0.2
736	D	Wall	L Ctr		Poor	Concrete	Gray	0.4
737	D	Wall	U Lft		Poor	Concrete	Tan	0.6
Interior Room 060 223								
738	B	Ceiling			Poor	Concrete	White	<b>6.7</b>
739	B	Column	Lft	L column	Poor	Concrete	Green	0
740	A	Wall	L Lft		Poor	Brick	Green	0.4
741	A	Wall	U Lft		Poor	Brick	White	0.4
742	A	Wall	L Ctr		Poor	Plaster	Green	-0.1
743	A	Wall	U Ctr		Poor	Plaster	White	-0.1
744	B	Window	Lft	Sill	Poor	Concrete	Green	-0.1
745	B	Wall	U Ctr		Poor	Concrete	White	0.2
746	A	Wall	L Rgt		Poor	Concrete	Green	0.5
747	A	Wall	U Rgt		Poor	Concrete	White	0.6
748	B	Wall	L Lft		Poor	Brick	Green	0.3
749	B	Wall	U Lft		Poor	Brick	White	0.6
750	C	Wall	L Lft		Poor	Concrete	Green	0.3
751	C	Wall	U Lft		Poor	Concrete	White	0.4
752	C	Quality	Lft		Poor	Concrete	White	0.5
753	C	Wall	L Rgt		Poor	Concrete	Green	0.6
754	C	Wall	U Rgt		Poor	Concrete	White	-0.3
755	D	Wall	L Lft		Poor	Concrete	Green	0.6
756	D	Wall	U Lft		Poor	Concrete	White	0
757	D	Wall	L Rgt		Poor	Concrete	Green	0
758	D	Wall	U Rgt		Poor	Concrete	White	-0.2
Interior Room 061 224								

\* Wall A is the road side (15<sup>th</sup> Street) of the building (east). Walls B/C/D are determined clockwise from Wall A.

Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm <sup>2</sup> )
759	A	Wall	L Ctr		Poor	Brick	Brown	0
760	A	Wall	U Ctr		Poor	Brick	Tan	0.5
761	B	Wall	L Ctr		Poor	Concrete	Brown	0.6
762	B	Wall	U Rgt		Poor	Concrete	Tan	0.4
763	C	Wall	L Ctr		Poor	Plaster	Brown	0.1
764	C	Wall	U Ctr		Poor	Plaster	Tan	0.6
765	D	Wall	L Ctr		Poor	Plaster	Brown	0.6
766	D	Wall	U Ctr		Poor	Plaster	Tan	0.5
Interior Room 999 Post Calibration 8/15/16								
767								<b>0.9</b>
768								<b>1</b>
769								<b>1</b>
770								-0.6

- The State of Wisconsin defines lead bearing paint as that which is equal to or greater than 1.0 mg/cm<sup>2</sup>.
- Readings with a negative value (i.e. -0.1) are equivalent to 0.0

**LEAD PAINT XRF TESTING DATA**

CLIENT:	Stantec Consulting Services Inc.	NORTHSTAR NO.	160-584
LOCATION:	1512 Washington St – Manitowoc, WI	SITE DATE:	August 16, 2016
WORK AREA:	Pre-Demolition	TECH:	A Stroud

Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm <sup>2</sup> )
Interior Room 999 Pre-Calibration 8/16/16								
1								0.9
2								1
3								1
4								-0.1
Interior Room 001 322								
5	A	Ceiling			Poor	Concrete	Gray	-0.3
6	A	Wall	L Ctr		Poor	Brick	Green	0.6
7	A	Wall	U Ctr		Poor	Brick	White	0.6
8	B	Wall	L Ctr		Poor	Brick	Green	0.2
9	B	Wall	U Ctr		Poor	Brick	White	0
10	C	Wall	L Ctr		Poor	Concrete	Green	0.1
11	C	Wall	U Ctr		Poor	Concrete	White	0.1
12	D	Wall	L Ctr		Poor	Brick	Green	0.5
13	D	Wall	U Ctr		Poor	Brick	White	0
Interior Room 002 323								
14	C	Ceiling			Poor	Concrete	White	-0.2
15	C	Column	Rgt	L column	Poor	Concrete	Green	0.2
16	A	Wall	L Lft		Poor	Concrete	Green	0.3
17	A	Wall	U Lft		Poor	Concrete	White	0.1
18	A	Wall	L Ctr		Poor	Concrete	Green	-0.1
19	A	Wall	U Ctr		Poor	Concrete	White	-0.3
20	A	Ceiling			Poor	Concrete	White	0
21	D	Wall	L Rgt		Poor	Brick	Green	0
22	D	Wall	U Rgt		Poor	Brick	White	0.1
23	A	Wall	L Ctr		Poor	Concrete	Green	0.6
24	A	Wall	U Ctr		Poor	Concrete	White	0.2
25	B	Wall	L Lft		Poor	Concrete	Green	0.4
26	B	Wall	U Lft		Poor	Brick	Green	0.4
27	B	Wall	L Ctr		Poor	Concrete	Green	0
28	B	Wall	U Ctr		Poor	Concrete	White	-0.2
29	C	Wall	L Lft		Poor	Concrete	Green	0.3
30	C	Wall	U Lft		Poor	Concrete	White	0.2
31	C	Wall	L Rgt		Poor	Concrete	Green	0.3
32	C	Wall	U Rgt		Poor	Concrete	White	0.2
33	D	Wall	L Lft		Poor	Brick	Green	0.5
34	D	Wall	U Lft		Poor	Brick	White	0.3
35	D	Wall	L Ctr		Poor	Brick	Green	0.4
36	D	Wall	U Ctr		Poor	Brick	White	0.6
Interior Room 003 324								
37	B	Ceiling			Poor	Concrete	White	0.4
38	C	Column	Ctr	L column	Poor	Concrete	White	0
39	A	Wall	L Lft		Poor	Brick	Green	-0.1

\* Wall A is the road side (15<sup>th</sup> Street) of the building (east). Walls B/C/D are determined clockwise from Wall A.

Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm <sup>2</sup> )
40	A	Wall	U Lft		Poor	Brick	White	-0.1
41	B	Wall	L Lft		Poor	Brick	Green	-0.2
42	B	Wall	U Lft		Poor	Plaster	White	0.3
43	B	Wall	L Ctr		Poor	Concrete	Green	0.5
44	B	Wall	U Ctr		Poor	Concrete	White	-0.1
45	A	Ceiling			Poor	Concrete	Green	-0.1
46	A	Wall	L Rgt		Poor	Concrete	Green	0
47	A	Wall	U Rgt		Poor	Concrete	White	0.2
48	B	Wall	L Lft		Poor	Brick	Green	0.4
49	B	Wall	U Lft		Poor	Brick	White	0.6
50	C	Wall	L Lft		Poor	Brick	White	-0.5
51	C	Quality	Lft		Poor	Brick	White	0
52	C	Wall	U Lft		Poor	Brick	White	-0.2
53	C	Wall	L Ctr		Poor	Concrete	Green	-0.1
54	C	Wall	U Ctr		Poor	Concrete	White	-0.1
55	C	Wall	L Rgt		Poor	Concrete	Green	0.3
56	C	Wall	U Rgt		Poor	Concrete	White	0.6
57	D	Wall	L Lft		Poor	Concrete	Green	-0.4
58	D	Wall	U Lft		Poor	Concrete	White	0.3
59	D	Wall	L Rgt		Poor	Concrete	Green	-0.1
60	D	Wall	U Rgt		Poor	Concrete	White	-0.1
Interior Room 004 325								
61	A	Wall	L Ctr		Poor	Brick	Brown	0.2
62	A	Wall	U Ctr		Poor	Brick	Tan	0.6
63	B	Wall	L Ctr		Poor	Concrete	Brown	0.6
64	B	Wall	U Rgt		Poor	Concrete	Tan	0.3
65	C	Wall	L Ctr		Poor	Plaster	Brown	0.1
66	C	Wall	U Ctr		Poor	Plaster	Tan	0.5
67	D	Wall	L Ctr		Poor	Plaster	Brown	0
68	D	Wall	U Ctr		Poor	Plaster	Tan	0.6
Interior Room 005 326								
69	A	Wall	U Ctr		Poor	Brick	Tan	0.4
70	B	Wall	U Ctr		Poor	Plaster	Tan	0.2
71	C	Wall	U Ctr		Poor	Plaster	Tan	-0.2
72	D	Wall	L Ctr		Poor	Concrete	Tan	0.2
Interior Room 006 327								
73	A	Wall	U Ctr		Poor	Plaster	Tan	0.1
74	B	Wall	L Ctr		Poor	Plaster	Brown	-0.2
75	C	Wall	U Ctr		Poor	Plaster	Tan	0.5
76	D	Wall	L Ctr		Poor	Concrete	Brown	0.1
Interior Room 007 422								
77	A	Ceiling			Poor	Concrete	White	0.1
78	A	Wall	L Ctr		Poor	Brick	Green	0.3
79	A	Wall	U Ctr		Poor	Brick	White	0.4
80	B	Wall	L Ctr		Poor	Brick	Green	0.4
81	B	Wall	U Ctr		Poor	Brick	White	0.3
82	C	Wall	L Ctr		Poor	Concrete	Green	-0.1
83	C	Wall	U Ctr		Poor	Concrete	White	0
84	D	Wall	L Ctr		Poor	Brick	Green	0.6
85	D	Wall	U Ctr		Poor	Brick	White	-0.2
Interior Room 008 423								
86	C	Ceiling			Poor	Concrete	White	0

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Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm <sup>2</sup> )
87	A	Wall	L Lft		Poor	Concrete	Green	0.1
88	A	Wall	U Lft		Poor	Concrete	White	0.3
89	D	Wall	L Ctr		Poor	Concrete	Green	0.5
90	D	Wall	U Ctr		Poor	Concrete	White	0.6
91	D	Wall	L Rgt		Poor	Brick	Green	0.4
92	D	Wall	U Rgt		Poor	Brick	White	0.5
93	A	Wall	L Ctr		Poor	Concrete	Green	0.4
94	A	Wall	U Ctr		Poor	Concrete	White	0.6
95	B	Wall	L Lft		Poor	Concrete	Green	0.6
96	B	Wall	U Lft		Poor	Concrete	White	0
97	B	Wall	L Rgt		Poor	Concrete	Green	0.6
98	B	Wall	U Rgt		Poor	Concrete	White	0.2
99	C	Wall	L Lft		Poor	Concrete	Green	0.6
100	C	Wall	U Lft		Poor	Concrete	White	0.5
101	C	Quality	Lft		Poor	Concrete	White	0.6
102	C	Wall	L Rgt		Poor	Concrete	Green	0.4
103	C	Wall	U Ctr		Poor	Concrete	White	0.6
104	D	Wall	L Lft		Poor	Brick	Green	0.1
105	D	Wall	U Lft		Poor	Brick	White	0.1
106	B	Ceiling			Poor	Concrete	White	0.2
Interior Room 009 424								
107	A	Wall	L Ctr		Poor	Concrete	Green	0.5
108	A	Wall	U Ctr		Poor	Concrete	White	0.6
109	D	Wall	L Ctr		Poor	Brick	Green	0.1
110	D	Wall	U Ctr		Poor	Brick	Green	0.6
111	D	Ceiling			Poor	Concrete	Silver	0.1
Interior Room 010 425								
112	A	Wall	L Ctr		Poor	Brick	Brown	0.4
113	A	Wall	U Ctr		Poor	Brick	Tan	0.3
114	B	Wall	L Ctr		Poor	Plaster	Brown	0.3
115	B	Wall	U Ctr		Poor	Plaster	Tan	-0.1
116	C	Wall	L Ctr		Poor	Plaster	Brown	0
117	C	Wall	U Ctr		Poor	Plaster	Tan	0
118	D	Wall	L Ctr		Poor	Concrete	Brown	0.6
119	D	Wall	U Lft		Poor	Concrete	Tan	0.4
Interior Room 011 426								
120	B	Ceiling			Poor	Concrete	White	0
121	B	Column	Ctr	L column	Poor	Concrete	White	0.5
122	A	Wall	L Lft		Poor	Brick	Green	-0.1
123	A	Wall	U Lft		Poor	Brick	White	0
124	A	Wall	L Ctr		Poor	Concrete	Green	-0.2
125	A	Wall	U Ctr		Poor	Concrete	White	-0.2
126	A	Wall	L Ctr		Poor	Plaster	Green	-0.1
127	A	Wall	U Ctr		Poor	Plaster	White	-0.2
128	B	Wall	L Ctr		Poor	Concrete	Green	0.1
129	B	Wall	U Ctr		Poor	Concrete	White	0.3
130	A	Ceiling			Poor	Concrete	White	0.5
131	A	Wall	L Rgt		Poor	Concrete	Green	0.6
132	A	Wall	U Rgt		Poor	Concrete	White	0.1
133	B	Wall	L Lft		Poor	Brick	Green	0.5
134	B	Wall	U Lft		Poor	Brick	White	0.4
135	B	Wall	L Rgt		Poor	Brick	Green	0.2

\* Wall A is the road side (15<sup>th</sup> Street) of the building (east). Walls B/C/D are determined clockwise from Wall A.

Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm <sup>2</sup> )
136	B	Wall	U Rgt		Poor	Brick	White	0.3
137	C	Wall	L Lft		Poor	Concrete	Green	0
138	C	Wall	U Lft		Poor	Concrete	White	-0.2
139	C	Wall	L Rgt		Poor	Concrete	Green	-0.2
140	C	Wall	U Rgt		Poor	Concrete	White	-0.1
141	D	Wall	L Lft		Poor	Concrete	Green	0.6
142	D	Wall	U Lft		Poor	Concrete	White	0.2
143	D	Wall	L Rgt		Poor	Concrete	Green	-0.1
144	D	Wall	U Rgt		Poor	Concrete	White	-0.3
Interior Room 012 427								
145	A	Wall	L Ctr		Poor	Plaster	Brown	-0.1
146	A	Wall	U Ctr		Poor	Plaster	Tan	0.1
147	B	Wall	L Ctr		Poor	Concrete	Brown	0.6
148	B	Wall	U Lft		Poor	Concrete	Tan	0.5
149	C	Wall	U Ctr		Poor	Plaster	Tan	-0.1
150	D	Wall	L Ctr		Poor	Plaster	Gray	-0.1
151	D	Quality	Ctr		Poor	Plaster	Gray	-0.3
Interior Room 013 520								
152	A	Ceiling			Poor	Concrete	White	-0.1
153	A	Wall	L Ctr		Poor	Brick	Green	0.5
154	A	Wall	U Ctr		Poor	Brick	White	0.4
155	B	Wall	L Ctr		Poor	Brick	Green	0.4
156	B	Wall	U Ctr		Poor	Brick	White	0.2
157	C	Wall	L Ctr		Poor	Concrete	Green	0.6
158	C	Wall	U Ctr		Poor	Concrete	White	0.5
159	D	Wall	L Ctr		Poor	Brick	Green	-0.1
160	D	Wall	U Ctr		Poor	Brick	White	-0.2
Interior Room 014 521								
161	C	Ceiling			Poor	Concrete	White	-0.3
162	A	Wall	L Lft		Poor	Concrete	Green	0.6
163	A	Wall	U Lft		Poor	Concrete	White	-0.4
164	D	Wall	L Ctr		Poor	Concrete	Tan	0.5
165	D	Wall	U Ctr		Poor	Concrete	Tan	-0.1
166	D	Wall	L Rgt		Poor	Brick	Tan	0.6
167	D	Wall	U Rgt		Poor	Plaster	Tan	0.5
168	A	Wall	L Rgt		Poor	Concrete	Silver	0.6
169	A	Wall	U Rgt		Poor	Concrete	Silver	0
170	B	Wall	L Ctr		Poor	Concrete	Gray	>9.9
171	B	Wall	U Ctr		Poor	Concrete	Gray	>9.9
172	B	Wall	L Lft		Poor	Concrete	Gray	1.1
173	A	Wall	L Rgt		Poor	Concrete	Gray	-0.2
174	C	Wall	L Lft		Poor	Concrete	Silver	0.3
175	C	Wall	U Lft		Poor	Concrete	Silver	0
176	B	Wall	L Rgt		Poor	Brick	Silver	0.6
177	C	Wall	L Lft		Poor	Concrete	Gray	-0.2
178	C	Wall	U Lft		Poor	Concrete	White	0.1
179	C	Wall	L Rgt		Poor	Concrete	Green	0.6
180	C	Wall	U Rgt		Poor	Concrete	Green	-0.4
181	D	Wall	L Lft		Poor	Brick	Tan	0
182	D	Wall	U Lft		Poor	Brick	Tan	-0.2
183	D	Wall	L Ctr		Poor	Brick	Gray	0.1
184	D	Wall	U Ctr		Poor	Brick	White	-0.1

\* Wall A is the road side (15<sup>th</sup> Street) of the building (east). Walls B/C/D are determined clockwise from Wall A.

Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm <sup>2</sup> )
185	D	Wall	L Rgt		Poor	Brick	Silver	0.6
186	D	Wall	U Rgt		Poor	Brick	Silver	0.3
Interior Room 015 522								
187	A	Wall	L Ctr		Poor	Brick	Brown	0.3
188	A	Wall	U Ctr		Poor	Brick	Green	0.1
189	B	Wall	L Ctr		Poor	Plaster	Brown	0.1
190	B	Wall	U Ctr		Poor	Plaster	Green	-0.2
191	C	Wall	L Ctr		Poor	Plaster	Gray	0.3
192	C	Wall	U Ctr		Poor	Plaster	Green	0.5
193	D	Wall	L Ctr		Poor	Concrete	Brown	0.6
194	D	Wall	U Lft		Poor	Concrete	Green	-0.1
Interior Room 016 523								
195	B	Ceiling			Poor	Concrete	Tan	0.1
196	B	Column	Ctr	L column	Poor	Concrete	White	0.4
197	A	Wall	L Lft		Poor	Brick	Green	0.2
198	A	Wall	U Lft		Poor	Brick	White	0.2
199	A	Wall	L Ctr		Poor	Concrete	Green	0
200	A	Wall	U Ctr		Poor	Concrete	White	-0.3
201	A	Quality	Ctr		Poor	Concrete	White	0
202	B	Wall	L Lft		Poor	Concrete	Green	0
203	B	Wall	U Lft		Poor	Concrete	Green	0
204	A	Wall	L Rgt		Poor	Concrete	Green	0.5
205	A	Wall	U Rgt		Poor	Concrete	Green	0.6
206	B	Wall	L Lft		Poor	Brick	Green	0.3
207	B	Wall	U Lft		Poor	Brick	White	0.4
208	B	Wall	L Rgt		Poor	Brick	Green	0.4
209	B	Wall	U Rgt		Poor	Brick	White	-0.1
210	C	Wall	L Lft		Poor	Concrete	Green	0.3
211	C	Wall	U Lft		Poor	Concrete	White	0.1
212	C	Wall	L Rgt		Poor	Concrete	Green	0.6
213	C	Wall	U Rgt		Poor	Concrete	Green	0.2
214	D	Wall	L Lft		Poor	Concrete	Green	-0.2
215	D	Wall	U Lft		Poor	Concrete	Green	-0.1
216	D	Wall	L Rgt		Poor	Concrete	Green	-0.5
217	D	Wall	U Rgt		Poor	Concrete	Green	-0.3
Interior Room 017 524								
218	A	Wall	L Ctr		Poor	Brick	Brown	0.2
219	A	Wall	U Ctr		Poor	Brick	Tan	0.4
220	B	Wall	L Ctr		Poor	Concrete	Brown	-0.2
221	B	Wall	U Rgt		Poor	Concrete	Tan	-0.1
222	C	Wall	L Ctr		Poor	Plaster	Brown	0.2
223	C	Wall	U Ctr		Poor	Plaster	Tan	0.2
224	D	Wall	U Ctr		Poor	Plaster	Tan	0.1
Interior Room 018 618								
225	A	Ceiling			Poor	Concrete	White	0.3
226	A	Wall	L Ctr		Poor	Brick	Green	0.2
227	A	Wall	U Ctr		Poor	Brick	White	0.2
228	B	Wall	L Ctr		Poor	Brick	Green	0.2
229	B	Wall	U Ctr		Poor	Brick	White	0.1
230	C	Wall	L Ctr		Poor	Concrete	Green	0
231	C	Wall	U Ctr		Poor	Concrete	White	0.6
232	D	Wall	L Ctr		Poor	Brick	Green	0.5

\* Wall A is the road side (15<sup>th</sup> Street) of the building (east). Walls B/C/D are determined clockwise from Wall A.

Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm <sup>2</sup> )
233	D	Wall	U Ctr		Poor	Brick	White	0.4
Interior Room 019 619								
234	D	Horz Beam	Ctr		Poor	Concrete	Silver	9.4
235	C	Ceiling			Poor	Plaster	Silver	>9.9
236	C	Column	Rgt	L column	Poor	Concrete	Silver	>9.9
237	A	Wall	L Lft		Poor	Concrete	Gray	7.9
238	A	Wall	U Lft		Poor	Concrete	Gray	>9.9
239	A	Wall	L Ctr		Poor	Concrete	Gray	1.3
240	A	Wall	U Ctr		Poor	Concrete	Gray	4.2
241	D	Wall	L Ctr		Poor	Concrete	Gray	0.1
242	D	Wall	U Ctr		Poor	Concrete	Gray	8.4
243	D	Wall	L Rgt		Poor	Brick	Silver	7.2
244	D	Wall	U Rgt		Poor	Plaster	Silver	8
245	A	Wall	L Rgt		Poor	Concrete	Silver	1.9
246	A	Wall	U Rgt		Poor	Brick	Silver	7.9
247	B	Wall	L Lft		Poor	Concrete	Silver	>9.9
248	B	Wall	U Lft		Poor	Concrete	Silver	5.9
249	B	Wall	L Ctr		Poor	Concrete	Silver	>9.9
250	B	Wall	L Rgt		Poor	Concrete	Silver	9.2
251	B	Quality	Rgt		Poor	Concrete	Silver	9.3
252	C	Wall	U Ctr		Poor	Concrete	Silver	>9.9
Interior Room 020 620								
253	A	Wall	U Ctr		Poor	Brick	Silver	-0.1
254	B	Wall	U Ctr		Poor	Plaster	Silver	-0.3
255	C	Wall	U Ctr		Poor	Plaster	Silver	0
256	D	Wall	L Ctr		Poor	Concrete	Silver	0.1
Interior Room 021 621								
257	A	Wall	U Ctr		Poor	Brick	Silver	0
258	B	Wall	U Ctr		Poor	Brick	Silver	0.3
259	C	Wall	L Ctr		Poor	Concrete	Silver	0.2
260	D	Wall	L Ctr		Poor	Brick	Silver	0.4
Interior Room 022 622								
261	B	Ceiling			Poor	Plaster	Green	>9.9
262	B	Column	Ctr	L column	Poor	Concrete	Green	9.5
263	A	Wall	L Lft		Poor	Brick	Green	7.9
264	A	Wall	U Lft		Poor	Brick	White	>9.9
265	A	Wall	L Ctr		Poor	Concrete	Green	>9.9
266	A	Wall	U Ctr		Poor	Concrete	Green	8.5
267	B	Wall	L Lft		Poor	Concrete	Green	>9.9
268	B	Wall	U Ctr		Poor	Concrete	Green	8.4
269	A	Wall	L Rgt		Poor	Concrete	Green	8.5
270	B	Wall	U Lft		Poor	Brick	Green	-0.1
271	B	Wall	L Rgt		Poor	Brick	Green	-0.4
272	C	Wall	U Lft		Poor	Concrete	White	7.2
273	C	Wall	L Rgt		Poor	Concrete	Green	>9.9
274	D	Wall	U Lft		Poor	Concrete	Green	6.7
275	D	Wall	L Rgt		Poor	Concrete	Red	6.8
Interior Room 023 623								
276	A	Wall	L Ctr		Poor	Brick	Green	0
277	A	Wall	U Ctr		Poor	Brick	Green	0
278	B	Wall	L Ctr		Poor	Concrete	Green	0.5
279	C	Wall	L Ctr		Poor	Plaster	Green	0.5

\* Wall A is the road side (15<sup>th</sup> Street) of the building (east). Walls B/C/D are determined clockwise from Wall A.



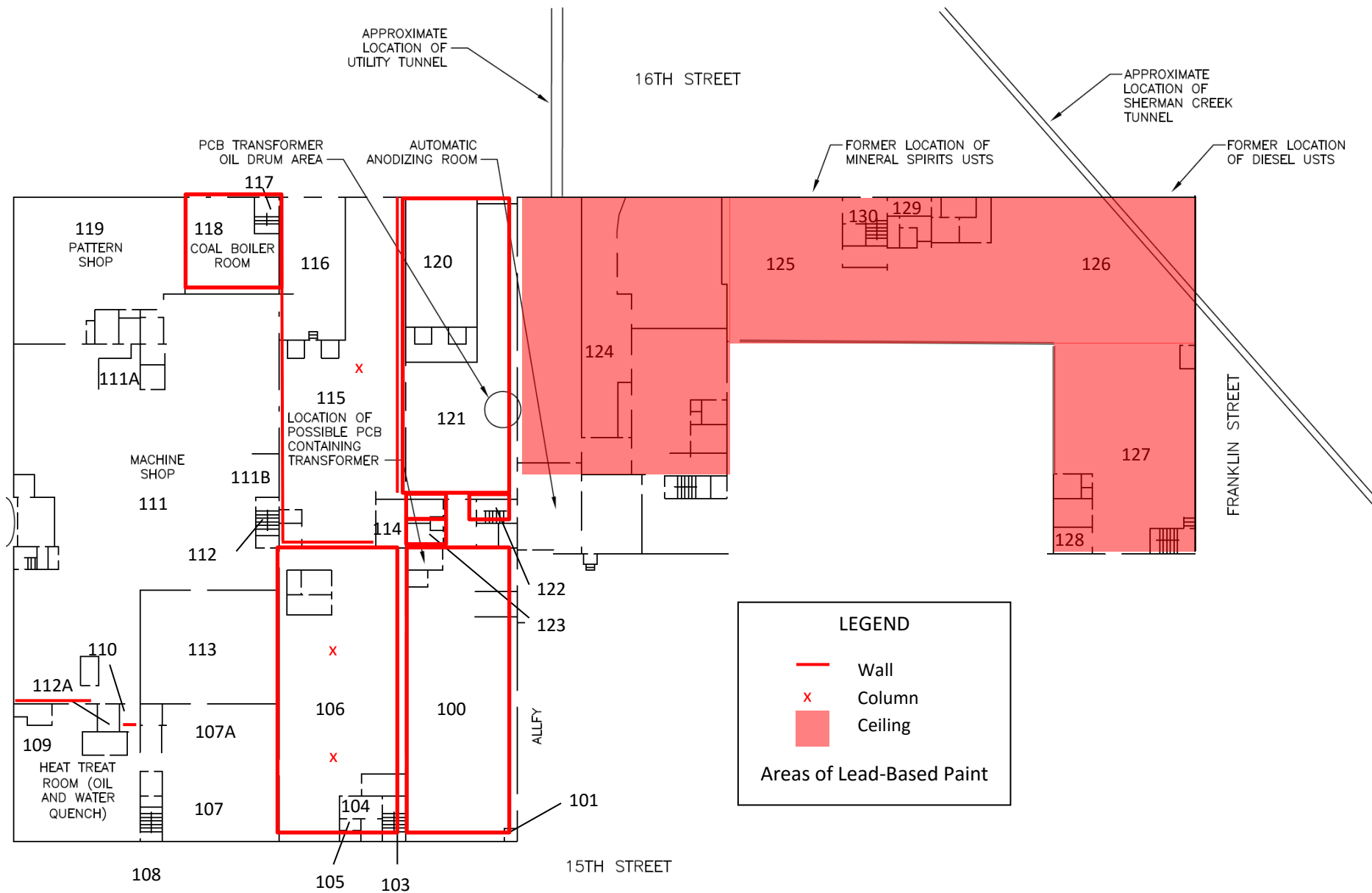
Reading No	Wall	Structure	Location	Member	Paint Condition	Substrate	Color	Lead (mg/cm <sup>2</sup> )
280	C	Wall	U Ctr		Poor	Plaster	Green	-0.4
281	D	Wall	U Ctr		Poor	Plaster	Green	-0.2
Interior Room 999 Post Calibration 8/16/16								
282								<b>0.9</b>
283								<b>1</b>
284								<b>1</b>
285								-0.3

- The State of Wisconsin defines lead bearing paint as that which is equal to or greater than 1.0 mg/cm<sup>2</sup>.
- Readings with a negative value (i.e. -0.1) are equivalent to 0.0

**Stantec Consulting Services Inc.**

**Mirro Building No. 9  
1512 Washington Street  
Manitowoc, WI 54220**

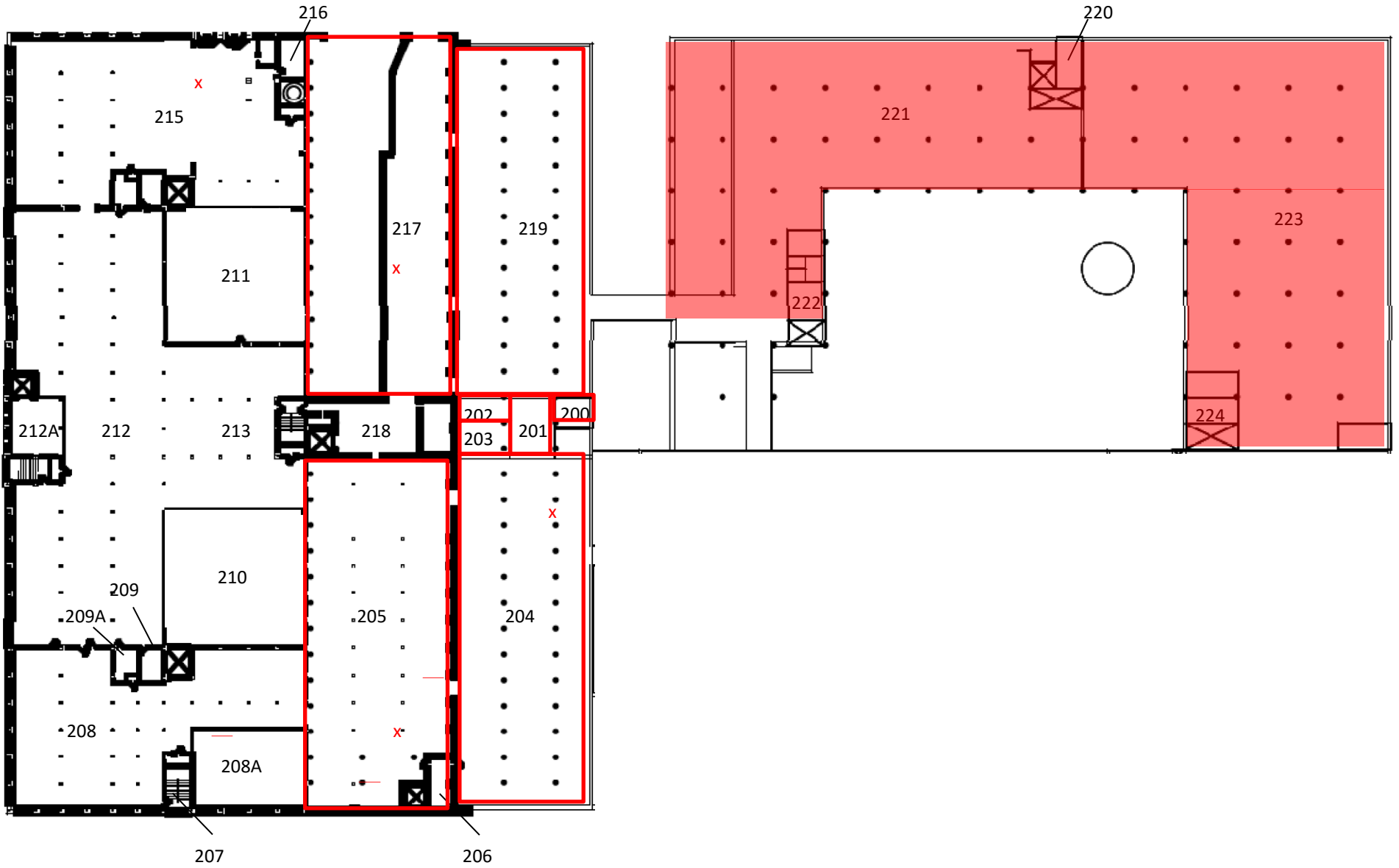
**September 2016**



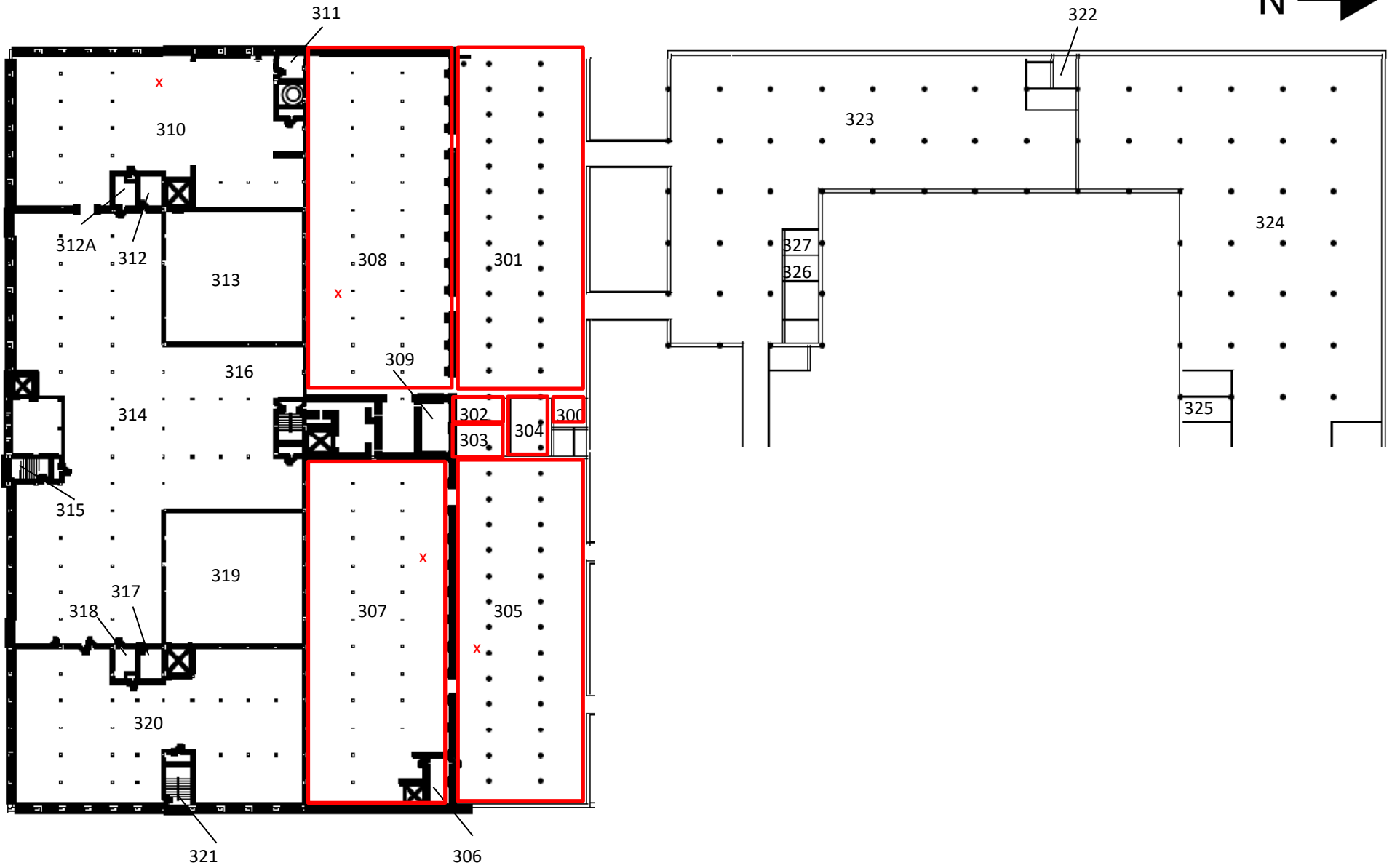
**Ground Floor Plan**



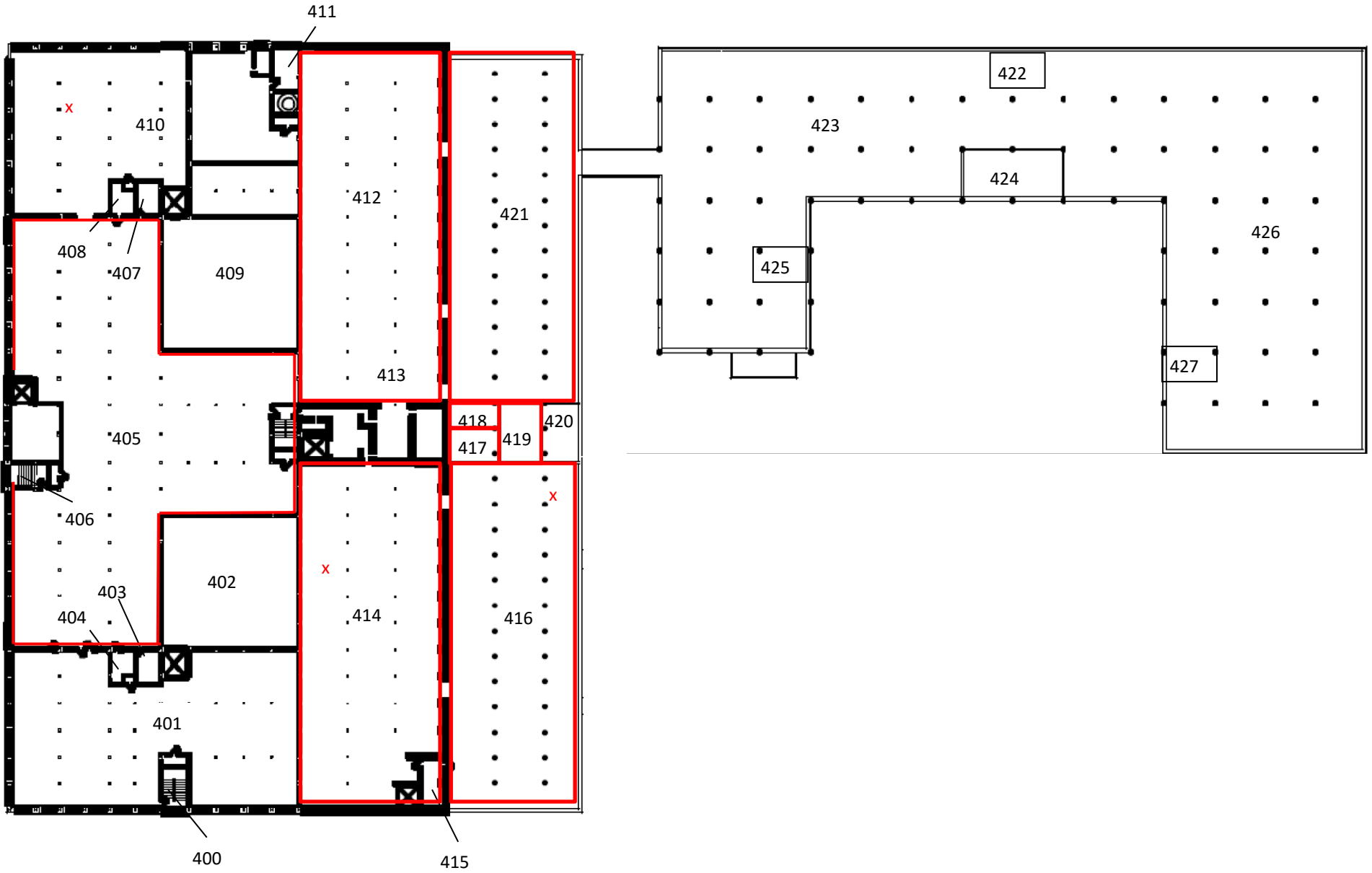
2nd Floor Plan



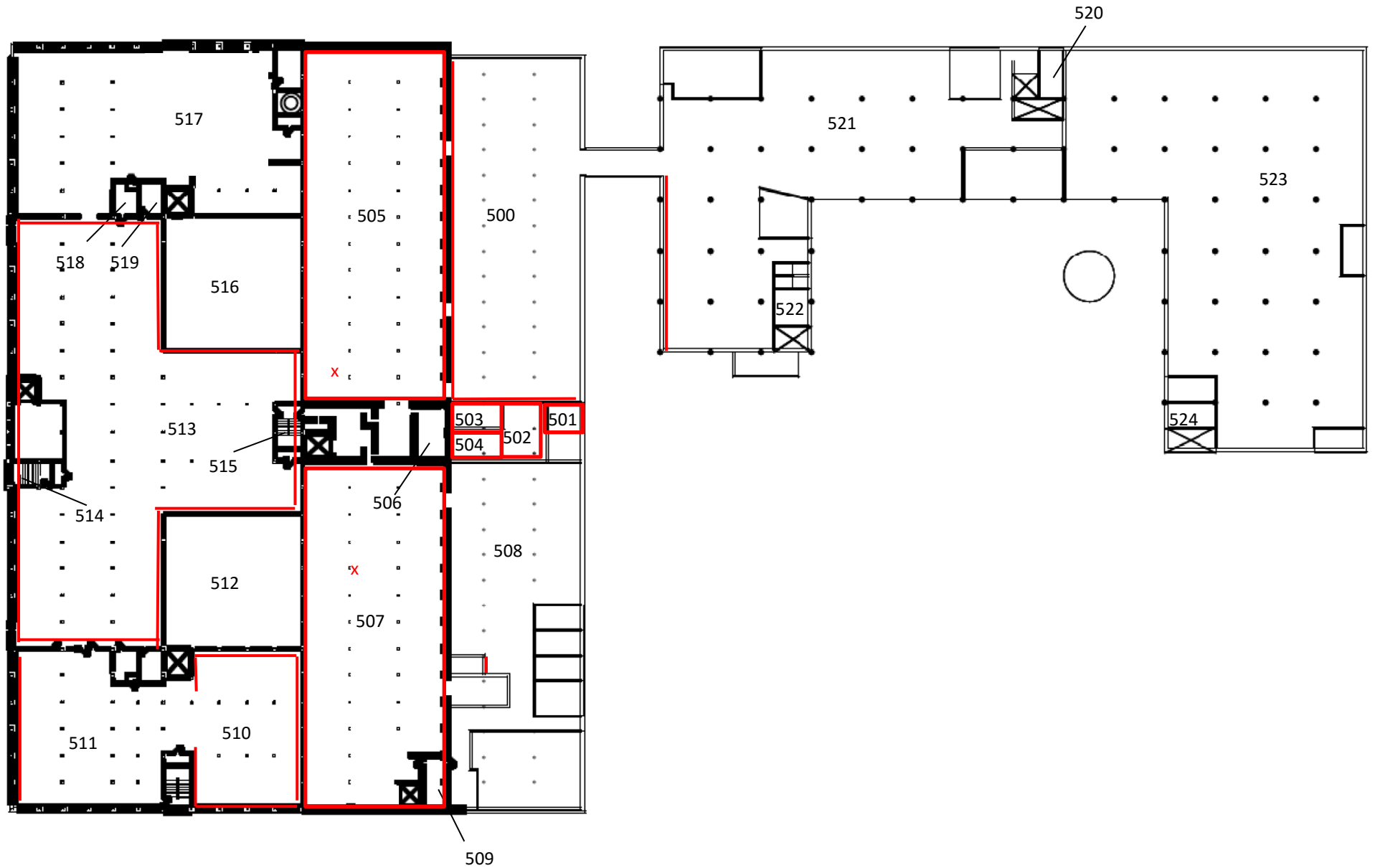
**3rd Floor Plan**



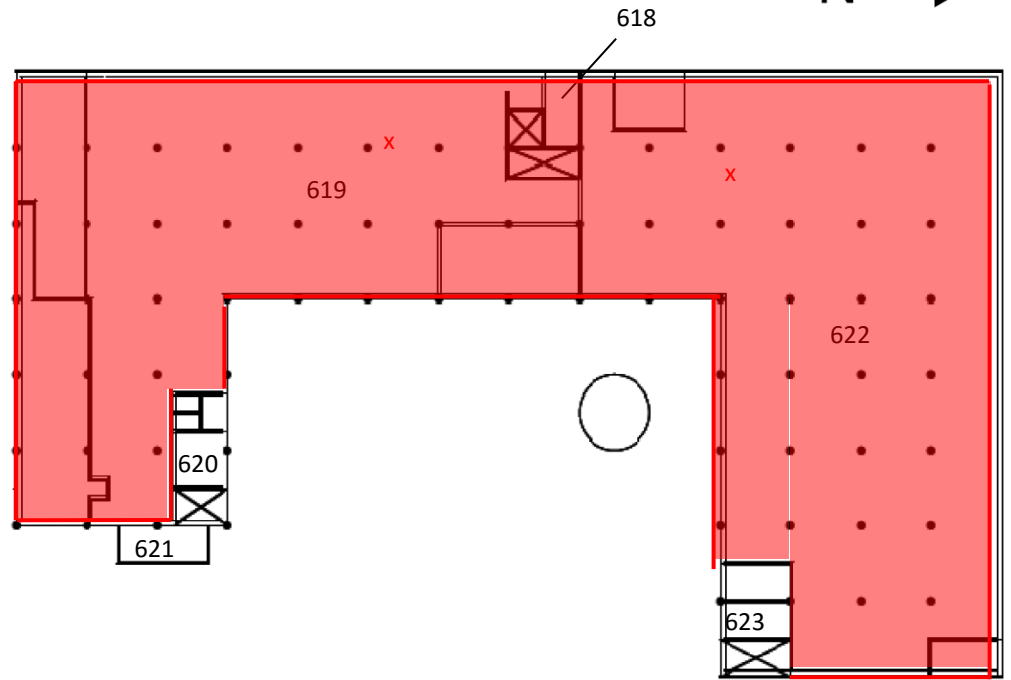
4th Floor Plan



5th Floor Plan

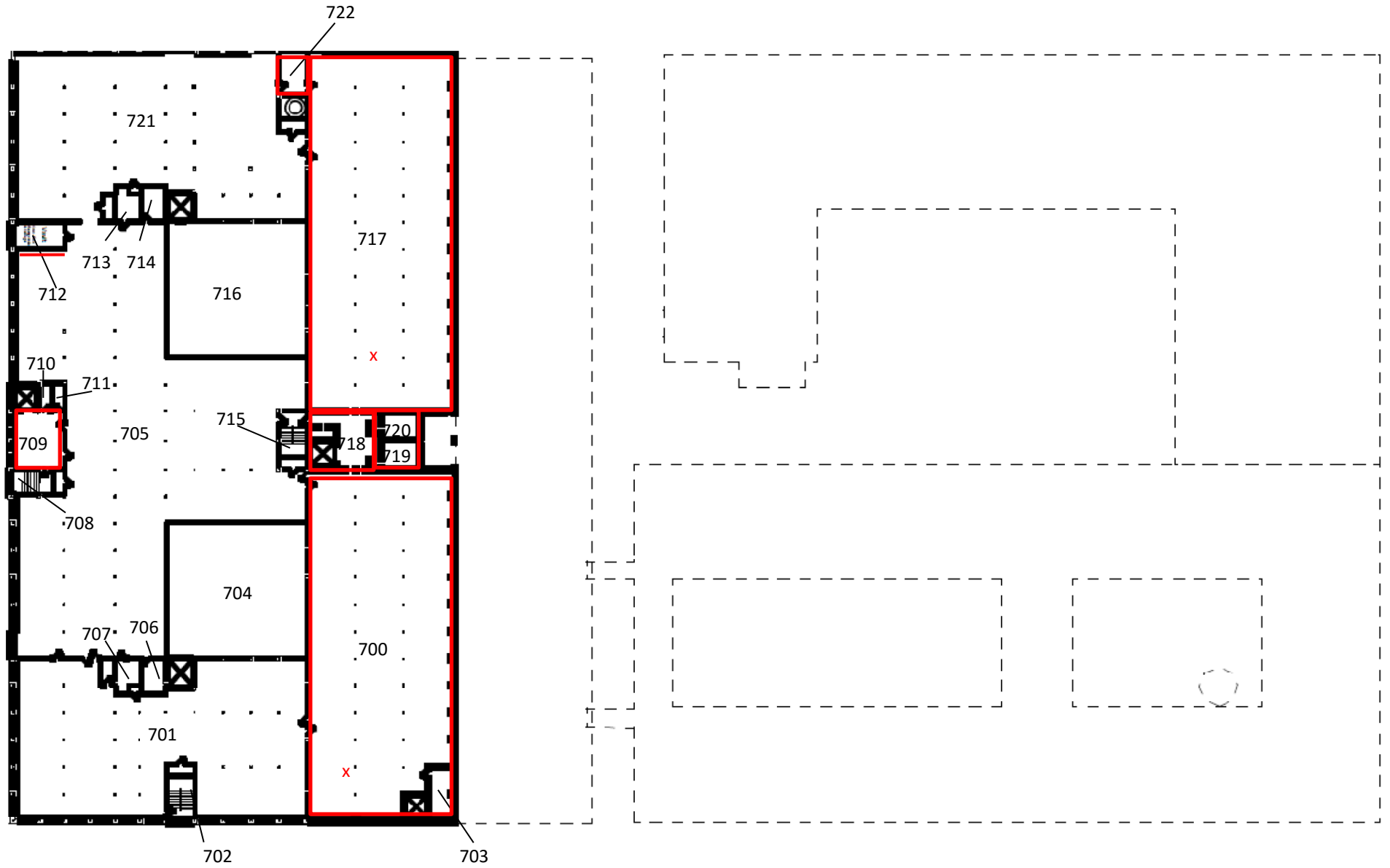


**6th Floor Plan**





**7th Floor Plan**



**NorthStar Environmental Testing, LLC.**

# Company Certificate

This certifies that

**NORTHSTAR ENVIRONMENTAL TESTING LLC**

817 OAK RIDGE RD  
MOSINEE WI 54455-8672

is certified under ch. DHS 159, Wis. Adm. Code as a

**Asbestos Company - Primary**

Certificate Issue Date: 05/21/2015  
Expiration Date: 08/01/2017, 12:01 a.m.  
Certification #: CAP-925800

Wisconsin Department of Health Services  
Division of Public Health  
Bureau of Environmental and Occupational Health  
Asbestos & Lead Section  
PO Box 2659  
Madison WI 53701-2659  
Phone: (608) 261-6876



*Shelley A Bruce*  
Shelley A Bruce,  
Unit Supervisor

COPY



# Company Certificate

This certifies that

**NORTHSTAR ENVIRONMENTAL TESTING LLC**

817 OAK RIDGE RD  
MOSINEE WI 54455-8672

is certified under ch. DHS 163, Wis.Adm.Code as a

**Lead (Pb) Company**

Certificate Issue Date: 05/21/2015  
Expiration Date: 08/01/2017, 12:01 a.m.  
Certification #: DHS-925800

Wisconsin Department of Health Services  
Division of Public Health  
Bureau of Environmental and Occupational Health  
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PO Box 2659  
Madison WI 53701-2659  
Phone: (608) 261-6876



*Shelley A Bruce*  
Shelley A Bruce,  
Unit Supervisor



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