

**A Comprehensive Asbestos Survey and Assessment
For the
University of Utah's College of Nursing
Building 588
University of Utah Campus
10 South 2000 East
Salt Lake City, Utah**

April 17, 2008

Submitted To:

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for the
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10 South 2000 East
Salt Lake City, Utah**

Executive Summary

A comprehensive asbestos survey and assessment for the University of Utah's College of Nursing was completed at the subject facility on March 19, 2008. Bulk samples were collected from suspect asbestos materials and analyzed to determine if they contained asbestos. Mr. William Bowen, State of Utah, Division of Facilities Construction & Management requested this asbestos survey.

All areas inside and outside the building, except the roofing materials, were inspected.

Amounts of ACMs identified in this survey and estimated removal costs for these materials by a certified asbestos abatement contractor are presented in the following Executive Summary table. The cost estimates in this table include only asbestos removal costs; abatement design and management fees are not included. The estimated removal cost for all of the ACMs in the building is **\$1,486,008**.

The estimated removal and disposition costs for the uniform hazardous materials, when accomplished by a certified asbestos abatement contractor in conjunction with the asbestos abatement is **\$13,059**.

There is important information contained in the body and appendices of this report that is not included in this executive summary. It is therefore recommended that this report be read in its entirety. Information specific to the asbestos regulatory requirements is provided in ¶ 5.1.

Executive Summary
Asbestos-containing Materials by Homogeneous
 University of Utah College of Nursing
 DFCM

Homogeneous Area Number	Material Description/Location	Asbestos Content	Amount	Cost Estimate ⁽¹⁾
M001	Wall System w/multiple layers - Standard gypsum board wall system Rooms and hallway areas throughout the facility except renovated areas	ND-2% Chrysotile Joint Comp. <1%	152,828 sq. ft.	\$305,656
M007	Ceiling Tile - 2' x 2' long, thin, deep worm and pin hole pattern, flush edge Random rooms and hallway areas throughout the facility	<1 - 3% Chrysotile 1.5 - 2% Amosite	392 sq. ft.	\$710
M008	Floor Tile and Mastic on Cement - 9" tan, streaked, with black mastic Level 1 hallway	8% Chrysotile Tile >1% Chrysotile Mastic	2,196 sq. ft.	\$5,183
M008A	Floor Tile and Mastic Under GDC - 9" tan, streaked, with black mastic 12 rooms on Level 1	8% Chrysotile Tile >1% Chrysotile Mastic	1,975 sq. ft.	\$7,564
M019	Floor Tile and Mastic on Cement - 9" gray with white streaks and black South stairwell landings from Level 1 to the Penthouse	1% Chrysotile Tile 1% Chrysotile Mastic	424 sq. ft.	\$1,001
M021	Floor Tile and Mastic on Cement - 12" rose marble tile with black mastic Level 1 west hallway	ND Tile 6% Chrysotile Mastic	476 sq. ft.	\$1,123
M022	Floor Tile Mastic-Under GDC - Black Two rooms on Level 1 and one room on Level 3	6% - 8% Chrysotile	1,976 sq. ft.	\$4,446
M023	Ceiling Tile - 2' x 4' long lateral worm and pin hole pattern, flush edge 109 rooms and offices throughout the facility	ND - 3% Chrysotile ND - 3% Amosite	25,268 sq. ft.	\$45,735
M028	Fire Door - 9' wood door with white plaster core, labeled with no rating Classroom 212, the north stairwell on all levels and 6 random rooms	5% Chrysotile 5% Amosite	13 units	\$1,495

Homogeneous Area Number	Material Description/Location	Asbestos Content	Amount	Cost Estimate ⁽¹⁾
M030	Floor Tile and Mastic on Cement - 12" light gray with rust streaks and black mastic Random rooms on Levels 2 and 5, and throughout most of Level 4	>1% Chrysotile Tile >1% Chrysotile Mastic	5,231 sq. ft.	\$12,345
M030A	Floor Tile and Mastic Under GDC - 12" light gray with rust streaks and black mastic Throughout much of Level 4	>1% Chrysotile Tile >1% Chrysotile Mastic	4,294 sq. ft.	\$16,446
M033	Light Fixture - Wire Insulation - Recessed light fixture wire insulation Random locations throughout the facility	Assumed	10 units	\$210
M035	Vinyl Floor Sheeting - Thin, brittle gray mosaic pattern without backing South stairwell hallway on Levels 3 and 5	3% Chrysotile Sheeting <1% T.C.F. Mastic	64 sq. ft.	\$256
M035A	Vinyl Floor Sheeting under Floor Sheeting - Thin, brittle gray mosaic pattern without backing South stairwell hallway on Level 2	3% Chrysotile Sheeting <1% T.C.F. Mastic	176 sq. ft.	\$792
M037	Ceiling Tile - 2' x 2' long, real thin worm and pin hole pattern, flush edge Hallways around the elevator lobbies and some offices on Levels 3 and 4	ND - 3% Chrysotile 2% Amosite	712 sq. ft.	\$1,289
M038	Floor Tile and Mastic on Cement - 12" beige marble with black mastic Level 3 atrium and hallways and 26 offices	>1% Chrysotile Tile >1% Chrysotile Mastic	10,596 sq. ft.	\$25,007
M038A	Floor Tile and Mastic Under GDC - 12" beige marble with black mastic Level 3, 8 offices and/or classrooms	>1% Chrysotile Tile >1% Chrysotile Mastic	4,594 sq. ft.	\$17,595
M039	Leveling Compound - Gray Random locations throughout the facility	>1% Chrysotile		
M043	Floor Tile and Mastic on Cement - 12" light tan with rust streaks and black mastic Level 4, supply room 402, southwest	8% Chrysotile Tile >1% Chrysotile Mastic	15 sq. ft.	\$35
M047	Fire Door - 9' wood fire door, VT Industries, 1 hour rated North stairwell on Level 5	Assumed	1 units	\$115

Cost Area Number	Homogeneous	Material Description/Location	Asbestos Content	Amount	Estimate ⁽¹⁾
M054	Ceiling Tile - All non-ACM ceiling tiles below ACM fireproofing Some areas on all levels		Contaminated	30,370 sq. ft.	\$54,970
S001	Spray Structural Fireproofing - Light tan, medium soft Throughout the facility except the west half of Level 5, 75% of Level 2 and some random locations on Levels 1, 3 and 4		3 - 6% Chrysotile	120,015 sq. ft.	\$955,319
S004A	Spray Structural Fireproofing - Soft, bluish gray Level 5-atrium area and some rooms		ND - 15% Chrysotile	2,387 sq. ft.	\$19,001
T001	Pipe Fitting Insulation (inaccessible) - Cloth covered white plaster on fibrous glass insulated pipe runs Random locations above ceilings on all levels		1.5% - 3% Chrysotile	145 units	\$3,384
T002	Pipe Fitting Insulation - Canvas covered white plaster on fibrous glass Basement mechanical room		3% Chrysotile	68 units	\$1,270
T003	Pipe Fitting Insulation - Canvas covered white plaster on fibrous glass Basement mechanical room		3% Chrysotile	100 units	\$1,867
T004	Tank Insulation - Cloth covered white plaster Basement mechanical room, north area		15% Amosite	35 sq. ft.	\$401
T005	Pipe Insulation - Cloth covered pre-formed plaster Basement mechanical room, both north and south areas		15% Chrysotile	200 ln. ft.	\$2,234
T005A	Pipe Fitting Insulation - Cloth covered white plaster Basement mechanical room, north and south areas		2% Chrysotile	30 units	\$560

Note 1: Cost Estimates include asbestos removal costs only; abatement design, management fees and replacement costs are not included. Please refer to Section 6.0 for more details.

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1.0 INTRODUCTION

A comprehensive asbestos survey and assessment for the University of Utah's College of Nursing was completed at the subject facility on March 19, 2008. The purpose of this survey was to identify the existence, extent, and condition of both friable and non-friable asbestos-containing materials (ACM). Bulk samples were collected from suspect materials and analyzed for asbestos content. Each occurrence of ACM was assessed for friability and condition.

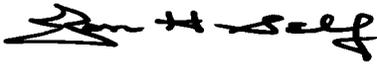
The following accredited inspector performed the inspection, collected the samples, and made the assessments:



John C. Larson
State of Utah Asbestos Inspector
Certification No. ASB-0894

04/17/08
Date

This report was reviewed by:



Jon H. Self
Asbestos Program Manager

04/17/08
Date

2.0 BUILDING DESCRIPTION

Building Identification

Building Address 10 South 2000 East, Salt Lake City, Utah

Building Construction

Building Construction Date Circa 1969
Building Type Education and Administration
Building Total Sq. Ft. Approximately 98,500 sq. ft.
Structural System Concrete, block and steel
Exterior Wall Construction Brick
Floor Deck Construction Concrete
Roof Deck Construction Concrete
Roof Construction Membrane roof

Floors

Floors Above Grade Five
Floors Below Grade Two

Interior Finishes

Floors Carpet, vinyl floor sheeting, vinyl floor tile,
ceramic tile and concrete
Walls Gypsum board wall system, plaster, ceramic
tile, concrete and block

Building Mechanical

Heating Plant Steam supply from external boiler
Main Heating Distribution: Ducted supply in ceilings
Cooling..... Chilled water system

Further, the NESHAP regulations state that any sample found to contain less than 10% asbestos but greater than “none detected,” by visual estimation, must be assumed to contain greater than 1% asbestos unless confirmed to be 1.0% or less asbestos by point counting analysis. All samples found to contain asbestos in the range between greater than 1% and 10% by standard PLM analysis were assumed in this report to contain greater than 1% asbestos. For homogenous areas where all of the samples were reported as greater than None Detected but equal to or less than 1% asbestos, samples were point counted until one of the samples exceeded 1% or all were found to be 1% or less. In the case of layered samples, such as gypsum board wall systems and floor tile and mastic, where positive layers were detected, analysis results of the individual layers are evaluated and reported. The laboratory reports can be found in Appendix B of this report.

4.0 SURVEY RESULTS

4.1 Asbestos-Containing Materials

Homogeneous areas of suspect ACM are identified as being ACM if the laboratory analysis shows the material to contain any detectable asbestos, unless subsequent point count analysis resulted in 1.0% or less asbestos being detected. Table 1 in the Executive Summary and in Appendix A lists all homogeneous areas that were found to be ACM. Each material is described by type of material, friability and visual appearance.

Friability is defined in accordance with EPA’s NESHAP regulations.

“Friable ACM” is any material containing more than 1% asbestos (as determined by PLM) that, when dry, may be crumbled, pulverized, or reduced to powder by hand pressure and also includes non-friable ACM that may become friable during building demolition.

“Non-friable ACM” is any material containing more than 1% asbestos (as determined by PLM) that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

“Category I non-friable ACM” are asbestos-containing resilient floor coverings (commonly known as vinyl asbestos tile (VAT)), asphalt roofing products, packings, and gaskets.

“Category II non-friable ACM” encompasses all other non-friable ACM.

Note: In accordance with OSHA guidelines and IHI policy, when a layer within a gypsum board wall system tests positive for asbestos, that layer is evaluated independently from the rest of the sample. Consequently, a sample of gypsum board wall system with asbestos only in the joint compound layer would likely be analyzed as a non-ACM using EPA-recommended composite analysis and be analyzed as an ACM (or containing measurable asbestos capable of producing airborne asbestos concentrations greater than the OSHA Permissible Exposure Level) following OSHA guidelines because

the asbestos layer is evaluated independently. Please see Section 5 of this report for further discussion of this matter.

4.2 Non-Asbestos-Containing Materials

Homogeneous areas of suspect ACM are identified as *non*-ACM if the laboratory analysis shows the material to contain asbestos in concentrations between None Detected up to and including 1%. Where results of the initial PLM analysis were in the range between above None Detected up to and including 1%, point counting was used to confirm that asbestos concentrations did not exceed 1%. Table 2, located in Appendix A of this report, lists all homogeneous areas that were found to be non-ACM.

4.3 Bulk Sample Analytical Results

Table 3, located in Appendix A of this report, lists all of the bulk samples (in order by sample number) that were collected from homogeneous areas of suspect ACM, along with the laboratory analytical results. Each sample was given a unique sample number. There may be more than one sample number for the same homogeneous area of suspect ACM. The homogeneous areas of suspect ACM are identified in this table under the EPA AHERA material categories of Miscellaneous (M-##), Thermal System Insulation (T-##), and Surfacing (S##) with sequential homogeneous area numbers being assigned within each category. The sample locations listed on this table provide brief, but specific, descriptions of the locations where each of the samples was collected. This is different from the homogeneous area locations provided in Tables 1 and 2 that describe all of the locations where that homogeneous area material are located. Table 4 is the same as Table 3 except that the entries have been sorted by homogeneous area number.

4.4 Damage and Hazard Assessment

Each homogeneous area of ACM has been assessed for existing damage, accessibility, and potential for future damage, and this information is presented in Table 5, located in Appendix A of this report. This table also lists the substrate present beneath each homogeneous area of ACM.

Each homogeneous area of ACM and asbestos-containing building material (ACBM) was classified into one of the following seven categories, as specified in EPA's AHERA regulations (40 CFR §763.88):

- (1) Damaged or significantly damaged thermal system insulation ACM.
- (2) Damaged friable surfacing ACM.
- (3) Significantly damaged friable surfacing ACM.
- (4) Damaged or significantly damaged friable miscellaneous ACM.
- (5) ACBM with potential for damage.
- (6) ACBM with potential for significant damage.
- (7) Any remaining friable ACBM or friable suspected ACBM.
- (X) Not applicable (material is non-friable).

The damage categories are defined as follows:

3.0 SURVEY PROCEDURES

3.1 Building Survey

All accessible areas of the facility except the roof were visually inspected to identify suspect asbestos containing materials (ACM.) All accessible surfaces, structures, and mechanical systems within these areas were examined and all suspected ACM was touched to determine friability.

Suspect ACM was identified and assessed in homogeneous areas. A homogeneous area is defined as a single material, uniform in texture and appearance, installed at one time, and unlikely to consist of more than one type, or formulation, of material. In cases where joint compound and/or tape has been applied to wallboard (gypsum board) and cannot be visually distinguished from the wallboard, it is considered an integral part of the wallboard and in effect becomes one material forming a wall or ceiling "system."

Each homogeneous area was given a unique material identification number. Each ID number begins with a letter: "S" for surfacing materials, "T" for thermal system insulation, or "M" for miscellaneous materials. This letter is followed by a three-digit number, assigned in consecutive order. This number is used to identify the homogeneous area throughout the inspection report.

3.2 Bulk Sample Collection

Bulk samples were collected from all accessible homogeneous areas of suspect ACM for subsequent laboratory analysis to determine actual asbestos content.

The number of samples collected from each homogeneous area generally followed the EPA AHERA regulations (40 CFR §763.86). Friable surfacing materials were sampled using the random sampling scheme given in the EPA publication 560/5-85-030a, titled "Asbestos in Buildings: Simplified Sampling Scheme for Friable Surfacing Materials."

3.3 Bulk Sample Analysis

Bulk samples were analyzed using polarized light microscopy (PLM) and visual estimation in accordance with the EPA Interim Method for the Determination of Asbestos in Bulk Insulation Samples, EPA-600/M4-82-020. Samples were analyzed by Dixon Information Inc., 78 West 2400 South, Salt Lake City, Utah 84115. The laboratory is accredited under the National Institute of Standards and Technology - National Voluntary Laboratory Accreditation Program (NIST-NVLAP) for bulk-asbestos sample analysis and is also accredited by the American Industrial Hygiene Association (AIHA.)

Federal EPA's NESHAP and AHERA regulations as well as OSHA define ACM as material containing greater than 1% asbestos by weight. Materials containing 1% or less asbestos are not considered regulated ACM by EPA; however, materials containing any detectable level of asbestos may be regulated to some degree by OSHA.

"Undamaged" means the material had no visible damage, or extremely minor damage or surface marring (i.e., a room full of floor tile with only two or three small corners chipped off of the tile).

"Slight Damage" means the material had visible damage evenly distributed over less than 10% of its surface, or localized over less than 25% of its surface.

"Significantly Damaged" means the material had visible damage that is evenly distributed over 10% or more of its surface, or localized over 25% or more of its surface.

Each homogeneous area of ACM was evaluated for accessibility to the building occupants and the general public, assuming the building was fully occupied, using the following assessment categories.

“Inaccessible” means the material was located in an area that people had no reason to enter and could not access without special measures. One example would be above a solid ceiling.

“Rarely Accessed” identifies a material that was in a location that could be accessed but wasn't unless there was a specific need. An example would be a pipe tunnel. Another example would be a high ceiling that is out of reach and not subject to any specific disturbances.

“Periodic Access” identifies a material that was in a location that was accessible, was not occupied full time, but was accessed on a routine basis. An example would be a mechanical room or boiler room.

“Continuous Access” identifies a material that was in a location that was occupied full time and was within reach of the occupants, or was frequently subject to direct disturbance. Examples would be exposed floor tile or a normal height ceiling.

4.5 Homogeneous Areas with Special Considerations

M003A - Gypsum board wall system. Under the EPA composite sample procedure the “overall” wall system asbestos concentration was less than 1% chrysotile by Mathematical Determination. However, the joint compound layer was determined to contain from None Detected to 2% chrysotile asbestos, and disturbance of this material is therefore an OSHA Class II operation. See ¶ 5.1 for further discussion of this issue.

M039 – Floor leveling compound. This material was determined to be >1% chrysotile asbestos. The material was layered with ACM black floor mastic. Quantification cannot be determined until floor coverings are removed. It is recommended that additional sampling be accomplished during abatement activities.

4.6 Assumed Asbestos-Containing Materials

M033 - Light fixture wire insulation. This material was not sampled for safety reasons, but has been known to contain up to 65% chrysotile asbestos and is easily identified by sight.

M049 – Fire door. The VT Industries 9’, 1hour rated fire door on the 5th level, north stairwell could not be sampled without damage.

4.7 Inaccessible Areas

Ceiling space above hard ceilings and wall cavities are inaccessible for inspection. These areas could contain thermal system insulation as part of the HVAC system that has not been identified during the survey.

4.8 Material(s) assumed to contain >1.0% asbestos without subsequent TEM or Point Count Analysis

All materials fall into this category except homogeneous areas S004A - spray structural fireproofing, T004 - tank insulation and T005 - pipe insulation.

5.0 Response Action Comments

5.1 Asbestos Regulatory Requirements

Asbestos is a naturally occurring fibrous mineral that was used extensively in building materials in the United States primarily between 1930 and 1980. Inhalation of asbestos fibers, which are very respirable and resistant to physical and chemical breakdown, has been identified as a cause of several life-threatening diseases. Both the Environmental Protection Agency (EPA)¹ and Occupational Safety and Health Administration (OSHA)² have classified asbestos as a hazardous air pollutant and promulgated regulations on how it must be evaluated, handled, and removed. There are also state and local regulations that regulate asbestos.

In Utah, EPA asbestos regulations are administered by the Utah Division of Air Quality (DAQ)³, which also has its own set of state asbestos regulations. OSHA asbestos regulations are administered by the Utah Occupational Safety and Health Administration

¹ 40 CFR Part 61, National Emissions Standards for Hazardous Air Pollutants (NESHAP) Subpart M, National emission Standard for Asbestos Toxic Substances Control Act, Subchapter II (TSCA Title II). 40 CFR 763 Subpart E, Asbestos Hazard Emergency Response Act (AHERA) – Asbestos-containing Materials in Schools, including Appendices (See www.epa.gov).

² 29 CFR 1926.1101, OSHA Construction Industry Regulations, Asbestos 29 CFR 1910.1001, OSHA Standards for General Industry, Asbestos. **Note:** OSHA has also promulgated a number of “letters of interpretation,” which are very pertinent to how asbestos in low concentrations must be treated (See www.osha.gov).

³ R307-801. Asbestos, Utah Division of Air Quality Rules, Implementation of Toxic Substances Control Act Title II, Asbestos Certification, Asbestos Training, notifications and Asbestos Work Practices for Renovations and Demolitions (See www.airquality.utah.gov).

(UOSH)⁴, which has adopted the Federal OSHA regulations. All of these regulations require asbestos inspections of buildings, or potentially impacted areas of buildings, by DAQ-certified asbestos inspectors before buildings can be remodeled and/or demolished. The Salt Lake Valley Health Department (SLVHD) also has asbestos regulations covering Salt Lake County buildings scheduled for demolition.⁵ The SLVHD asbestos regulations for pre-demolition building inspections follow DAQ asbestos guidelines but require that the inspector also be certified by the SLVHD.

Several factors determine how asbestos in a building must be treated prior to the renovation or demolition of that portion of the building where the asbestos is located. These factors and pertinent considerations from both an EPA and OSHA perspective include the following:

Factor	EPA Regulations for Asbestos Removal	OSHA Regulations for Asbestos Removal
Definition of asbestos in a building material	Defines an asbestos-containing material (ACM) as one containing >1% asbestos.	Defines an asbestos-containing material (ACM) as one containing >1% asbestos.
Regulation of asbestos in building materials	Regulates only ACMs. If the asbestos concentration in a material is shown to be “none detected” by initial analysis or 1% or less by point count analysis, EPA/DAQ does not regulate it.	Regulates not only ACMs but all materials containing any amount of asbestos. <i>Note:</i> Regulations are not as stringent for materials containing equal to or less than 1% asbestos but greater than a “none detected” concentration.
Determination of asbestos concentration in a gypsum board wall system	Allows compositing of all layers (joint compound, joint tape, and gypsum board) into one sample, which <u>decreases</u> the possibility that the sample will be evaluated as an ACM.	Requires that each layer of the wall system be analyzed and reported independently, which <u>increases</u> the possibility of a sample containing ACM or identifiable asbestos.
Defines regulated and non-regulated asbestos-containing material	Yes – Regulated ACMs include friable ACMs and resilient flooring, asphalt roofing, gaskets and packing that have become friable and other ACMs that have a high probability of becoming friable.	No – Requirements for asbestos work procedures and worker training are less stringent for resilient flooring, asphalt roofing materials, and materials containing greater than “none detected” but not greater than 1% asbestos.

⁴ Asbestos, Tremolite, Anthophyllite, and Actinolite Standards, Chapter D (Construction), Section 58; and Chapter Z (General Industry), Section 1001, Utah Occupational Safety and Health Rules and Regulations (Administered by Utah Occupational Safety and Health Division) (See www.uosh.utah.gov).

⁵ Salt Lake City – County Health Department, Health Regulation #1 Section 12 (See www.slvhealth.org).

Notification of asbestos abatement or building demolition required	Yes – Utah DAQ must be notified on the appropriate form 10 working-days prior to an asbestos abatement of regulated asbestos material greater than the NESHAP amount with demolition, or demolition where abatement is not required.	No – Not required.
Provision for allowing ACMs to remain in a building during a demolition.	Yes – Allows ACM resilient flooring, asphalt roofing, and certain other non-friable building materials in good condition to remain in a building during demolition as long as the demolition process will not render them friable.	No – If any asbestos is left in a building during a demolition, the demolition workers are expected to meet the same OSHA requirements that an abatement contractor would meet if an abatement contractor was conducting an abatement of those materials.

The IHI inspector who conducted this survey followed the EPA sampling guidelines that are recognized by both EPA and OSHA and collected samples in a manner that would allow evaluation of the results in terms of both EPA and OSHA compliance. As indicated in the table above, strict compliance with the OSHA regulations will typically involve abatement of some materials that could be completely ignored under EPA regulations.

This report provides pertinent information and cost estimates for full compliance with both the EPA and OSHA regulations. We would be happy to provide specific references regarding this matter and discuss other possible options.

5.2 Renovation Options

A listing of asbestos-containing materials found during this survey is presented in the Executive Summary presented in the front of this report, and in Appendix A, Table 1.

The spray structural fireproofing, pipe insulation, pipe fitting insulation, tank insulation and ceiling tile material in this facility are classified as friable ACMs. The other ACMs in the building are not currently classified as friable; however, renovations or demolition of these materials may cause them to become friable. NESHAP regulations require the removal of friable ACM and non-friable ACM that could become friable during renovation or demolition activities. Therefore, we recommend that all of the ACMs in this building be removed and properly disposed of by a licensed asbestos abatement contractor before renovation or demolition activities begin which have the potential of disturbing areas where these materials are located. While this recommendation may be overly conservative from an EPA perspective, it conforms to the OSHA Construction Industry Asbestos Standard (29 CFR 1926.1101) and will help protect workers on the site from potential asbestos exposure and the Owner from liability exposure.

6.0 COST ESTIMATES

A breakdown of the estimated removal costs by homogeneous area can be found in the Table 6, Appendix A. These cost estimates are provided for use in long-term budgeting and planning only, and do not have a level of accuracy sufficient to be used as a construction design cost estimate. The actual cost of asbestos removal is highly dependent on a number of factors such as the size of the job, the required time frame for removal, the time of year the job is conducted, the regulatory climate at the time, etc., therefore, actual abatement costs could vary significantly from these estimates. Replacement costs have not been included in these figures.

The cost for abatement design and management services is not included in these figures. These additional fees can range from 15% of the estimated abatement costs for large projects to greater than 50% for very small projects. The design and management fees cover the cost of preparing plans and specifications, conducting the bidding process as well as third-party oversight during abatement.

7.0 LIMITATIONS AND EXCLUSION OF WARRANTY

This asbestos survey and assessment was performed using procedures and a level of diligence typically exercised by professional consultants performing similar services. However, asbestos-containing material (ACM) can be present in a structure, but not identified using ordinary investigative procedures.

No asbestos survey can completely eliminate uncertainty regarding the presence of ACM. IHI's level of diligence and investigative procedures are intended to reduce, but not eliminate, potential uncertainty regarding the presence of ACM. The procedures used for this survey attempt to establish a balance between the competing goals of limiting investigative costs, time, and building damage, and reducing the uncertainty about unknown conditions. Therefore, the determinations in this report should not be construed as a guarantee that all ACM present in the subject property has been included in this report.

This report presents IHI's professional determinations, which are dependent upon information obtained during performance of consulting services. IHI assumes no responsibility for omissions or errors resulting from inaccurate information provided by sources outside of IHI.

No warranty or guarantee, expressed or implied, is made regarding the findings, conclusions, or recommendations contained in this report. The limitations presented above supersede the requirements or provisions of all other contracts or scopes of work, implied or otherwise, except those stated or acknowledged herein.

Appendix A

Data Tables

Table 1
Asbestos-containing Materials by Homogeneous
 University of Utah College of Nursing
 DFCM

Homogeneous Area Number	Material Description/Location	Friability	Asbestos Content	Amount
M001	Wall System w/multiple layers Standard gypsum board wall system Rooms and hallway areas throughout the facility except renovated areas	Category 2 Non-friable	ND-2% Chrysotile Joint Compound <1% Overall	152,828 sq. ft.
M007	Ceiling Tile 2' x 2' long, thin, deep worm and pin hole pattern, flush edge Random rooms and hallway areas throughout the facility <i>Potential for ACM spray-on fireproofing debris on the top surface. All ceiling tiles in the facility should be treated with care.</i>	Friable	<1 - 3% Chrysotile 1.5 - 2% Amosite	392 sq. ft.
M008	Floor Tile and Mastic on Cement 9" tan, streaked, with black mastic Level 1 hallway	Category 1 Non-friable	8% Chrysotile Tile >1% Chrysotile Mastic	2,196 sq. ft.
M008A	Floor Tile and Mastic Under GDC 9" tan, streaked, with black mastic 12 rooms on Level 1	Category 1 Non-friable	8% Chrysotile Tile >1% Chrysotile Mastic	1,975 sq. ft.
M019	Floor Tile and Mastic on Cement 9" gray with white streaks and black mastic South stairwell landings from Level 1 to the Penthouse	Category 1 Non-friable	1% Chrysotile Tile 1% Chrysotile Mastic	424 sq. ft.
M021	Floor Tile and Mastic on Cement 12" rose marble tile with black mastic Level 1 west hallway <i>Floor tile is non-ACM.</i>	Category 1 Non-friable	ND Tile 6% Chrysotile Mastic	476 sq. ft.
M022	Floor Tile Mastic-Under GDC Black Two rooms on Level 1 and one room on Level 3	Category 1 Non-friable	6% - 8% Chrysotile	1,976 sq. ft.

Note: A homogeneous area of suspect material is considered an Asbestos-containing Material (ACM) if any one sample contains greater than 1%

Homogeneous Area Number	Material Description/Location	Friability	Asbestos Content	Amount
M023	<p>Ceiling Tile 2' x 4' long lateral worm and pin hole pattern, flush edge 109 rooms and offices throughout the facility</p> <p><i>Potential for ACM spray-on fireproofing debris on the top surface. All ceiling tiles in the facility should be treated with care.</i></p>	Friable	<p>ND - 3% Chrysotile ND - 3% Amosite</p>	25,268 sq. ft.
M028	<p>Fire Door 9' wood door with white plaster core, labeled with no rating Classroom 212, the north stairwell on all levels and 6 random rooms</p> <p><i>Manufactured by Weyerhaeuser.</i></p>	<p>Category 2 Non-friable</p>	<p>5% Chrysotile 5% Amosite</p>	13 units
M030	<p>Floor Tile and Mastic on Cement 12" light gray with rust streaks and black mastic</p> <p>Random rooms on Levels 2 and 5, and throughout most of Level 4</p>	<p>Category 1 Non-friable</p>	<p>>1% Chrysotile Tile >1% Chrysotile Mastic</p>	5,231 sq. ft.
M030A	<p>Floor Tile and Mastic Under GDC 12" light gray with rust streaks and black mastic</p> <p>Throughout much of Level 4</p>	<p>Category 1 Non-friable</p>	<p>>1% Chrysotile Tile >1% Chrysotile Mastic</p>	4,294 sq. ft.
M033	<p>Light Fixture - Wire Insulation Recessed light fixture wire insulation</p> <p>Random locations throughout the facility</p> <p><i>Material not sampled for safety reasons but has been known to contain up to 65% chrysotile asbestos and is easily recognized by sight.</i></p>	<p>Category 2 Non-friable</p>	Assumed	10 units
M035	<p>Vinyl Floor Sheeting Thin, brittle gray mosaic pattern without backing material</p> <p>South stairwell hallway on Levels 3 and 5</p>	<p>Category 1 Non-friable</p>	<p>3% Chrysotile Sheeting <1% T.C.F. Mastic</p>	64 sq. ft.
M035A	<p>Vinyl Floor Sheeting under Floor Thin, brittle gray mosaic pattern without backing</p> <p>South stairwell hallway on Level 2</p>	<p>Category 1 Non-friable</p>	<p>3% Chrysotile Sheeting <1% T.C.F. Mastic</p>	176 sq. ft.

Note: A homogeneous area of suspect material is considered an Asbestos-containing Material (ACM) if any one sample contains greater than 1%

Homogeneous Area Number	Material Description/Location	Friability	Asbestos Content	Amount
M037	Ceiling Tile 2' x 2' long, real thin worm and pin hole pattern, flush edge Hallways around the elevator lobbies and some offices on Levels 3 and 4 <i>Potential for ACM spray-on fireproofing debris on the top surface. All ceiling tiles in the facility should be treated with care.</i>	Friable	ND - 3% Chrysotile 2% Amosite	712 sq. ft.
M038	Floor Tile and Mastic on Cement 12" beige marble with black mastic Level 3 atrium and hallways and 26 offices	Category 1 Non-friable	>1% Chrysotile Tile >1% Chrysotile Mastic	10,596 sq. ft.
M038A	Floor Tile and Mastic Under GDC 12" beige marble with black mastic Level 3, 8 offices and/or classrooms	Category 1 Non-friable	>1% Chrysotile Tile >1% Chrysotile Mastic	4,594 sq. ft.
M039	Leveling Compound Gray Random locations throughout the facility <i>Quantity is undetermined. ACM sample may be floor mastic contamination. Should be re-sampled during renovation activities.</i>	Category 2 Non-friable	>1% Chrysotile	
M043	Floor Tile and Mastic on Cement 12" light tan with rust streaks and black mastic Level 4, supply room 402, southwest corner	Category 1 Non-friable	8% Chrysotile Tile >1% Chrysotile Mastic	15 sq. ft.
M047	Fire Door 9' wood fire door, VT Industries, 1 hour rated North stairwell on Level 5 <i>Not accessible for sampling without damage.</i>	Category 2 Non-friable	Assumed	1 units
M054	Ceiling Tile All non-ACM ceiling tiles below ACM fireproofing Some areas on all levels <i>Potential for ACM spray-on fireproofing debris on the top surface. All ceiling tiles in the facility should be treated with care.</i>	Friable	Contaminated	30,370 sq. ft.

Note: A homogeneous area of suspect material is considered an Asbestos-containing Material (ACM) if any one sample contains greater than 1%

Area Number	Material Description/Location	Friability	Homogeneous Asbestos	
			Content	Amount
S001	Spray Structural Fireproofing Light tan, medium soft Throughout the facility except the west half of Level 5, 75% of Level 2 and some random locations on Levels 1, 3 and 4 <i>Debris contamination on ceiling tile panels throughout the facility.</i>	Friable	3 - 6% Chrysotile	120,015 sq. ft.
S004A	Spray Structural Fireproofing Soft, bluish gray Level 5 atrium area and some rooms <i>In some areas, may have applied over ACM gray fireproofing.</i>	Friable	ND - 15% Chrysotile	2,387 sq. ft.
T001	Pipe Fitting Insulation (inaccessible) Cloth covered white plaster on fibrous glass insulated pipe runs Random locations above ceilings on all levels <i>Associated with the domestic water system.</i>	Friable	1.5% - 3% Chrysotile	145 units
T002	Pipe Fitting Insulation Canvas covered white plaster on fibrous glass pipe runs Basement mechanical room <i>Associated with the chilled water system.</i>	Friable	3% Chrysotile	68 units
T003	Pipe Fitting Insulation Canvas covered white plaster on fibrous glass pipe runs Basement mechanical room <i>Associated with the heating supply system.</i>	Friable	3% Chrysotile	100 units
T004	Tank Insulation Cloth covered white plaster Basement mechanical room, north area <i>Hot water storage tank. 28" diameter x 40" long.</i>	Friable	15% Amosite	35 sq. ft.
T005	Pipe Insulation Cloth covered pre-formed plaster Basement mechanical room, both north and south areas <i>Associated with the heat supply return system.</i>	Friable	15% Chrysotile	200 ln. ft.
T005A	Pipe Fitting Insulation Cloth covered white plaster Basement mechanical room, north and south areas <i>Associated with ACM pipe insulation, homogeneous area T005.</i>	Friable	2% Chrysotile	30 units

Note: A homogeneous area of suspect material is considered an Asbestos-containing Material (ACM) if any one sample contains greater than 1%

Table 2
Homogeneous Areas That Do Not Contain Asbestos
 University of Utah College of Nursing
 DFCM

Homogeneous Area Number	Material Description	Material Location
M002	Fire Door Metal rated door with fibrous glass core	Stairwell exit doors throughout the facility
M003	Stucco Hard gray plaster <i>Potential for ACM spray-on fireproofing debris on the top surface. Ceiling space above this material should be treated with care.</i>	Lower level parking ceiling
M004	Ceiling System 2' x 4' metall covered corrugated paper <i>Potential for ACM spray-on fireproofing debris on the top surface. All ceiling tiles in the facility should be treated with care.</i>	Level 1 parking area
M005	Ceiling Tile 2' x 4' vinyl covered gypsum board <i>Potential for ACM spray-on fireproofing debris on the top surface. All ceiling tiles in the facility should be treated with care.</i>	Level 1 parking area
M006	Ceiling Tile 2' x 2' rough surface with fissures, recessed edge, gray matrix <i>Potential for ACM spray-on fireproofing debris on the top surface. All ceiling tiles in the facility should be treated with care.</i>	Hallways on all levels
M009	Wall Panel Top layer of gypsum wallboard installed with metal edge, no Joint Comp	Throughout the facility in hallways
M010	Ceiling Tile 2' x 4' small pock and pin hole pattern, flush edge <i>Potential for ACM spray-on fireproofing debris on the top surface. All ceiling tiles in the facility should be treated with care.</i>	Random rooms throughout the facility
M011	Fire Door 9' wood door with white plaster core, Weyerhaeuser 1 hour rated	Random locations throughout the facility

Homogeneous Area Number	Material Description	Material Location
M012	<p>Ceiling Tile 2' x 2' rough texture with fissures, white, newer</p> <p><i>Looks similar to homogeneous area M006 only whiter. Potential for ACM spray-on fireproofing debris on the top surface. All ceiling tiles in the facility should be treated with care.</i></p>	Hallways throughout the facility
M013	<p>Ceiling Tile 2' x 2' small pock and pin hole pattern, flush edge</p> <p><i>Potential for ACM spray-on fireproofing debris on the top surface. All ceiling tiles in the facility should be treated with care.</i></p>	West offices on level 1 and a few other random locations
M014	<p>Duct Sealant Dark gray, pliable</p>	Ducting throughout the facility
M015	<p>Duct Sealant Dark gray, brittle</p>	Level 1 ducting
M016	<p>Duct Sealant Light tan, cementitious</p>	Level 1 ducting
M017	<p>Cove Base Adhesive Dark brown, brittle</p>	Walls and stair streaks throughout the facility
M018	<p>Stair Vinyl Tan, brittle, with brown mastic</p>	South stairwell treads
M020	<p>Cove Base Tan with dark brown adhesive</p>	South stairwell side cove base
M024	<p>Fire Door 9' all wood room doors, not rated</p>	Many offices through the facility
M025	<p>Ceiling Tile 2' x 2', white coating on fibrous glass, recessed edge</p>	Renovated classrooms on level 2
M026	<p>Ceiling Tile 2' x 2' waffle pattern</p>	Renovated classrooms on level 2

Homogeneous Area Number	Material Description	Material Location
M027	Wall System Standard gypsum board wall system	Renovated areas on level 2
M029	Fire Door 7' wood door with white plaster core, Alcoma 1 hour rated	Classroom 212, north doors
M031	Floor Tile - Exposed 12" light tan marble with transparent mastic	Level 2 student lounge
M032	Sink Undercoat Gray, on two-tub sink	Student lounge
M034	Floor Tile - Exposed 12" beige and light rose marble with yellow mastic	Level 2, south restroom
M036	Ceiling Tile 2' x 2' long shallow worm and pin hole pattern, flush edge <i>Potential for ACM spray-on fireproofing debris on the top surface. All ceiling tiles in the facility should be treated with care.</i>	Hallways on all levels around the elevator lobby
M040	Floor Tile - Exposed 12" off-white with rust streaks and yellow mastic	Level 3 west hallway replacement tiles
M041	Floor Tile - Exposed 12" light tan with dark tan splotches	Level 4, supply room 402, east end
M042	Carpet Adhesive Transparent and yellow with brown spots	Under carpet squares on level 4 and 5
M044	Sink Undercoat Gray, on single-tub sinks	Level 4 lounge, room 415

Homogeneous Area Number	Material Description	Material Location
M045	<p>Ceiling Tile 2' x 4' random small and medium pin holes, flush edge <i>Potential for ACM spray-on fireproofing debris on the top surface. All ceiling tiles in the facility should be treated with care.</i></p>	Level 4 north women's restroom
M046	<p>Ceiling Tile 2' x 2' smooth, gritty surface, recessed edge</p>	Level 5 atrium hallway and lounge area on the west side
M048	<p>Fire Door 7' wood fire door, VT Industries, 20 minute rated</p>	Level 5, zone door to southeast office area
M049	<p>Interior Caulking Red fire wall penetration sealant</p>	Random locations on level 5
M050	<p>Ceiling Tile 2' x 4' smooth, gritty surface, recessed edge</p>	Level 5, random rooms
M051	<p>Ceiling Tile 2' x 2' very rough surface with deep fissures</p>	Level 5 electrical closet hallway
M052	<p>Floor Tile - Exposed 12" beige with black specks</p>	File room 540
M053	<p>Wall System Standard gypsum board system</p>	Level 5, west renovated area
S002	<p>Spray Structural Fireproofing Gray, fluffy, soft</p>	Renovated areas on level 1, 2 and 5
S003	<p>Plaster Gray plaster scratch coat with white skim coat</p>	Level 2, 3 and 5 atrium skylight and light housings
S004	<p>Spray Structural Fireproofing Soft, bluish gray</p>	Level 5, west renovated area

Table 3
Bulk Sample Analytical Results by Sample Number
 University of Utah College of Nursing
 DFCM

Sample Number	Homogeneous Area Number	Material Sampled	Sample Location	Analytical Results
1020-001	M001	Wall System	Lower parking level, south stairwell, 1st landing	1.2% Chrysotile Joint Comp. <1% Overall
1020-002	M002	Fire Door	Lower parking level, south stairwell door	ND
1020-003	M003	Stucco	Lower parking level, ceiling outside the emergency generator room	ND
1020-004	M004	Ceiling System	Level 1 parking area, east side of the main entry	ND
1020-005	M005	Ceiling Tile	Level 1 parking area, north of the main entry	ND
1020-006	S001	Spray Structural Fireproofing	Level 1 parking area, southwest area	5% Chrysotile
1020-007	M006	Ceiling Tile	Level 1, elevator hallway, northeast corner	ND
1020-008	M007	Ceiling Tile	Level 1, elevator hallway, center	1.5% Amosite <1% Chrysotile
1020-009	M008	Floor Tile and Mastic	Level 1, elevator hallway, doorway to room 101	8% Chrysotile Tile >1% Chrysotile Mastic
1020-010	S001	Spray Structural Fireproofing	Level 1, elevator hallway, northeast corner on beam	6% Chrysotile
1020-011	M009	Wall Panel	Level 1, elevator hallway, northeast outside corner of elevators	ND

Sample Number	Homogeneous Area Number	Material Sampled	Sample Location	Analytical Results
1020-012	M001	Wall System	Level 1, elevator hallway, northeast outside corner of elevators	1.2% Chrysotile Joint Comp. <1% Overall
1020-013	M010	Ceiling Tile	Room 101, ceiling center	ND
1020-014	M011	Fire Door	Room 130 door, center hinge screw hole	ND
1020-015	M013	Ceiling Tile	Level 1 hallway by drinking fountains, west side	ND
1020-016	M012	Ceiling Tile	Level 1 hallway by drinking fountains, east side	ND
1020-017	T001	Pipe Fitting Insulation	Level 1 hallway by drinking fountains, east side, 2" hot water return fitting	1.5% Chrysotile
1020-018	T001	Pipe Fitting Insulation	Level 1 hallway by drinking fountains, east side, 4" hot water return fitting	1.5% Chrysotile
1020-019	T001	Pipe Fitting Insulation	Level 1 hallway by drinking fountains, east side, 6" cold water fitting	3% Chrysotile
1020-020	M014	Duct Sealant	Level 1 hallway by drinking fountains, east side	ND
1020-021	M015	Duct Sealant	Level 1 hallway by drinking fountains, east side	ND
1020-022	M015	Duct Sealant	Level 1 hallway by drinking fountains, east side	ND
1020-023	M017	Cove Base Adhesive	Level 1 south stairwell, 1st landing up from level 1	<1% Tremolite Cleavage Fragments
1020-024	M018	Stair Vinyl	Level 1 south stairwell, 1st landing up from level 1	ND Tread <1% Tremolite Cleavage Fragments Adhesive

Sample Number	Homogeneous Area Number	Material Sampled	Sample Location	Analytical Results
1020-025	M019	Floor tile and Mastic	Level 1 south stairwell, 1st landing up from level 1, southeast corner	1% Chrysotile Tile 1% Chrysotile Mastic
1020-026	M020	Cove Base	Level 1 south stairwell, 1st landing up from level 1, south side	ND Cove Bas <1% Tremolite Cleavage Fragments Adhesive
1020-027	M001	Wall System	Level 1 south stairwell, 1st landing up for level 1, southeast interior corner	<1% Chrysotile Joint Comp. <1% Chrysotile Overall
1020-028	M021	Floor Tile and Mastic	Level 1 kitchen, northeast	ND Tile 6% Chrysotile Mastic
1020-029	M001	Wall System	Level 1 kitchen, northwest corner	ND
1020-030	M022	Floor Tile Mastic	Room 124A doorway	6% Chrysotile
1020-031	M023	Ceiling Tile	Custodial room 118, center	3% Amosite 1% Chrysotile
1020-032	S002	Spray Structural Fireproofing	Room 102, ceiling center	ND
1020-033	M001	Wall System	Caring Connections, east hallway, northeast outside corner of room 112	1.2% Chrysotile Joint Comp. <1% Overall
1020-034	M001	Wall System Joint Compound	Caring Connections, east hallway, northeast outside corner of room 112, outside	<1% Chrysotile
1020-035	S001	Spray Structural Fireproofing	Caring Connections, east hallway junction	6% Chrysotile
1020-036	M017	Cove Base Adhesive	Room 102, doorway to the east hallway, south side	ND

Sample Number	Homogeneous Area Number	Material Sampled	Sample Location	Analytical Results
1020-037	M024	Door Core	Room 103 door	ND
1020-038	S002	Spray Structural Fireproofing	Room 103 center	ND
1020-039	M025	Ceiling Tile	Level 2, classroom 201, center east side	ND
1020-040	M026	Ceiling Tile	Level 2, classroom 201, center east side	ND
1020-041	M027	Wall System	Level 2, classroom 201, northeast corner	ND
1020-042	M012	Ceiling Tile	Level 2, northeast hallway, west side by classroom 217	ND
1020-043	M001	Wall System	Level 2, north women's restroom partition wall	1.2% Chrysotile Joint Comp. <1% Overall
1020-044	S001	Debris	Level 2, plumbing chase north of the north stairwell, west end at floor level	3% Chrysotile
1020-045	M027	Wall System	Classroom 217 electrical closet in hallway, northwest corner	ND
1020-046	M028	Fire Door	Classroom 212, south doors, south panel	5% Chrysotile 5% Amosite
1020-047	M029	Fire Door	Classroom 212, north doors, south panel	ND
1020-048	S002	Spray Structural Fireproofing	Above doorway to classroom 212	ND
1020-049	S002	Spray Structural Fireproofing	Level 2, southwest hallway, outside room 206, west side	ND
1020-050	M001	Wall System	Level 2, west hallway to vending room, north side	<1% Chrysotile Joint Comp. <1% Overall

Sample Number	Homogeneous Area Number	Material Sampled	Sample Location	Analytical Results
1020-051	M009	Wall System	Level 2, west hallway to vending room, north side	ND
1020-052	M030	Floor Tile and Mastic	Level 2, vending room, southeast corner	>1% Chrysotile Tile >1% Chrysotile Mastic
1020-053	M023	Ceiling Tile	Level 2, vending room, south side center	3% Chrysotile 2% Amosite
1020-054	M031	Floor Tile with Leveling Compound	Level 2, student lounge, southwest corner of tile	ND
1020-055	M032	Sink Undercoat	Level 2, student lounge, south wall	ND
1020-056	M034	Floor Tile and Mastic	Level 2, south bathroom, northwest corner	ND
1020-057	M035	Floor Sheeting	Level 2, south exit hallway, east doorway	3% Chrysotile Sheeting <1% T.C.F. Mastic
1020-058	M001	Wall System	Level 2, south bathroom, southeast corner	1.2% Chrysotile Joint Comp. <1% Overall
1020-059	M006	Ceiling Tile	Level 3, elevator lobby, east of elevators	<1% T.C.F.
1020-060	M007	Ceiling Tile	Level 3, elevator lobby, east of elevators	3% Chrysotile 2% Amosite
1020-061	M012	Ceiling Tile	Level 3, elevator lobby, east of elevators	ND
1020-062	M036	Ceiling Tile	Level 3, elevator lobby, west of elevators	ND
1020-063	M037	Ceiling Tile	Level 3, elevator lobby, east of elevators	ND

Sample Number	Homogeneous Area Number	Material Sampled	Sample Location	Analytical Results
1020-064	M038	Floor Tile and Mastic	Level 3, elevator lobby, northeast corner under carpet	>1% Chrysotile Tile >1% Chrysotile Mastic
1020-065	M039	Leveling Compound	Level 3, elevator lobby, northeast corner under tile	>1% Chrysotile Black >1% L. >1% Plaster
1020-066	M001	Wall System	Level 3, north stairwell, west side of doorway	1.2% Chrysotile Joint Comp. <1% Overall
1020-067	S003	Plaster	Level 3, elevator lobby, north side of light recess	ND
1020-068	M017	Cove Base Adhesive	Alcove to room 301, north side	<1% T.C.F.
1020-069	S001	Debris	Level 3, north plumbing chase, north side at floor	3-4% Chrysotile
1020-070	M001	Wall System	Level 3, hallway, outside northwest corner of women's restroom	ND
1020-071	M023	Ceiling Tile	Classrom 334, southwest area	ND
1020-072	M022	Floor Tile Mastic	Classrom 334, southwest doorway	8% Chrysotile
1020-073	M001	Wall System	Room 301F, northeast corner	1.2% Chrysotile Joint Comp. <1% Overall
1020-074	M001	Wall System	Room 315, northeast corner	1.2% Chrysotile Joint Comp. <1% Overall
1020-075	M040	Floor Tile and Mastic	Level 3, west hallway outside room 311	ND Tile <1% T.C.F. Mastic
1020-076	M010	Ceiling Tile	Level 4, room 402, west side	ND

Sample Number	Homogeneous Area Number	Material Sampled	Sample Location	Analytical Results
1020-077	M030	Floor Tile and Mastic	Level 4, room 402, south side of doorway	>1% Chrysotile Tile and Mastic
1020-078	M042	Carpet Adhesive	Level 4, hallway outside room 402	ND
1020-079	M041	Floor Tile and Mastic	Room 402, southeast corner	ND Tile and Mastic
1020-080	M043	Floor Tile and Mastic	Room 402, south side of doorway	8% Chrysotile Tile >1% Chrysotile Mastic
1020-081	M006	Ceiling Tile	Level 4, elevator lobby, northeast outside corner of elevators	ND
1020-082	M001	Wall System	Level 4, elevator lobby, northeast outside corner of elevators	1.2% Chrysotile Joint Comp. <1% Overall
1020-083	M044	Sink Undercoat	Room 415, lounge, west wall	ND
1020-084	M001	Wall System	Room 401, conference room, southwest corner	1.5% Chrysotile Joint Comp. <1% Overall
1020-085	M023	Ceiling Tile	Room 459, northeast corner	3% Chrysotile 2% Amosite
1020-086	M012	Ceiling Tile	Level 4, east hallway, outside room 456	ND
1020-087	M045	Ceiling Tile	Level 4, north women's restroom entry	ND
1020-088	M037	Ceiling Tile	Room 422, south side center	3% Chrysotile 2% Amosite
1020-089	M042	Carpet Adhesive	Conference room 419, north of doorway	ND

Sample Number	Homogeneous Area Number	Material Sampled	Sample Location	Analytical Results
1020-090	M001	Wall System	Level 4, southwest hallway, corner outside room 411	2% Chrysotile Joint Comp. <1% Overall
1020-091	M001	Wall System	Level 4, south custodial closet, northeast corner	2% Chrysotile Joint Comp. <1% Overall
1020-092	M046	Ceiling Tile	Level 5, hallway, southeast corner of atrium	ND
1020-093	S003	Plaster	Level 5, hallway, southeast corner of atrium	ND
1020-094	S002	Spray Structural Fireproofing	Level 5, hallway, northeast of atrium, east side on beam	ND
1020-095	M048	Fire Door	Level 5, zone door to southeast office area	ND
1020-096	M049	Interior Caulking	Level 5, hallway, northeast of atrium, east side	ND
1020-097	M001	Wall System	Level 5, center east/west hallway, east end, southeast corner	ND
1020-098	M006	Ceiling Tile	Level 5, east lounge area, center west side by doors	ND
1020-099	M012	Ceiling Tile	Level 5, east lounge area, center west side by doors	ND
1020-100	M042	Carpet Adhesive	Level 5, east lounge area, east side by column	ND
1020-101	M010	Ceiling Tile	Room 580, center east side	ND
1020-102	M023	Ceiling Tile	Room 583, above doorway	2% Amosite 2% Chrysotile
1020-103	M050	Ceiling Tile	Room 588, above doorway	ND

Sample Number	Homogeneous Area Number	Material Sampled	Sample Location	Analytical Results
1020-104	M051	Ceiling Tile	Level 5, electrical closet hallway, south side, east end	ND
1020-105	M001	Wall System	Level 5, south custodial closet, northeast corner	<1% Chrysotile Joint Comp. <1% Overall
1020-106	S002	Spray Structural Fireproofing	Room 566, southeast corner	ND
1020-107	M001	Wall System	Level 5, northeast hallway by room 575, southwest corner	ND
1020-108	S004	Spray Structural Fireproofing	Level 5, northwest hallway, outside room 555	ND
1020-109	S004	Spray Structural Fireproofing	Level 5, northwest hallway, outside room 559	ND
1020-110	S004	Spray Structural Fireproofing	Level 5, north center hallway, outside men's restroom	ND
1020-111	S001	Debris	Level 5, plumbing chase, west end on floor, debris	5% Chrysotile
1020-112	M052	Floor Tile - Exposed	File room 540, east end	ND
1020-113	M053	Wall System	File room 540, northwest corner	ND
1020-114	S004A	Spray Structural Fireproofing	Level 5, northwest corner of atrium	15% Chrysotile
1020-115	S003	Plaster	Level 5, northwest corner of atrium	ND
1020-116	S001	Spray Structural Fireproofing	Level 5, east side of atrium, outside room 580 at column	ND
1020-117	S004A	Spray Structural Fireproofing	Room 592, south side center, on ducting	ND
1020-118	T002	Pipe Fitting Insulation	Basement fan room, east side, damaged lower chilled water fitting	3% Chrysotile

Sample Number	Homogeneous Area Number	Material Sampled	Sample Location	Analytical Results
1020-119	T003	Pipe Fitting Insulation	Basement pump room, west end, bottom damaged lower heat supply fitting, 8"	3% Chrysotile
1020-120	T003	Pipe Fitting Insulation	Basement pump room, west pump, 12" fitting	3% Chrysotile
1020-121	T004	Tank Insulation	Basement pump room, hot water tank	15% Amosite
1020-122	T005	Pipe Insulation	Basement pump room, east end	15% Chrysotile
1020-123	T006	Pipe Insulation	Basement pump room, east end, manifold insulation	15% Chrysotile
1020-124	T005A	Pipe Fitting Insulation	Basement pump room, east end, on pipe insulation T005	2% Chrysotile

Note: ND =No Asbestos Detected, NA= Not Analyzed, TR = <1% Asbestos, PC = Point Count

Table 4
Bulk Sample Analytical Results by Homogeneous Area Number
 University of Utah College of Nursing
 DFCM

Sample Number	Homogeneous Area Number	Material Sampled	Sample Location	Analytical Results
1020-001	M001	Wall System	Lower parking level, south stairwell, 1st landing	1.2% Chrysotile Joint Comp. <1% Overall
1020-012	M001	Wall System	Level 1, elevator hallway, northeast outside corner of elevators	1.2% Chrysotile Joint Comp. <1% Overall
1020-027	M001	Wall System	Level 1 south stairwell, 1st landing up for level 1, southeast interior corner	<1% Chrysotile Joint Comp. <1% Chrysotile Overall
1020-029	M001	Wall System	Level 1 kitchen, northwest corner	ND
1020-033	M001	Wall System	Caring Connections, east hallway, northeast outside corner of room 112	1.2% Chrysotile Joint Comp. <1% Overall
1020-034	M001	Wall System Joint Compound	Caring Connections, east hallway, northeast outside corner of room 112, outside layer	<1% Chrysotile
1020-043	M001	Wall System	Level 2, north women's restroom partition wall	1.2% Chrysotile Joint Comp. <1% Overall
1020-050	M001	Wall System	Level 2, west hallway to vending room, north side	<1% Chrysotile Joint Comp. <1% Overall
1020-058	M001	Wall System	Level 2, south bathroom, southeast corner	1.2% Chrysotile Joint Comp. <1% Overall
1020-066	M001	Wall System	Level 3, north stairwell, west side of doorway	1.2% Chrysotile Joint Comp. <1% Overall
1020-070	M001	Wall System	Level 3, hallway, outside northwest corner of women's restroom	ND

Sample Number	Homogeneous Area Number	Material Sampled	Sample Location	Analytical Results
1020-073	M001	Wall System	Room 301F, northeast corner	1.2% Chrysotile Joint Comp. <1% Overall
1020-074	M001	Wall System	Room 315, northeast corner	1.2% Chrysotile Joint Comp. <1% Overall
1020-082	M001	Wall System	Level 4, elevator lobby, northeast outside corner of elevators	1.2% Chrysotile Joint Comp. <1% Overall
1020-084	M001	Wall System	Room 401, conference room, southwest corner	1.5% Chrysotile Joint Comp. <1% Overall
1020-090	M001	Wall System	Level 4, southwest hallway, corner outside room 411	2% Chrysotile Joint Comp. <1% Overall
1020-091	M001	Wall System	Level 4, south custodial closet, northeast corner	2% Chrysotile Joint Comp. <1% Overall
1020-097	M001	Wall System	Level 5, center east/west hallway, east end, southeast corner	ND
1020-105	M001	Wall System	Level 5, south custodial closet, northeast corner	<1% Chrysotile Joint Comp. <1% Overall
1020-107	M001	Wall System	Level 5, northeast hallway by room 575, southwest corner	ND
1020-002	M002	Fire Door	Lower parking level, south stairwell door	ND
1020-003	M003	Stucco	Lower parking level, ceiling outside the emergency generator room	ND
1020-004	M004	Ceiling System	Level 1 parking area, east side of the main entry	ND
1020-005	M005	Ceiling Tile	Level 1 parking area, north of the main entry	ND
1020-007	M006	Ceiling Tile	Level 1, elevator hallway, northeast corner	ND

Sample Number	Homogeneous Area Number	Material Sampled	Sample Location	Analytical Results
1020-059	M006	Ceiling Tile	Level 3, elevator lobby, east of elevators	<1% T.C.F.
1020-081	M006	Ceiling Tile	Level 4, elevator lobby, northeast outside corner of elevators	ND
1020-098	M006	Ceiling Tile	Level 5, east lounge area, center west side by doors	ND
1020-008	M007	Ceiling Tile	Level 1, elevator hallway,	1.5% Amosite <1% Chrysotile
1020-060	M007	Ceiling Tile	Level 3, elevator lobby, east of elevators	3% Chrysotile 2% Amosite
1020-009	M008	Floor Tile and Mastic	Level 1, elevator hallway, doorway to room 101	8% Chrysotile Tile >1% Chrysotile Mastic
1020-011	M009	Wall Panel	Level 1, elevator hallway, northeast outside corner of elevators	ND
1020-051	M009	Wall System	Level 2, west hallway to vending room, north side	ND
1020-013	M010	Ceiling Tile	Room 101, ceiling center	ND
1020-076	M010	Ceiling Tile	Level 4, room 402, west side	ND
1020-101	M010	Ceiling Tile	Room 580, center east side	ND
1020-014	M011	Fire Door	Room 130 door, center hinge screw hole	ND
1020-016	M012	Ceiling Tile	Level 1 hallway by drinking fountains, east side	ND
1020-042	M012	Ceiling Tile	Level 2, northeast hallway, west side by classroom 217	ND
1020-061	M012	Ceiling Tile	Level 3, elevator lobby, east of elevators	ND
1020-086	M012	Ceiling Tile	Level 4, east hallway, outside room 456	ND
1020-099	M012	Ceiling Tile	Level 5, east lounge area, center west side by doors	ND

Sample Number	Homogeneous Area Number	Material Sampled	Sample Location	Analytical Results
1020-015	M013	Ceiling Tile	Level 1 hallway by drinking fountains, west side	ND
1020-020	M014	Duct Sealant	Level 1 hallway by drinking fountains, east side	ND
1020-021	M015	Duct Sealant	Level 1 hallway by drinking fountains, east side	ND
1020-022	M015	Duct Sealant	Level 1 hallway by drinking fountains, east side	ND
1020-023	M017	Cove Base Adhesive	Level 1 south stairwell, 1st landing up from level 1	<1% Tremolite Cleavage Fragments
1020-036	M017	Cove Base Adhesive	Room 102, doorway to the east hallway, south side	ND
1020-068	M017	Cove Base Adhesive	Alcove to room 301, north side	<1% T.C.F.
1020-024	M018	Stair Vinyl	Level 1 south stairwell, 1st landing up from level 1	ND Tread <1% Tremolite Cleavage Fragments Adhesive
1020-025	M019	Floor tile and Mastic	Level 1 south stairwell, 1st landing up from level 1, southeast corner	1% Chrysotile Tile 1% Chrysotile Mastic
1020-026	M020	Cove Base	Level 1 south stairwell, 1st landing up from level 1, south side	ND Cove Bas <1% Tremolite Cleavage Fragments Adhesive
1020-028	M021	Floor Tile and Mastic	Level 1 kitchen, northeast	ND Tile 6% Chrysotile Mastic
1020-030	M022	Floor Tile Mastic	Room 124A doorway	6% Chrysotile
1020-072	M022	Floor Tile Mastic	Classrom 334, southwest doorway	8% Chrysotile
1020-031	M023	Ceiling Tile	Custodial room 118, center	3% Amosite 1% Chrysotile

Sample Number	Homogeneous Area Number	Material Sampled	Sample Location	Analytical Results
1020-053	M023	Ceiling Tile	Level 2, vending room, south side center	3% Chrysotile 2% Amosite
1020-071	M023	Ceiling Tile	Classrom 334, southwest area	ND
1020-085	M023	Ceiling Tile	Room 459, northeast corner	3% Chrysotile 2% Amosite
1020-102	M023	Ceiling Tile	Room 583, above doorway	2% Amosite 2% Chrysotile
1020-037	M024	Door Core	Room 103 door	ND
1020-039	M025	Ceiling Tile	Level 2, classroom 201, center east side	ND
1020-040	M026	Ceiling Tile	Level 2, classroom 201, center east side	ND
1020-041	M027	Wall System	Level 2, classroom 201, northeast corner	ND
1020-045	M027	Wall System	Classroom 217 electrical closet in hallway, northwest corner	ND
1020-046	M028	Fire Door	Classroom 212, south doors, south panel	5% Chrysotile 5% Amosite
1020-047	M029	Fire Door	Classroom 212, north doors, south panel	ND
1020-052	M030	Floor Tile and Mastic	Level 2, vending room, southeast corner	>1% Chrysotile Tile >1% Chrysotile Mastic
1020-077	M030	Floor Tile and Mastic	Level 4, room 402, south side of doorway	>1% Chrysotile Tile and Mastic
1020-054	M031	Floor Tile with Leveling Compound	Level 2, student lounge, southwest corner of tile	ND
1020-055	M032	Sink Undercoat	Level 2, student lounge, south wall	ND
1020-056	M034	Floor Tile and Mastic	Level 2, south bathroom, northwest corner	ND

Sample Number	Homogeneous Area Number	Material Sampled	Sample Location	Analytical Results
1020-057	M035	Floor Sheeting	Level 2, south exit hallway, east doorway	3% Chrysotile Sheeting <1% T.C.F. Mastic
1020-062	M036	Ceiling Tile	Level 3, elevator lobby, west of elevators	ND
1020-063	M037	Ceiling Tile	Level 3, elevator lobby, east of elevators	ND
1020-088	M037	Ceiling Tile	Room 422, south side center	3% Chrysotile 2% Amosite
1020-064	M038	Floor Tile and Mastic	Level 3, elevator lobby, northeast corner under carpet	>1% Chrysotile Tile >1% Chrysotile Mastic
1020-065	M039	Leveling Compound	Level 3, elevator lobby, northeast corner under tile	>1% Chrysotile Black Mastic >1% L. Compound >1% Plaster
1020-075	M040	Floor Tile and Mastic	Level 3, west hallway outside room 311	ND Tile <1% T.C.F. Mastic
1020-079	M041	Floor Tile and Mastic	Room 402, southeast corner	ND Tile and Mastic
1020-078	M042	Carpet Adhesive	Level 4, hallway outside room 402	ND
1020-089	M042	Carpet Adhesive	Conference room 419, north of doorway	ND
1020-100	M042	Carpet Adhesive	Level 5, east lounge area, east side by column	ND
1020-080	M043	Floor Tile and Mastic	Room 402, south side of doorway	8% Chrysotile Tile >1% Chrysotile Mastic
1020-083	M044	Sink Undercoat	Room 415, lounge, west wall	ND
1020-087	M045	Ceiling Tile	Level 4, north women's restroom entry	ND

Sample Number	Homogeneous Area Number	Material Sampled	Sample Location	Analytical Results
1020-092	M046	Ceiling Tile	Level 5, hallway, southeast corner of atrium	ND
1020-095	M048	Fire Door	Level 5, zone door to southeast office area	ND
1020-096	M049	Interior Caulking	Level 5, hallway, northeast of atrium, east side	ND
1020-103	M050	Ceiling Tile	Room 588, above doorway	ND
1020-104	M051	Ceiling Tile	Level 5, electrical closet hallway, south side, east end	ND
1020-112	M052	Floor Tile - Exposed	File room 540, east end	ND
1020-113	M053	Wall System	File room 540, northwest	ND
1020-006	S001	Spray Structural Fireproofing	Level 1 parking area, southwest area	5% Chrysotile
1020-010	S001	Spray Structural Fireproofing	Level 1, elevator hallway, northeast corner on beam	6% Chrysotile
1020-035	S001	Spray Structural Fireproofing	Caring Connections, east hallway junction	6% Chrysotile
1020-044	S001	Debris	Level 2, plumbing chase north of the north stairwell, west end at floor level	3% Chrysotile
1020-069	S001	Debris	Level 3, north plumbing chase, north side at floor	3-4% Chrysotile
1020-111	S001	Debris	Level 5, plumbing chase, west end on floor, debris	5% Chrysotile
1020-116	S001	Spray Structural Fireproofing	Level 5, east side of atrium, outside room 580 at column	ND
1020-032	S002	Spray Structural Fireproofing	Room 102, ceiling center	ND
1020-038	S002	Spray Structural Fireproofing	Room 103 center	ND
1020-048	S002	Spray Structural Fireproofing	Above doorway to classroom 212	ND
1020-049	S002	Spray Structural Fireproofing	Level 2, southwest hallway, outside room 206, west side	ND

Sample Number	Homogeneous Area Number	Material Sampled	Sample Location	Analytical Results
1020-094	S002	Spray Structural Fireproofing	Level 5, hallway, northeast of atrium, east side on beam	ND
1020-106	S002	Spray Structural Fireproofing	Room 566, southeast corner	ND
1020-067	S003	Plaster	Level 3, elevator lobby, north side of light recess	ND
1020-093	S003	Plaster	Level 5, hallway, southeast corner of atrium	ND
1020-115	S003	Plaster	Level 5, northwest corner of atrium	ND
1020-108	S004	Spray Structural Fireproofing	Level 5, northwest hallway, outside room 555	ND
1020-109	S004	Spray Structural Fireproofing	Level 5, northwest hallway, outside room 559	ND
1020-110	S004	Spray Structural Fireproofing	Level 5, north center hallway, outside men's restroom	ND
1020-114	S004A	Spray Structural Fireproofing	Level 5, northwest corner of atrium	15% Chrysotile
1020-117	S004A	Spray Structural Fireproofing	Room 592, south side center, on ducting	ND
1020-017	T001	Pipe Fitting Insulation	Level 1 hallway by drinking fountains, east side, 2" hot water return fitting	1.5% Chrysotile
1020-018	T001	Pipe Fitting Insulation	Level 1 hallway by drinking fountains, east side, 4" hot water return fitting	1.5% Chrysotile
1020-019	T001	Pipe Fitting Insulation	Level 1 hallway by drinking fountains, east side, 6" cold water fitting	3% Chrysotile
1020-118	T002	Pipe Fitting Insulation	Basement fan room, east side, damaged lower chilled water fitting	3% Chrysotile
1020-119	T003	Pipe Fitting Insulation	Basement pump room, west end, bottom damaged lower heat supply fitting, 8"	3% Chrysotile

Sample Number	Homogeneous Area Number	Material Sampled	Sample Location	Analytical Results
1020-120	T003	Pipe Fitting Insulation	Basement pump room, west pump, 12" fitting	3% Chrysotile
1020-121	T004	Tank Insulation	Basement pump room, hot water tank	15% Amosite
1020-122	T005	Pipe Insulation	Basement pump room, east end	15% Chrysotile
1020-124	T005A	Pipe Fitting Insulation	Basement pump room, east end, on pipe insulation T005	2% Chrysotile
1020-123	T006	Pipe Insulation	Basement pump room, east end, manifold insulation	15% Chrysotile

Note: ND =No Asbestos Detected, NA= Not Analyzed, TR = <1% Asbestos, PC = Point Count

Table 5
Damage and Hazard Assessment by Homogeneous Area
 University of Utah College of Nursing
 DFCM

Homogeneous Area Number	Material Type	Substrate	Assessment Category	Damage	Accessibility	Disturbance Potential
M001	Wall System w/multiple layers	Framework	X	No Damage	Continuous	Low
M007	Ceiling Tile	Not Applicable	5	Slight Damage	Continuous	Medium
M008	Floor Tile and Mastic on Cement	Cement	X	No Damage	Continuous	Low
M008A	Floor Tile and Mastic Under GDC	Cement	X	No Damage	Rarely Accessed	Low
M019	Floor Tile and Mastic on Cement	Cement	X	No Damage	Continuous	Low
M021	Floor Tile and Mastic on Cement	Cement	X	No Damage	Continuous	Low
M022	Floor Tile Mastic-Under GDC	Cement	X	No Damage	Rarely Accessed	Low
M023	Ceiling Tile	Not Applicable	5	Slight Damage	Continuous	Medium
M028	Fire Door	Not Applicable	X	No Damage	Continuous	Low
M030	Floor Tile and Mastic on Cement	Cement	X	No Damage	Continuous	Low
M030A	Floor Tile and Mastic Under GDC	Cement	X	No Damage	Rarely Accessed	Low

Homogeneous Area Number	Material Type	Substrate	Assessment Category	Damage	Accessibility	Disturbance Potential
M033	Light Fixture - Wire Insulation	Metal	X	No Damage	Rarely Accessed	Low
M035	Vinyl Floor Sheeting	Cement	X	Slight Damage	Continuous	Medium
M035A	Vinyl Floor Sheeting under Floor Sheeting	Cement	X	No Damage	Rarely Accessed	Low
M037	Ceiling Tile	Not Applicable	5	Slight Damage	Continuous	Medium
M038	Floor Tile and Mastic on Cement	Cement	X	No Damage	Continuous	Low
M038A	Floor Tile and Mastic Under GDC	Cement	X	No Damage	Periodic Access	Low
M039	Leveling Compound	Cement	X	No Damage	Rarely Accessed	Low
M043	Floor Tile and Mastic on Cement	Cement	X	No Damage	Continuous	Low
M047	Fire Door	Not Applicable	X	No Damage	Continuous	Low
M054	Ceiling Tile	Not Applicable	5	No Damage	Periodic Access	Medium
S001	Spray Structural Fireproofing	Metal	2	Slight Damage	Periodic Access	Medium
S004A	Spray Structural Fireproofing	Metal	2	Slight Damage	Periodic Access	Medium
T001	Pipe Fitting Insulation (inaccessible)	Metal	5	No Damage	Periodic Access	Low
T002	Pipe Fitting Insulation	Metal	1	Slight Damage	Periodic Access	Medium

Homogeneous Area Number	Material Type	Substrate	Assessment Category	Damage	Accessibility	Disturbance Potential
T003	Pipe Fitting Insulation	Metal	1	Slight Damage	Periodic Access	Medium
T004	Tank Insulation	Metal	5	No Damage	Periodic Access	Low
T005	Pipe Insulation	Metal	1	Slight Damage	Periodic Access	Medium
T005A	Pipe Fitting Insulation	Metal	5	No Damage	Periodic Access	Low
T006	Pipe Insulation over 12" dia./ln.ft.	Metal	5	No Damage	Periodic Access	Low

Note: Damage Assessment Categories: 1-Damaged or significantly damaged thermal system insulation ACM
2-Damaged friable surfacing ACM
3-Significantly damaged friable surfacing ACM
4-Damaged or significantly damaged friable miscellaneous ACM
5-ACM with potential for damage
6-ACM with potential for significant damage
7-Any remaining friable ACM or friable suspect ACM
X-Not applicable (material is non-friable surfacing or miscellaneous material)

Table 6
Estimated Abatement Costs by Homogeneous Area
 University of Utah College of Nursing
 DFCM

Homogeneous Area Number	Material	Amount	Unit Cost	Extended Cost
M001	Wall System w/multiple layers	152,828 sq. ft.	\$2.00	\$305,656
M007	Ceiling Tile	392 sq. ft.	\$1.81	\$710
M008	Floor Tile and Mastic on	2,196 sq. ft.	\$2.36	\$5,183
M008A	Floor Tile and Mastic Under	1,975 sq. ft.	\$3.83	\$7,564
M019	Floor Tile and Mastic on	424 sq. ft.	\$2.36	\$1,001
M021	Floor Tile and Mastic on	476 sq. ft.	\$2.36	\$1,123
M022	Floor Tile Mastic-Under GDC	1,976 sq. ft.	\$2.25	\$4,446
M023	Ceiling Tile	25,268 sq. ft.	\$1.81	\$45,735
M028	Fire Door	13 units	\$115.00	\$1,495
M030	Floor Tile and Mastic on	5,231 sq. ft.	\$2.36	\$12,345
M030A	Floor Tile and Mastic Under	4,294 sq. ft.	\$3.83	\$16,446
M033	Light Fixture - Wire Insulation	10 units	\$21.04	\$210
M035	Vinyl Floor Sheeting	64 sq. ft.	\$4.00	\$256
M035A	Vinyl Floor Sheeting under Floor	176 sq. ft.	\$4.50	\$792
M037	Ceiling Tile	712 sq. ft.	\$1.81	\$1,289
M038	Floor Tile and Mastic on	10,596 sq. ft.	\$2.36	\$25,007
M038A	Floor Tile and Mastic Under	4,594 sq. ft.	\$3.83	\$17,595
M039	Leveling Compound		\$2.36	

Homogeneous Area Number	Material	Amount	Unit Cost	Extended Cost
M043	Floor Tile and Mastic on	15 sq. ft.	\$2.36	\$35
M047	Fire Door	1 units	\$115.00	\$115
M054	Ceiling Tile	30,370 sq. ft.	\$1.81	\$54,970
S001	Spray Structural Fireproofing	120,015 sq. ft.	\$7.96	\$955,319
S004A	Spray Structural Fireproofing	2,387 sq. ft.	\$7.96	\$19,001
T001	Pipe Fitting Insulation (inaccessible)	145 units	\$23.34	\$3,384
T002	Pipe Fitting Insulation	68 units	\$18.67	\$1,270
T003	Pipe Fitting Insulation	100 units	\$18.67	\$1,867
T004	Tank Insulation	35 sq. ft.	\$11.45	\$401
T005	Pipe Insulation	200 ln. ft.	\$11.17	\$2,234
T005A	Pipe Fitting Insulation	30 units	\$18.67	\$560
Total Estimated Abatement Cost				\$1,486,008

Note: Estimated abatement costs do not include replacement costs or costs for a consultant to manage the abatement.

Appendix B

Laboratory Analytical Reports

DIXON INFORMATION INC.

MICROSCOPY, ASBESTOS ANALYSIS & CONSULTING

A.I.H.A. ACCREDITED LABORATORY # 101579

NVLAP LAB CODE 101012-0

March 10, 2008

Mr. John Larson
IHI Environmental
640 East Wilmington Ave
Salt Lake City, UT 84106

Ref: Batch # 78245, Lab # H6830 - H6834
Received March 9, 2008
Test report
U of U - CON
Project No: 08A-1020-FS

Dear Mr. Larson:

Samples H6830 through H6834 have been analyzed by visual estimation based on EPA-600/M4-82-020 December 1982 optical microscopy test method. Appendix "A" contains statements which an accredited laboratory must make to meet the requirements of accrediting agencies. It also contains additional information about the method of analysis. This analysis is accredited by NVLAP. Appendix "A" must be included as an essential part of this test report. The data for this report is accredited by NVLAP for laboratory number 101012-0. It does not contain data or calibrations for tests performed under the AIHA program under lab code 101579.

This report may be reproduced but all reproduction must be in full unless written approval is received from the laboratory for partial reproduction. The results of analysis are as follows:

Lab H6830, Field S001-1020-06 13:00, Fire Proofing

This is **5% chrysotile asbestos** in white plaster with vermiculite.

Lab H6831, Field S001-1020-10 11:00, Fire Proofing

This is **6% chrysotile asbestos** in white plaster with vermiculite.

Lab H6832, Field T001-1020-17 11:00, Pipe Fitting Insulation

This sample contains two types of material: The first type is white cotton cloth with yellow paint; the second type is **1.5% chrysotile asbestos** and 35% mineral wool in off-white plaster. This sample is non-homogeneous.

The first type is 2% of the sample. The second type is 98% of the sample.

Batch # 78245
Lab # H6830 - H6834
Page 2 of 2

Lab H6833, Field T001-1020-18 11:05, Pipe Fitting Insulation

This sample contains two types of material: The first type is white cotton cloth with a trace of yellow coating; the second type is **1.5% chrysotile asbestos** and 35% mineral wool in off-white plaster. This sample is non-homogeneous.

The first type is 2% of the sample. The second type is 98% of the sample.

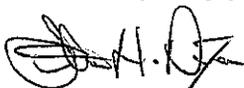
Lab H6834, Field T001-1020-19 11:10, Pipe Fitting Insulation

This sample contains two types of material: The first type is white cotton cloth; the second type is **3% chrysotile asbestos** and 30% mineral wool in off-white plaster. This sample is non-homogeneous.

The first type is 2% of the sample. The second type is 98% of the sample.

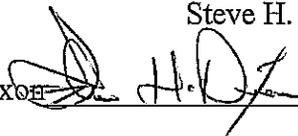
In order to be sure reagents and tools used for analysis are not contaminated with asbestos, blanks are tested. Asbestos was none detected in the blanks tested with this bulk sample set.

Very truly yours,



Steve H. Dixon, President

Analyst: Steve H. Dixon



Date Analyzed: 3/9/08

IHI

RUSH

E N V I R O N M E N T A L

#78245

Bulk Analytical Request Form

RUSH: YES: NO:

Page # 1 of 1 - - -

IHI Project No: 07A-1020-F5

Date: 3/8/08

Laboratory Name: Dixon Information Inc.

Telephone: (801) 486-0800

Address: 78 West 2400 South

Salt Lake City, UT 84115

Sampling Site: U of U CON

Results Requested for Name: John Larson by Date: _____ by Time: _____

Homog. Area	Sample Field Number	Laboratory Number	Time Collected	Type		Sample Description
				Friable	Non-Fri	
5001	1020-06	6830	1300	✓		Fire proofing
5001	↓ -10	6831	1100	✓		"
7001	↓ -17	6832	1100	✓		PIPE FITTING INSULATION
	↓ -18	6833	1105	-		"
	↓ -19	6834	1110	✓		"

Comments _____

SAMPLE TRANSFER RECORD (CHAIN OF CUSTODY)

Date	Time	Sealed	Printed Name	Signature	Company	Transfer Reason
					IHI	Sent to Lab
3/8/08	1215	✓	John Larson	[Signature]	IHI	Transported to Lab
3/9/08	8:10	✓	Susan Buere	[Signature]	Dixon	Received by Lab
3-9-08	1400	✓	Steve Dixon	[Signature]	Dixon	Rec'd by Analyst
3-9-08	1600	-	Steve Dixon	[Signature]	Dixon	Analysis Complete
3-10-08	11:00	-	Steve Dixon	[Signature]	Dixon	Supervisor OK

Lab Results (along with this completed form) and Invoices should be sent to:

640 E. WILMINGTON AVENUE, SALT LAKE CITY, UTAH 84106 TELEPHONE: 801-466-2223 FAX: 801-466-9616

DIXON INFORMATION INC.

MICROSCOPY, ASBESTOS ANALYSIS & CONSULTING

A.I.H.A. ACCREDITED LABORATORY # 101579

NVLAP LAB CODE 101012-0

March 17, 2008

Mr. John Larson
IHI Environmental
640 East Wilmington Ave
Salt Lake City, UT 84106

Ref: Batch # 78247, Lab # H6835 - H6872
Received March 9, 2008
Test report
Project #08A-1020-FS
U of U CON

Dear Mr. Larson:

Samples H6835 through H6872 have been analyzed by visual estimation based on EPA-600/M4-82-020 December 1982 optical microscopy test method. Appendix "A" contains statements which an accredited laboratory must make to meet the requirements of accrediting agencies. It also contains additional information about the method of analysis. This analysis is accredited by NVLAP. Appendix "A" must be included as an essential part of this test report. The data for this report is accredited by NVLAP for laboratory number 101012-0. It does not contain data or calibrations for tests performed under the AIHA program under lab code 101579.

This report may be reproduced but all reproduction must be in full unless written approval is received from the laboratory for partial reproduction. The results of analysis are as follows:

Lab H6835, Field M001-1020-01 12:20, Wall System

This sample contains off-white paint, **1.2% chrysotile asbestos** in micaceous white limestone joint compound, brown plant fiber paper, and white gypsum plaster with 3% fiberglass and 1% plant fiber. This sample is non-homogeneous. Overall, this is less than 1% chrysotile asbestos.

The paint is 2% of the sample. The joint compound is 8% of the sample. The plant fiber paper is 3% of the sample. The white gypsum plaster is 87% of the sample.

Lab H6836, Field M002-1020-02 12:25, Fire Door

This sample contains two types of material: The first type is mineral wool with a light coating of yellow resin; the second type is metal. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 65% of the sample. The second type is 35% of the sample.

Lab H6837, Field M003-1020-03 12:30, Stucco

This is white sandy plaster. **Asbestos is none detected.**

78 WEST 2400 SOUTH • SOUTH SALT LAKE, UTAH 84115-3013

PHONE 801-486-0800 • FAX 801-486-0849 • RES. 801-571-7695

Batch # 78247
Lab # H6835 - H6872
Page 2 of 7

Lab H6838, Field M004-1020-04 12:45, Ceiling Panel

This is brown plant fiber paper with a trace of debris. **Asbestos is none detected.**

Lab H6839, Field M005-1020-05 12:50, Ceiling Tile

This sample contains three types of material: The first type is white paint; the second type is white gypsum plaster with 2% fiberglass; the third type is brown plant fiber paper. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 2% of the sample. The second type is 93% of the sample. The third type is 5% of the sample.

Lab H6840, Field M006-1020-07 10:35, Ceiling Tile

This sample contains two types of material: The first type is 2% wollastonite in white coating; the second type is 70% mineral wool in resin binder. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 2% of the sample. The second type is 98% of the sample.

Lab H6841, Field M007-1020-08 10:40, Ceiling Tile

This sample contains two types of material: The first type is white coating; the second type is **1.5% amosite asbestos, less than 1% chrysotile asbestos** and 70% mineral wool in resin binder. This sample is non-homogeneous.

The first type is 1% of the sample. The second type is 99% of the sample.

Lab H6842, Field M008-1020-09 10:50, Floor Tile and Mastic

This is **8% chrysotile asbestos** in a tan plastic and limestone tile.

Note: The black tar mastic contains **greater than 1% chrysotile asbestos.**

The tile is 98% of the sample. The black tar mastic is 2% of the sample.

Lab H6843, Field M009-1020-11 13:40, Wall Panel

This sample contains white paint, brown plant fiber paper, and white gypsum plaster with less than 1% plant fiber. This sample is non-homogeneous. **Asbestos is none detected.**

The paint is 1% of the sample. The plant fiber paper is 2% of the sample. The white gypsum plaster is 97% of the sample.

Batch # 78247
Lab # H6835 - H6872
Page 3 of 7

Lab H6844, Field M001-1020-12 13:45, Wall System

This sample contains **1.2% chrysotile asbestos** in micaceous white limestone joint compound, brown plant fiber paper, and white gypsum plaster with vermiculite and 1% fiberglass. This sample is non-homogeneous. Overall, this is less than 1% chrysotile asbestos.

The joint compound is 10% of the sample. The plant fiber paper is 3% of the sample. The white gypsum plaster is 87% of the sample.

Lab H6845, Field M010-1020-13 14:05, Ceiling Tile

This is a light gray sample with perlite, 20% plant fiber, and 5% mineral wool in resin binder with a white coating on one side. **Asbestos is none detected.**

The white coating is 1% of the sample.

Lab H6846, Field M011-1020-14 14:50, Fire Door

This is 10% organic fiber in off-white plaster with vermiculite. **Asbestos is none detected.**

Lab H6847, Field M013-1020-15 11:45, Ceiling Tile

This is a light gray sample with perlite, 25% plant fiber, and 20% mineral wool in resin binder with a white coating on one side. **Asbestos is none detected.**

The white coating is 1% of the sample.

Lab H6848, Field M012-1020-16 10:50, Ceiling Tile

This is 70% mineral wool in white resin binder with a white coating on one side. **Asbestos is none detected.**

The white coating is 1% of the sample.

Lab H6849, Field M014-1020-20 11:30, Duct Sealant

This is gray sealant with limestone. **Asbestos is none detected.**

Lab H6850, Field M015-1020-21 11:35, Duct Sealant

This is gray sealant with limestone. **Asbestos is none detected.**

Lab H6851, Field M016-1020-22 11:40, Duct Sealant

This is 30% fiberglass in gray sealant. **Asbestos is none detected.**

Lab H6852, Field M017-1020-23 13:40, Adhesive

This is 2% talc fiber, and **less than 1% tremolite cleavage fragments** in brown resin mastic. ¹

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Page 4 of 7

Lab H6853, Field M018-1020-24 13:45, Stair Tread

This sample contains two types of material: The first type is gray rubber and limestone; the second type is 1% talc fiber, and **less than 1% tremolite cleavage fragments** in brown resin mastic. This sample is non-homogeneous.

The first type is 99% of the sample. The second type is 1% of the sample.

Lab H6854, Field M019-1020-25 13:50, Floor Tile and Mastic

This is **greater than 1% chrysotile asbestos** in a gray plastic and limestone tile.

Note: The black tar mastic contains **greater than 1% chrysotile asbestos**.

The tile is 99% of the sample. The black tar mastic is 1% of the sample. ²

Lab H6855, Field M020-1020-26 14:05, Cove Base

This sample contains two types of material: The first type is gray plastic and limestone; the second type is 1% talc fiber, and **less than 1% tremolite cleavage fragments** in brown resin. This sample is non-homogeneous.

The first type is 99% of the sample. The second type is 1% of the sample. ¹

Lab H6856, Field M001-1020-27 14:10, Wall System

This sample contains white paint, **less than 1% chrysotile asbestos** in micaceous white limestone joint compound, and white gypsum plaster with 1% fiberglass and less than 1% plant fiber. This sample is non-homogeneous. Overall, this is less than 1% chrysotile asbestos.

The paint is 1% of the sample. The joint compound is 10% of the sample. The white gypsum plaster is 89% of the sample. ³

Lab H6857, Field M021-1020-28 14:45, Floor Tile and Mastic

This sample contains three types of material: The first type is tan and off-white plastic and limestone tile; the second type is white resin mastic; the third type is **6% chrysotile asbestos** in black tar mastic. This sample is non-homogeneous.

The first type is 90% of the sample. The second type is 5% of the sample. The third type is 5% of the sample.

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Lab # H6835 - H6872
Page 5 of 7

Lab H6858, Field M001-1020-29 14:55, Wall System

This sample contains white paint, white limestone joint compound with mica and perlite, tan and white plant fiber paper, and white gypsum plaster with 1% fiberglass. This sample is non-homogeneous. **Asbestos is none detected.**

The paint is 5% of the sample. The joint compound is 30% of the sample. The plant fiber paper is 30% of the sample. The white gypsum plaster is 35% of the sample.

Lab H6859, Field M022-1020-30 15:25, Mastic

This sample contains two types of material: The first type is **6% chrysotile asbestos** in black tar; the second type is yellow resin mastic with synthetic fiber and debris. This sample is non-homogeneous.

The first type is 10% of the sample. The second type is 90% of the sample.

Lab H6860, Field M023-1020-31 15:35, Ceiling Tile

This is **3% amosite asbestos, 1% chrysotile asbestos** and 70% mineral wool in off-white binder with a white coating on one side.

The white coating is 1% of the sample.

Lab H6861, Field S002-1020-32 16:20, Fire Proofing

This is 60% mineral wool in gray binder with limestone. **Asbestos is none detected.**

Lab H6862, Field M001-1020-33 10:00, Wall System

This sample contains light green paint, **1.2% chrysotile asbestos** in micaceous white limestone joint compound, tan and white plant fiber paper, and white gypsum plaster with 1% fiberglass. This sample is non-homogeneous. Overall, this is less than 1% chrysotile asbestos.

The paint is 1% of the sample. The joint compound is 60% of the sample. The plant fiber paper is 5% of the sample. The white gypsum plaster is 34% of the sample.

Lab H6863, Field M001-1020-34 10:05, Joint Compound

This sample contains two types of material: The first type is white paint; the second type is **less than 1% chrysotile asbestos** in white limestone plaster with fine mica. This sample is non-homogeneous.

The first type is 5% of the sample. The second type is 95% of the sample. ³

Lab H6864, Field S001-1020-35 10:15, Fire Proofing

This is **6% chrysotile asbestos** in white plaster with vermiculite.

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Lab H6865, Field M017-1020-36 10:30, Adhesive

This sample contains two types of material: The first type is white limestone plaster; the second type is brown resin mastic. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 2% of the sample. The second type is 98% of the sample.

Lab H6866, Field M024-1020-37 11:00, Door Core

This is brown organic fiber with a trace of debris. **Asbestos is none detected.**

Lab H6867, Field S002-1020-38 11:10, Fire Proofing

This is 70% mineral wool in binder with limestone. **Asbestos is none detected.**

Lab H6868, Field M025-1020-39 12:55, Ceiling Tile

This sample contains two types of material: The first type is white limestone binder with sand; the second type is glasswool with a light coating of yellow resin. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 5% of the sample. The second type is 95% of the sample.

Lab H6869, Field M026-1020-40 13:00, Ceiling Tile

This is a light gray sample with perlite, 40% plant fiber, and 10% mineral wool in resin binder with a white coating on one side. **Asbestos is none detected.**

The white coating is 2% of the sample.

Lab H6870, Field M037-1020-41 13:10, Wall System

This sample contains white paint, white micaceous limestone joint compound, brown plant fiber paper, and white gypsum plaster with 1% fiberglass and 1% plant fiber. This sample is non-homogeneous. **Asbestos is none detected.**

The paint is 1% of the sample. The joint compound is 15% of the sample. The plant fiber paper is 2% of the sample. The white gypsum plaster is 82% of the sample.

Lab H6871, Field M012-1020-42 14:00, Ceiling Tile

This sample contains four types of material: The first type is white paint; the second type is 70% mineral wool in gray binder; the third type is brown plant fiber paper; the fourth type is metallic foil. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 1% of the sample. The second type is 97% of the sample. The third type is 1% of the sample. The fourth type is 1% of the sample.

Lab H6872, Field M001-1020-43 14:15, Wall System

This sample contains **1.2% chrysotile asbestos** in micaceous white limestone joint compound, brown plant fiber paper, and white gypsum plaster with vermiculite and 1% fiberglass. This sample is non-homogeneous. Overall, this is less than 1% chrysotile asbestos.

The joint compound is 12% of the sample. The plant fiber paper is 5% of the sample. The white gypsum plaster is 83% of the sample.³

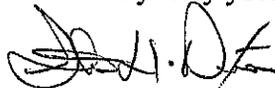
¹ **Note:** Some of the tremolite cleavage fragments have an aspect ratio of greater than 3:1. EPA 600/M4-82-020 defines asbestos as being positively identified as one of the minerals listed in Table 1-1 with an aspect ratio of greater than 3:1. EPA/600/R-93-116 does not classify this tremolite as asbestos. OSHA ID 191 has exempted tremolite cleavage fragments from inclusion in the OSHA asbestos standard.

² **Note:** The morphology of the fibers in the plastic and limestone tile are consistent with chrysotile asbestos. Fiber size is too small for confirmation by dispersion staining. Transmission Electron Microscopy (TEM) is recommended for final confirmation that this is chrysotile asbestos.

³ **Note:** Some of the chrysotile asbestos is a low grade variety that grades into a lizardite antigorite polymorph.

In order to be sure reagents and tools used for analysis are not contaminated with asbestos, blanks are tested. Asbestos was none detected in the blanks tested with this bulk sample set.

Very truly yours,

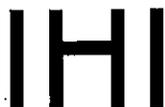


Steve H. Dixon, President

Analyst: Kai Samuelsen Kai Samuelsen

Analyst: Ofir A. Sosa Ofir A. Sosa

Analyst: Steve H. Dixon Steve H. Dixon Date Analyzed: 3/17/2008



E N V I R O N M E N T A L

#78247

Bulk Analytical Request Form

RUSH: YES: NO:

Page # 1 of 4
Date: 3/8/08

IHI Project No: 08A-1020-FS
Laboratory Name: Dixon Information Inc. Telephone: (801) 486-0800
Address: 78 West 2400 South
Salt Lake City, UT 84115

Sampling Site: U of U CON
Results Requested for Name: John Larson by Date: _____ by Time: _____

Homog. Area	Sample Field Number	Laboratory Number	Time Collected	Type		Sample Description
				Friable	Non-Fri	
M001	1020-01	6835	1220	-		Wall System
M002	-02	6836	1225	✓		Fire door
M003	-03	6837	1230	✓		STUCCO
M004	-04	6838	1245		-	Ceiling panel
M005	-05	6839	1250	✓		Ceiling Tile
M006	-07	6840	1035	✓		"
M007	-08	6841	1040	-		"
M008	-09	6842	1050		✓	Floor tile and Mastic
M009	-11	6843	1340	✓		wall panel
M001	-12	6844	1345	-		Wall System

Comments _____

SAMPLE TRANSFER RECORD (CHAIN OF CUSTODY)

Date	Time	Sealed	Printed Name	Signature	Company	Transfer Reason
					IHI	Sent to Lab
3/8/08	1230	✓	John Larson	<i>[Signature]</i>	IHI	Transported to Lab
3-9-08	9:00		Susan Ryeck	<i>[Signature]</i>	Dixon	Received by Lab
3-13-08	2000	✓	Dir Sen	<i>[Signature]</i>	Dixon	Rec'd by Analyst
3-14-08	0800	✓	Dir Sen	<i>[Signature]</i>	Dixon	Analysis Complete
2-18-08	1200		Steve Dixon	<i>[Signature]</i>	Dixon	Supervisor OK

Lab Results (along with this completed form) and Invoices should be sent to:

640 E. WILMINGTON AVENUE, SALT LAKE CITY, UTAH 84106 TELEPHONE: 801-466-2223 FAX: 801-466-9616



E N V I R O N M E N T A L

#78247

Bulk Analytical Request Form

RUSH: YES: NO:

Page # 2 of 4
Date: 3/8/08

IHI Project No: 08A-1020-FS
Laboratory Name: Dixon Information Inc. Telephone: (801) 486-0800
Address: 78 West 2400 South
Salt Lake City, UT 84115

Sampling Site: U of U CON
Results Requested for Name: John Larson by Date: _____ by Time: _____

Homog. Area	Sample Field Number	Laboratory Number	Time Collected	Type		Sample Description
				Friable	Non-Fri	
M010	1020-13	6845	1405	✓		Ceiling Tile
M011	-14	6846	1450	✓		Fire Door
M013	-15	6847	1845	✓		Ceiling Tile
M012	-16	6848	1050	✓		"
M014	-20	6849	1130		✓	Duct Sealant
M015	-21	6850	1135		✓	"
M016	-22	6851	1140		✓	"
M017	-23	6852	1340		✓	Adhesive
M018	-24	6853	1345		✓	Stair Tread
M019	-25	6854	1350		✓	Floor tile and Mastic

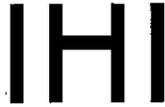
Comments _____

SAMPLE TRANSFER RECORD (CHAIN OF CUSTODY)

Date	Time	Sealed	Printed Name	Signature	Company	Transfer Reason
					IHI	Sent to Lab
3/8/08	1230	✓	John Larson	[Signature]	IHI	Transported to Lab
3-9-8	9:00		Susan Rains	[Signature]	Dixon	Received by Lab
3-15-08	2000	✓	Chr Joe	[Signature]	Dixon	Rec'd by Analyst
3-14-08	0700	✓	Chr Joe	[Signature]	Dixon	Analysis Complete
3-18-08	1200		Steve Dixon	[Signature]	Dixon	Supervisor OK

Lab Results (along with this completed form) and Invoices should be sent to:

640 E. WILMINGTON AVENUE, SALT LAKE CITY, UTAH 84106 TELEPHONE: 801-466-2223 FAX: 801-466-9616



#78247

E N V I R O N M E N T A L

Bulk Analytical Request Form

RUSH: YES: NO:

Page # 3 of 4
Date: 3/8/08

IHI Project No: 05A-1020-F5
Laboratory Name: Dixon Information Inc. Telephone: (801) 486-0800
Address: 78 West 2400 South
Salt Lake City, UT 84115

Sampling Site: U of U SON
Results Requested for Name: John Larson by Date: _____ by Time: _____

Homog. Area	Sample Field Number	Laboratory Number	Time Collected	Type		Sample Description
				Friable	Non-Fri	
MB20	1020-26	6855	1405		✓	Cove Base
MB01	-27	6856	1410	✓		Wall System
MB21	-28	6857	1445		✓	Floor Tile and Mastic
MB01	-29	6858	1455	✓		Wall System
MB22	-30	6859	1525		✓	Mastic
MB23	-31	6860	1535	✓		Ceiling Tile
SO02	-32	6861	1620	✓		Fire proofing
MB01	-33	6862	1800	✓		Wall System
II	-34	6863	1005	✓		** JOINT COMPOUND
SO01	-35	6864	1015	✓		Fire proofing

Comments _____

SAMPLE TRANSFER RECORD (CHAIN OF CUSTODY)

Date	Time	Sealed	Printed Name	Signature	Company	Transfer Reason
					IHI	Sent to Lab
3/8/08	1230	✓	John Larson	[Signature]	IHI	Transported to Lab
3-9-08	9:50		Susan Byars	[Signature]	Dixon	Received by Lab
3-13-08	2000	✓	Chris [Signature]	[Signature]	Dixon	Rec'd by Analyst
3-14-08	0200	✓	Chris [Signature]	[Signature]	Dixon	Analysis Complete
3-18-08	1200		Steve Dixon	[Signature]	Dixon	Supervisor OK

Lab Results (along with this completed form) and Invoices should be sent to:

640 E. WILMINGTON AVENUE, SALT LAKE CITY, UTAH 84106 TELEPHONE: 801-466-2223 FAX: 801-466-9616



#78247

E N V I R O N M E N T A L

Bulk Analytical Request Form

RUSH: YES: NO:

Page # 4 of 4
Date: 3/8/08

IHI Project No: 08A-1020-FS
Laboratory Name: Dixon Information Inc. Telephone: (801) 486-0800
Address: 78 West 2400 South
Salt Lake City, UT 84115

Sampling Site: Hot U CAN
Results Requested for Name: John Larson by Date: _____ by Time: _____

Homog. Area	Sample Field Number	Laboratory Number	Time Collected	Type		Sample Description
				Friable	Non-Fri	
M017	1020-36	6865	1030		✓	Adhesive
M024	-37	6866	1100	✓		Door Core
5002	-38	6867	1110	✓		Fine proofing
M025	-39	6868	1255	✓		ceiling tile
M026	-40	6869	1300	✓		"
M037	-41	6870	1310	✓		wall system
M012	-42	6871	1400	✓		ceiling tile
M001	-43	6872	1415	✓		wall system

Comments _____

SAMPLE TRANSFER RECORD (CHAIN OF CUSTODY)

Date	Time	Sealed	Printed Name	Signature	Company	Transfer Reason
					IHI	Sent to Lab
3/8/08	1230	✓	John Larson	[Signature]	IHI	Transported to Lab
3-9-08	9:00	✓	Susan Burgess	[Signature]	Dixon	Received by Lab
3-13-08	2000	✓	Dr. Joe	[Signature]	Dixon	Rec'd by Analyst
3-14-08	0200	✓	Dr. Joe	[Signature]	Dixon	Analysis Complete
5-18-08	1200		Steve Dixon	[Signature]	Dixon	Supervisor OK

Lab Results (along with this completed form) and Invoices should be sent to:

640 E. WILMINGTON AVENUE, SALT LAKE CITY, UTAH 84106 TELEPHONE: 801-466-2223 FAX: 801-466-9616

DIXON INFORMATION INC.

MICROSCOPY, ASBESTOS ANALYSIS & CONSULTING

A.I.H.A. ACCREDITED LABORATORY # 101579

NVLAP LAB CODE 101012-0

Revised: 4/11/08

March 25, 2008

Mr. John Larson
IHI Environmental
640 East Wilmington Ave
Salt Lake City, UT 84106

Ref: Batch # 78370, Lab # H6998 - H7036
Received March 16, 2008
Test report
Project #08A-1020-FS
U of U CON

Dear Mr. Larson:

Samples H6998 through H7036 have been analyzed by visual estimation based on EPA-600/M4-82-020 December 1982 optical microscopy test method. Appendix "A" contains statements which an accredited laboratory must make to meet the requirements of accrediting agencies. It also contains additional information about the method of analysis. This analysis is accredited by NVLAP. Appendix "A" must be included as an essential part of this test report. The data for this report is accredited by NVLAP for laboratory number 101012-0. It does not contain data or calibrations for tests performed under the AIHA program under lab code 101579.

This report may be reproduced but all reproduction must be in full unless written approval is received from the laboratory for partial reproduction. The results of analysis are as follows:

Lab H6998, Field S001-1020-44 14:50, Debris

This sample contains two types of material: The first type is **3% chrysotile asbestos** in off-white plaster with vermiculite; the second type is 2% fiberglass in white plaster. This sample is non-homogeneous.

The first type is 90% of the sample. The second type is 10% of the sample.

Lab H6999, Field M029-1020-45 15:30, Wall System

This sample contains off-white paint, white limestone joint compound, brown plant fiber paper, and white gypsum plaster with 1% fiberglass. This sample is non-homogeneous. **Asbestos is none detected.**

The paint is 1% of the sample. The joint compound is 10% of the sample. The plant fiber paper is 9% of the sample. The white gypsum plaster is 80% of the sample.

Batch # 78370
Lab # H6998 - H7036
Page 2 of 9

Lab H7000, Field M028-1020-46 15:45, Fire Door

This sample contains two types of material: The first type is **5% chrysotile asbestos** and **5% amosite asbestos** in white plaster; the second type is brown wood fiber. This sample is non-homogeneous.

The first type is 75% of the sample. The second type is 25% of the sample.

Lab H7001, Field M029-1020-47 15:50, Fire Door

This is 10% organic fiber in white plaster with vermiculite. **Asbestos is none detected.**

Lab H7002, Field S002-1020-48 16:10, Fire Proofing

This is 80% mineral wool in gray plaster. **Asbestos is none detected.**

Lab H7003, Field S002-1020-49 13:30, Fire Proofing

This is 80% mineral wool in gray plaster. **Asbestos is none detected.**

Lab H7004, Field M001-1020-50 13:40, Wall System

This sample contains **less than 1% chrysotile asbestos** in micaceous white limestone joint compound, brown plant fiber paper, and white gypsum plaster with less than 1% fiberglass. This sample is non-homogeneous. Overall, this is less than 1% chrysotile asbestos.

The joint compound is 15% of the sample. The plant fiber paper is 20% of the sample. The white gypsum plaster is 65% of the sample.

Lab H7005, Field M009-1020-51 13:45, Wall System

This sample contains two types of material: The first type is off-white paint; the second type is off-white micaceous limestone compound with perlite. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 5% of the sample. The second type is 95% of the sample.

Lab H7006, Field M030-1020-52 14:00, Floor Tile and Mastic

This is **greater than 1% chrysotile asbestos** in an off-white plastic and limestone tile.

Note: The black tar mastic contains **greater than 1% chrysotile asbestos**.

The tile is 80% of the sample. The black tar mastic is 20% of the sample.

Batch # 78370
Lab # H6998 - H7036
Page 3 of 9

Lab H7007, Field M023-1020-53 14:05, Ceiling Tile

This sample contains two types of material: The first type is white coating; the second type is **3% chrysotile asbestos, 2% amosite asbestos** and 70% mineral wool in resin binder. This sample is non-homogeneous.

The first type is 2% of the sample. The second type is 98% of the sample.

Lab H7008, Field M031-1020-54 14:30, Floor Tile

This is a tan plastic and limestone tile with clear mastic with gray compound. **Asbestos is none detected.**

The tile is 95% of the sample. The mastic with gray compound is 5% of the sample.

Lab H7009, Field M032-1020-55 14:45, Sink Coating

This is 10% plant fiber in gray binder with limestone and mica. **Asbestos is none detected.**

Lab H7010, Field M034-1020-56 15:30, Floor Tile

This is an off-white plastic and limestone tile with yellow resin mastic. **Asbestos is none detected.**

The tile is 99% of the sample. The mastic is 1% of the sample.

Lab H7011, Field M035-1020-57 15:45, Floor Sheeting

This sample contains three types of material: The first type is **3% chrysotile asbestos**, 5% talc fiber and **less than 1% tremolite cleavage fragments** in brown binder; the second type is off-white plastic and limestone; the third type is yellow resin mastic. This sample is non-homogeneous.

The first type is 15% of the sample. The second type is 75% of the sample. The third type is 10% of the sample.

Note: Some of the tremolite cleavage fragments have an aspect ratio of greater than 3:1. EPA 600/M4-82-020 defines asbestos as being positively identified as one of the minerals listed in Table 1-1 with an aspect ratio of greater than 3:1. EPA/600/R-93-116 does not classify this tremolite as asbestos. OSHA ID 191 has exempted tremolite cleavage fragments from inclusion in the OSHA asbestos standard.

Batch # 78370
Lab # H6998 - H7036
Page 4 of 9

Lab H7012, Field M001-1020-58 16:00, Wall System

This sample contains white paint, **1.2% chrysotile asbestos** in micaceous white limestone joint compound, brown and off-white plant fiber paper, and white gypsum plaster with less than 1% fiberglass and less than 1% plant fiber. This sample is non-homogeneous. Overall, this is less than 1% chrysotile asbestos.

The paint is 2% of the sample. The joint compound is 8% of the sample. The plant fiber paper is 20% of the sample. The white gypsum plaster is 70% of the sample.

Lab H7013, Field M006-1020-59 11:45, Ceiling Tile

This is less than 1% talc fiber, **less than 1% tremolite cleavage fragments** and 70% mineral wool in white resin binder with a white coating on one side.

The white coating is 1% of the sample.

Note: Some of the tremolite cleavage fragments have an aspect ratio of greater than 3:1. EPA 600/M4-82-020 defines asbestos as being positively identified as one of the minerals listed in Table 1-1 with an aspect ratio of greater than 3:1. EPA/600/R-93-116 does not classify this tremolite as asbestos. OSHA ID 191 has exempted tremolite cleavage fragments from inclusion in the OSHA asbestos standard.

Lab H7014, Field M007-1020-60 11:50, Ceiling Tile

This sample contains two types of material: The first type is **3% chrysotile asbestos, 2% amosite asbestos** and 70% mineral wool in resin binder; the second type is white coating. This sample is non-homogeneous.

The first type is 99% of the sample. The second type is 1% of the sample.

Lab H7015, Field M012-1020-61 11:55, Ceiling Tile

This is 70% mineral wool in white resin binder with a white coating on one side. **Asbestos is none detected.**

The white coating is 1% of the sample.

Lab H7016, Field M036-1020-62 12:00, Ceiling Tile

This is a light gray sample with perlite, 35% plant fiber, and 2% mineral wool in resin binder with a white coating on one side. **Asbestos is none detected.**

The white coating is 1% of the sample.

Batch # 78370
Lab # H6998 - H7036
Page 5 of 9

Lab H7017, Field M037-1020-63 12:05, Ceiling Tile

This is a light gray sample with perlite, 35% plant fiber, and 20% mineral wool in resin binder with a white coating on one side. **Asbestos is none detected.**

The white coating is 1% of the sample.

Lab H7018, Field M038-1020-64 12:10, Floor Tile and Mastic

This is **greater than 1% chrysotile asbestos** in a tan plastic and limestone tile.

Note: The black tar mastic contains **greater than 1% chrysotile asbestos**.

The tile is 99% of the sample. The black tar mastic is 1% of the sample.

Lab H7019, Field M039-1020-65 12:15, Leveling Compound

This sample contains three types of material: The first type is **greater than 1% chrysotile asbestos** in black tar mastic; the second type is **less than 1% chrysotile asbestos** in gray sandy compound; the third type is **greater than 1% chrysotile asbestos** in white plaster with vermiculite. This sample is non-homogeneous.

The first type is 1% of the sample. The second type is greater than 98% of the sample. The third type is less than 1% of the sample.

Lab H7020, Field M001-1020-66 12:20, Wall System

This sample contains white paint, **1.2% chrysotile asbestos** in micaceous white limestone joint compound, brown plant fiber paper, and white gypsum plaster with vermiculite and 1% fiberglass. This sample is non-homogeneous. Overall, this is less than 1% chrysotile asbestos.

The paint is 1% of the sample. The joint compound is 5% of the sample. The plant fiber paper is 9% of the sample. The white gypsum plaster is 85% of the sample.

Lab H7021, Field S003-1020-67 12:40, Plaster

This sample contains two types of material: The first type is off-white paint; the second type is white plaster with sand. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 5% of the sample. The second type is 95% of the sample.

Batch # 78370
Lab # H6998 - H7036
Page 6 of 9

Lab H7022, Field M017-1020-68 13:45, Adhesive

This is 1% talc fiber and **less than 1% tremolite cleavage fragments** in brown resin mastic.

Note: Some of the tremolite cleavage fragments have an aspect ratio of greater than 3:1. EPA 600/M4-82-020 defines asbestos as being positively identified as one of the minerals listed in Table 1-1 with an aspect ratio of greater than 3:1. EPA/600/R-93-116 does not classify this tremolite as asbestos. OSHA ID 191 has exempted tremolite cleavage fragments from inclusion in the OSHA asbestos standard.

Lab H7023, Field S001-1020-69 14:10, Debris

This sample contains three types of material: The first type is **3% chrysotile asbestos** and 10% mineral wool in gray plaster; the second type is 1% fiberglass in white gypsum plaster; the third type is **4% chrysotile asbestos** and 2% fiberglass in off-white plaster with vermiculite. This sample is non-homogeneous.

The first type is 2% of the sample. The second type is 2% of the sample. The third type is 96% of the sample.

Lab H7024, Field M001-1020-70 14:20, Wall System

This sample contains white paint, white micaceous limestone joint compound, brown plant fiber paper, and white gypsum plaster with vermiculite and 1% fiberglass. This sample is non-homogeneous. **Asbestos is none detected.**

The paint is 1% of the sample. The joint compound is 9% of the sample. The plant fiber paper is 5% of the sample. The white gypsum plaster is 85% of the sample.

Lab H7025, Field M023-1020-71 14:50, Ceiling Tile

This is a light gray sample with perlite, 25% plant fiber, and 20% mineral wool in resin binder with a white coating on one side. **Asbestos is none detected.**

The white coating is 1% of the sample.

Lab H7026, Field M022-1020-72 14:55, Mastic

This sample contains two types of material: The first type is **8% chrysotile asbestos** in black tar mastic; the second type is yellow resin mastic. This sample is non-homogeneous.

The first type is 50% of the sample. The second type is 50% of the sample.

Note: There is separate analysis on the second material type due to the contact with the asbestos containing material type.

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Lab # H6998 - H7036
Page 7 of 9

Lab H7027, Field M001-1020-73 15:20, Wall System

This sample contains white paint, **1.2% chrysotile asbestos** in micaceous white limestone joint compound, brown plant fiber paper, and white gypsum plaster with less than 1% fiberglass and less than 1% plant fiber. This sample is non-homogeneous. Overall, this is less than 1% chrysotile asbestos.

The paint is 1% of the sample. The joint compound is 9% of the sample. The plant fiber paper is 5% of the sample. The white gypsum plaster is 85% of the sample.

Lab H7028, Field M001-1020-74 16:10, Wall System

This sample contains white paint, **1.2% chrysotile asbestos** in micaceous white limestone joint compound, brown plant fiber paper, and white gypsum plaster with less than 1% fiberglass. This sample is non-homogeneous. Overall, this is % chrysotile asbestos.

The paint is 1% of the sample. The joint compound is 5% of the sample. The plant fiber paper is 9% of the sample. The white gypsum plaster is 85% of the sample.

Lab H7029, Field M040-1020-75 16:25, Floor Tile and Mastic

This sample contains three types of material: The first type is tan plastic and limestone tile; the second type is yellow resin mastic and debris; the third type is less than 1% talc fiber and **less than 1% tremolite cleavage fragments** in brown resin mastic. This sample is non-homogeneous.

The first type is greater than 98% of the sample. The second type is 1% of the sample. The third type is less than 1% of the sample.

Note: Some of the tremolite cleavage fragments have an aspect ratio of greater than 3:1. EPA 600/M4-82-020 defines asbestos as being positively identified as one of the minerals listed in Table 1-1 with an aspect ratio of greater than 3:1. EPA/600/R-93-116 does not classify this tremolite as asbestos. OSHA ID 191 has exempted tremolite cleavage fragments from inclusion in the OSHA asbestos standard.

Lab H7030, Field M010-1020-76 14:55, Ceiling Tile

This is a light gray sample with perlite, 25% plant fiber, and 20% mineral wool in resin binder with a white coating on one side. **Asbestos is none detected.**

The white coating is 1% of the sample.

Batch # 78370
Lab # H6998 - H7036
Page 8 of 9

Lab H7031, Field M030-1020-77 15:05, Floor Tile

This is **greater than 1% chrysotile asbestos** in an off-white plastic and limestone tile.

Note: The black tar mastic contains **greater than 1% chrysotile asbestos**.

The tile is 98% of the sample. The black tar mastic is 2% of the sample.

Lab H7032, Field M042-1020-78 15:10, Adhesive

This is 1% organic fiber in brown and yellow resin mastic. **Asbestos is none detected.**

Lab H7033, Field M041-1020-79 15:20, Floor Tile and Mastic

This is a tan plastic and limestone tile with yellow resin mastic. **Asbestos is none detected.**

The tile is greater than 99% of the sample. The mastic is less than 1% of the sample.

Lab H7034, Field M043-1020-80 15:25, Floor Tile and Mastic

This is **8% chrysotile asbestos** in a tan plastic and limestone tile.

Note: The black tar mastic contains **greater than 1% chrysotile asbestos**.

The tile is 99% of the sample. The black tar mastic is 1% of the sample.

Lab H7035, Field M006-1020-81 15:35, Ceiling Tile

This sample contains three types of material: The first type is 70% mineral wool in resin binder; the second type is brown plant fiber paper; the third type is metallic foil. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 96% of the sample. The second type is 2% of the sample. The third type is 2% of the sample.

Batch #78370
Lab #H6998-H7036
Page 9 of 9

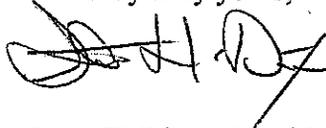
Lab H7036, Field M001-1020-82 15:40, Wall System

This sample contains white paint, **1.2% chrysotile asbestos** in micaceous white limestone joint compound, brown plant fiber paper, and white gypsum plaster with 1% fiberglass. This sample is non-homogeneous. Overall, this is less than 1% chrysotile asbestos.

The paint is 2% of the sample. The joint compound is 75% of the sample. The plant fiber paper is 3% of the sample. The white gypsum plaster is 20% of the sample.

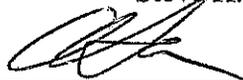
In order to be sure reagents and tools used for analysis are not contaminated with asbestos, blanks are tested. Asbestos was none detected in the blanks tested with this bulk sample set.

Very truly yours,



Steve H. Dixon, President

Analyst: Ofir A. Sosa



Date Analyzed: 3/24/08



E N V I R O N M E N T A L

#78370

Bulk Analytical Request Form

RUSH: YES: NO:

Page # 1 of 4 Date: 3/14/08

IHI Project No: 08A-1020-FS Laboratory Name: Dixon Information Inc. Telephone: (801) 486-0800 Address: 78 West 2400 South Salt Lake City, UT 84115 Sampling Site: U of U CON Results Requested for Name: John Larson by Date: by Time:

Table with 6 columns: Homog. Area, Sample Field Number, Laboratory Number, Time Collected, Type (Friable/Non-Fri), Sample Description. Rows include debris, wall system, fire door, fire proofing, and floor tile.

Comments

SAMPLE TRANSFER RECORD (CHAIN OF CUSTODY)

Table with 7 columns: Date, Time, Sealed, Printed Name, Signature, Company, Transfer Reason. Shows chain of custody from IHI to Lab to Dixon.

Lab Results (along with this completed form) and Invoices should be sent to:

640 E. WILMINGTON AVENUE, SALT LAKE CITY, UTAH 84106 TELEPHONE: 801-466-2223 FAX: 801-466-9616



E N V I R O N M E N T A L

Bulk Analytical Request Form

RUSH: YES: NO:

Page # 2 of 4
Date: 3/14/08

IHI Project No: 08A-1020-FS
Laboratory Name: Dixon Information Inc. Telephone: (801) 486-0800
Address: 78 West 2400 South
Salt Lake City, UT 84115

Sampling Site: U + U COM
Results Requested for Name: John Larson by Date: _____ by Time: _____

Homog. Area	Sample Field Number	Laboratory Number	Time Collected	Type		Sample Description
				Friable	Non-Fri	
M031	1020-54	67087608	1430		✓	Floor tile
M032	55	67097609	1445	✓		SINK COATING
M034	56	67107610	1530		✓	Floor tile
M035	57	67117611	1545	✓	✗	Floor sheeting
M001	58	67127612	1600	✓		Well System
M006	59	67137613	1145	✓		ceiling tile
M007	60	67147614	1150	✓		"
M012	61	67157615	1155	✓		"
M036	62	67167616	1200	✓		"
M037	63	67177617	1205	✓		"

Comments _____

SAMPLE TRANSFER RECORD (CHAIN OF CUSTODY)

Date	Time	Sealed	Printed Name	Signature	Company	Transfer Reason
					IHI	Sent to Lab
3/14/08	1645	✓	John Larson	[Signature]	IHI	Transported to Lab
3/14/08	1710	✓	Steve Dixon	[Signature]	Dixon	Received by Lab
3-21-08	1400	✓	Ofir Sore	[Signature]	Dixon	Rec'd by Analyst
3-22-08	1900	✓	Ofir Sore	[Signature]	Dixon	Analysis Complete
3-26-08	15:00	✓	Steve Dixon	[Signature]	Dixon	Supervisor OK

Lab Results (along with this completed form) and Invoices should be sent to:

640 E. WILMINGTON AVENUE, SALT LAKE CITY, UTAH 84106 TELEPHONE: 801-466-2223 FAX: 801-466-9616



E N V I R O N M E N T A L

Bulk Analytical Request Form

RUSH: YES: NO:

Page # 3 of 4
Date: 3/14/08

IHI Project No: 08A-1020-FS
Laboratory Name: Dixon Information Inc. Telephone: (801) 486-0800
Address: 78 West 2400 South
Salt Lake City, UT 84115

Sampling Site: U of U CON
Results Requested for Name: John Larson by Date: _____ by Time: _____

Homog. Area	Sample Field Number	Laboratory Number	Time Collected	Type		Sample Description
				Friable	Non-Fri	
M038	1020-64	67187018	1210		✓	Floor tile and mastic
M038	65	67197019	1215		✓	Leveling compound
M001	66	67207020	1220	✓		wall system
S003	67	67217021	1240	✓		plaster
M017	68	67227022	1345		✓	Adhesive
S001	69	67237023	1410	✓		debris
M001	70	67247024	1420	✓		wall system
M023	71	67257025	1450	✓		ceiling tile
M022	72	67267026	1455		✓	mastic
M001	73	67277027	1520	✓		wall system

Comments _____

SAMPLE TRANSFER RECORD (CHAIN OF CUSTODY)

Date	Time	Sealed	Printed Name	Signature	Company	Transfer Reason
					IHI	Sent to Lab
3/14/08	1645	✓	John Larson	[Signature]	IHI	Transported to Lab
3-14-08	1710	✓	Steve Dixon	[Signature]	Dixon	Received by Lab
3-21-08	1400	✓	Chris Cox	[Signature]	Dixon	Rec'd by Analyst
3-22-08	1900	✓	Chris Cox	[Signature]	Dixon	Analysis Complete
3-26-08	1500	✓	Steve Dixon	[Signature]	Dixon	Supervisor OK

Lab Results (along with this completed form) and Invoices should be sent to:

640 E. WILMINGTON AVENUE, SALT LAKE CITY, UTAH 84106 TELEPHONE: 801-466-2223 FAX: 801-466-9616



E N V I R O N M E N T A L

Bulk Analytical Request Form

RUSH: YES: NO:

Page # 4 of 4
Date: 3/14/08

IHI Project No: 08A-1020-F5
Laboratory Name: Dixon Information Inc. Telephone: (801) 486-0800
Address: 78 West 2400 South Salt Lake City, UT 84115

Sampling Site: UATU CON
Results Requested for Name: John Larson by Date: by Time:

Table with 6 columns: Homog. Area, Sample Field Number, Laboratory Number, Time Collected, Type (Friable/Non-Fri), Sample Description. Rows include samples M001, M040, M010, M030, M042, M041, M043, M006, M001 with descriptions like Wall System, Floor tile and Mastic, ceiling tile, etc.

Comments

SAMPLE TRANSFER RECORD (CHAIN OF CUSTODY)

Table with 7 columns: Date, Time, Sealed, Printed Name, Signature, Company, Transfer Reason. Shows the chain of custody from IHI to the lab and back.

Lab Results (along with this completed form) and Invoices should be sent to:

640 E. WILMINGTON AVENUE, SALT LAKE CITY, UTAH 84106 TELEPHONE: 801-466-2223 FAX: 801-466-9616

DIXON INFORMATION INC.

MICROSCOPY, ASBESTOS ANALYSIS & CONSULTING

A.I.H.A. ACCREDITED LABORATORY # 101579

NVLAP LAB CODE 101012-0

March 27, 2008

Mr. John Larson
IHI Environmental
640 East Wilmington Ave
Salt Lake City, UT 84106

Ref: Batch # 78442, Lab # H7096 - H7130
Received March 20, 2008
Test report
Project No: 08A-1020-FS
U of U CON

Dear Mr. Larson:

Samples H7096 through H7130 have been analyzed by visual estimation based on EPA-600/M4-82-020 December 1982 optical microscopy test method. Appendix "A" contains statements which an accredited laboratory must make to meet the requirements of accrediting agencies. It also contains additional information about the method of analysis. This analysis is accredited by NVLAP. Appendix "A" must be included as an essential part of this test report. The data for this report is accredited by NVLAP for laboratory number 101012-0. It does not contain data or calibrations for tests performed under the AIHA program under lab code 101579.

This report may be reproduced but all reproduction must be in full unless written approval is received from the laboratory for partial reproduction. The results of analysis are as follows:

Lab H7096, Field M044-1020-83 12:15, Sink Coating

This is 10% plant fiber in gray binder with limestone and mica. **Asbestos is none detected.**

Lab H7097, Field M001-1020-84 12:10, Wall System

This sample contains white paint, **1.5% chrysotile asbestos** in micaceous white limestone joint compound, brown plant fiber paper, and white gypsum plaster with 1% fiberglass and 1% plant fiber. This sample is non-homogeneous. Overall, this is less than 1% chrysotile asbestos.

The paint is 1% of the sample. The joint compound is 5% of the sample. The plant fiber paper is 5% of the sample. The white gypsum plaster is 89% of the sample.

Lab H7098, Field M023-1020-85 12:25, Ceiling Tile

This sample contains two types of material: The first type is **3% chrysotile asbestos, 2% amosite asbestos** and 70% mineral wool in resin binder; the second type is white coating. This sample is non-homogeneous.

The first type is 99% of the sample. The second type is 1% of the sample.

78 WEST 2400 SOUTH • SOUTH SALT LAKE, UTAH 84115-3013

PHONE 801-486-0800 • FAX 801-486-0849 • RES. 801-571-7695

Batch # 78442
Lab # H7096 - H7130
Page 2 of 6

Lab H7099, Field M012-1020-86 12:30, Ceiling Tile

This is 70% mineral wool in white resin binder with a white coating on one side. **Asbestos is none detected.**

The white coating is 1% of the sample.

Lab H7100, Field M045-1020-87 13:35, Ceiling Tile

This is a light gray sample with perlite, 20% plant fiber, and 35% mineral wool in resin binder with a white coating on one side. **Asbestos is none detected.**

The white coating is 1% of the sample.

Lab H7101, Field M037-1020-88 13:34, Ceiling Tile

This sample contains two types of material: The first type is white coating; the second type is **3% chrysotile asbestos, 2% amosite asbestos** and 70% mineral wool in resin binder. This sample is non-homogeneous.

The first type is 1% of the sample. The second type is 99% of the sample.

Lab H7102, Field M042-1020-89 13:50, Adhesive

This sample contains two types of material: The first type is brown resin mastic; the second type is green rubber mastic with 1% organic fiber. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 30% of the sample. The second type is 70% of the sample.

Lab H7103, Field M001-1020-90 14:40, Wall System

This sample contains tan paint, **2% chrysotile asbestos** in micaceous white limestone joint compound, brown and off-white plant fiber paper, and white gypsum plaster with less than 1% fiberglass. This sample is non-homogeneous. Overall, this is less than 1% chrysotile asbestos.

The paint is 1% of the sample. The joint compound is 35% of the sample. The plant fiber paper is 14% of the sample. The white gypsum plaster is 50% of the sample.

Batch # 78442
Lab # H7096 - H7130
Page 3 of 6

Lab H7104, Field M001-1020-91 15:00, Wall System

This sample contains off-white paint, **2% chrysotile asbestos** in micaceous white limestone joint compound, brown and off-white plant fiber paper, and white gypsum plaster with less than 1% fiberglass. This sample is non-homogeneous. Overall, this is 1% chrysotile asbestos.

The paint is 1% of the sample. The joint compound is 5% of the sample. The plant fiber paper is 5% of the sample. The white gypsum plaster is 89% of the sample.

Lab H7105, Field M046-1020-92 16:05, Ceiling Tile

This is a light gray sample with perlite, 20% plant fiber, and 35% mineral wool in resin binder with a white coating on one side. **Asbestos is none detected.**

The white coating is 1% of the sample.

Lab H7106, Field S003-1020-93 16:10, Plaster

This sample contains three types of material: The first type is white paint; the second type is white plaster with sand; the third type is off-white plaster with sand, less than 1% fiberglass, and a trace of vermiculite. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 1% of the sample. The second type is 39% of the sample. The third type is 60% of the sample.

Lab H7107, Field S002-1020-94 11:00, Fire Proofing

This is 80% mineral wool in off-white plaster. **Asbestos is none detected.**

Lab H7108, Field M048-1020-95 10:45, Fire Door

This is brown wood fiber with a trace of resin binder. **Asbestos is none detected.**

Lab H7109, Field M049-1020-96 11:10, Sealant

This sample contains three types of material: The first type is red rubber sealant with limestone; the second type is off-white compound; the third type is brown plant fiber paper. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 98% of the sample. The second type is 1% of the sample. The third type is 1% of the sample.

Batch # 78442
Lab # H7096 - H7130
Page 4 of 6

Lab H7110, Field M001-1020-97 11:20, Wall System

This sample contains tan paint, white micaceous limestone joint compound with perlite, brown plant fiber paper, and white gypsum plaster with less than 1% fiberglass and less than 1% plant fiber. This sample is non-homogeneous. **Asbestos is none detected.**

The paint is 1% of the sample. The joint compound is 5% of the sample. The plant fiber paper is 9% of the sample. The white gypsum plaster is 85% of the sample.

Lab H7111, Field M006-1020-98 11:30, Ceiling Tile

This sample contains three types of material: The first type is 70% mineral wool in resin binder; the second type is white coating; the third type is metallic foil with brown plant fiber paper. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 98% of the sample. The second type is 1% of the sample. The third type is 1% of the sample.

Lab H7112, Field M012-1020-99 11:35, Ceiling Tile

This is 70% mineral wool in white resin binder with 2% wollastonite in a white coating on one side. **Asbestos is none detected.**

The white coating is 1% of the sample.

Lab H7113, Field M042-1020-100 11:45, Adhesive

This is clear mastic with debris and tan compound on the surface. **Asbestos is none detected.**

Lab H7114, Field M010-1020-101 11:55, Ceiling Tile

This is a light gray sample with perlite, 20% plant fiber, and 30% mineral wool in resin binder with a white coating on one side. **Asbestos is none detected.**

The white coating is 2% of the sample.

Lab H7115, Field M023-1020-102 12:15, Ceiling Tile

This is **2% amosite asbestos, 2% chrysotile asbestos** and 80% glasswool in white binder with a white coating on one side.

The white coating is 2% of the sample.

Lab H7116, Field M050-1020-103 12:40, Ceiling Tile

This is a light gray sample with perlite, 20% plant fiber, and 30% mineral wool in resin binder with a white coating on one side. **Asbestos is none detected.**

The white coating is 2% of the sample.

Batch # 78442
Lab # H7096 - H7130
Page 5 of 6

Lab H7117, Field M051-1020-104 12:50, Ceiling Tile

This is a light gray sample with perlite, 5% plant fiber, and 70% mineral wool in resin binder with a white coating on one side. **Asbestos is none detected.**

The white coating is 2% of the sample.

Lab H7118, Field M001-1020-105 12:55, Wall System

This sample contains white paint, **less than 1% chrysotile asbestos** in micaceous white limestone joint compound, brown plant fiber paper, and white gypsum plaster with 2% fiberglass and 1% plant fiber. This sample is non-homogeneous. Overall, this is less than 1% chrysotile asbestos.

The paint is 2% of the sample. The joint compound is 8% of the sample. The plant fiber paper is 5% of the sample. The white gypsum plaster is 85% of the sample.

Note: Some of the chrysotile asbestos is a low grade variety that grades into a lizardite antigorite polymorph.

Lab H7119, Field S002-1020-106 13:10, Fire Proofing

This is 70% glasswool in white limestone binder. **Asbestos is none detected.**

Lab H7120, Field M001-1020-107 14:00, Wall System

This sample contains tan paint, white micaceous limestone joint compound, brown plant fiber paper, and white gypsum plaster with 1% plant fiber. This sample is non-homogeneous. **Asbestos is none detected.**

The paint is 3% of the sample. The joint compound is 1% of the sample. The plant fiber paper is 5% of the sample. The white gypsum plaster is 91% of the sample.

Lab H7121, Field S004-1020-108 14:20, Fire Proofing

This is 15% plant fiber in blue plaster. **Asbestos is none detected.**

Lab H7122, Field S004-1020-109 14:25, Fire Proofing

This is 10% plant fiber in gray plaster. **Asbestos is none detected.**

Lab H7123, Field S004-1020-110 14:30, Fire Proofing

This is 15% plant fiber in white plaster. **Asbestos is none detected.**

Lab H7124, Field S001-1020-111 14:40, Debris

This is **5% chrysotile asbestos** in white plaster with vermiculite.

Batch #78442
Lab #H7096-H7130
Page 6 of 6

Lab H7125, Field M052-1020-112 14:15, Floor Tile

This is a tan plastic and limestone tile. **Asbestos is none detected.**

Note: No mastic.

Lab H7126, Field M053-1020-113 15:05, Wall System

This sample contains white paint, white micaceous limestone joint compound with perlite, brown plant fiber paper, and white gypsum plaster with 1% fiberglass and 1% plant fiber. This sample is non-homogeneous. **Asbestos is none detected.**

The paint is 2% of the sample. The joint compound is 5% of the sample. The plant fiber paper is 5% of the sample. The white gypsum plaster is 88% of the sample.

Lab H7127, Field S004-1020-114 15:30, Fire Proofing

This is **15% chrysotile asbestos** in blue plaster.

Lab H7128, Field S003-1020-115 15:40, Plaster

This sample contains two types of material: The first type is white limestone plaster with sand and perlite; the second type is 15% plant fiber in blue plaster. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 98% of the sample. The second type is 2% of the sample.

Lab H7129, Field S001-1020-116 15:50, Fire Proofing

This is 15% plant fiber in white plaster. **Asbestos is none detected.**

Lab H7130, Field S004-1020-117 16:00, Fire Proofing

This is 10% plant fiber in blue plaster. **Asbestos is none detected.**

In order to be sure reagents and tools used for analysis are not contaminated with asbestos, blanks are tested. Asbestos was none detected in the blanks tested with this bulk sample set.

Very truly yours,



Steve H. Dixon, President



Analyst: Ofir A. Sosa _____

Analyst: Bruce P. Thorne _____



Date Analyzed: 3/26/08



78442

E N V I R O N M E N T A L

Bulk Analytical Request Form

RUSH: YES: NO:

Page # 1 of 4

IHI Project No: 08A-1020-F5 Date: 3/19/08

Laboratory Name: Dixon Information Inc. Telephone: (801) 486-0800

Address: 78 West 2400 South

Salt Lake City, UT 84115

Sampling Site: UofU CON

Results Requested for Name: John Larson by Date: _____ by Time: _____

Homog. Area	Sample Field Number	Laboratory Number	Time Collected	Type		Sample Description
				Friable	Non-Fri	
MO44	1020-83	7696	1215		✓	SINK COATING
MO01	84	7697	1210	✓		Wall System
MO23	85	7698	1225	✓		ceiling tile
MO12	86	7099	1230	✓		"
MO45	87	7100	1335	✓		"
MO37	88	7101	1345	✓		"
MO42	89	7162	1350		✓	Adhesive
MO01	90	7103	1440	✓		Wall System
MO01	91	7164	1530	✓		"
MO46	92	7105	1605	✓		ceiling tile

Comments _____

SAMPLE TRANSFER RECORD (CHAIN OF CUSTODY)

Date	Time	Sealed	Printed Name	Signature	Company	Transfer Reason
					IHI	Sent to Lab
3/19/08	1515	✓	John Larson	[Signature]	IHI	Transported to Lab
3-19-8	18:50		Dixon Buys	[Signature]	Dixon	Received by Lab
3-25-08	2020	✓	[Signature]	[Signature]	Dixon	Rec'd by Analyst
3-26-08	1436	✓	[Signature]	[Signature]	Dixon	Analysis Complete
3-27	1500	✓	Steve Dixon	[Signature]	Dixon	Supervisor OK

Lab Results (along with this completed form) and Invoices should be sent to:

640 E. WILMINGTON AVENUE, SALT LAKE CITY, UTAH 84106 TELEPHONE: 801-466-2223 FAX: 801-466-9616



A 78442

E N V I R O N M E N T A L

Bulk Analytical Request Form

RUSH: YES: NO:

Page # 2 of 4

IHI Project No: 08A-1020-F5

Date: 3/19/08

Laboratory Name: Dixon Information Inc.

Telephone: (801) 486-0800

Address: 78 West 2400 South

Salt Lake City, UT 84115

Sampling Site: U & U CON

Results Requested for Name: John Larson by Date: _____ by Time: _____

Homog. Area	Sample Field Number	Laboratory Number	Time Collected	Type		Sample Description
				Friable	Non-Fri	
5003	1020-93	7106	1610	✓		plaster
5002	94	7107	1100	✓		Fire proofing
M048	95	7108	1045	✓		Fire door
M049	96	7109	1110		✓	Sealant
M001	97	7110	1120	✓		wall system
M006	98	7111	1130	✓		ceiling tile
M012	99	7112	1135	✓		"
M042	100	7113	1145		✓	Adhesive
M010	101	7114	1155	✓		ceiling tile
M023	102	7115	1215	✓		"

Comments _____

SAMPLE TRANSFER RECORD (CHAIN OF CUSTODY)

Date	Time	Sealed	Printed Name	Signature	Company	Transfer Reason
					IHI	Sent to Lab
3/19/08	1515	✓	John Larson	[Signature]	IHI	Transported to Lab
3-19-08	15:50	✓	Jessie Rivers	[Signature]	Dixon	Received by Lab
3-25-08	2000	✓	Off. Sec	[Signature]	Dixon	Rec'd by Analyst
3-26-08	1430	✓	Off. Sec	[Signature]	Dixon	Analysis Complete
3-27-08	1500	✓	Steve Dixon	[Signature]	Dixon	Supervisor OK

Lab Results (along with this completed form) and Invoices should be sent to:

640 E. WILMINGTON AVENUE, SALT LAKE CITY, UTAH 84106 TELEPHONE: 801-466-2223 FAX: 801-466-9616



#78442

E N V I R O N M E N T A L

Bulk Analytical Request Form

RUSH: YES: NO:

Page # 3 of 4

IHI Project No: 08A-1020-F5 Date: 3/19/08

Laboratory Name: Dixon Information Inc. Telephone: (801) 486-0800

Address: 78 West 2400 South

Salt Lake City, UT 84115

Sampling Site: U of U CON

Results Requested for Name: John Larson by Date: _____ by Time: _____

Homog. Area	Sample Field Number	Laboratory Number	Time Collected	Type		Sample Description
				Friable	Non-Fri	
M050	1020-103	7116	1246	✓		ceiling tile
M051	104	7117	1250	✓		"
M001	105	7119	1255	✓		wall system
S002	106	7119	1310	✓		Fire proofing
M001	107	7120	1400	✓		wall system
S004	108	7121	1420	✓		Fire proofing
↓	109	7122	1425	✓		"
	110	7123	1430	✓		"
S001	111	7124	1440	✓		Debris
M052	112	7125	1445		✓	Floor tile

Comments _____

SAMPLE TRANSFER RECORD (CHAIN OF CUSTODY)

Date	Time	Sealed	Printed Name	Signature	Company	Transfer Reason
					IHI	Sent to Lab
3/19/08	1515	✓	John Larson	[Signature]	IHI	Transported to Lab
3-19-8	15:50		Susan Rivers	[Signature]	Dixon	Received by Lab
3-26-8	8:15		Bruce Thorne	[Signature]	Dixon	Rec'd by Analyst
3-26-8			Bruce Thorne	[Signature]	Dixon	Analysis Complete
3-27-08	1500		Steve Dixon	[Signature]	Dixon	Supervisor OK

Lab Results (along with this completed form) and Invoices should be sent to:

640 E. WILMINGTON AVENUE, SALT LAKE CITY, UTAH 84106 TELEPHONE: 801-466-2223 FAX: 801-466-9616



#78442

E N V I R O N M E N T A L

Bulk Analytical Request Form

RUSH: YES: NO:

Page # 4 of 4

IHI Project No: 08A-1020-F5 Date: 3/19/08

Laboratory Name: Dixon Information Inc. Telephone: (801) 486-0800

Address: 78 West 2400 South

Salt Lake City, UT 84115

Sampling Site: UICU CON

Results Requested for Name: JOHN LARSON by Date: by Time:

Homog. Area	Sample Field Number	Laboratory Number	Time Collected	Type		Sample Description
				Friable	Non-Fri	
5003	1020-113	7121	1505	-		well system
5004	-114	7127	1530	-		Fine proofing
5003	115	7128	1540	-		plaster
5001	116	7129	1550	-		Fine proofing
5004	117	7130	1600	-		"

Comments

SAMPLE TRANSFER RECORD (CHAIN OF CUSTODY)

Date	Time	Sealed	Printed Name	Signature	Company	Transfer Reason
					IHI	Sent to Lab
3/19/08	1515	✓	John Larson	[Signature]	IHI	Transported to Lab
3-19-8	15:30		Susan Byers	[Signature]	Dixon	Received by Lab
3-26-8	8:15		Bruce Thorne	[Signature]	Dixon	Rec'd by Analyst
3-26-8			Bruce Thorne	[Signature]	Dixon	Analysis Complete
3-27-08	1500	-	Steve Dixon	[Signature]	Dixon	Supervisor OK

Lab Results (along with this completed form) and Invoices should be sent to:

640 E. WILMINGTON AVENUE, SALT LAKE CITY, UTAH 84106 TELEPHONE: 801-466-2223 FAX: 801-466-9616

DIXON INFORMATION INC.

MICROSCOPY, ASBESTOS ANALYSIS & CONSULTING

A.I.H.A. ACCREDITED LABORATORY # 101579

NVLAP LAB CODE 101012-0

March 20, 2008

Mr. John Larson
IHI Environmental
640 East Wilmington Ave
Salt Lake City, UT 84106

Ref: Batch # 78432, Lab # H7089 - H7095
Received March 19, 2008
Test report
Project No: 08A-1020-FS
U of U CON

Dear Mr. Larson:

Samples H7089 through H7095 have been analyzed by visual estimation based on EPA-600/M4-82-020 December 1982 optical microscopy test method. Appendix "A" contains statements which an accredited laboratory must make to meet the requirements of accrediting agencies. It also contains additional information about the method of analysis. This analysis is accredited by NVLAP. Appendix "A" must be included as an essential part of this test report. The data for this report is accredited by NVLAP for laboratory number 101012-0. It does not contain data or calibrations for tests performed under the AIHA program under lab code 101579.

This report may be reproduced but all reproduction must be in full unless written approval is received from the laboratory for partial reproduction. The results of analysis are as follows:

Lab H7089, Field T002-1120-118 11:20, Pipe Fitting Insulation

This sample contains three types of material: The first type is blue paint; the second type is gray cotton cloth in binder; the third type is **3% chrysotile asbestos** in off-white plaster with 20% mineral wool. This sample is non-homogeneous.

The first type is 2% of the sample. The second type is 30% of the sample. The third type is 68% of the sample.

Lab H7090, Field T003-1120-119 11:30, Pipe Fitting Insulation

This sample contains three types of material: The first type is pink paint; the second type is white cotton cloth; the third type is **3% chrysotile asbestos** in off-white plaster with 20% mineral wool. This sample is non-homogeneous.

The first type is 2% of the sample. The second type is 18% of the sample. The third type is 80% of the sample.

Batch #78432
Lab #H7089-H7095
Page 2 of 2

Lab H7091, Field T003-1120-120 11:35, Pipe Fitting Insulation

This sample contains two types of material: The first type is white paint; the second type is **3% chrysotile asbestos** in off-white plaster with 20% mineral wool. This sample is non-homogeneous.

The first type is 10% of the sample. The second type is 90% of the sample.

Lab H7092, Field T004-1120-121 11:40, Tank Insulation

This is **15% amosite asbestos** in white plaster with green paint.

Lab H7093, Field T005-1120-122 11:50, Pipe Insulation

This sample contains three types of material: The first type is yellow paint; the second type is white cotton cloth; the third type is **15% chrysotile asbestos** in white plaster. This sample is non-homogeneous.

The first type is 1% of the sample. The second type is 2% of the sample. The third type is 97% of the sample.

Lab H7094, Field T006-1120-123 12:00, Pipe Insulation

This sample contains three types of material: The first type is brown paint; the second type is white cotton cloth; the third type is **15% chrysotile asbestos** in white plaster. This sample is non-homogeneous.

The first type is 1% of the sample. The second type is 2% of the sample. The third type is 97% of the sample.

Lab H7095, Field T005A-1120-124 12:15, Pipe Fitting Insulation

This sample contains three types of material: The first type is yellow paint; the second type is white cotton cloth; the third type is **2% chrysotile asbestos** in gray plaster with 50% mineral wool. This sample is non-homogeneous.

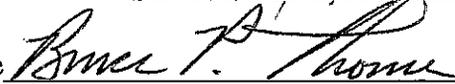
The first type is 5% of the sample. The second type is 10% of the sample. The third type is 85% of the sample.

In order to be sure reagents and tools used for analysis are not contaminated with asbestos, blanks are tested. Asbestos was none detected in the blanks tested with this bulk sample set.

Very truly yours,



Steve H. Dixon, President

Analyst: Bruce P. Thorne  Date Analyzed: 3/20/08

IHI

RUSH

E N V I R O N M E N T A L

Bulk Analytical Request Form

#78432

RUSH: YES: NO:

Page # 1 of 1

Date: 3/19/08

IHI Project No: OPA-1020-F5

Laboratory Name: Dixon Information Inc.

Telephone: (801) 486-0800

Address: 78 West 2400 South

Salt Lake City, UT 84115

Sampling Site: UofU CON

Results Requested for Name: John Carson by Date: 3/21/08 by Time: pm

Homog. Area	Sample Field Number	Laboratory Number	Time Collected	Type		Sample Description
				Friable	Non-Fri	
T002	1120-118	7089	1120	✓		pipe Fitting Insulation
T003	119	7090	1130	✓		"
T003	120	7091	1135	✓		"
T004	121	7092	1140	✓		TANK INSULATION
T005	122	7093	1150	✓		PIPE INSULATION
T006	123	7094	1200	✓		"
T005A	124	7095	1215	✓		pipe Fitting Insulation

Comments _____

SAMPLE TRANSFER RECORD (CHAIN OF CUSTODY)

Date	Time	Sealed	Printed Name	Signature	Company	Transfer Reason
					IHI	Sent to Lab
3/17/08	1500	✓	John Carson	[Signature]	IHI	Transported to Lab
3-19-08	1500		Susan Bowers	[Signature]	Dixon	Received by Lab
3-20-08	8:00		Bruce Thorne	[Signature]	Dixon	Rec'd by Analyst
3-20-08	10:30		Bruce Thorne	[Signature]	Dixon	Analysis Complete
3-20-08	1530		Steve Dixon	[Signature]	Dixon	Supervisor OK

Lab Results (along with this completed form) and Invoices should be sent to:

640 E. WILMINGTON AVENUE, SALT LAKE CITY, UTAH 84106 TELEPHONE: 801-466-2223 FAX: 801-466-9616

Appendix C
Photograph Log



Photograph 1
Asbestos-containing gypsum board wall system, homogeneous area M001.



Photograph 2
Asbestos-containing ceiling tile, homogeneous area M007.



Photograph 3
Asbestos-containing floor tile and black mastic, homogeneous area M008.



Photograph 4
Asbestos-containing floor tile and black mastic, homogeneous area M019.



Photograph 5
Non asbestos-containing floor tile with asbestos-containing black mastic, homogeneous area M021.



Photograph 6
Asbestos-containing fire door, homogeneous area M028.



Photograph 7
Asbestos-containing floor tile and black mastic, homogeneous area M030.



Photograph 8
Recessed light fixture with assumed asbestos-containing wire insulation, homogeneous area M033.



Photograph 9
Asbestos-containing ceiling tile, homogeneous area M037.



Photograph 10
Asbestos-containing floor tile and black mastic, homogeneous area M038.



Photograph 11
Asbestos-containing floor tile and black mastic, homogeneous area M043.



Photograph 12
Asbestos-containing spray structural fireproofing, homogeneous area S001.



Photograph 13
Asbestos-containing pipe fitting insulation, homogeneous area T001, domestic water system.



Photograph 14
Damaged asbestos-containing pipe fitting insulation, homogeneous area T002, chilled water system.



Photograph 15
Damaged asbestos-containing pipe fitting insulation, homogeneous area T003, heating supply system.



Photograph 16
Asbestos-containing tank insulation, homogeneous area T004, heating supply system.



Photograph 17
Asbestos-containing pipe insulation, homogeneous area T005, heating return system.



Photograph 18
Asbestos-containing pipe fitting insulation, homogeneous area T005A, heating return system.

Appendix D

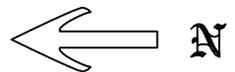
Building Floor Plans

Asbestos Material Survey : Basement Level



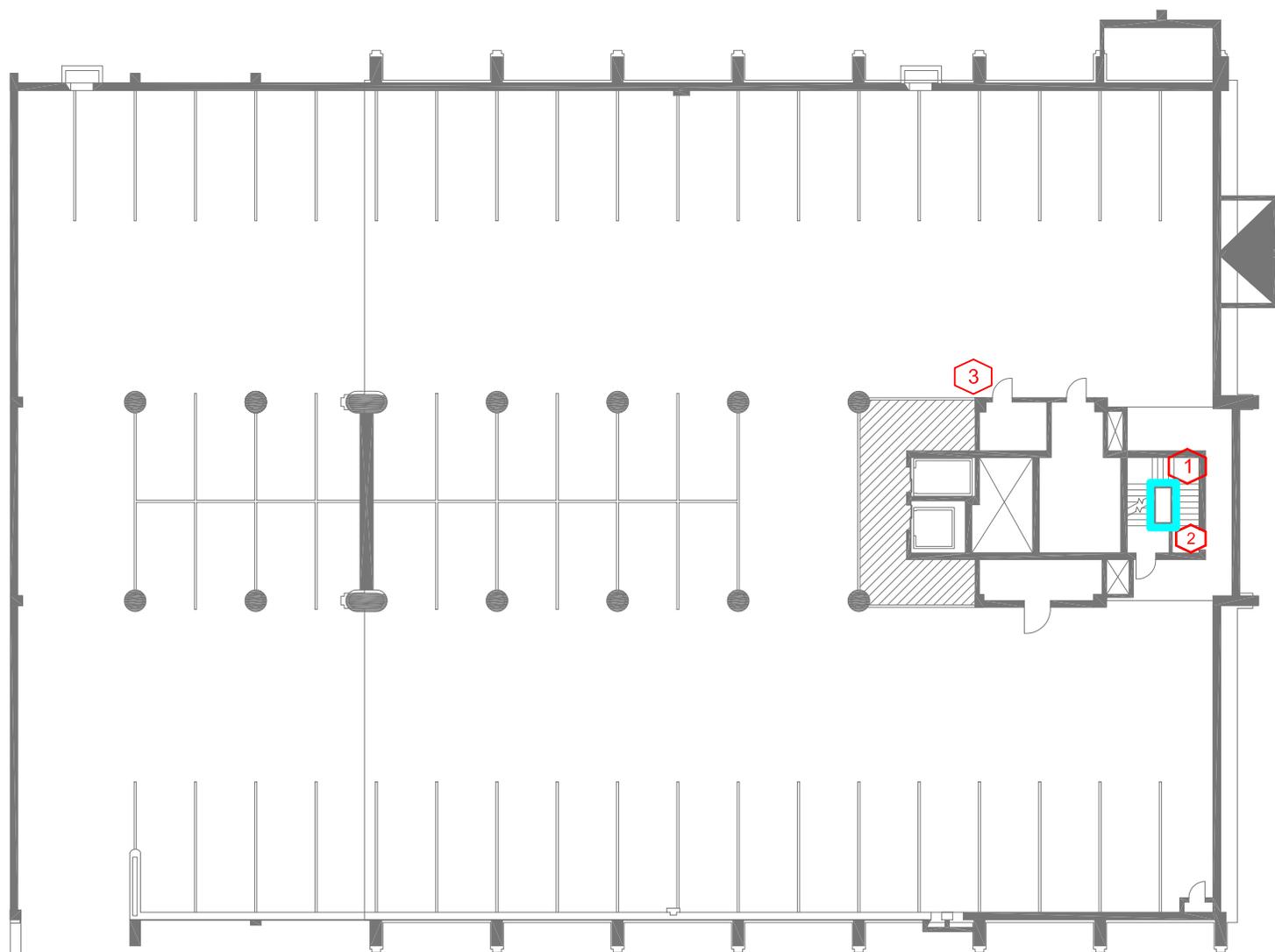
Explanation

-  Sample Location and Number
-  Number of Pipe Fittings With Asbestos-containing Insulation
-  Asbestos-containing Pipe Insulation
-  Asbestos-containing Tank Insulation



CLIENT INFO. University of Utah College of Nursing Salt Lake City, Utah	 IHI ENVIRONMENTAL	PROJECT No.: 08A-1020
		CAD No.: 08A1020A-1
	Approximate Scale 20 ft	DRAWN BY: S. Rahman
		DATE: 4/14/08
		REVISED BY:
		DATE:

Asbestos Material Survey : Lower Level Parking



Explanation



Sample Location and Number



Asbestos-containing Wall Board Joint Compound



CLIENT INFO.

University of Utah
College of Nursing
Salt Lake City, Utah

IHI
ENVIRONMENTAL

Approximate Scale
20 ft

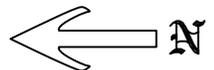
PROJECT No.:	08A-1020
CAD No.:	08A1020B-1
DRAWN BY:	S. Rahman
DATE:	4/14/08
REVISED BY:	
DATE:	

Asbestos Material Survey : First Level



Explanation

- Sample Location and Number
- Number of Pipe Fittings With Asbestos-containing Insulation
- Asbestos-containing Mastic Only
- Asbestos-containing Floor Tile and Mastic



CLIENT INFO.

University of Utah
College of Nursing
Salt Lake City, Utah

IHI
ENVIRONMENTAL

Approximate Scale
20 ft

PROJECT No.:	08A-1020
CAD No.:	08A1020C-1
DRAWN BY:	S. Rahman
DATE:	4/14/08
REVISED BY:	
DATE:	

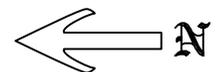
Asbestos Material Survey : First Level (Ceiling Plan)

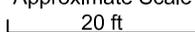


Explanation

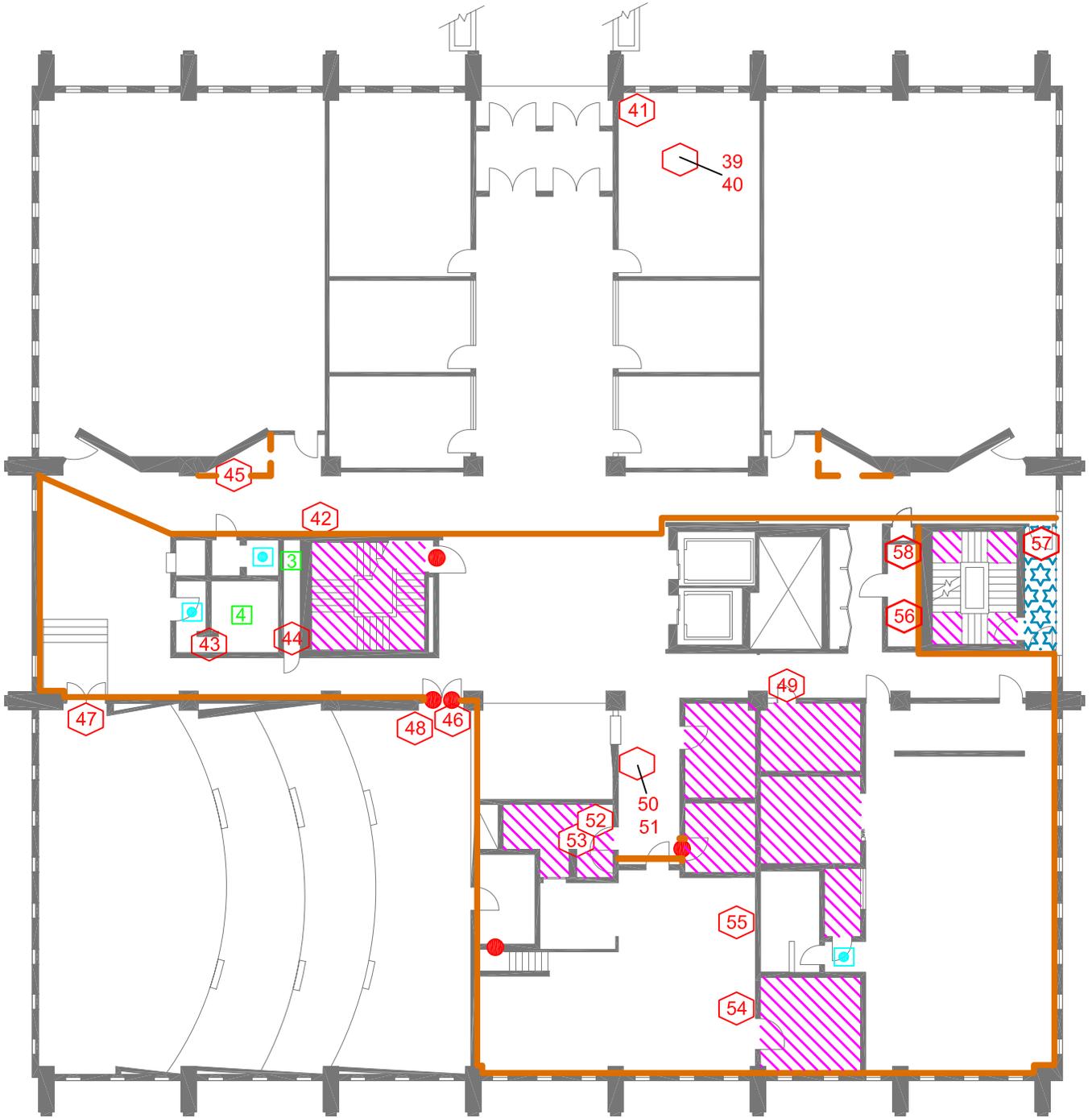
-  Asbestos-containing Ceiling Tiles
-  Asbestos-containing Fire Proofing

Note: Non-asbestos-containing Ceiling Tiles Are Contaminated With Asbestos-containing Fire Proofing Where It Exists



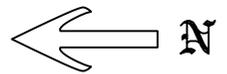
CLIENT INFO. University of Utah College of Nursing Salt Lake City, Utah	 IHI ENVIRONMENTAL	PROJECT No.: 08A-1020
		CAD No.: 08A1020C-2
Approximate Scale  20 ft		DRAWN BY: S. Rahman
		DATE: 4/14/08
		REVISED BY:
		DATE:

Asbestos Material Survey : Second Level



Explanation

- Sample Location and Number
- Number of Pipe Fittings With Asbestos-containing Insulation
- Light Fixture With Asbestos-containing Wire Insulation
- Asbestos-containing Floor Tile and Mastic
- Asbestos-containing Floor Tile Only
- Asbestos-containing Fire Doors
- Asbestos-containing Wall Board Joint Compound Throughout Outlined Area



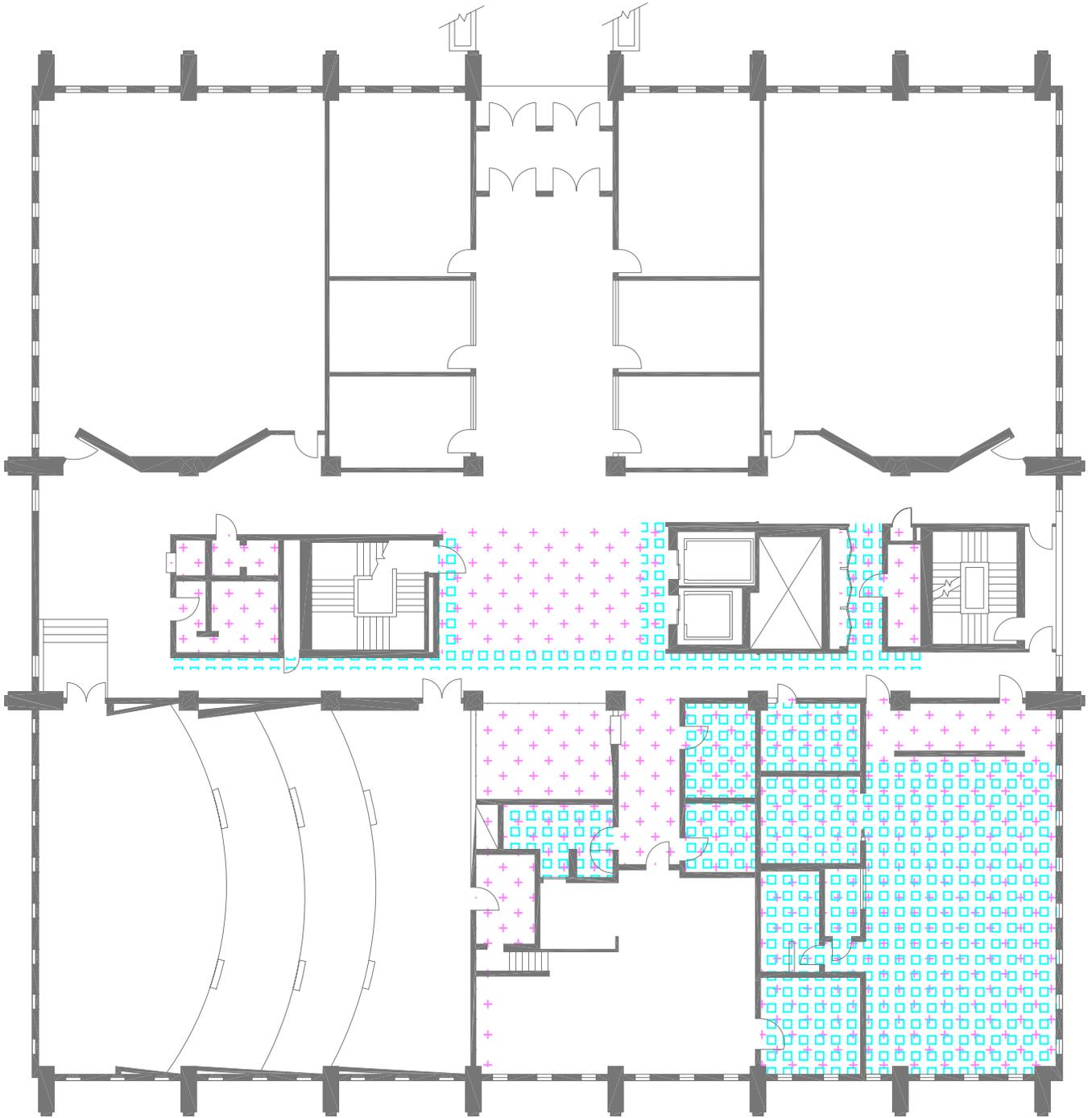
CLIENT INFO.

University of Utah
College of Nursing
Salt Lake City, Utah

IHI
ENVIRONMENTAL
Approximate Scale
20 ft

PROJECT No.:	08A-1020
CAD No.:	08A1020D-1
DRAWN BY:	S. Rahman
DATE:	4/15/08
REVISED BY:	
DATE:	

Asbestos Material Survey : Second Level (Ceiling Plan)



Explanation



Asbestos-containing Ceiling Tiles



Asbestos-containing Fire Proofing

Notes:
Non-asbestos-containing Ceiling Tiles Are Contaminated With Fireproofing Where It Exists

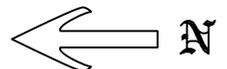
CLIENT INFO.

University of Utah
College of Nursing
Salt Lake City, Utah

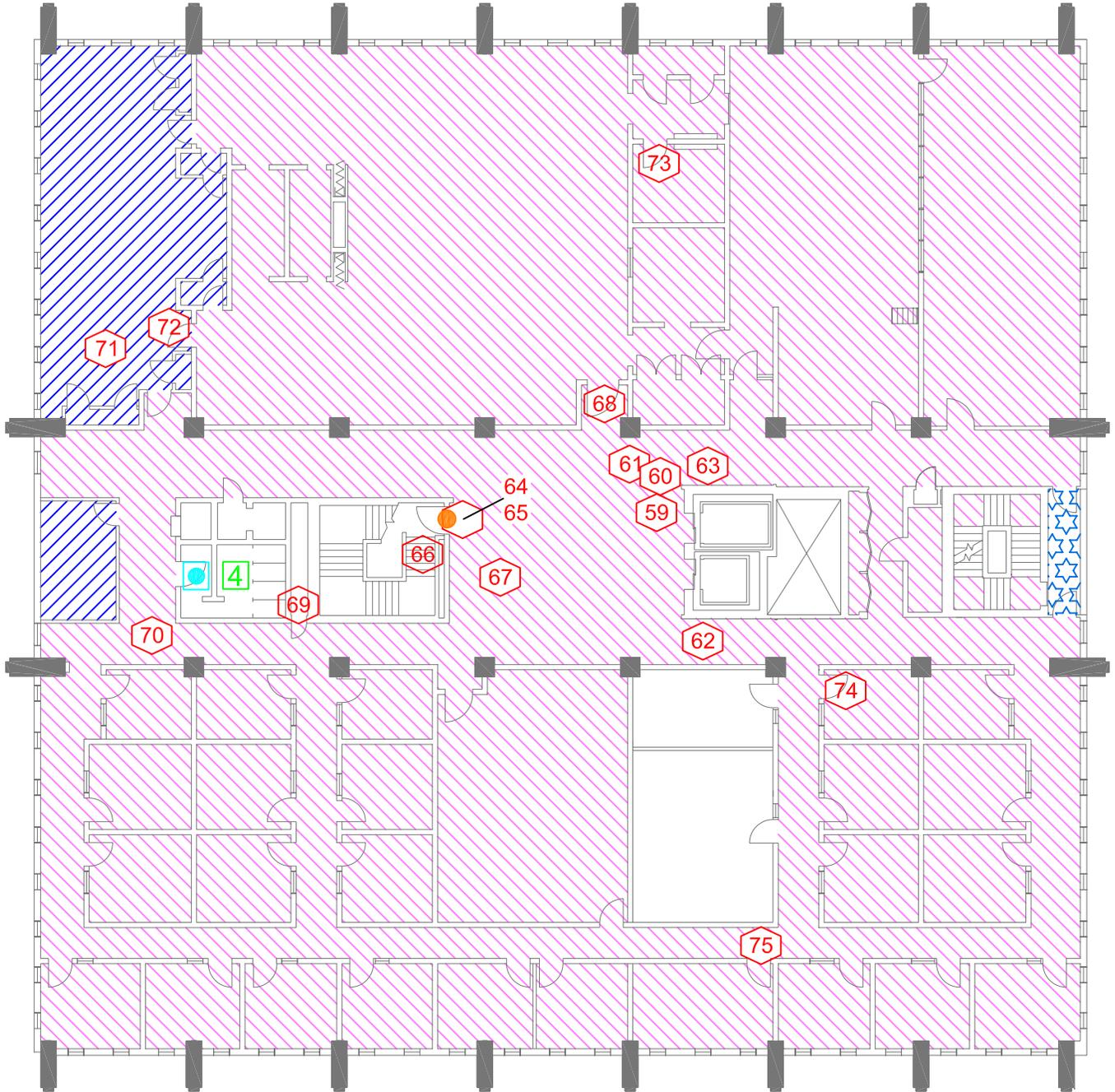
IHI
ENVIRONMENTAL

Approximate Scale
20 ft

PROJECT No.:	08A-1020
CAD No.:	08A1020D-2
DRAWN BY:	S. Rahman
DATE:	4/15/08
REVISED BY:	
DATE:	



Asbestos Material Survey : Third Level



Explanation

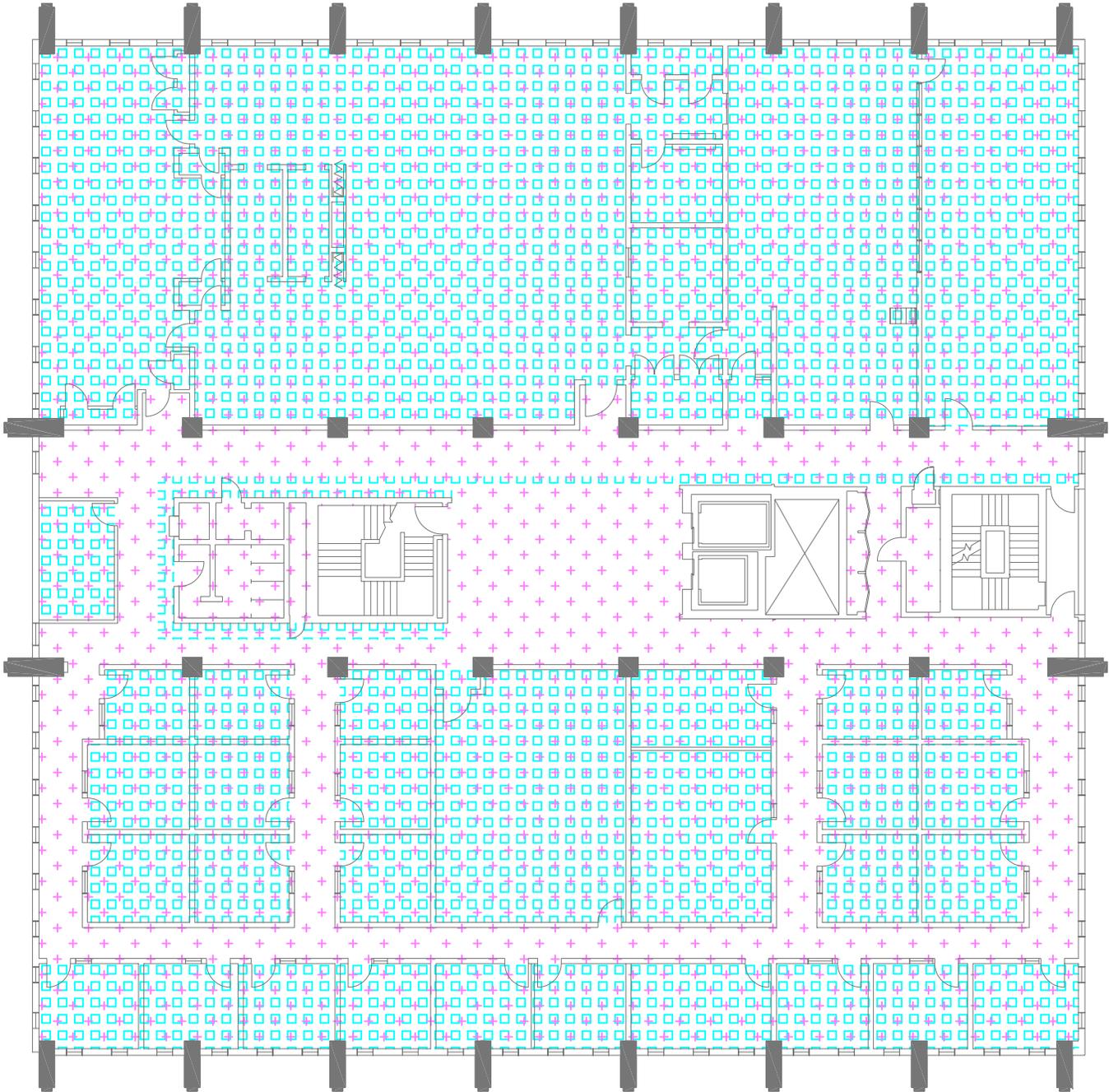
- Sample Location and Number
- Number of Pipe Fittings With Asbestos-containing Insulation
- Light Fixture With Asbestos-containing Wire Insulation
- Asbestos-containing Mastic Only
- Asbestos-containing Floor Tile and Mastic
- Asbestos-containing Floor Tile Only
- Asbestos-containing Fire Doors

Notes: Asbestos-containing wall board joint compound throughout.



CLIENT INFO. University of Utah College of Nursing Salt Lake City, Utah	 IHI ENVIRONMENTAL Approximate Scale 20 ft	PROJECT No.: 08A-1020
		CAD No.: 08A1020E-1
		DRAWN BY: S. Rahman
		DATE: 4/15/08
		REVISED BY:
		DATE:

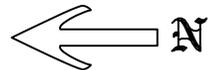
Asbestos Material Survey : Third Level (Ceiling Plan)

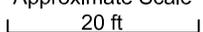


Explanation

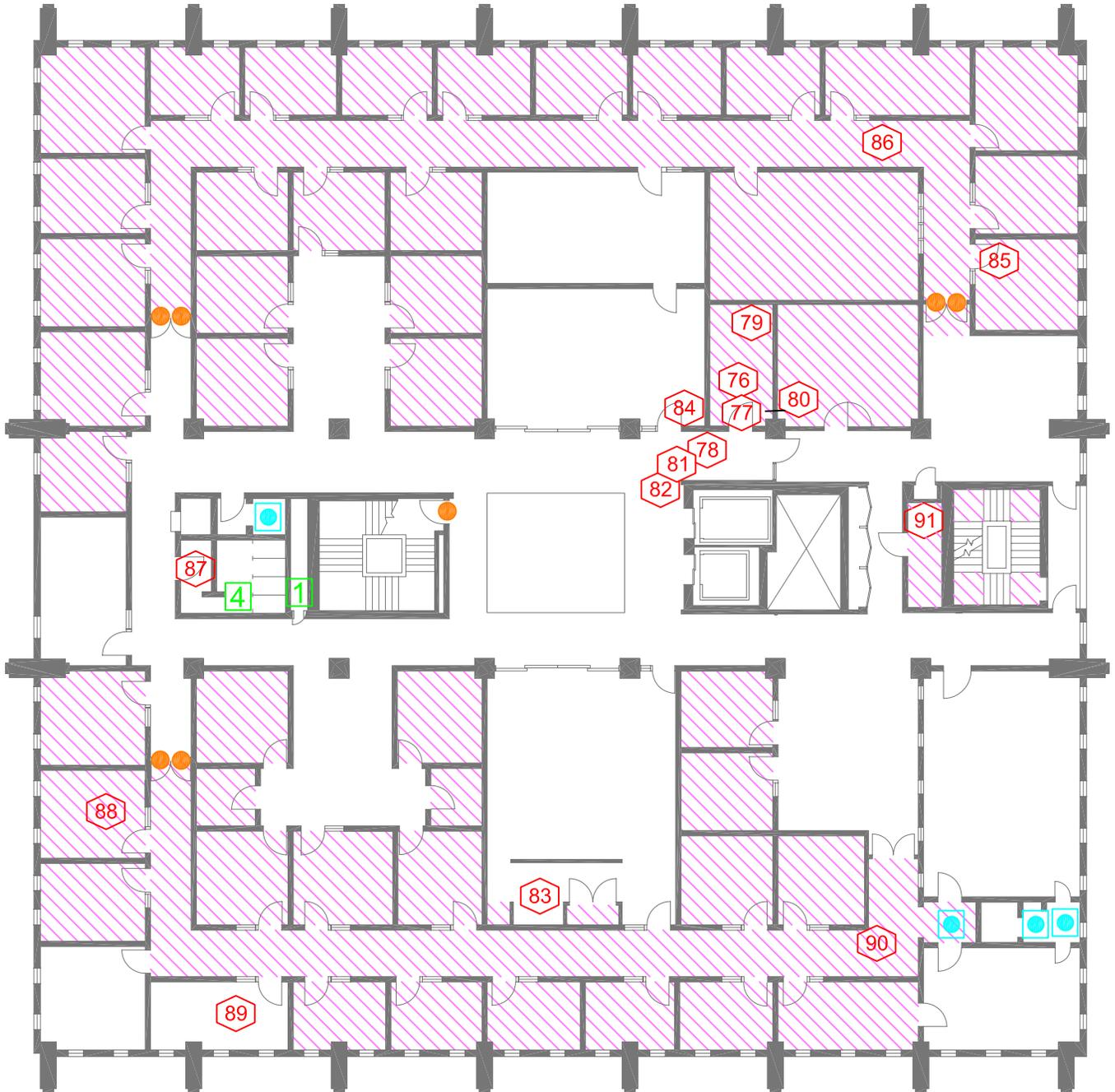
-  Asbestos-containing Ceiling Tiles
-  Asbestos-containing Fire Proofing

Note:
 Non-asbestos-containing Ceiling Tiles Are Contaminated With Asbestos-containing Fire Proofing Where It Exists



CLIENT INFO. University of Utah College of Nursing Salt Lake City, Utah	 IHI ENVIRONMENTAL	PROJECT No.: 08A-1020
		CAD No.: 08A1020E-2
Approximate Scale 		DRAWN BY: S. Rahman
		DATE: 4/15/08
		REVISED BY:
		DATE:

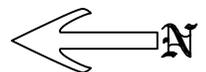
Asbestos Material Survey : Forth Level



Explanation

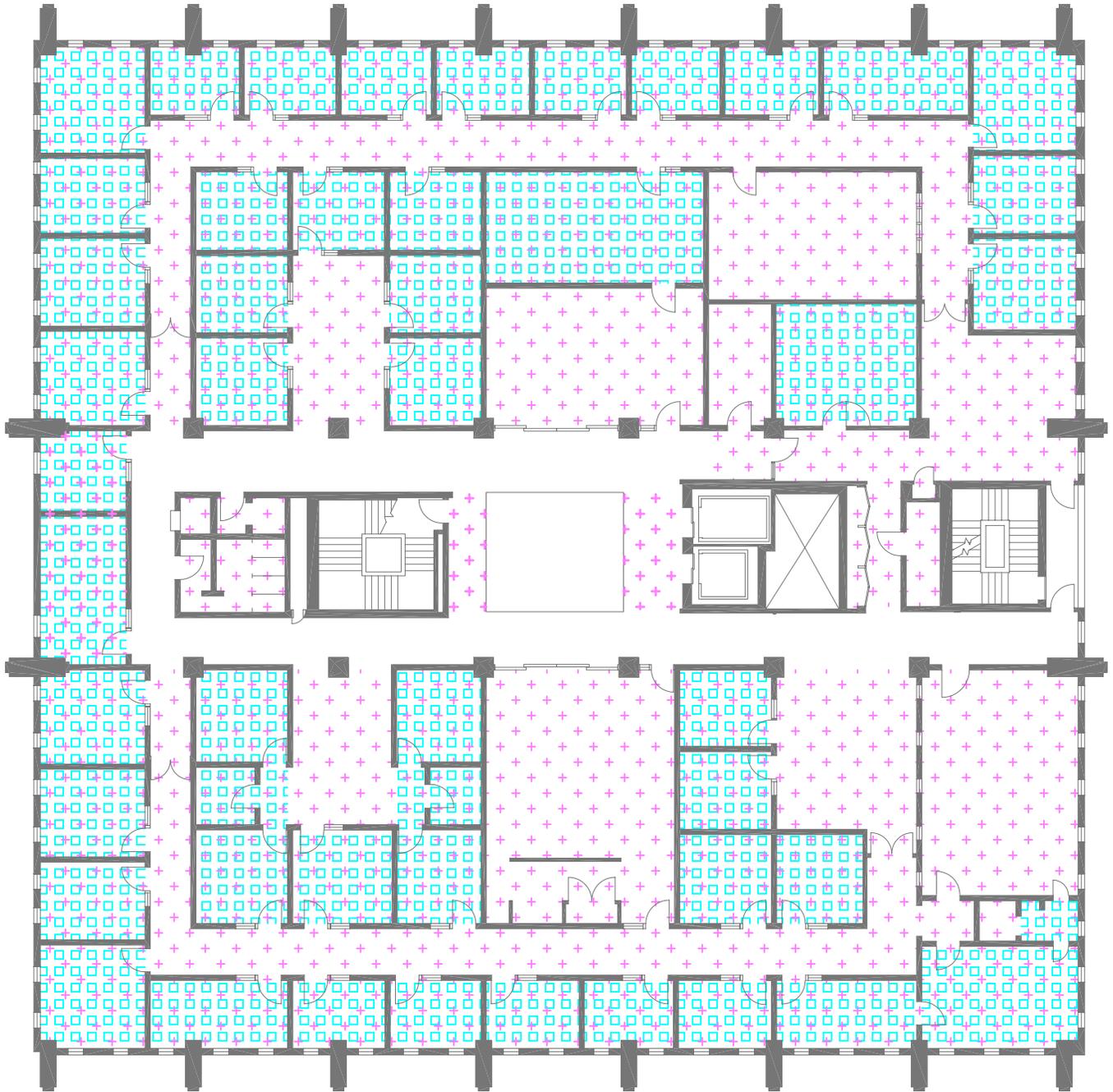
- Sample Location and Number
- Number of Pipe Fittings With Asbestos-containing Insulation
- Light Fixture With Asbestos-containing Wire Insulation
- Asbestos-containing Floor Tile and Mastic
- Asbestos-containing Fire Doors

Note:
Asbestos-containing wall board joint compound throughout.



CLIENT INFO. University of Utah College of Nursing Salt Lake City, Utah		PROJECT No.: 08A-1020
		CAD No.: 08A1020F-1
Approximate Scale 		DRAWN BY: S. Rahman
		DATE: 4/15/08
		REVISED BY:
		DATE:

Asbestos Material Survey : Forth Level (Ceiling Plan)

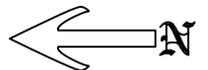


Explanation

-  Asbestos-containing Ceiling Tiles
-  Asbestos-containing Fire Proofing

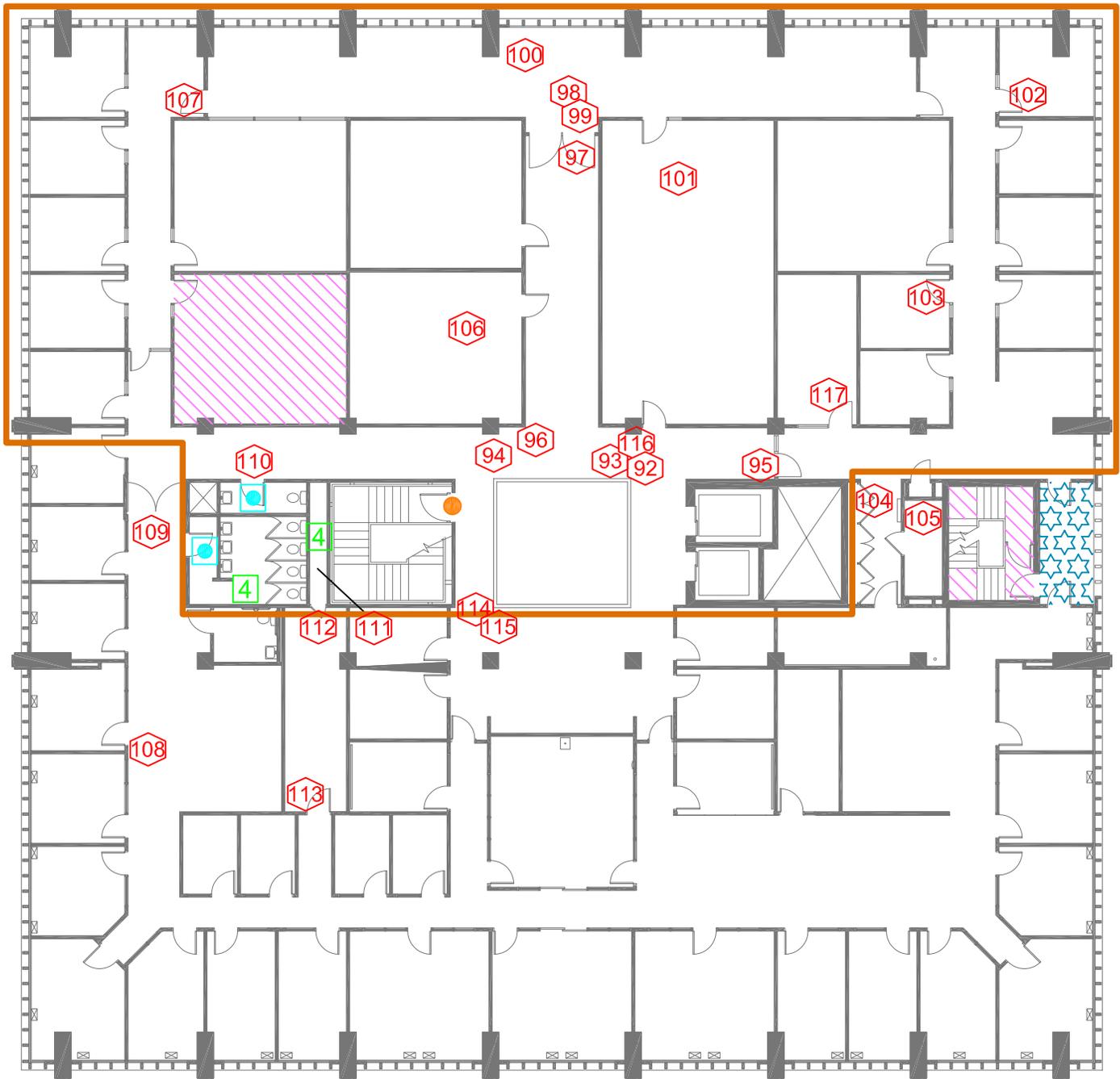
Notes:

Non-asbestos-containing Ceiling Tiles Are Contaminated With Fireproofing Where It Exists



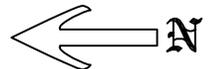
CLIENT INFO. University of Utah College of Nursing Salt Lake City, Utah	 Approximate Scale 20 ft	PROJECT No.: 08A-1020
		CAD No.: 08A1020F-2
		DRAWN BY: S. Rahman
		DATE: 4/15/08
		REVISED BY:
		DATE:

Asbestos Material Survey : Fifth Level



Explanation

- Sample Location and Number
- Number of Pipe Fittings With Asbestos-containing Insulation
- Light Fixture With Asbestos-containing Wire Insulation
- Asbestos-containing Floor Tile and Mastic
- Asbestos-containing Floor Tile Only
- Asbestos-containing Fire Doors
- Asbestos-containing wallboard joint compound within outlined area.



CLIENT INFO.

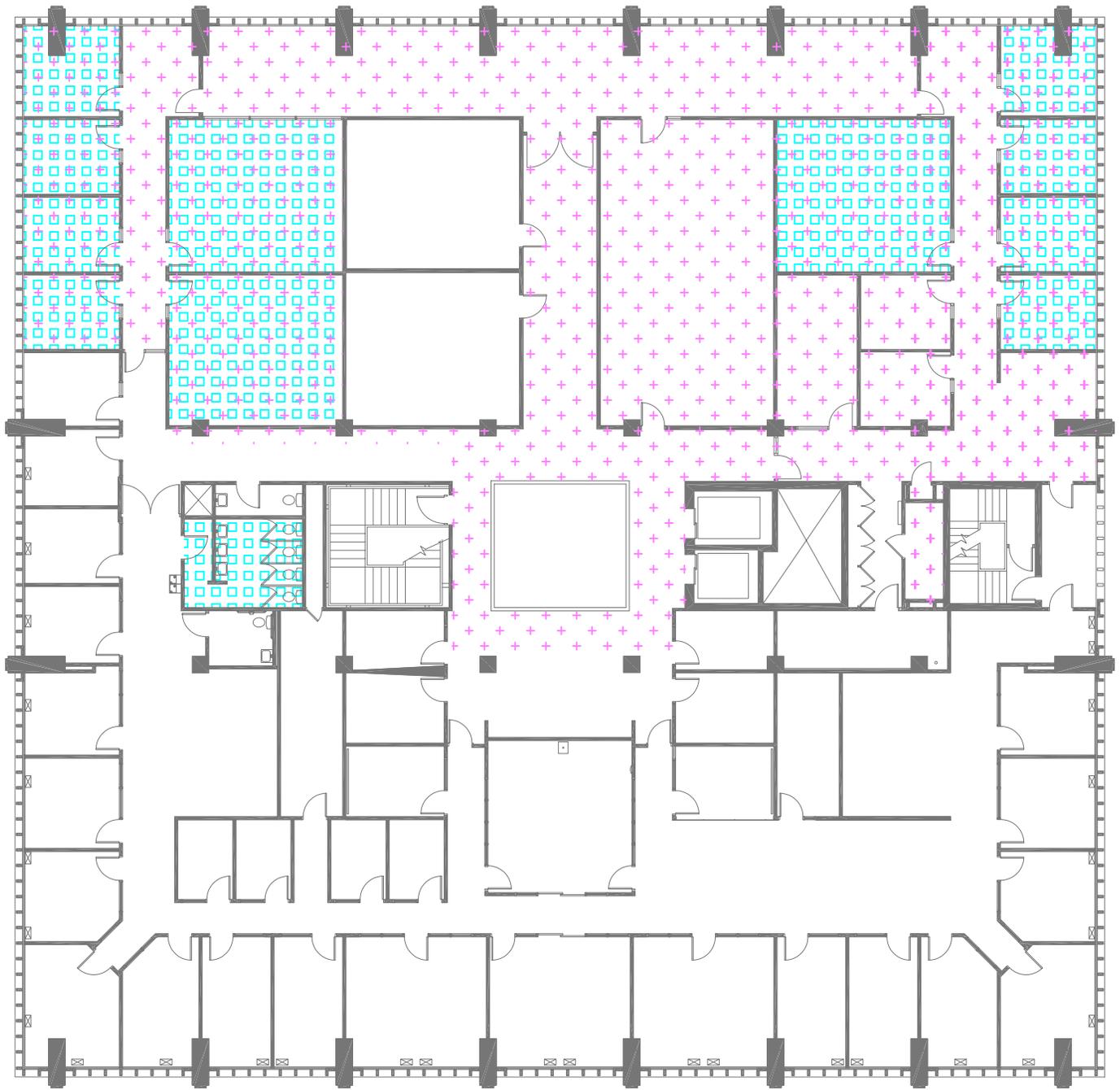
University of Utah
College of Nursing
Salt Lake City, Utah

IHI
ENVIRONMENTAL

Approximate Scale
20 ft

PROJECT No.:	08A-1020
CAD No.:	08A1020G-1
DRAWN BY:	S. Rahman
DATE:	4/16/08
REVISED BY:	
DATE:	

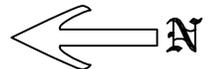
Asbestos Material Survey : Fifth Level (Ceiling Plan)

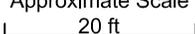


Explanation

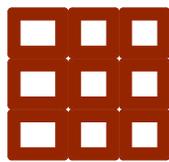
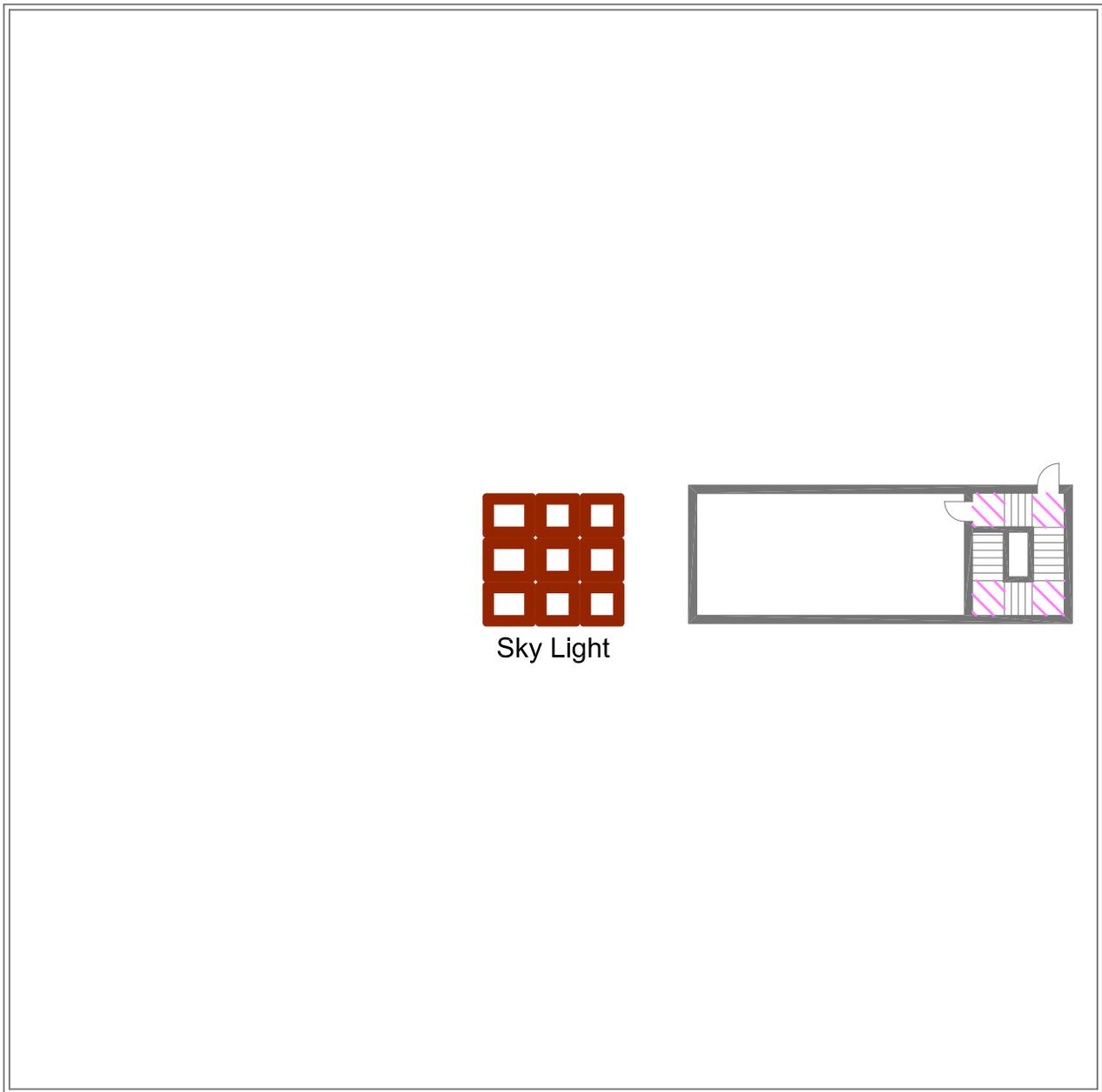
-  Asbestos-containing Ceiling Tiles
-  Asbestos-containing Fire Proofing

Notes:
 Non-asbestos-containing Ceiling Tiles Are Contaminated With Fireproofing Where It Exists

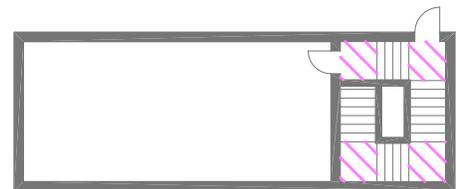


CLIENT INFO. University of Utah College of Nursing Salt Lake City, Utah	 ENVIRONMENTAL	PROJECT No.: 08A-1020
	Approximate Scale  20 ft	CAD No.: 08A1020G-2 DRAWN BY: S. Rahman DATE: 4/16/08 REVISED BY: DATE:

Asbestos Material Survey : Penthouse / Roof

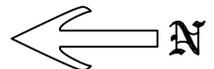


Sky Light



Explanation

-  Assumed Asbestos-containing Tar Sealant
-  Asbestos-containing Floor Tile and Mastic



CLIENT INFO. University of Utah College of Nursing Salt Lake City, Utah		PROJECT No.: 08A-1020
	ENVIRONMENTAL Approximate Scale 	CAD No.: 08A1020H-1 DRAWN BY: S. Rahman DATE: 4/16/08
		REVISED BY: DATE:

LEAD PAINT INSPECTION
UNIVERSITY OF UTAH
COLLEGE OF NURSING
BUILDING 588
University of Utah Campus
10 South 2000 East
Salt Lake City, Utah

April 9, 2008

Written By:



Lono Folau
Lead Inspector

Reviewed By:



J. Rush Bowers, CIH, CSP
Industrial Hygiene Manager

EXECUTIVE SUMMARY

Between March 31 and April 4, 2008, IHI Environmental (IHI) conducted a lead paint inspection of the University of Utah College of Nursing building, located at 50 North Medical Drive in Salt Lake City, Utah. The work was conducted at the request of Mr. Bill Bowen with the State of Utah Division of Facilities Construction and Management (DFCM). The purpose of the inspection was to identify lead coatings on building components in anticipation of renovation work on the building.

Measurements were made on representative painted surfaces throughout the building using a NITON 300 series X-ray Fluorescence (XRF) Spectrum Analyzer. The XRF instrument non-destructively detects the presence of lead in paint and other surface coatings.

Significant lead concentrations were measured in paint on the exterior concrete parking stalls and in glazing on the interior ceramic tile walls in bathrooms and janitor closets. Most of the coatings were in good condition at the time of the survey. Coatings on some components had measurable lead concentrations in some locations and none detected in others, presumably the result of past renovation work in the building.

Because of the amount and extent of lead-containing coatings on building components, IHI Environmental recommends that all work be conducted according to the requirements of the OSHA Lead in Construction Standard.

1.0 INTRODUCTION

Between March 31 and April 4, 2008, IHI Environmental conducted a lead paint inspection of the University of Utah College of Nursing Building, located at 50 North Medical Drive in Salt Lake City, Utah. The purpose of the inspection was to identify lead-containing paint on interior and exterior components of the building in anticipation of extensive restoration work. The work was requested by Mr. Bill Bowen with the State of Utah DFCM, and was performed under Contract dated, February 5, 2008.

The US Department of Housing and Urban Development (HUD) *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* (HUD Guidelines), Chapter 7: Lead –Based Paint Inspection, 1997 Revision, were generally followed for this survey, with modifications appropriate for a non-residential building.

2.0 BUILDING DESCRIPTION

The College of Nursing Building 588 consists of five floors above grade. Construction was completed in 1969. The total interior area of the building is approximately 85,200 square feet. The building is constructed of red brick with a flat roof. Original interior walls are gypsum board wall systems and wood. Floor finishes include concrete, carpet, vinyl sheeting and vinyl floor tile.

3.0 LEAD PAINT DEFINITIONS

The U.S. Department of Housing and Urban Development (HUD) and EPA define “lead-based paint” as any coating that has a lead concentration of 1.0 milligram per square centimeter (mg/cm²) or greater, or if the lead concentration is greater than 0.5% by weight. The Consumer Product Safety Commission (CPSC) currently considers paint to be lead containing if the concentration of lead exceeds 600 parts per million (ppm), or 0.06% by weight. Both the CPSC and HUD definitions of lead-containing paint are aimed at protecting the general population from exposure to lead in the residential setting.

The Occupational Safety and Health Administration (OSHA) Lead in Construction Standard (29 CFR 1926.62) was intended to apply to any detectable concentration of lead

in paint, as even small concentrations of lead can result in unacceptable employee exposures during construction work. OSHA states that construction work (including renovation, maintenance, and demolition) carried-out on structures coated with paints that have lead concentrations lower than the HUD or CPSC can still result in hazardous airborne lead concentrations.

4.0 SURVEY PROCEDURES

4.1 Paint Sampling Methods

Direct measurements of lead in paint were made using a NITON X-ray Fluorescence (XRF) Spectrum Analyzer (Serial Number XL309 – U3658NR7510). The NITON Paint Analyzer non-destructively measures lead concentrations in painted surfaces, regardless of the number of paint layers present. The instrument was developed specifically for addressing lead-based paint issues in housing. Its use in identifying potential exposure hazards for building renovation or construction work is often augmented with selective collection and analysis of physical chip samples. The XRF measurements were made according to the requirements of Chapter 7 of the HUD “Guidelines for the Control of Lead-based Paint Hazards in Housing,” with appropriate modifications for a non-residential structure.

4.2 XRF Calibration

Before beginning the testing and after the testing was completed each day, the internal calibration of the NITON was checked by taking three consecutive measurements on a red (1.02 mg/cm²) National Institute for Standards and Technology (NIST #2573) standard paint film. Three more readings were taken on a lead-free white NIST #2570 film. These calibration checks are performed to detect changes in the instrument performance. The calibration values obtained were compared to the calibration check tolerance values on the XRF Performance Characteristic Sheet for the instrument to ensure that it was operating within the stated tolerance limits.

4.3 Field Documentation

Field data forms were used to manually record information about individual XRF measurements. This information includes the room number, the building component (such as wall, ceiling, door, baseboard, cabinet, etc.), component substrate (for example, drywall, wood, metal, concrete), and paint condition. The field data forms are then used by the inspector to couple measurement-specific descriptive information to the sequential data once the instrument's electronic memory has been downloaded to a personal computer. This information is then manipulated by the instrument's software to generate data tables for the written report.

5.0 FINDINGS

The individual lead paint measurements made during this survey are located in Table 1 in Appendix A. Table 1 lists all of the measurements made in the building by room number. The "room side" column in the table represents which side of the room an XRF reading was taken. The letter convention used is as follows: A= East of building, B = South, C = West, D = North, or in a clockwise direction.

For each measurement, the lead concentration as indicated by the XRF instrument in mg/cm^2 is presented. Because the accuracy of XRF instruments is limited below $1.0 \text{ mg}/\text{cm}^2$, it should be noted that lead might be present in low concentrations in paint even though the XRF indicates a concentration of $0.0 \text{ mg}/\text{cm}^2$.

To summarize the findings, the XRF instrument indicated that the following building components contained measurable levels of lead in one or more locations. Please see Table 1 for room-specific findings.

Interior components:

- Ceramic tile walls (4.4 to $28 \text{ mg}/\text{cm}^2$)
- Metal I-beams ($1.0 \text{ mg}/\text{cm}^2$)
- Brick columns ($1.0 \text{ mg}/\text{cm}^2$)
- Concrete Floor in Penthouse ($0.23 \text{ mg}/\text{cm}^2$)
- Concrete walls/ceilings (0.00 to $0.2 \text{ mg}/\text{cm}^2$)
- Metal door jambs/casings (0.00 to $0.19 \text{ mg}/\text{cm}^2$)

- Metal fire hose/extinguisher boxes (0.00 to 0.17 mg/cm²)
- Drywall walls (0.00 to 0.16 mg/cm²)
- Metal window sills/casings/frames (0.00 to 0.11 mg/cm²)

Exterior components:

- Parking stalls (4.1 to 4.4 mg/cm²)
- Metal Pipes (0.03 mg/cm²)

The paint on interior and exterior components was generally in good condition throughout the building.

6.0 DISCUSSION AND RECOMMENDATIONS

Lead was found in high concentrations on the interior ceramic tile walls of the restrooms and janitor closets. Also, lead concentrations were high on the exterior concrete parking stalls. Lead-based paint was identified on metal I-beams and brick columns. Lead was present in low concentrations on the metal doorjambs and casings, metal window frames and sashes, metal pipes, metal fire extinguisher and hose boxes, and concrete walls, floors and ceilings. Therefore, any work with the potential for generating airborne lead should be conducted according to the requirements of the OSHA Lead in Construction Standard. The Lead in Construction Standard specifies that employers are responsible for ensuring that their employees are not exposed to airborne lead levels exceeding the OSHA permissible exposure limit (PEL) of fifty micrograms per cubic meter of air (50 µg/m³) averaged over an 8-hour period and take appropriate precautions when exposures reach an action level of 30µg/m³ averaged over an 8-hour period. The standard was written to require exposure monitoring or the use of historical or objective data to ensure that employee exposures do not exceed the action level.

OSHA has recognized, however, that for certain workplace conditions, application of objective data to certain tasks may be warranted. These tasks include power tool cleaning with dust collection systems, manual demolition of structures, manual scraping, and manual sanding. For these applications only, OSHA has adopted the CPSC threshold under a very limited set of conditions. Specifically, when paint contains trace amounts of lead (e.g., 0.06% and below, as defined by the Consumer Products Safety Commission as

non-lead containing), the employer may determine the concentration of lead in the air (i.e., employee exposure) by multiplying the total airborne concentration of dust times the percentage of lead in the paint. OSHA has stated that this does not set 0.06% as a lower threshold for the concentration of lead in paint that would exempt the employer from the requirements of the standard. The employer must still follow all requirements of the standard and conduct an exposure assessment for the tasks involving lead.

7.0 LIMITATIONS AND EXCLUSIONS OF WARRANTY

This inspection was performed using procedures and a level of diligence typically exercised by professional consultants performing similar services. However, lead-based paint (LBP) can be present in a surface, but not identified using ordinary investigative procedures.

No lead inspection can completely eliminate uncertainty regarding the presence of LBP. IHI level of diligence and investigative procedures are intended to reduce, but not eliminate, potential uncertainty regarding the presence of LBP. The procedures used for this inspection attempt to establish a balance between the competing goals of limiting investigative costs, time, and building damage, and reducing the uncertainty about unknown conditions. Therefore, the determinations in this report should not be construed as a guarantee that all LBP present in the subject property has been included in this report.

This report presents IHI professional determinations, which are dependent upon information obtained during the performance of consulting services. IHI Environmental assumes no responsibility for omissions or errors resulting from inaccurate information provided by sources outside of IHI Environmental.

No warranty or guarantee, expressed or implied, is made regarding the findings, conclusions, or recommendations contained in this report. The limitations presented above supersede the requirements or provisions of all other contracts or scopes of work, implied or otherwise, except those stated or acknowledged herein.

APPENDIX A

LEAD PAINT INSPECTION DATA TABLE 1

Table 1
Measured Lead Concentration in Building
 University of Utah College of Nursing
 DFCM

Room	Sample Number	XRF Result (mg/cm ²)	Component	Room Side	Substrate	Color	Condition	Chip Sample Result (mg/cm ²)
3/31/08	2	0.00	Calibration		NIST	White		
3/31/08	3	0.00	Calibration		NIST	White		
3/31/08	7	1.3	Calibration		NIST	Red		
3/31/08	6	1.3	Calibration		NIST	Red		
3/31/08	5	1.2	Calibration		NIST	Red		
3/31/08	4	0.00	Calibration		NIST	White		
3/31/08	1	568ev	NITON					
4/01/08	123	1.3	Calibration		NIST	Red		
4/01/08	122	1.3	Calibration		NIST	Red		
4/01/08	124	1.5	Calibration		NIST	Red		
4/01/08	125	0.00	Calibration		NIST	White		
4/01/08	126	0.00	Calibration		NIST	White		
4/01/08	127	0.00	Calibration		NIST	White		
4/01/08	121	568ev	NITON					
4/02/08	241	0.00	Calibration		NIST	White		
4/02/08	240	1.0	Calibration		NIST	Red		
4/02/08	242	0.00	Calibration		NIST	White		
4/02/08	238	1.0	Calibration		NIST	Red		
4/02/08	239	1.0	Calibration		NIST	Red		
4/02/08	243	0.00	Calibration		NIST	White		
4/02/08	237	567ev	NITON					

Room	Sample Number	XRF Result (mg/cm ²)	Component	Room Side	Substrate	Color	Condition	Chip Sample Result (mg/cm ²)
4/03/08	362	0.00	Calibration		NIST	White		
4/03/08	361	0.00	Calibration		NIST	White		
4/03/08	363	0.00	Calibration		NIST	White		
4/03/08	360	1.1	Calibration		NIST	Red		
4/03/08	359	1.1	Calibration		NIST	Red		
4/03/08	358	1.1	Calibration		NIST	Red		
4/03/08	357	576ev	NITON					
4/04/08	637	1.1	Calibration		NIST	Red		
4/04/08	533	0.00	Calibration		NIST	White		
4/04/08	638	1.1	Calibration		NIST	Red		
4/04/08	639	1.2	Calibration		NIST	Red		
4/04/08	640	0.00	Calibration		NIST	White		
4/04/08	532	0.00	Calibration		NIST	White		
4/04/08	534	0.00	Calibration		NIST	White		
4/04/08	535	1.1	Calibration		NIST	Red		
4/04/08	536	1.2	Calibration		NIST	Red		
4/04/08	537	1.2	Calibration		NIST	Red		
4/04/08	642	0.00	Calibration		NIST	White		
4/04/08	641	0.00	Calibration		NIST	White		
4/04/08	531	573ev	NITON					
L1 Elevator Lobby	27	0.04	Door	D	Metal	Brown	Good	
L1 Elevator Lobby	26	0.00	Door Jamb	D	Metal	Brown	Good	

Room	Sample Number	XRF Result (mg/cm²)	Component	Room Side	Substrate	Color	Condition	Chip Sample Result (mg/cm²)
L1 Elevator Lobby	25	0.07	Door Jamb	D	Metal	Brown	Good	
L1 Elevator Lobby	30	0.03	Elevator Door	B	Metal	Brown	Good	
L1 Elevator Lobby	28	0.03	Elevator Door	B	Metal	Brown	Good	
L1 Elevator Lobby	29	0.03	Elevator Door	B	Metal	Brown	Good	
L1 Elevator Lobby	21	0.00	Wall	A	Wood	Varnish	Good	
L1 Elevator Lobby	22	0.03	Wall	B	Drywall	White	Good	
L1 Elevator Lobby	23	0.00	Wall	C	Wood	Varnish	Good	
L1 Elevator Lobby	24	0.00	Wall	D	Wood	Varnish	Good	
L1-101	36	0.00	Door	C	Wood	Varnish	Good	
L1-101	35	0.00	Door Jamb	C	Metal	Green	Good	
L1-101	31	0.06	Wall	A	Drywall	Lt. Green	Good	
L1-101	32	0.03	Wall	B	Drywall	Lt. Green	Good	
L1-101	33	0.04	Wall	C	Drywall	Lt. Green	Good	
L1-101	34	0.03	Wall	D	Drywall	Lt. Green	Good	
L1-105	42	0.00	Door	C	Wood	Varnish	Good	
L1-105	41	0.13	Door Jamb	C	Metal	Green	Good	
L1-105	37	0.09	Wall	A	Drywall	White	Good	
L1-105	38	0.03	Wall	B	Drywall	White	Good	
L1-105	39	0.03	Wall	C	Drywall	White	Good	
L1-105	40	0.11	Wall	D	Drywall	White	Good	

Room	Sample Number	XRF Result (mg/cm ²)	Component	Room Side	Substrate	Color	Condition	Chip Sample Result (mg/cm ²)
L1-112	56	0.00	Door	A	Wood	Varnish	Good	
L1-112	55	0.12	Door Jamb	A	Metal	Green	Good	
L1-112	51	0.08	Wall	A	Drywall	White	Good	
L1-112	52	0.08	Wall	B	Drywall	White	Good	
L1-112	53	0.06	Wall	C	Drywall	Beige	Good	
L1-112	54	0.04	Wall	D	Drywall	Beige	Good	
L1-113	62	0.00	Door	D	Wood	Varnish	Good	
L1-113	61	0.13	Door Jamb	D	Metal	Green	Good	
L1-113	57	0.08	Wall	A	Drywall	White	Good	
L1-113	58	0.2	Wall	C	Drywall	White	Good	
L1-113	59	0.05	Wall	D	Drywall	White	Good	
L1-113	60	0.14	Window Frame	D	Metal	Green	Good	
L1-113 Men	67	0.00	Ceiling	C	Drywall	White	Good	
L1-113 Men	71	0.00	Door	D	Wood	Varnish	Good	
L1-113 Men	70	0.10	Door Jamb	D	Metal	Green	Good	
L1-113 Men	68	0.01	Floor	D	Ceramic Tile	Lt. Green	Good	
L1-113 Men	69	0.04	Toilet Stall	C	Metal	Green	Good	
L1-113 Men	63	0.00	Wall	A	Drywall	White	Good	
L1-113 Men	64	28	Wall	B	Ceramic Tile	Lt. Green	Good	
L1-113 Men	65	0.00	Wall	C	Drywall	White	Good	
L1-113 Men	66	0.00	Wall	D	Drywall	White	Good	
L1-117	78	0.03	Cabinet Door	B	Wood	Brown	Good	
L1-117	77	0.02	Ceiling	A	Drywall	White	Good	
L1-117	80	0.00	Door	A	Wood	Varnish	Good	

Room	Sample Number	XRF Result (mg/cm ²)	Component	Room Side	Substrate	Color	Condition	Chip Sample Result (mg/cm ²)
L1-117	79	0.11	Door Jamb	A	Metal	Green	Good	
L1-117	76	0.00	Floor	A	Ceramic Tile	Lt. Green	Good	
L1-117	72	26	Wall	A	Ceramic Tile	Lt. Green	Good	
L1-117	73	0.00	Wall	B	Drywall	White	Good	
L1-117	74	23	Wall	C	Ceramic Tile	Lt. Green	Good	
L1-117	75	24	Wall	D	Ceramic Tile	Lt. Green	Good	
L1-120	85	0.00	Cabinet Door	D	Wood	White	Good	
L1-120	87	0.00	Door	C	Wood	Varnish	Good	
L1-120	86	0.02	Door Jamb	C	Metal	Green	Good	
L1-120	81	0.00	Wall	A	Drywall	White	Good	
L1-120	82	0.05	Wall	B	Drywall	White	Good	
L1-120	83	0.00	Wall	C	Drywall	White	Good	
L1-120	84	0.03	Wall	D	Drywall	White	Good	
L1-123	111	0.00	Door	D	Wood	Varnish	Good	
L1-123	110	0.11	Door Jamb	D	Metal	Green	Good	
L1-123	108	0.01	Radiator	C	Metal	Brown	Good	
L1-123	105	0.00	Wall	A	Drywall	White	Good	
L1-123	109	0.00	Wall	D	Drywall	White	Good	
L1-123	106	0.01	Window Frame	B	Metal	Brown	Good	
L1-123	107	0.00	Window Frame	C	Metal	Brown	Good	
L1-130	104	0.00	Door	A	Wood	Varnish	Good	
L1-130	103	0.1	Door Jamb	A	Metal	Green	Good	
L1-130	99	0.16	Wall	A	Drywall	White	Good	
L1-130	100	0.00	Wall	B	Drywall	White	Good	

Room	Sample Number	XRF Result (mg/cm ²)	Component	Room Side	Substrate	Color	Condition	Chip Sample Result (mg/cm ²)
L1-130	101	0.06	Wall	C	Drywall	White	Good	
L1-130	102	0.15	Wall	D	Drywall	White	Good	
L1-S. Corridor	117	0.00	Door	B	Metal	Brown	Good	
L1-S. Corridor	118	0.00	Door	D	Metal	Brown	Good	
L1-S. Corridor	116	0.00	Door Jamb	B	Metal	Brown	Good	
L1-S. Corridor	120	0.00	Electrical Chase	D	Metal	White	Good	
L1-S. Corridor	112	0.00	Wall	A	Drywall	White	Good	
L1-S. Corridor	114	0.00	Wall	C	Wood	Varnish	Good	
L1-S. Corridor	113	0.11	Wall	C	Drywall	White	Good	
L1-S. Corridor	115	0.00	Window Frame	B	Metal	Brown	Good	
L1-S. Corridor	119	0.00	Window Frame	D	Metal	Brown	Good	
L1-S. Men	96	0.01	Ceiling	A	Drywall	White	Good	
L1-S. Men	98	0.00	Door	B	Wood	Varnish	Good	
L1-S. Men	97	0.11	Door Jamb	B	Metal	Green	Good	
L1-S. Men	94	0.01	Floor	C	Ceramic Tile	Blue	Good	
L1-S. Men	93	0.00	Floor	C	Ceramic Tile	Lt. Gray	Good	
L1-S. Men	95	0.00	Toilet Stall	D	Metal	White	Good	
L1-S. Men	88	26	Wall	A	Ceramic Tile	Lt. Green	Good	
L1-S. Men	89	22	Wall	B	Ceramic Tile	Lt. Green	Good	
L1-S. Men	90	0.9	Wall	C	Ceramic Tile	Lt. Green	Good	
L1-S. Men	91	0.6	Wall	C	Ceramic Tile	Lt. Green	Good	
L1-S. Men	92	21	Wall	D	Ceramic Tile	Lt. Green	Good	
L1-Women	47	0.00	Ceiling	C	Drywall	White	Good	
L1-Women	50	0.00	Door	D	Wood	Varnish	Good	

Room	Sample Number	XRF Result (mg/cm²)	Component	Room Side	Substrate	Color	Condition	Chip Sample Result (mg/cm²)
L1-Women	49	0.19	Door Jamb	D	Metal	Green	Good	
L1-Women	48	0.00	Floor	C	Ceramic Tile	Lt. Green	Good	
L1-Women	43	24	Wall	A	Ceramic Tile	Green	Good	
L1-Women	44	0.00	Wall	B	Drywall	White	Good	
L1-Women	45	0.00	Wall	C	Drywall	White	Good	
L1-Women	46	0.00	Wall	D	Drywall	White	Good	
L2-200M	156	0.00	Ceiling	B	Drywall	White	Good	
L2-200M	158	0.00	Door	A	Wood	Varnish	Good	
L2-200M	157	0.02	Door Jamb	A	Metal	Brown	Good	
L2-200M	151	22	Wall	A	Ceramic Tile	Beige	Good	
L2-200M	152	20	Wall	B	Ceramic Tile	Beige	Good	
L2-200M	154	0.01	Wall	C	Drywall	White	Good	
L2-200M	153	20	Wall	C	Ceramic Tile	Beige	Good	
L2-200M	155	5.1	Wall	D	Ceramic Tile	Beige	Good	
L2-201	143	0.00	Door	D	Wood	Varnish	Good	
L2-201	142	0.00	Door Jamb	D	Metal	Brown	Good	
L2-201	136	0.00	Wall	A	Drywall	White	Good	
L2-201	137	0.00	Wall	B	Drywall	White	Good	
L2-201	138	0.00	Wall	C	Drywall	Blue	Good	
L2-201	139	0.00	Wall	D	Drywall	White	Good	
L2-201	140	0.09	Window Frame	A	Metal	Brown	Good	
L2-201	141	0.09	Window-Sash	A	Metal	Brown	Good	
L2-205	221	0.00	Door	A	Wood	Varnish	Good	
L2-205	220	0.09	Door Jamb	A	Metal	Brown	Good	

Room	Sample Number	XRF Result (mg/cm²)	Component	Room Side	Substrate	Color	Condition	Chip Sample Result (mg/cm²)
L2-205	215	0.1	Wall	A	Drywall	White	Good	
L2-205	216	0.1	Wall	B	Drywall	White	Good	
L2-205	217	0.1	Wall	C	Drywall	White	Good	
L2-205	218	0.1	Wall	D	Drywall	White	Good	
L2-205	219	0.02	Window Frame	B	Metal	Brown	Good	
L2-205 Men	227	0.00	Door	B	Wood	Varnish	Good	
L2-205 Men	226	0.05	Door Jamb	B	Metal	Brown	Good	
L2-205 Men	222	21	Wall	A	Ceramic Tile	Pink	Good	
L2-205 Men	223	5.1	Wall	B	Ceramic Tile	Pink	Good	
L2-205 Men	224	5.1	Wall	C	Ceramic Tile	Pink	Good	
L2-205 Men	225	5.1	Wall	D	Ceramic Tile	Pink	Good	
L2-206	210	0.00	Door	A	Wood	Varnish	Good	
L2-206	209	0.03	Door Jamb	A	Metal	Brown	Good	
L2-206	205	0.03	Wall	A	Drywall	White	Good	
L2-206	206	0.16	Wall	B	Drywall	White	Good	
L2-206	207	0.04	Wall	C	Drywall	White	Good	
L2-206	208	0.13	Wall	D	Drywall	White	Good	
L2-209	200	0.02	Ceiling	A	Metal	White	Good	
L2-209	203	0.00	Door	A	Wood	Varnish	Good	
L2-209	202	0.02	Door Jamb	A	Metal	Cream	Good	
L2-209	201	0.03	Duct	A	Metal	White	Good	
L2-209	198	0.10	Electrical Panel	A	Metal	White	Good	
L2-209	199	1.0	I-Beam	A	Metal	White	Good	
L2-209	194	0.04	Wall	A	Drywall	White	Good	

Room	Sample Number	XRF Result (mg/cm ²)	Component	Room Side	Substrate	Color	Condition	Chip Sample Result (mg/cm ²)
L2-209	195	0.04	Wall	B	Drywall	White	Good	
L2-209	196	0.03	Wall	C	Drywall	White	Good	
L2-209	197	0.04	Wall	D	Drywall	White	Good	
L2-209	204	0.00	Window Frame	C	Metal	Brown	Good	
L2-210	193	0.00	Door	B	Wood	Varnish	Good	
L2-210	192	0.02	Door Jamb	B	Metal	Brown	Good	
L2-210	188	0.04	Wall	A	Drywall	White	Good	
L2-210	189	0.03	Wall	B	Drywall	White	Good	
L2-210	190	0.02	Wall	C	Drywall	White	Good	
L2-210	191	0.01	Wall	D	Drywall	White	Good	
L2-212	163	0.00	Ceiling	D	Drywall	White	Good	
L2-212	165	0.00	Door	A	Wood	Varnish	Good	
L2-212	164	0.00	Door Jamb	A	Metal	Brown	Good	
L2-212	160	0.00	Wall (Lower)	B	Wood	Varnish	Good	
L2-212	161	0.00	Wall (Lower)	C	Wood	Varnish	Good	
L2-212	159	0.00	Wall (Upper)	A	Wood	Varnish	Good	
L2-212	162	0.00	Wall (Upper)	D	Wood	Varnish	Good	
L2-217	232	0.00	Ceiling	D	Drywall	White	Good	
L2-217	236	0.00	Door	C	Wood	Varnish	Good	
L2-217	235	0.00	Door Jamb	C	Metal	Brown	Good	
L2-217	228	0.00	Wall	A	Drywall	White	Good	
L2-217	229	0.00	Wall	B	Drywall	White	Good	
L2-217	230	0.00	Wall	C	Drywall	White	Good	
L2-217	231	0.00	Wall	D	Drywall	Yellow	Good	

Room	Sample Number	XRF Result (mg/cm ²)	Component	Room Side	Substrate	Color	Condition	Chip Sample Result (mg/cm ²)
L2-217	233	0.1	Window Frame	A	Metal	Brown	Good	
L2-217	234	0.00	Window Frame	D	Metal	Brown	Good	
L2-219	150	0.00	Door	B	Wood	Varnish	Good	
L2-219	149	0.07	Door Jamb	B	Metal	Brown	Good	
L2-219	144	0.00	Wall	A	Drywall	Yellow	Good	
L2-219	145	0.00	Wall	B	Drywall	Yellow	Good	
L2-219	146	0.01	Wall	C	Drywall	Yellow	Good	
L2-219	147	0.00	Wall	D	Drywall	Green	Good	
L2-219	148	0.03	Window Frame	B	Metal	Brown	Good	
L2-E. Corridor	211	0.00	Wall	A	Drywall	Beige	Good	
L2-E. Corridor	212	0.00	Wall	B	Drywall	White	Good	
L2-E. Corridor	213	0.00	Wall	C	Drywall	White	Good	
L2-E. Corridor	214	0.00	Window Frame	B	Metal	Brown	Good	
L2-Restroom	187	0.00	Door	D	Wood	Varnish	Good	
L2-Restroom	186	0.02	Door Jamb	D	Metal	Brown	Good	
L2-Restroom	181	0.06	Wall	A	Drywall	White	Good	
L2-Restroom	182	0.00	Wall	B	Drywall	White	Good	
L2-Restroom	183	0.01	Wall	C	Drywall	White	Good	
L2-Restroom	184	0.03	Wall	D	Drywall	White	Good	
L2-Restroom	185	0.01	Wall	D	Ceramic Tile	Lt. Tan	Good	
L2-W. Entry	175	0.01	Ceiling	D	Drywall	White	Good	
L2-W. Entry	177	0.06	Door	A	Metal	Brown	Good	
L2-W. Entry	178	0.00	Door	C	Metal	Brown	Good	
L2-W. Entry	180	0.00	Information Box	D	Metal	Brown	Good	

Room	Sample Number	XRF Result (mg/cm²)	Component	Room Side	Substrate	Color	Condition	Chip Sample Result (mg/cm²)
L2-W. Entry	173	0.00	Wall	B	Drywall	White	Good	
L2-W. Entry	174	0.00	Wall	D	Drywall	White	Good	
L2-W. Entry	176	0.00	Window Frame	A	Metal	Brown	Good	
L2-W. Entry	179	0.00	Window Frame	C	Metal	Brown	Good	
L2-W. Lounge	172	0.06	Fire Hose Box	B	Metal	Red	Good	
L2-W. Lounge	171	0.00	Railing	D	Metal	Brass	Good	
L2-W. Lounge	169	0.00	Wall		Drywall	White	Good	
L2-W. Lounge	166	0.00	Wall	A	Drywall	Beige	Good	
L2-W. Lounge	167	0.04	Wall	B	Drywall	White	Good	
L2-W. Lounge	168	0.01	Wall	C	Wood	Varnish	Good	
L2-W. Lounge	170	0.00	Window-Sash	D	Metal	Brown	Good	
L2-W. Stairs	132	0.00	Door	B	Wood	Varnish	Good	
L2-W. Stairs	133	0.01	Door Jamb	B	Metal	Brown	Good	
L2-W. Stairs	135	0.17	Fire Hose Box	D	Metal	Red	Good	
L2-W. Stairs	134	0.06	Railing	B	Wood	Varnish	Good	
L2-W. Stairs	128	0.11	Wall	A	Drywall	White	Good	
L2-W. Stairs	129	0.02	Wall	B	Drywall	White	Good	
L2-W. Stairs	130	0.01	Wall	C	Drywall	White	Good	
L2-W. Stairs	131	0.09	Wall	D	Drywall	White	Good	
L3-301	251	0.00	Door	B	Wood	Varnish	Good	
L3-301	252	0.00	Door	C	Wood	Varnish	Good	
L3-301	250	0.01	Door Jamb	B	Metal	Beige	Good	
L3-301	253	0.01	Door Jamb	C	Metal	Beige	Good	
L3-301	244	0.05	Wall	A	Drywall	White	Good	

Room	Sample Number	XRF Result (mg/cm²)	Component	Room Side	Substrate	Color	Condition	Chip Sample Result (mg/cm²)
L3-301	245	0.06	Wall	B	Drywall	White	Good	
L3-301	246	0.00	Wall	C	Drywall	White	Good	
L3-301	247	0.01	Wall	D	Drywall	White	Good	
L3-301	249	0.01	Window Frame	A	Metal	Brown	Good	
L3-301	248	0.00	Window Frame	D	Metal	Brown	Good	
L3-301F	259	0.00	Door	A	Wood	Varnish	Good	
L3-301F	258	0.06	Door Jamb	A	Metal	Green	Good	
L3-301F	254	0.03	Wall	A	Drywall	Cream	Good	
L3-301F	255	0.02	Wall	B	Drywall	Cream	Good	
L3-301F	256	0.06	Wall	C	Drywall	Cream	Good	
L3-301F	257	0.03	Wall	D	Drywall	Cream	Good	
L3-302	267	0.00	Door	C	Wood	Varnish	Good	
L3-302	266	0.02	Door Jamb	C	Metal	Green	Good	
L3-302	260	0.00	Wall	A	Drywall	White	Good	
L3-302	261	0.00	Wall	B	Drywall	White	Good	
L3-302	262	0.02	Wall	C	Drywall	White	Good	
L3-302	263	0.02	Wall	D	Drywall	White	Good	
L3-302	265	0.00	Window Frame	B	Metal	Brown	Good	
L3-302	264	0.00	Window-Sash	A	Metal	Brown	Good	
L3-310	330	0.00	Door	A	Wood	Varnish	Good	
L3-310	329	0.04	Door Jamb	A	Metal	Beige	Good	
L3-310	323	0.06	Wall	A	Drywall	Cream	Good	
L3-310	324	0.01	Wall	B	Drywall	Beige	Good	
L3-310	325	0.01	Wall	C	Drywall	Cream	Good	

Room	Sample Number	XRF Result (mg/cm²)	Component	Room Side	Substrate	Color	Condition	Chip Sample Result (mg/cm²)
L3-310	326	0.03	Wall	D	Drywall	Cream	Good	
L3-310	328	0.05	Window Frame	A	Metal	Beige	Good	
L3-310	327	0.00	Window-Sill	C	Metal	Brown	Good	
L3-311A	321	0.00	Door	A	Wood	Varnish	Good	
L3-311A	320	0.00	Door Jamb	A	Metal	White	Good	
L3-311A	322	0.00	Radiator	C	Metal	White	Good	
L3-311A	315	0.00	Wall	A	Drywall	White	Good	
L3-311A	316	0.01	Wall	B	Drywall	White	Good	
L3-311A	317	0.01	Wall	C	Drywall	White	Good	
L3-311A	318	0.00	Wall	D	Drywall	White	Good	
L3-311A	319	0.00	Window Frame	C	Metal	Brown	Good	
L3-315	345	0.00	Door	D	Wood	Varnish	Good	
L3-315	344	0.02	Door Jamb	D	Metal	Beige	Good	
L3-315	339	0.03	Wall	A	Drywall	White	Good	
L3-315	340	0.05	Wall	B	Drywall	White	Good	
L3-315	341	0.06	Wall	C	Drywall	White	Good	
L3-315	342	0.02	Wall	D	Drywall	White	Good	
L3-315	343	0.06	Window Frame	D	Metal	Beige	Good	
L3-316	338	1.0	Column	A	Brick	White	Good	
L3-316	337	0.00	Door	B	Wood	Varnish	Good	
L3-316	336	0.03	Door Jamb	B	Metal	Beige	Good	
L3-316	331	0.00	Wall	A	Drywall	White	Good	
L3-316	332	0.00	Wall	B	Drywall	White	Good	
L3-316	333	0.00	Wall	C	Drywall	White	Good	

Room	Sample Number	XRF Result (mg/cm²)	Component	Room Side	Substrate	Color	Condition	Chip Sample Result (mg/cm²)
L3-316	334	0.00	Wall	D	Drywall	White	Good	
L3-316	335	0.07	Window Frame	B	Metal	Beige	Good	
L3-321	314	0.00	Door	D	Wood	Varnish	Good	
L3-321	313	0.12	Door Jamb	D	Metal	Beige	Good	
L3-321	308	0.02	Wall	A	Drywall	White	Good	
L3-321	309	0.03	Wall	B	Drywall	White	Good	
L3-321	310	0.05	Wall	C	Drywall	White	Good	
L3-321	311	0.02	Wall	D	Drywall	White	Good	
L3-321	312	0.06	Window Frame	D	Metal	Beige	Good	
L3-327	307	0.00	Door	A	Wood	Varnish	Good	
L3-327	306	0.07	Door Jamb	A	Metal	Beige	Good	
L3-327	304	0.00	Radiator	D	Metal	Cream	Good	
L3-327	298	0.03	Wall	A	Drywall	Cream	Good	
L3-327	299	0.00	Wall	B	Drywall	Cream	Good	
L3-327	300	0.00	Wall	C	Drywall	Cream	Good	
L3-327	301	0.02	Wall	D	Drywall	Cream	Good	
L3-327	305	0.04	Window Frame	A	Metal	Beige	Good	
L3-327	303	0.0	Window-Sash	D	Metal	Brown	Good	
L3-327	302	0.00	Window-Sill	C	Metal	Brown	Good	
L3-328	297	0.00	Door	D	Wood	Varnish	Good	
L3-328	296	0.05	Door Jamb	D	Metal	Beige	Good	
L3-328	291	0.03	Wall	A	Drywall	White	Good	
L3-328	292	0.03	Wall	B	Drywall	White	Good	
L3-328	293	0.06	Wall	C	Drywall	White	Good	

Room	Sample Number	XRF Result (mg/cm ²)	Component	Room Side	Substrate	Color	Condition	Chip Sample Result (mg/cm ²)
L3-328	294	0.00	Wall	D	Drywall	White	Good	
L3-328	295	0.04	Window Frame	D	Metal	Beige	Good	
L3-332	290	0.00	Door	B	Wood	Varnish	Good	
L3-332	289	0.00	Door Jamb	B	Metal	Beige	Good	
L3-332	285	0.00	Wall	A	Drywall	White	Good	
L3-332	286	0.00	Wall	B	Drywall	White	Good	
L3-332	287	0.00	Wall	C	Drywall	White	Good	
L3-332	288	0.00	Wall	D	Drywall	White	Good	
L3-E. Corridor	346	0.03	Wall	A	Drywall	White	Good	
L3-E. Corridor	347	0.04	Wall	B	Drywall	White	Good	
L3-E. Corridor	348	0.01	Wall	C	Drywall	White	Good	
L3-E. Corridor	349	0.07	Wall	D	Drywall	White	Good	
L3-E. Corridor	350	0.04	Window Frame	B	Metal	Brown	Good	
L3-E. Stairs	276	0.02	Door	B	Metal	Brown	Good	
L3-E. Stairs	275	0.03	Door Jamb	B	Metal	Brown	Good	
L3-E. Stairs	272	0.09	Fire Extinguisher	D	Metal	Red	Good	
L3-E. Stairs	274	0.00	Pipe	A	Metal	White	Good	
L3-E. Stairs	273	0.04	Railing	D	Metal	Gray	Good	
L3-E. Stairs	268	0.00	Wall	A	Concrete	White	Good	
L3-E. Stairs	269	0.2	Wall	B	Concrete	White	Good	
L3-E. Stairs	270	0.11	Wall	C	Concrete	White	Good	
L3-E. Stairs	271	0.09	Wall	D	Concrete	White	Good	
L3-E.Lobby	353	0.04	Ceiling	D	Drywall	White	Good	
L3-E.Lobby	356	0.06	Electrical Chase	C	Metal	Beige	Good	

Room	Sample Number	XRF Result (mg/cm ²)	Component	Room Side	Substrate	Color	Condition	Chip Sample Result (mg/cm ²)
L3-E.Lobby	355	0.06	Elevator Door	B	Metal	Brown	Good	
L3-E.Lobby	354	0.07	Elevator Door	B	Metal	Brown	Good	
L3-E.Lobby	351	0.00	Wall	B	Drywall	White	Good	
L3-E.Lobby	352	0.01	Wall	D	Drywall	White	Good	
L3-Men	282	0.00	Ceiling	B	Drywall	White	Good	
L3-Men	284	0.00	Door	A	Wood	Varnish	Good	
L3-Men	283	0.03	Door Jamb	A	Metal	Beige	Good	
L3-Men	277	12	Wall	A	Ceramic Tile	Beige	Good	
L3-Men	278	14	Wall	B	Ceramic Tile	Beige	Good	
L3-Men	279	5.1	Wall	C	Ceramic Tile	Beige	Good	
L3-Men	281	0.00	Wall	C	Drywall	White	Good	
L3-Men	280	13	Wall	D	Ceramic Tile	Beige	Good	
L4-404	472	0.01	Ceiling	C	Drywall	White	Good	
L4-404	474	0.00	Door	D	Wood	Varnish	Good	
L4-404	473	0.01	Door Jamb	D	Metal	Brown	Good	
L4-404	475	0.02	Electrical Chase	D	Metal	Cream	Good	
L4-404	467	0.01	Wall	A	Drywall	White	Good	
L4-404	468	0.02	Wall	B	Drywall	White	Good	
L4-404	469	0.02	Wall	C	Drywall	White	Good	
L4-404	471	0.01	Wall	C	Ceramic Tile	Lt. Brown	Good	
L4-404	470	0.04	Wall	D	Drywall	White	Good	
L4-405	483	0.00	Door	A	Wood	Varnish	Good	
L4-405	482	0.02	Door Jamb	A	Metal	Green	Good	
L4-405	476	0.00	Wall	A	Drywall	White	Good	

Room	Sample Number	XRF Result (mg/cm²)	Component	Room Side	Substrate	Color	Condition	Chip Sample Result (mg/cm²)
L4-405	477	0.01	Wall	B	Drywall	White	Good	
L4-405	478	0.07	Wall	C	Drywall	White	Good	
L4-405	479	0.00	Wall	D	Drywall	White	Good	
L4-405	481	0.1	Window Frame	D	Metal	Green	Good	
L4-405	480	0.1	Window-Sill	B	Metal	Brown	Good	
L4-407	490	0.00	Door	B	Wood	Varnish	Good	
L4-407	489	0.01	Door Jamb	B	Metal	Brown	Good	
L4-407	484	0.03	Wall	A	Drywall	White	Good	
L4-407	485	0.02	Wall	B	Drywall	White	Good	
L4-407	486	0.02	Wall	C	Drywall	White	Good	
L4-407	487	0.05	Wall	D	Drywall	White	Good	
L4-407	488	0.01	Window Frame	B	Metal	Brown	Good	
L4-409	497	0.00	Door	A	Wood	Varnish	Good	
L4-409	496	0.02	Door Jamb	A	Metal	Brown	Good	
L4-409	491	0.2	Wall	A	Drywall	Lt. Gray	Good	
L4-409	492	0.00	Wall	B	Drywall	Lt. Gray	Good	
L4-409	493	0.1	Wall	C	Drywall	Lt. Gray	Good	
L4-409	494	0.00	Wall	D	Drywall	Lt. Gray	Good	
L4-409	495	0.00	Window Frame	C	Metal	Brown	Good	
L4-409 Restroom	506	0.00	Ceiling	B	Drywall	Pink	Good	
L4-409 Restroom	503	0.00	Door	B	Wood	Varnish	Good	
L4-409 Restroom	502	0.00	Door Jamb	B	Metal	Brown	Good	
L4-409 Restroom	504	0.00	Floor	B	Ceramic Tile	Pink	Good	
L4-409 Restroom	505	0.00	Floor	B	Ceramic Tile	Brown	Good	

Room	Sample Number	XRF Result (mg/cm ²)	Component	Room Side	Substrate	Color	Condition	Chip Sample Result (mg/cm ²)
L4-409 Restroom	498	0.00	Wall	A	Drywall	Lt. Pink	Good	
L4-409 Restroom	499	0.00	Wall	B	Drywall	Lt. Pink	Good	
L4-409 Restroom	500	0.00	Wall	C	Drywall	Lt. Pink	Good	
L4-409 Restroom	501	5.1	Wall	D	Ceramic Tile	Lt. Pink	Good	
L4-411	514	0.00	Door	C	Wood	Varnish	Good	
L4-411	513	0.01	Door Jamb	C	Metal	Brown	Good	
L4-411	511	0.01	Fire Sprinkler	A	Metal	White	Good	
L4-411	507	0.02	Wall	A	Drywall	White	Good	
L4-411	508	0.0	Wall	B	Drywall	White	Good	
L4-411	509	0.04	Wall	C	Drywall	White	Good	
L4-411	510	0.02	Wall	D	Drywall	White	Good	
L4-411	512	0.00	Window Frame	C	Metal	Brown	Good	
L4-415	464	0.01	Door	A	Metal	Brown	Good	
L4-415	466	0.00	Door	C	Wood	Varnish	Good	
L4-415	465	0.02	Door Jamb	C	Metal	Brown	Good	
L4-415	459	0.00	Wall	A	Drywall	White	Good	
L4-415	460	0.00	Wall	B	Wood	Varnish	Good	
L4-415	461	0.00	Wall	C	Drywall	White	Good	
L4-415	462	0.00	Wall	D	Wood	Varnish	Good	
L4-415	463	0.1	Window Frame	A	Metal	Brown	Good	
L4-419	522	0.00	Door	C	Wood	Varnish	Good	
L4-419	521	0.01	Door Jamb	C	Metal	Red	Good	
L4-419	515	0.1	Wall	A	Drywall	White	Good	
L4-419	516	0.02	Wall	B	Drywall	White	Good	

Room	Sample Number	XRF Result (mg/cm²)	Component	Room Side	Substrate	Color	Condition	Chip Sample Result (mg/cm²)
L4-419	517	0.04	Wall	C	Drywall	White	Good	
L4-419	518	0.02	Wall	D	Drywall	Beige	Good	
L4-419	519	0.00	Window Frame	C	Metal	Brown	Good	
L4-419	520	0.01	Window Frame	C	Metal	Red	Good	
L4-423	530	0.00	Door	B	Wood	Varnish	Good	
L4-423	529	0.01	Door Jamb	B	Metal	Brown	Good	
L4-423	523	0.04	Wall	A	Drywall	White	Good	
L4-423	524	0.1	Wall	B	Drywall	White	Good	
L4-423	525	0.01	Wall	C	Drywall	White	Good	
L4-423	526	0.02	Wall	D	Drywall	Beige	Good	
L4-423	528	0.04	Window Frame	B	Metal	Brown	Good	
L4-423	527	0.00	Window Frame	D	Metal	Brown	Good	
L4-427	450	0.00	Cabinet Door	A	Wood	Beige	Good	
L4-427	448	0.00	Door	B	Wood	Varnish	Good	
L4-427	447	0.01	Door Jamb	B	Metal	Brown	Good	
L4-427	449	0.00	Electrical Chase	C	Metal	Cream	Good	
L4-427	443	0.05	Wall	A	Drywall	Cream	Good	
L4-427	444	0.03	Wall	B	Drywall	Cream	Good	
L4-427	445	0.02	Wall	C	Drywall	Cream	Good	
L4-427	446	0.01	Wall	D	Drywall	Cream	Good	
L4-429	458	0.00	Door	A	Wood	Varnish	Good	
L4-429	457	0.01	Door Jamb	A	Metal	Brown	Good	
L4-429	451	0.01	Wall	A	Drywall	Cream	Good	
L4-429	452	0.02	Wall	B	Drywall	Cream	Good	

Room	Sample Number	XRF Result (mg/cm²)	Component	Room Side	Substrate	Color	Condition	Chip Sample Result (mg/cm²)
L4-429	453	0.03	Wall	C	Drywall	Cream	Good	
L4-429	454	0.01	Wall	D	Drywall	Cream	Good	
L4-429	456	0.01	Window Frame	A	Metal	Brown	Good	
L4-429	455	0.02	Window Frame	C	Metal	Brown	Good	
L4-434	442	0.00	Door	B	Wood	Varnish	Good	
L4-434	441	0.03	Door Jamb	B	Metal	Brown	Good	
L4-434	435	0.05	Wall	A	Drywall	White	Good	
L4-434	436	0.03	Wall	B	Drywall	White	Good	
L4-434	437	0.2	Wall	C	Drywall	White	Good	
L4-434	438	0.01	Wall	D	Drywall	White	Good	
L4-434	440	0.01	Window Frame	B	Metal	Brown	Good	
L4-434	439	0.00	Window Frame	D	Metal	Brown	Good	
L4-437	424	0.00	Door	B	Wood	Varnish	Good	
L4-437	423	0.03	Door Jamb	B	Metal	Brown	Good	
L4-437	418	0.1	Wall	A	Drywall	White	Good	
L4-437	419	0.02	Wall	B	Drywall	White	Good	
L4-437	420	0.05	Wall	C	Drywall	White	Good	
L4-437	421	0.04	Wall	D	Drywall	White	Good	
L4-437	422	0.02	Window-Sash	B	Metal	Brown	Good	
L4-439	379	0.00	Door	A	Wood	Varnish	Good	
L4-439	378	0.01	Door Jamb	A	Metal	Brown	Good	
L4-439	372	0.00	Wall	A	Drywall	White	Good	
L4-439	373	0.01	Wall	B	Drywall	White	Good	
L4-439	374	0.01	Wall	C	Drywall	White	Good	

Room	Sample Number	XRF Result (mg/cm²)	Component	Room Side	Substrate	Color	Condition	Chip Sample Result (mg/cm²)
L4-439	375	0.03	Wall	D	Drywall	White	Good	
L4-439	377	0.02	Window Frame	A	Metal	Brown	Good	
L4-439	376	0.01	Window Frame	C	Metal	Brown	Good	
L4-445	371	0.00	Door	B	Wood	Varnish	Good	
L4-445	370	0.1	Door Jamb	B	Metal	Brown	Good	
L4-445	364	0.03	Wall	A	Drywall	White	Good	
L4-445	365	0.1	Wall	B	Drywall	White	Good	
L4-445	366	0.03	Wall	C	Drywall	White	Good	
L4-445	367	0.01	Wall	D	Drywall	White	Good	
L4-445	369	0.00	Window Frame	A	Metal	Brown	Good	
L4-445	368	0.00	Window Frame	D	Metal	Brown	Good	
L4-452	387	0.00	Door	C	Wood	Varnish	Good	
L4-452	386	0.01	Door Jamb	C	Metal	Brown	Good	
L4-452	380	0.02	Wall	A	Drywall	White	Good	
L4-452	381	0.03	Wall	B	Drywall	White	Good	
L4-452	382	0.01	Wall	C	Drywall	White	Good	
L4-452	383	0.05	Wall	D	Drywall	White	Good	
L4-452	385	0.02	Window Frame	C	Metal	Brown	Good	
L4-452	384	0.2	Window-Sill	A	Metal	Brown	Good	
L4-457	401	0.00	Door	D	Wood	Varnish	Good	
L4-457	400	0.01	Door Jamb	D	Metal	Brown	Good	
L4-457	395	0.01	Wall	A	Drywall	Cream	Good	
L4-457	396	0.01	Wall	B	Drywall	Cream	Good	
L4-457	397	0.06	Wall	C	Drywall	Cream	Good	

Room	Sample Number	XRF Result (mg/cm²)	Component	Room Side	Substrate	Color	Condition	Chip Sample Result (mg/cm²)
L4-457	398	0.01	Wall	D	Drywall	Cream	Good	
L4-457	399	0.00	Window-Sill	B	Metal	Brown	Good	
L4-460	394	0.00	Door	A	Wood	Varnish	Good	
L4-460	393	0.01	Door Jamb	A	Metal	Brown	Good	
L4-460	388	0.00	Wall	A	Drywall	Cream	Good	
L4-460	389	0.02	Wall	B	Drywall	Cream	Good	
L4-460	390	0.05	Wall	C	Drywall	Cream	Good	
L4-460	391	0.02	Wall	D	Drywall	Cream	Good	
L4-460	392	0.00	Window Frame	B	Metal	Brown	Good	
L4-461	416	0.00	Door	C	Wood	Varnish	Good	
L4-461	415	0.00	Door Jamb	C	Metal	Brown	Good	
L4-461	417	0.00	Electrical Chase	C	Metal	Cream	Good	
L4-461	411	0.04	Wall	A	Drywall	White	Good	
L4-461	412	0.00	Wall	B	Drywall	White	Good	
L4-461	413	0.00	Wall	C	Drywall	White	Good	
L4-461	414	0.01	Wall	D	Drywall	White	Good	
L4-Men	430	0.00	Ceiling	D	Drywall	White	Good	
L4-Men	433	0.00	Door	A	Wood	Varnish	Good	
L4-Men	434	0.05	Door Jamb	A	Metal	Brown	Good	
L4-Men	432	0.00	Floor	D	Ceramic Tile	Pink	Good	
L4-Men	431	0.09	Floor	D	Ceramic Tile	Brown	Good	
L4-Men	425	5.1	Wall	A	Ceramic Tile	Pink	Good	
L4-Men	426	5.1	Wall	B	Ceramic Tile	Pink	Good	
L4-Men	427	5.1	Wall	C	Ceramic Tile	Pink	Good	

Room	Sample Number	XRF Result (mg/cm²)	Component	Room Side	Substrate	Color	Condition	Chip Sample Result (mg/cm²)
L4-Men	429	0.00	Wall	C	Drywall	White	Good	
L4-Men	428	4.4	Wall	D	Ceramic Tile	Pink	Good	
L4-N. Corridor	408	0.00	Door	A	Wood	Varnish	Good	
L4-N. Corridor	409	0.00	Door	D	Wood	Varnish	Good	
L4-N. Corridor	407	0.01	Door Jamb	A	Metal	Brown	Good	
L4-N. Corridor	410	0.01	Door Jamb	D	Metal	Brown	Good	
L4-N. Corridor	402	0.01	Wall	A	Drywall	White	Good	
L4-N. Corridor	403	0.03	Wall	B	Drywall	White	Good	
L4-N. Corridor	404	0.02	Wall	C	Drywall	White	Good	
L4-N. Corridor	405	0.00	Wall	D	Drywall	White	Good	
L4-N. Corridor	406	0.02	Window Frame	A	Metal	Brown	Good	
L5-502	624	0.00	Baseboard	D	Wood	Varnish	Good	
L5-502	621	0.00	Wall	A	Drywall	Cream	Good	
L5-502	622	0.00	Wall	C	Drywall	Cream	Good	
L5-502	623	0.00	Wall	D	Drywall	Cream	Good	
L5-514	630	0.00	Door	C	Wood	Varnish	Good	
L5-514	629	0.00	Door Jamb	C	Metal	Brown	Good	
L5-514	625	0.00	Wall	A	Drywall	Cream	Good	
L5-514	626	0.00	Wall	B	Drywall	Cream	Good	
L5-514	627	0.00	Wall	C	Drywall	Cream	Good	
L5-514	628	0.00	Wall	D	Drywall	Cream	Good	
L5-530	613	0.00	Door	B	Wood	Varnish	Good	
L5-530	612	0.00	Door Jamb	B	Metal	Brown	Good	
L5-530	607	0.00	Wall	A	Drywall	Cream	Good	

Room	Sample Number	XRF Result (mg/cm²)	Component	Room Side	Substrate	Color	Condition	Chip Sample Result (mg/cm²)
L5-530	608	0.00	Wall	B	Drywall	Cream	Good	
L5-530	609	0.00	Wall	C	Drywall	Cream	Good	
L5-530	610	0.00	Wall	D	Drywall	Cream	Good	
L5-530	611	0.00	Window Frame	B	Metal	Brown	Good	
L5-533	620	0.00	Baseboard	A	Wood	Varnish	Good	
L5-533	619	0.00	Door	A	Metal	Brown	Good	
L5-533	614	0.00	Wall	B	Drywall	Cream	Good	
L5-533	615	0.01	Wall	C	Concrete	Gray	Good	
L5-533	616	0.00	Wall	D	Drywall	Cream	Good	
L5-533	618	0.04	Window Frame	A	Metal	Brown	Good	
L5-533	617	0.00	Window Frame	C	Metal	Brown	Good	
L5-540	603	0.00	Door	A	Metal	Brown	Good	
L5-540	606	0.00	Door	C	Wood	Varnish	Good	
L5-540	604	0.02	Door Jamb	A	Metal	Brown	Good	
L5-540	605	0.00	Door Jamb	C	Metal	Brown	Good	
L5-540	599	0.00	Wall	A	Drywall	Cream	Good	
L5-540	600	0.00	Wall	B	Drywall	Cream	Good	
L5-540	601	0.00	Wall	C	Drywall	Cream	Good	
L5-540	602	0.00	Wall	D	Drywall	Cream	Good	
L5-542	598	0.00	Door	C	Wood	Varnish	Good	
L5-542	597	0.00	Door Jamb	C	Metal	Brown	Good	
L5-542	592	0.00	Wall	A	Drywall	White	Good	
L5-542	593	0.00	Wall	B	Drywall	White	Good	
L5-542	594	0.00	Wall	C	Drywall	White	Good	

Room	Sample Number	XRF Result (mg/cm ²)	Component	Room Side	Substrate	Color	Condition	Chip Sample Result (mg/cm ²)
L5-542	595	0.00	Wall	D	Drywall	White	Good	
L5-542	596	0.00	Window Frame	C	Metal	Brown	Good	
L5-549	591	0.00	Door	A	Wood	Varnish	Good	
L5-549	590	0.00	Door Jamb	A	Metal	Brown	Good	
L5-549	585	0.00	Wall	A	Drywall	Cream	Good	
L5-549	586	0.00	Wall	B	Drywall	Cream	Good	
L5-549	587	0.00	Wall	C	Drywall	Gray	Good	
L5-549	588	0.00	Wall	D	Drywall	Gray	Good	
L5-549	589	0.00	Window Frame	C	Metal	Brown	Good	
L5-555	584	0.00	Door	B	Wood	Varnish	Good	
L5-555	583	0.00	Door Jamb	B	Metal	Brown	Good	
L5-555	579	0.01	Wall	A	Drywall	White	Good	
L5-555	580	0.00	Wall	B	Drywall	White	Good	
L5-555	581	0.0	Wall	C	Drywall	White	Good	
L5-555	582	0.01	Window-Sash	D	Metal	Brown	Good	
L5-566	570	0.00	Door	B	Wood	Varnish	Good	
L5-566	569	0.1	Door Jamb	B	Metal	Brown	Good	
L5-566	568	0.01	Fire Extinguisher	B	Metal	Red	Good	
L5-566	564	0.00	Wall	A	Drywall	Tan	Good	
L5-566	565	0.01	Wall	B	Drywall	Tan	Good	
L5-566	566	0.00	Wall	C	Drywall	Tan	Good	
L5-566	567	0.01	Wall	D	Drywall	Green	Good	
L5-569	578	0.00	Door	B	Wood	Varnish	Good	
L5-569	577	0.04	Door Jamb	B	Metal	Brown	Good	

Room	Sample Number	XRF Result (mg/cm ²)	Component	Room Side	Substrate	Color	Condition	Chip Sample Result (mg/cm ²)
L5-569	571	0.0	Wall	A	Drywall	Cream	Good	
L5-569	572	0.11	Wall	B	Drywall	Cream	Good	
L5-569	573	0.03	Wall	C	Drywall	Cream	Good	
L5-569	574	0.1	Wall	D	Drywall	Green	Good	
L5-569	576	0.03	Window Frame	D	Metal	Brown	Good	
L5-569	575	0.00	Window Frame	D	Metal	Brown	Good	
L5-583	555	0.00	Door	D	Wood	Varnish	Good	
L5-583	554	0.02	Door Jamb	D	Metal	Brown	Good	
L5-583	548	0.04	Wall	A	Concrete	Green	Good	
L5-583	550	0.01	Wall	C	Drywall	Cream	Good	
L5-583	551	0.1	Wall	D	Drywall	Cream	Good	
L5-583	549	0.1	Wall (Lower)	B	Drywall	Green	Good	
L5-583	552	0.00	Window Frame	B	Metal	Brown	Good	
L5-583	553	0.06	Window Frame	D	Metal	Brown	Good	
L5-586	563	0.00	Door	B	Wood	Varnish	Good	
L5-586	562	0.03	Door Jamb	B	Metal	Brown	Good	
L5-586	556	0.06	Wall	A	Drywall	Beige	Good	
L5-586	557	0.05	Wall	B	Drywall	Beige	Good	
L5-586	558	0.1	Wall	C	Drywall	Beige	Good	
L5-586	559	0.02	Wall	D	Drywall	Green	Good	
L5-586	560	0.04	Window Frame	A	Metal	Brown	Good	
L5-586	561	0.05	Window Frame	B	Metal	Brown	Good	
L5-N. Lounge	547	0.00	Baseboard	C	Wood	Varnish	Good	
L5-N. Lounge	545	0.00	Door	D	Wood	Varnish	Good	

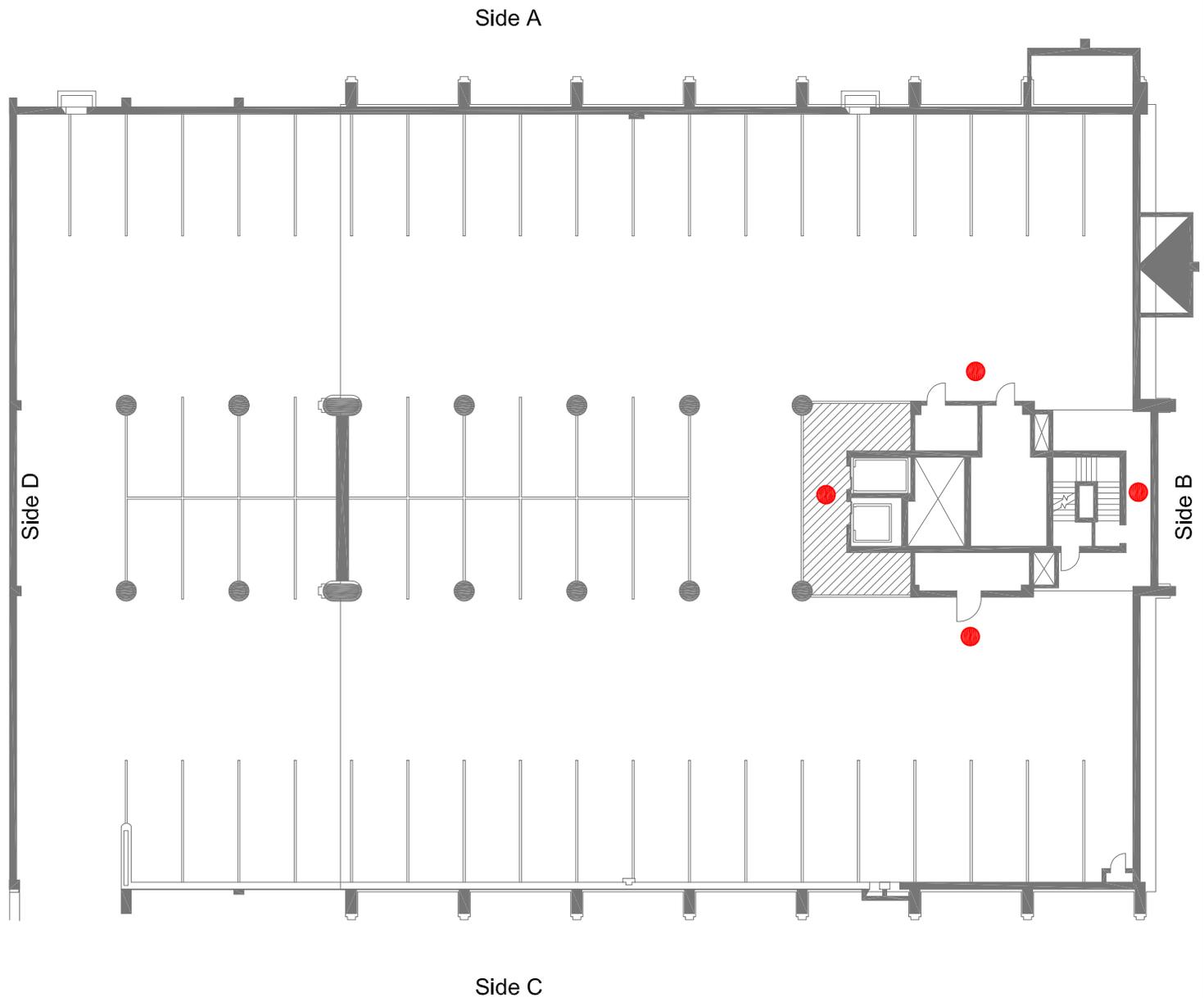
Room	Sample Number	XRF Result (mg/cm ²)	Component	Room Side	Substrate	Color	Condition	Chip Sample Result (mg/cm ²)
L5-N. Lounge	544	0.00	Door Jamb	D	Metal	Brown	Good	
L5-N. Lounge	546	0.00	Fire Sprinkler	D	Metal	White	Good	
L5-N. Lounge	538	0.01	Wall	A	Concrete	Green	Good	
L5-N. Lounge	539	0.02	Wall	A	Drywall	Green	Good	
L5-N. Lounge	541	0.00	Wall	B	Drywall	Green	Good	
L5-N. Lounge	542	0.07	Wall	C	Drywall	Green	Good	
L5-N. Lounge	543	0.09	Wall	D	Drywall	Green	Good	
L5-N. Lounge	540	0.07	Window Frame	A	Metal	Brown	Good	
LP Elevator	12	0.00	Ceiling	C	Concrete	White	Good	
LP Elevator	13	0.01	Ceiling	C	Metal	White	Good	
LP Elevator	19	0.07	Elevator Door	D	Metal	Brown	Good	
LP Elevator	20	0.02	Elevator Door	D	Metal	Brown	Good	
LP Elevator	18	0.04	Elevator Door	D	Metal	Brown	Good	
LP Elevator	15	4.5	Parking Lines	C	Concrete	Yellow	Good	
LP Elevator	16	5.1	Parking Lines	D	Concrete	Yellow	Good	
LP Elevator	14	0.03	Pipe	C	Metal	White	Good	
LP Elevator	17	0.00	Post	D	Metal	Orange	Good	
LP Elevator	9	0.00	Wall	A	Concrete	White	Good	
LP Elevator	10	0.00	Wall	B	Concrete	White	Good	
LP Elevator	11	0.00	Wall	C	Concrete	White	Good	
LP Elevator	8	0.00	Wall	D	Concrete	White	Good	
Penthouse	635	0.04	Door	B	Metal	Gray	Good	
Penthouse	636	0.18	Door Jamb	B	Metal	Gray	Good	
Penthouse	633	0.09	Floor	A	Concrete	Red	Good	

Room	Sample Number	XRF Result (mg/cm²)	Component	Room Side	Substrate	Color	Condition	Chip Sample Result (mg/cm²)
Penthouse	631	0.07	Floor	B	Concrete	Red	Good	
Penthouse	632	0.23	Floor	D	Concrete	Red	Good	
Penthouse	634	0.07	Mechanical Unit	C	Metal	Blue Gray	Good	

APPENDIX B

BUILDING FLOOR PLANS

Lead-Based Paint Survey : Lower Level Parking

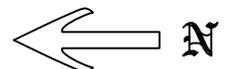


EXPLANATION

- Room Tested With The XRF NITON Lead Analyzer

Notes:

1. Lead based paint in yellow (stall) lines on concrete parking.



CLIENT INFO. University of Utah College of Nursing Salt Lake City, Utah		PROJECT No.: 08A-1020
		CAD No.: 08A1020B-3
Approximate Scale 		DRAWN BY: S. Rahman
		DATE: 4/14/08
		REVISED BY:
		DATE:

Lead-Based Paint Survey : First Level



Explanation

● Room Tested With XRF Niton Lead Analyzer (NITON 300)

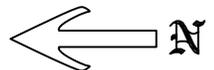
Notes:

Lead-based paint in yellow stall lines on concrete packing.

Lead-based glaze on bathrooms ceramic tile walls.

Lead-containing paint on metal door jambs.

Lead-containing paint on some drywall walls.



CLIENT INFO. University of Utah College of Nursing Salt Lake City, Utah		PROJECT No.: 08A-1020
		CAD No.: 08A1020C-4
Approximate Scale 20 ft	DRAWN BY: S. Rahman	
	DATE: 4/14/08	
	REVISED BY:	
		DATE:

Lead-Based Paint Survey : Second Level



EXPLANATION

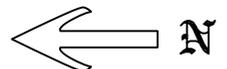
● Room Tested With The XRF Niton Lead Analyzer (NITON 300)

Notes:

Lead-based glaze on bathrooms' and janitors' ceramic tile walls.

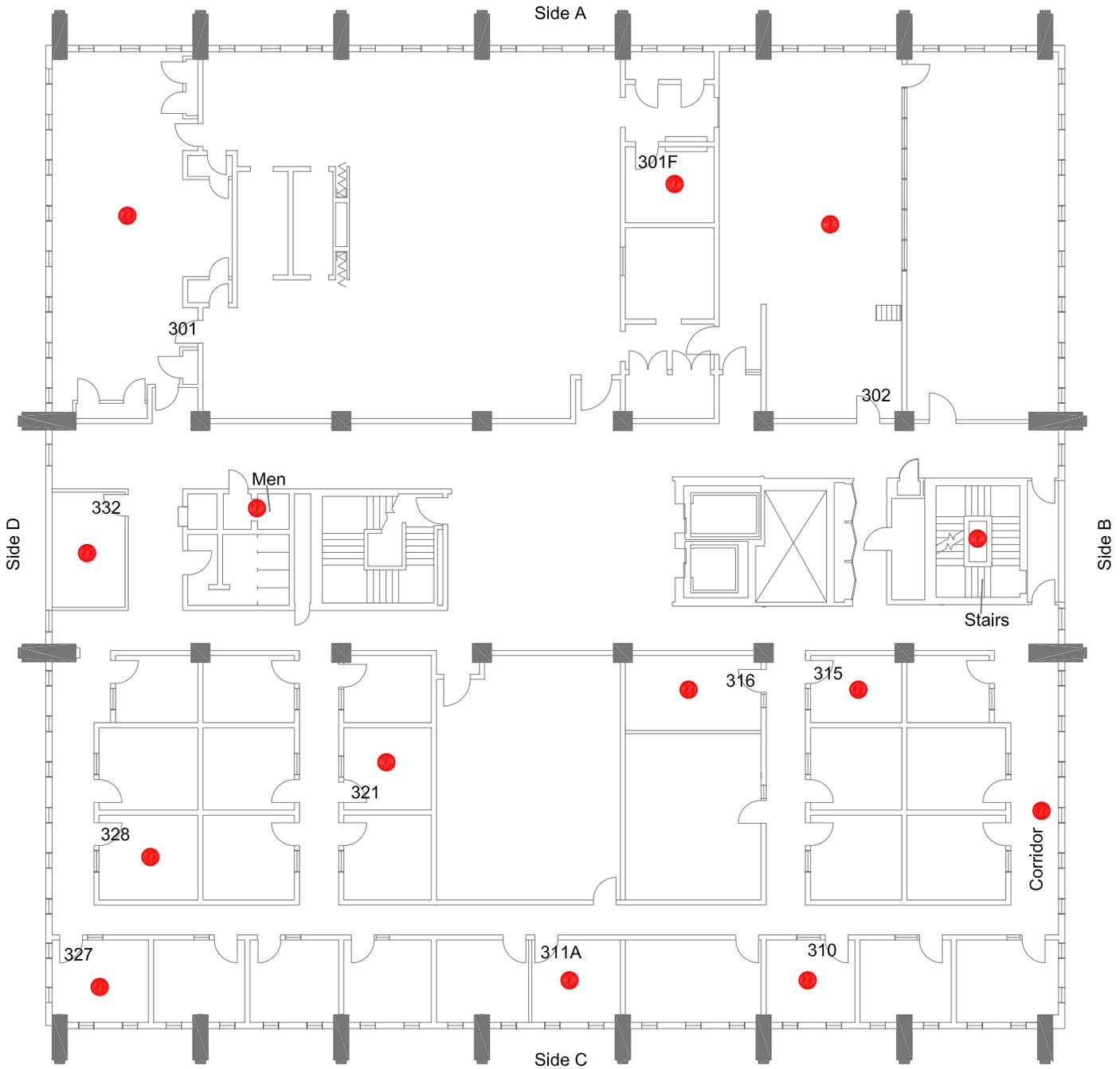
Lead-containing paint on metal fire hose boxes.

Lead-containing paint on some drywall walls.



CLIENT INFO. University of Utah College of Nursing Salt Lake City, Utah		PROJECT No.: 08A-1020
		CAD No.: 08A1020D-4
Approximate Scale 		DRAWN BY: S. Rahman
		DATE: 4/15/08
		REVISED BY:
		DATE:

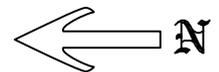
Lead-Based Paint Survey : Third Level



● Room Tested With The XRF Niton Lead Analyzer (NITON 300)

Notes:

- Lead-based glaze on bathrooms' ceramic tile walls.
- Lead-containing paint on some metal door jambs.
- Lead-containing paint on concrete walls / ceilings in E. stairs.



CLIENT INFO. University of Utah College of Nursing Salt Lake City, Utah		PROJECT No.: 08A-1020
		CAD No.: 08A1020E-4
Approximate Scale 		DRAWN BY: S. Rahman
		DATE: 4/15/08
		REVISED BY:
		DATE:

Lead-Based Paint Survey : Forth Level



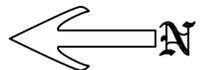
EXPLANATION

● Room Tested With The XRF Niton Lead Analyzer (NITON 300)

Notes:

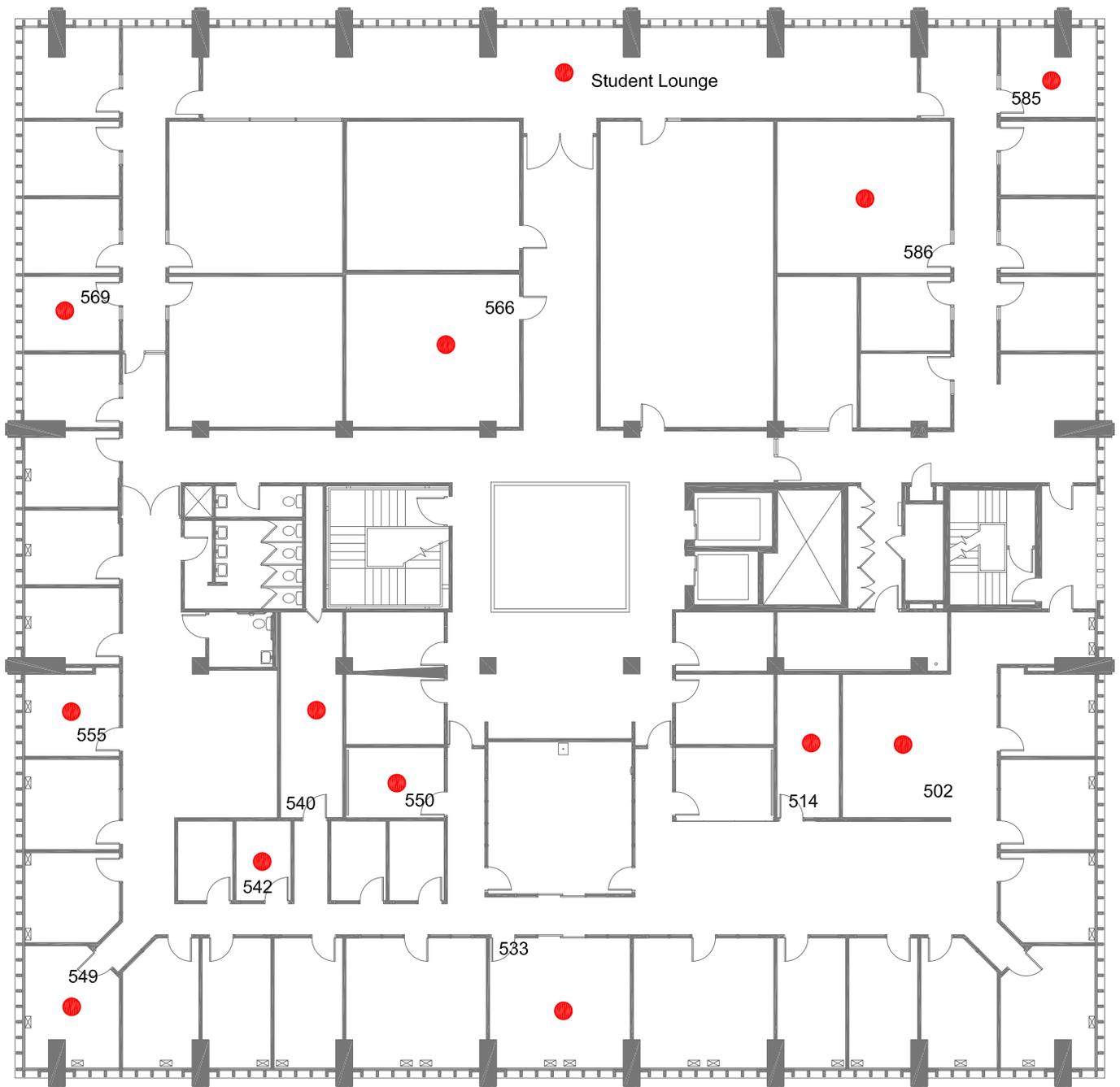
Lead-based glaze on bathrooms' and janitors' ceramic tile walls.

Lead-containing paint on some drywall walls.



CLIENT INFO. University of Utah College of Nursing Salt Lake City, Utah		PROJECT No.: 08A-1020
		CAD No.: 08A1020F-4
Approximate Scale 		DRAWN BY: S. Rahman
		DATE: 4/16/08
		REVISED BY:
		DATE:

Lead-Based Paint Survey : Fifth Level



EXPLANATION

549

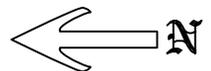
● Room Tested With The XRF Niton Lead Analyzer (NITON 300)

Notes:

Lead-based glaze on bathrooms' and janitors' ceramic tile walls.

Lead-containing paint on some metal door jambs.

Lead-containing paint on some drywall walls.



CLIENT INFO.

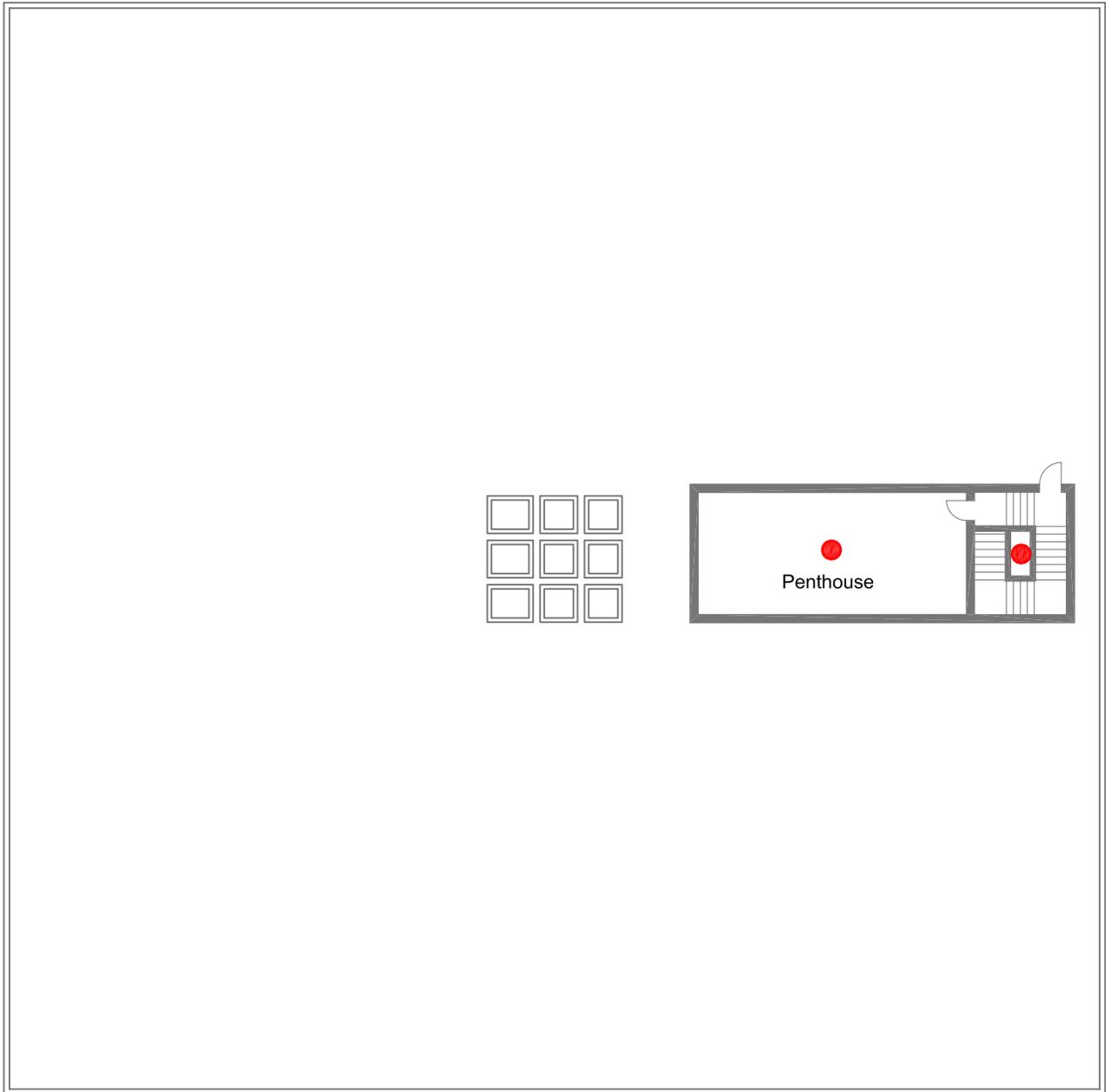
University of Utah
College of Nursing
Salt Lake City, Utah

IHI
ENVIRONMENTAL

Approximate Scale
20 ft

PROJECT No.:	08A-1020
CAD No.:	08A1020G-4
DRAWN BY:	S. Rahman
DATE:	4/16/08
REVISED BY:	
DATE:	

Lead-Based Paint Survey : Penthouse / Roof



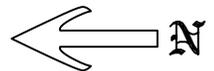
EXPLANATION

● Room Tested With The XRF Niton Lead Analyzer (NITON 300)

Notes:

Lead-containing paint on concrete floor.

Lead-containing paint on metal mechanical units.



CLIENT INFO.

University of Utah
College of Nursing
Salt Lake City, Utah

IHI
ENVIRONMENTAL

Approximate Scale
20 ft

PROJECT No.: 08A-1020

CAD No.: 08A1020H-3

DRAWN BY: S. Rahman

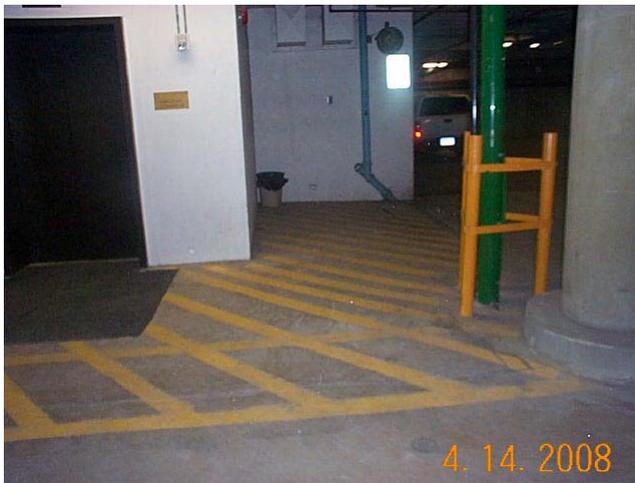
DATE: 4/16/08

REVISED BY:

DATE:

APPENDIX C

PHOTOGRAPHS



Photograph 1

A view of the yellow paint in the parking with high concentrations of lead (5.1 mg/cm^2).



Photograph 2

This is one of the ceramic tile walls in the restrooms with concentrations of lead up to 28 mg/cm^2 .



Photograph 3

Another ceramic tile walls in the janitor closet containing up to 22 mg/cm^2 concentrations of lead.



Photograph 4

The above metal doorjamb measured 0.13 mg/cm^2 of lead.



Photograph 5

The brick column shown above measured 1.0 mg/cm^2 of lead. The drywall walls measured 0.19 mg/cm^2 and work must follow OSHA guidelines.



Photograph 6

The concrete floor in the penthouse contained 0.23 mg/cm^2 of lead. .

**Universal Hazardous Materials Survey
For the
University of Utah's College of Nursing
Building 588
University of Utah Campus
10 South 2000 East
Salt Lake City, Utah**

April 17, 2008

Submitted to:

Mr. William Bowen
Program Manager
Division of Facilities Construction and Management
4110 State Office Building
Salt Lake City, Utah 84114

Prepared by:

IHI Environmental
640 East Wilmington Avenue
Salt Lake City, Utah 84106
Phone: (801) 466-2223
Fax: (801) 466-9616

IHI Project No. 08A-1020

**Universal Hazardous Materials Survey
For the
University of Utah's College of Nursing
University of Utah Campus**

On March 19, 2008, John C. Larson of IHI Environmental completed a universal hazardous material inspection of the University of Utah's College of Nursing, 10 South 2000 East, Salt Lake City, Utah. Mr. Larson is a certified Salt Lake County Health Pre-demolition Building Inspector (PBI-012). The inspection was conducted based on an agreement with Mr. William Bowen, State of Utah Division of Facility Construction and Management (DFCM) Program Manager.

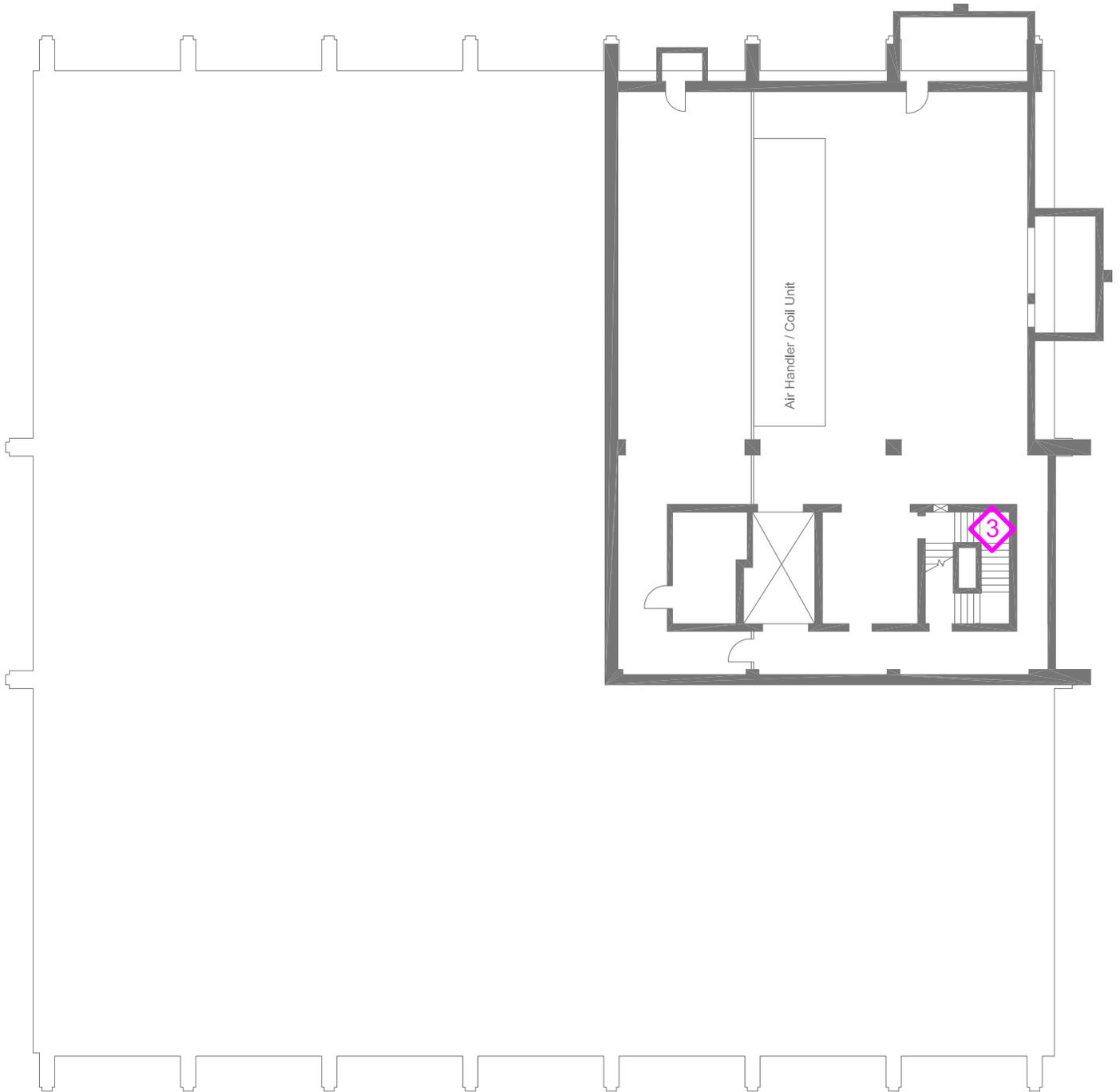
The following hazardous materials were identified in the facility:

Material	Location	Quantity	Unit Cost
Fluorescent light tubes containing mercury	Throughout building	220 (2') tubes 2,498 (4') tubes 8 (8') tubes 198 (6") bulbs	\$0.50/ln. ft
Suspect PCB-containing fluorescent light fixture ballasts	Throughout building	1,525 ballasts	\$6/ballast
Refrigeration units containing CFCs	Hallways by public rests rooms	11 drinking fountains	\$150/service \$50/unit

The Utah State of Division of Facilities Construction and Management (DFCM) requires all Universal Waste, such as fluorescent lights containing mercury, light ballasts containing PCBs, and refrigeration units containing chlorofluorocarbons (CFCs) be disposed at a facility approved to accept such waste for disposal or recycling. These waste streams must be contained in United Nation (UN) specification containers, as required under 49CFR part 173 for transportation and disposal.

Note that some of the fluorescent lights have green ends that contain small amounts of mercury. When large quantities of these tubes are disposed of, there can still be a significant amount of mercury released into the atmosphere. The drinking fountains were the only refrigeration units identified in this survey. The Facilities and Maintenance Management have a program of recycling and disposing of universal hazardous materials.

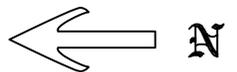
Hazardous Material Survey : Basement Level



EXPLANATION

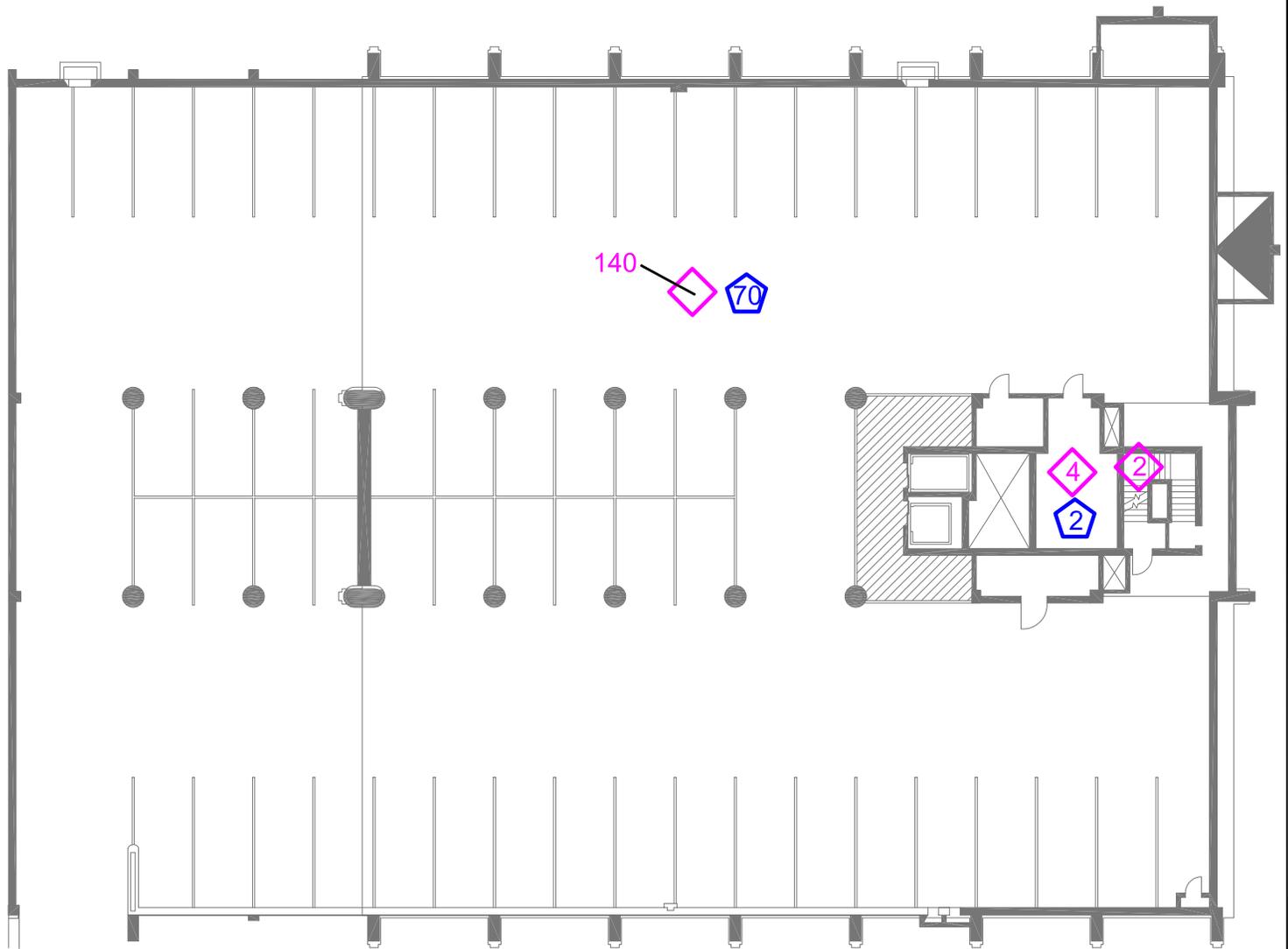


Number of Mercury Vapor Fluorescent Light Tubes in the Area



CLIENT INFO. University of Utah College of Nursing Salt Lake City, Utah	 Approximate Scale 20 ft	PROJECT No.: 08A-1020
		CAD No.: 08A1020A-2
		DRAWN BY: S. Rahman
		DATE: 4/14/08
		REVISED BY:
		DATE:

Hazardous Material Survey : Lower Level Parking



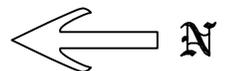
EXPLANATION



Number of Mercury Vapor Fluorescent Light Tubes in the Area



Number of Suspected PCB Containing Light Fixture Ballasts in the Area



CLIENT INFO.

University of Utah
College of Nursing
Salt Lake City, Utah

IHI
ENVIRONMENTAL

Approximate Scale
20 ft

PROJECT No.: 08A-1020

CAD No.: 08A1020B-2

DRAWN BY: S. Rahman

DATE: 4/14/08

REVISED BY:

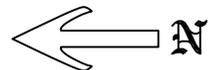
DATE:

Hazardous Material Survey : First Level



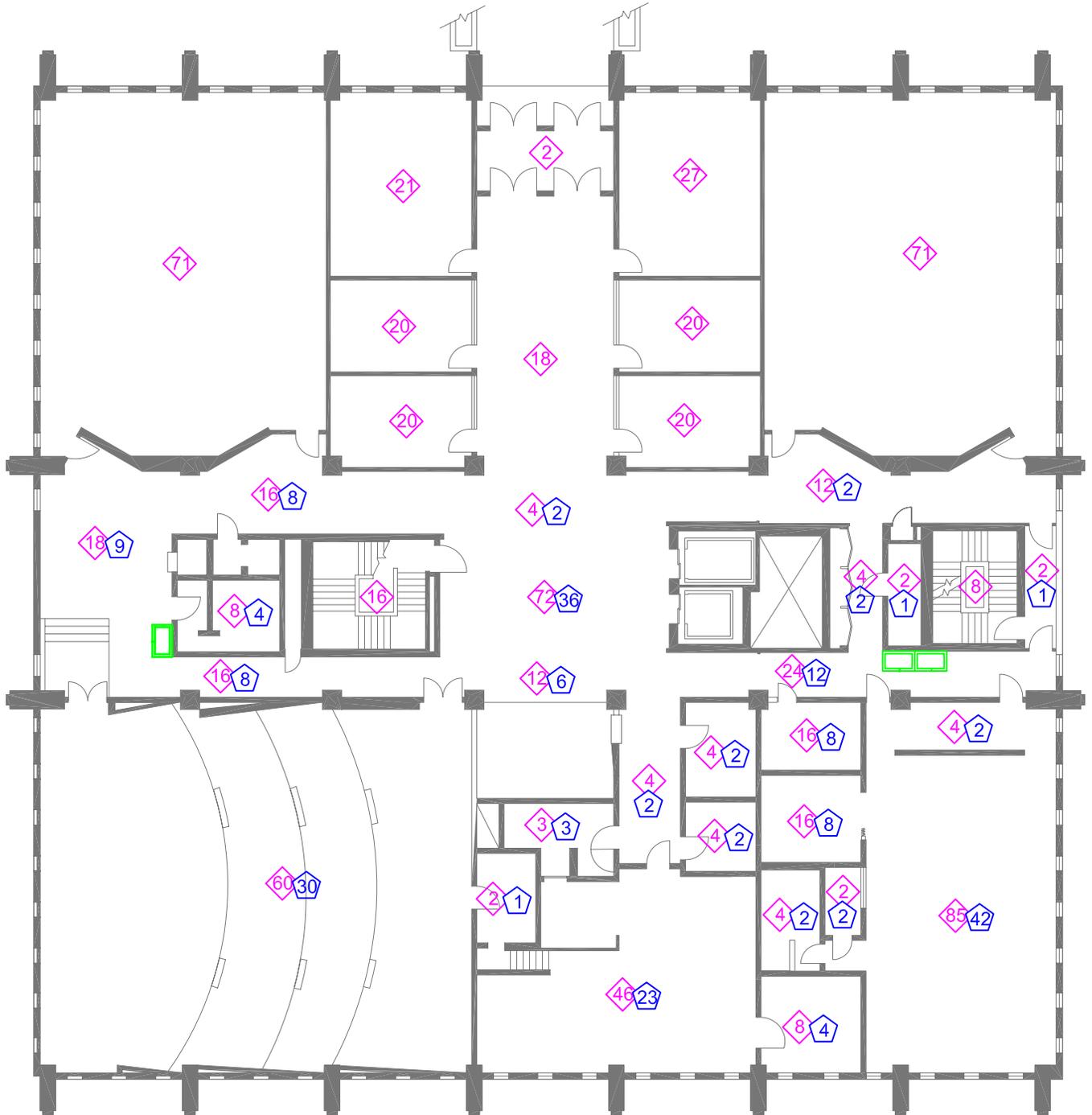
EXPLANATION

- ◆ # Number of Mercury Vapor Fluorescent Light Tubes in the Area
- ◆ # Number of Suspected PCB Containing Light Fixture Ballasts in the Area
- CFC Containing Refrigeration Units



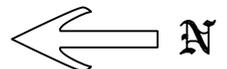
CLIENT INFO. University of Utah College of Nursing Salt Lake City, Utah	 IHI ENVIRONMENTAL	PROJECT No.: 08A-1020 CAD No.: 08A1020C-3
	Approximate Scale 20 ft	DRAWN BY: S. Rahman DATE: 4/14/08 REVISED BY: DATE:

Hazardous Material Survey : Second Level



EXPLANATION

- ◆ # Number of Mercury Vapor Fluorescent Light Tubes in the Area
- # # Number of Suspected PCB Containing Light Fixture Ballasts in the Area
- CFC Containing Refrigeration Units



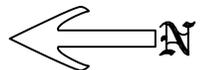
CLIENT INFO. University of Utah College of Nursing Salt Lake City, Utah		PROJECT No.: 08A-1020
		CAD No.: 08A1020D-3
Approximate Scale 		DRAWN BY: S. Rahman
		DATE: 4/15/08
		REVISED BY:
		DATE:

Hazardous Material Survey : Forth Level



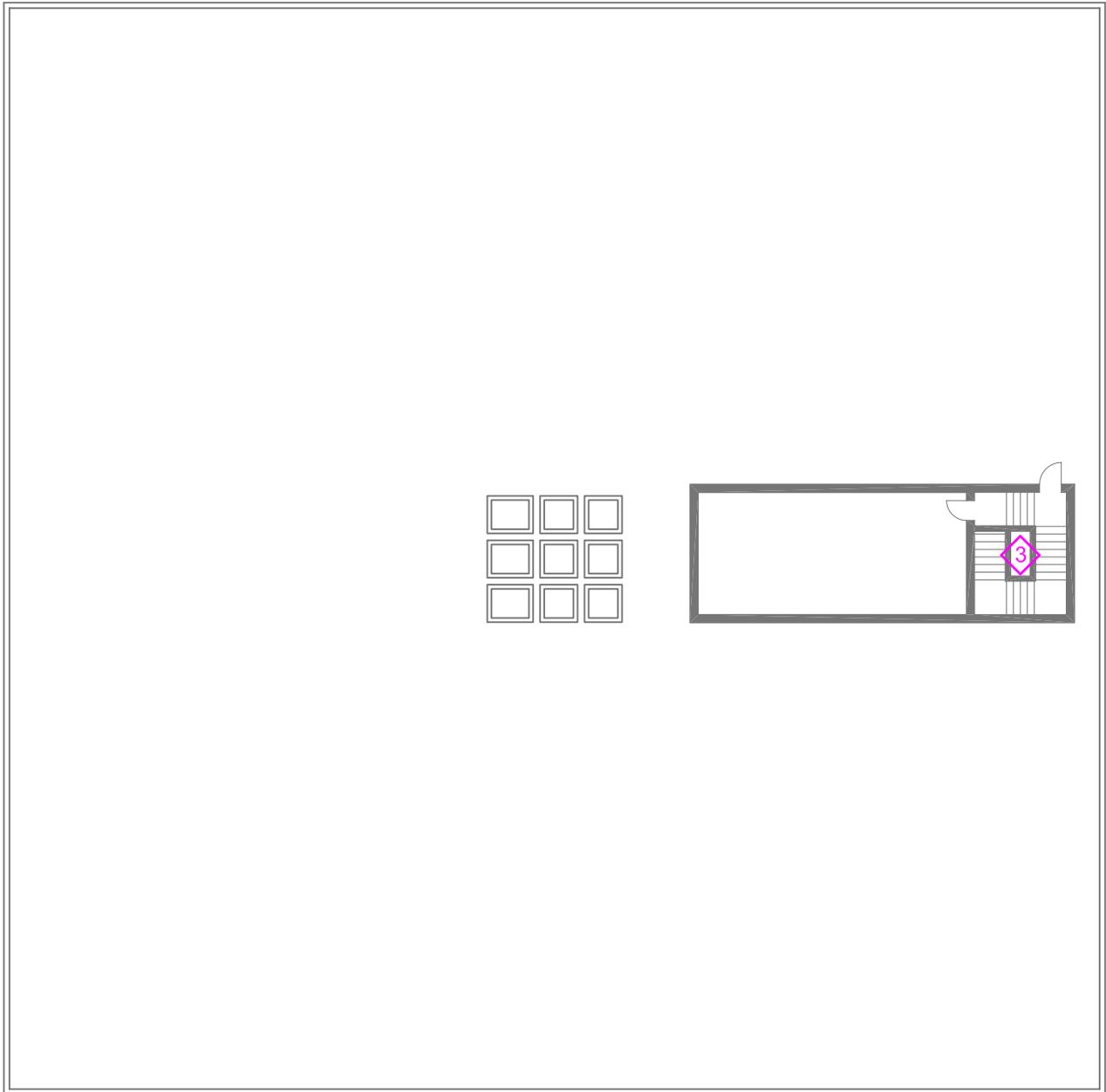
EXPLANATION

- Number of Mercury Vapor Fluorescent Light Tubes in the Area
- Number of Suspected PCB Containing Light Fixture Ballasts in the Area
- CFC Containing Refrigeration Units



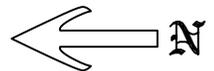
CLIENT INFO. University of Utah College of Nursing Salt Lake City, Utah		PROJECT No.: 08A-1020
		CAD No.: 08A1020F-3
Approximate Scale 		DRAWN BY: S. Rahman
		DATE: 4/16/08
		REVISED BY:
		DATE:

Hazardous Material Survey : Penthouse / Roof



EXPLANATION

 Number of Mercury Vapor Fluorescent Light Tubes in the Area



CLIENT INFO.

University of Utah
College of Nursing
Salt Lake City, Utah

IHI
ENVIRONMENTAL

Approximate Scale
20 ft

PROJECT No.: 08A-1020

CAD No.: 08A1020H-2

DRAWN BY: S. Rahman

DATE: 4/16/08

REVISED BY:

DATE: