HAZMAT (ASBESTOS & LEAD BASED PAINT) SURVEY AND ASSESSMENT

Southern Utah University
General Classroom Building
Cedar City, Utah

Prepared for:
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SURVEY AND ASSESSMENT

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HAZMAT (ASBESTOS & LEAD BASED PAINT)
SURVEY AND ASSESSMENT

Southern Utah University
General Classroom Building
Cedar City, Utah

1.0 EXECUTIVE SUMMARY

A survey of this facility was performed on August 18, 2007, by **ROWLAND CONSULTING, INC.** The building was visually inspected to identify building materials that might contain asbestos. Bulk samples were collected from suspect materials and analyzed to determine if they contained asbestos. All Asbestos Containing Materials (ACMs) were assessed for damage and the potential for exposure. This survey was requested by Mr. Robert J. Anderson, HAZMAT Manager, State of Utah, Division of Facilities Construction and Management.

The following table lists all ACMs that were identified in the building. Information specific to the building concerning inaccessible areas / materials and recommended response actions can be found in this report. There is important information in these sections that is not included in this executive summary. This report should be read in its entirety, including detailed information that is contained in other sections and appendices of this report.

ACMs by Homogeneous Area

Material ID # (1)	Material Description	Location	Asbestos Content (2)	Quantity	Cost Estimate (3)
M006	9" Floor Tile Brown w/Black Mastic	Level 500 (Corridor)	10% C (tile)	274 Sq. Ft	$548.00 @$2.00/Sq. Ft.
M007	Window Caulk	Exterior	5% C	300 Ea. 3x5 Windows 300 Ea. 3x6 Windows	$15,000.00 @$25/window

Footnotes:
1. Homogeneous Area Number (not related to building room numbers).
2. C = Chrysotile Asbestos.
3. Cost Estimates include asbestos removal costs only; abatement design and management fees and replacement costs are not included. For projects with small quantities, ask Contractors for their mobilization fee. Please refer to Section 7.0 for more details.

Asbestos Survey and Assessment

Southern Utah University
General Classroom Building
Cedar City, Utah

2.0 INTRODUCTION

On August 18, 2007, **ROWLAND CONSULTING, INC**. performed an asbestos survey and assessment at Southern Utah University, General Classroom Building in Cedar City, Utah. The purpose of this survey was to identify the existence, extent, and condition of both friable and non-friable asbestos-containing materials (ACM) within and on the facility. Bulk samples were collected from suspect materials, submitted to a laboratory, and analyzed for asbestos content. Each occurrence of ACM was assessed for damage and friability.

The following accredited and certified inspectors performed the inspection, collected the samples and made assessment:

Jeffrey B. Rowland		August 18, 2007
Name	Signature	Date
Utah	**ASB-1377**	
State of Accreditation	State of Utah Division of Air Quality Asbestos Certification Number	

This report has been reviewed
By a Certified Industrial Hygienist (CIH)

Frank D. DeRosso, CIH MSPH	CIH Signature	Date
Senior Scientist		
RMEC Environmental, Inc.		
for ROWLAND CONSULTING, INC.		

3.0 BUILDING DESCRIPTION

Building Identification **Southern Utah University**
General Classroom Building
Cedar City, Utah

Building Name…… General Classroom Building
Building Address……Southern Utah University, Cedar City, Utah

Building Construction

Building Construction Date…… Unknown
Building Type…… Offices, Classrooms
Building Total Sq. Ft……. 58,910
Structural System……...Reinforced Block and Brick
Exterior Wall Construction……Pre-Cast Concrete, Brick
Floor Deck Construction…….……...Concrete
Roof Construction……..Wood w/Sealed Membrane
Floors Above Grade……...…….... 5
Floors Below Grade……... 1

Interior Finishes

Floors……..... Carpet, **asbestos containing** Vinyl Tile
Ceilings…….. Painted Drywall
Walls…….. Painted Drywall
Attic……None Observed
Crawl space……None Observed

Building Mechanical

Heating Plant……..Heat Distribution From Central Heat Plant
Mechanical Piping……. Hot/Cold Water Piping with Non-Asbestos Fiberglass Pipe Lagging

4.0 SURVEY PROCEDURES

4.1 Building Surveys

All accessible areas of the facility 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 have 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.

4.2 Bulk Sample Collection

Bulk samples were collected from all accessible homogeneous areas of suspect ACM for subsequent laboratory analysis to determine actual asbestos content. Sampling was conducted in a manner that minimized damage to the building, did not leave any unsightly marks, and did not create a health hazard for the inspectors.

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 / 5-85-30a, titled "Asbestos in Buildings: Simplified Sampling Scheme for Friable Surfacing Materials."" Between three and seven samples were collected from friable surfacing materials, depending on the size of the homogeneous area.

4.3 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.

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 define ACM as material containing greater than 1% asbestos by weight; materials containing less than 1% asbestos are not considered regulated ACM. ***However, the OSHA ASBESTOS STANDARD considers <u>any</u> percentage of asbestos to be regulated and needs to be handled properly.***

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 less than 1.0% asbestos by point counting analysis. Any samples found to contain asbestos in this concentration range were assumed to contain greater than 1.0% asbestos and are listed in Section 5.8 of this report. All samples that have been point counted are identified as such in the sample result tables.

The laboratories reports can be found in Appendix D of this report.

SURVEY RESULTS

5.1 Asbestos-Containing Materials (ACMs)

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 Counting analysis resulted in less than 1% asbestos being detected. Table 1 of 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 than1% 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.
>
> "Non-friable RACM" is used to denote thermal system insulation that is in good condition but would become friable during renovation or demolition and therefore is "regulated asbestos containing material" (RACM).

5.2 Non-Asbestos-Containing Materials

Homogeneous areas of suspect ACM are identified as ***non***-ACM if the laboratory analysis shows the material to contain no detectable asbestos. Table 2, located in Appendix A of this report, lists all homogeneous areas that were found to be non-ACM.

5.3 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 on this table by their material identification numbers. The sample location listed on this table provides a brief, but specific, description of the location where the sample was collected. This is different

than the homogeneous area location provided on Tables 1 and 2. Table 4 is the same as Table 3 except the entries have been sorted by homogeneous area number.

5.4 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 friable 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 surfacing or miscellaneous material).

The damage categories are defined as follows:

> "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 on the tile).
>
> "Damaged" 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 if 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 the area 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 disturbance.

"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.

5.5 Hazard Ranking

A hazard ranking has been determined for every ACM, in each functional space (room), and is listed in Table 7, Appendix A. The Hazard Rank is derived from the material's current condition and potential for future disturbance. Table 7 also presents material description, quantity, and estimated abatement cost.

The EPA Management Planner hazard assessment process used here produces seven Hazard Ranks. **The rankings of potential hazard range from 1, most hazardous, to 7, least hazardous, and are used to determine abatement priority.** The highest ranking is reserved for ACM that is "significantly damaged." Hazard rankings 2 - 4 reflect ACM that is "damaged" (slight damage is the term used in Table 7), with a ranking of 2 indicating "potential for significant damage," and a ranking of 3 indicating a "potential for damage." Hazard rankings of 5 to 7 are reserved for materials currently in good condition, but with a range of moderate to low in the likelihood for future disturbance.

Note that these seven rankings are different from, and should not be confused with, the seven AHERA categories of damage and potential damage described in Section 5.4, above, and listed in Table 5.

5.6 Homogeneous Areas with Special Considerations

NONE

5.7 Suspect Materials Presumed to be Asbestos-Containing Materials without Laboratory Analysis

NONE

5.8 Inaccessible Areas

NONE

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

NONE

6.0 RESPONSE ACTION COMMENTS
6.1 EPA Requirements

Asbestos is regulated as a hazardous air pollutant by the Environmental Protection Agency (EPA) under the authority of the Clean Air Act. The asbestos regulations are included in the National Emissions Standards for Hazardous Air Pollutants (NESHAP) and referenced as 40 CFR 61, Subpart M. ACMs identified in this report are subject to those regulations. Those regulations, and state and local regulations, should be carefully examined prior to renovation, demolition, cleanup, or any other activity which could disturb the ACMs, to ensure that all activities are in compliance with applicable requirements.

ACM is defined by the EPA, as any material containing greater than one percent of asbestos. ACMs are categorized as being either friable or non-friable. Friable ACMs are those materials that can be easily crumbled, pulverized, or otherwise broken up using hand or finger pressure when dry, and are materials considered more likely to produce airborne asbestos fibers. Non-friable ACMs are materials that do not meet the above test, and are considered less likely to produce airborne asbestos fibers. Not all ACMs are regulated under NESHAP. Regulated ACM (RACM) means (a) Friable asbestos material, (b) Category I non-friable ACM that has become friable, (c) Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or (d) Category II non-friable that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of regulated demolition or renovation operations. Regulated demolition and renovation operations are those where the quantity of ACM affected is 260 linear feet or more on pipes, 160 square feet or more on other components, or 35 cubic feet or more in volume. There are certain notification requirements for demolition projects involving less than the above quantities.

Briefly, EPA requires that RACM be removed from facilities scheduled for demolition or renovation before any activity begins that would break up, dislodge, or similarly disturb the materials or preclude access to the materials for subsequent removal. Category I non-friable ACM that is not in poor condition and is not friable does not have to be removed prior to demolition of a facility. **However, these materials are exempt from mandatory removal only during demolition, not renovation. Removal is mandated when renovation activities are expected to disturb these ACMs and render them friable.** Category II non-friable ACM also does not have to be removed prior to demolition if the probability is low that the material will become crumbled, pulverized, or reduced to powder (made friable) during demolition. However, state regulations may require the removal of these materials. Additionally, Category I non-friable ACM that has not become crumbled, pulverized, or reduced to powder during demolition activities may be disposed of as ordinary construction waste.
In any situation where ACM remains in a building, it should be managed under a comprehensive operations and maintenance program (O&M). The procedures and

guidelines described in an O&M program should be followed whenever building maintenance activities may disturb any ACMs present in the building.

6.2 Renovation Options

Some ACMs may remain in place during building renovations, as long as they are *not disturbed and/or damaged.*

7.0 COST ESTIMATES

A breakdown of the estimated removal costs by homogeneous area can be found in 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 size of the project, 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.

8.0 LIMITATIONS AND EXCLUSIONS 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, 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. **ROWLAND CONSULTING, INC.** ***and RMEC ENVIRONMENTAL, INC'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 **ROWLAND CONSULTING, INC.** ***and RMEC ENVIRONMENTAL, INC.*** professional determinations, which are dependent upon information obtained during performance of consulting services. **ROWLAND CONSULTING, INC.** ***and RMEC ENVIRONMENTAL, INC.*** assumes no responsibility for omissions or errors resulting from inaccurate information provided by sources outside of **ROWLAND CONSULTING, INC.** ***and RMEC ENVIRONMENTAL, INC.***

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.

Table 1
ACMs by Homogeneous Area

Southern Utah University
General Classroom Building
Cedar City, Utah

Homogeneous Area Number	Material Description	Location	Friability	Asbestos Content	Quantity
M006	9” Floor Tile Brown w/Black Mastic	Level 500	No	10 % C (Tile)	274 Sq. Ft
M007	Window Caulk	Exterior	No	5% C	300 Ea. 3x6 Windows, 300 Ea. 3x6 Windows

Table 2
Homogeneous Areas That Do Not Contain Asbestos

Southern Utah University
General Classroom Building
Cedar City, Utah

Homogeneous Area Number	Material Description	Material Location
M001	Black Mastic Under Carpet	Room 209, Clothing Lab
M002	12” Floor Tile Beige w/Pink Streaks	Room 204, Foods Lab
M003	Sink Undercoating	Room 204, Foods Lab
M004	12” Ceiling Tile w/Adhesive Wormhole Pattern	100 E Corridor
T001	TSI Joints/Fittings, Mudded	Room 111, Custodial, pipe chases
M005	2 x 4 Ceiling Tile Wormhole Pattern	100 E Corridor

Table 3
Bulk Sample Analytical Results by Sample Number

Southern Utah University
General Classroom Building
Cedar City, Utah

Sample Number	Homogeneous Area Number	Material Sampled	Sample Location	Analytical Results
01	M001	Black Mastic Under Carpet	Room 209, Clothing Lab	NONE DETECTED
02	M001	Black Mastic Under Carpet	Room 209, Clothing Lab	NONE DETECTED
03	M001	Black Mastic Under Carpet	Room 209, Clothing Lab	NONE DETECTED
04	M001	Black Mastic Under Carpet	Room 209, Clothing Lab	NONE DETECTED
05	M001	Black Mastic Under Carpet	Room 209, Clothing Lab	NONE DETECTED
06	M002	12” Floor Tile, Beige w/Pink Streaks	Room 204, Foods Lab	NONE DETECTED
07	M002	12” Floor Tile, Beige w/Pink Streaks	Room 204, Foods Lab	NONE DETECTED
08	M002	12” Floor Tile, Beige w/Pink Streaks	Room 204, Foods Lab	NONE DETECTED
09	M003	Sink Undercoating	Room 204, Foods Lab	NONE DETECTED
10	M003	Sink Undercoating	Room 204, Foods Lab	NONE DETECTED
11	M004	12” Ceiling Tile w/Adhesive Wormhole Pattern	100 E Corridor	NONE DETECTED
12	M004	12” Ceiling Tile w/Adhesive Wormhole Pattern	100 E Corridor	NONE DETECTED
13	M004	12” Ceiling Tile w/Adhesive Wormhole Pattern	100 E Corridor	NONE DETECTED
14	T001	TSI Joints/Fittings, Mudded	Room 111, Custodial	NONE DETECTED
15	M005	2 x 4 Ceiling Tile Wormhole Pattern	100 E Corridor	NONE DETECTED
16	M005	2 x 4 Ceiling Tile Wormhole Pattern	100 E Corridor	NONE DETECTED
17	M005	2 x 4 Ceiling Tile Wormhole Pattern	100 E Corridor	NONE DETECTED
18	M006	9” Floor Tile Brown w/Black Mastic	Level 500	10% C (Tile)
19	M006	9” Floor Tile Brown w/Black Mastic	Level 500	10% C (Tile)
20	M006	9” Floor Tile Brown w/Black Mastic	Level 500	10% C (Tile)
21	M007	Window Caulk	Exterior	5% C
22	M007	Window Caulk	Exterior	5% C
23	M007	Window Caulk	Exterior	5% C

Table 4
Bulk Sample Analytical Results by Homogeneous Area Number

Southern Utah University
General Classroom Building
Cedar City, Utah

Homogeneous Area Number	Sample Number	Material Sampled	Sample Location	Analytical Results
M001	01	Black Mastic Under Carpet	Room 209, Clothing Lab	NONE DETECTED
M001	02	Black Mastic Under Carpet	Room 209, Clothing Lab	NONE DETECTED
M001	03	Black Mastic Under Carpet	Room 209, Clothing Lab	NONE DETECTED
M001	04	Black Mastic Under Carpet	Room 209, Clothing Lab	NONE DETECTED
M001	05	Black Mastic Under Carpet	Room 209, Clothing Lab	NONE DETECTED
M002	06	12” Floor Tile, Beige w/Pink Streaks	Room 204, Foods Lab	NONE DETECTED
M002	07	12” Floor Tile, Beige w/Pink Streaks	Room 204, Foods Lab	NONE DETECTED
M002	08	12” Floor Tile, Beige w/Pink Streaks	Room 204, Foods Lab	NONE DETECTED
M003	09	Sink Undercoating	Room 204, Foods Lab	NONE DETECTED
M003	10	Sink Undercoating	Room 204, Foods Lab	NONE DETECTED
M004	11	12” Ceiling Tile w/Adhesive Wormhole Pattern	100 E Corridor	NONE DETECTED
M004	12	12” Ceiling Tile w/Adhesive Wormhole Pattern	100 E Corridor	NONE DETECTED
M004	13	12” Ceiling Tile w/Adhesive Wormhole Pattern	100 E Corridor	NONE DETECTED
T001	14	TSI Joints/Fittings, Mudded	Room 111, Custodial	NONE DETECTED
M005	15	2 x 4 Ceiling Tile Wormhole Pattern	100 E Corridor	NONE DETECTED
M005	16	2 x 4 Ceiling Tile Wormhole Pattern	100 E Corridor	NONE DETECTED
M005	17	2 x 4 Ceiling Tile Wormhole Pattern	100 E Corridor	NONE DETECTED
M006	18	9” Floor Tile Brown w/Black Mastic	Level 500	10% C (Tile)
M006	19	9” Floor Tile Brown w/Black Mastic	Level 500	10% C (Tile)
M006	20	9” Floor Tile Brown w/Black Mastic	Level 500	10% C (Tile)
M007	21	Window Caulk	Exterior	5% C
M007	22	Window Caulk	Exterior	5% C
M007	23	Window Caulk	Exterior	5% C

Table 5
Damage and Hazard Assessment by Homogeneous Area

Southern Utah University
General Classroom Building
Cedar City, Utah

Area Number	Material Type	Substrate	Assessment Category	Damage	Accessibility	Disturbance Potential
M006	9” Floor Tile Brown w/Black Mastic	Level 500	X	NA	Continuous	Low
M007	Window Caulk	Exterior	X	NA	Rarely	Low

Note: 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)

Table 6
Estimated Abatement Costs by Homogeneous Area

Southern Utah University
General Classroom Building
Cedar City, Utah

Homogeneous Area Number	Material	Quantity	Unit Cost	Extended Cost
M006	9” Floor Tile Brown w/Black Mastic	274 Sq. Ft.	$2.00/Sq. Ft.	$548.00
M007	Window Caulk	300 3x6 windows 300 3x5 windows	$25/window	$15,000.00

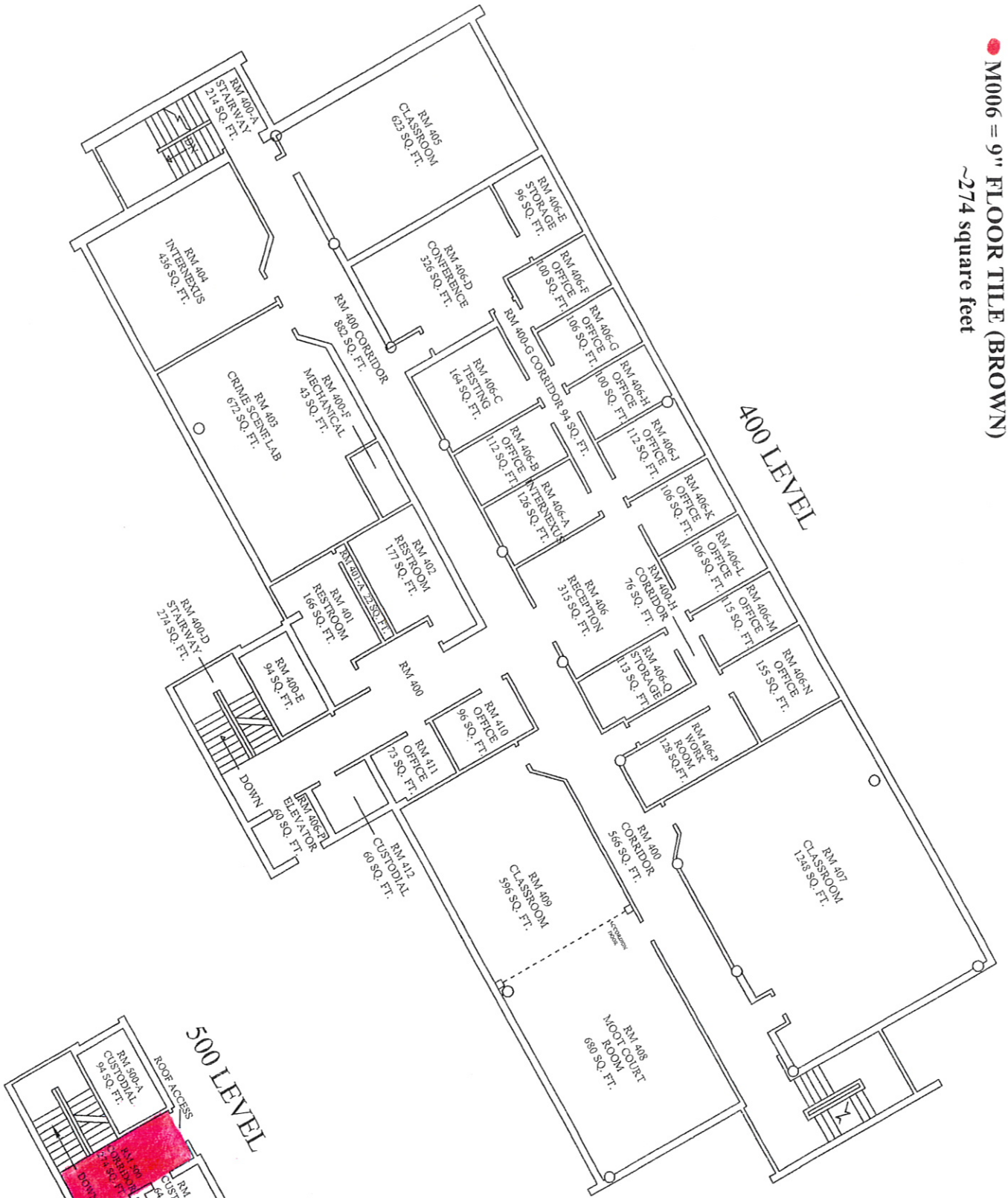
Table 7

Material Description, Abatement Cost, Amount, Location by Functional Space, Hazardous Rank

Southern Utah University
General Classroom Building
Cedar City, Utah

Homogeneous Area Number	Material Description	Quantity	% Asbestos	Cost	Condition	Disturbance Potential	Hazardous Rank
M006	9” Floor Tile Brown w/Black Mastic		10 % C (tile)	$548.00 @$2.00/Sq. Ft.	Damaged	Low	NA
M007	Window Caulk		5% C	$15,000.00 @$25/window	No Damage	Low	NA

ACM
M006 = 9" FLOOR TILE (BROWN)
~274 square feet



SOUTHERN UTAH UNIVERSITY
FACILITIES MANAGEMENT
SPACE PLANNING

GENERAL CLASSROOM BUILDING

STATE BLD NUM: 185
SUU BLD NUM: 2
DATE: 02/2003
SHEET: 4 OF 4
SCALE: 1/20" = 1'

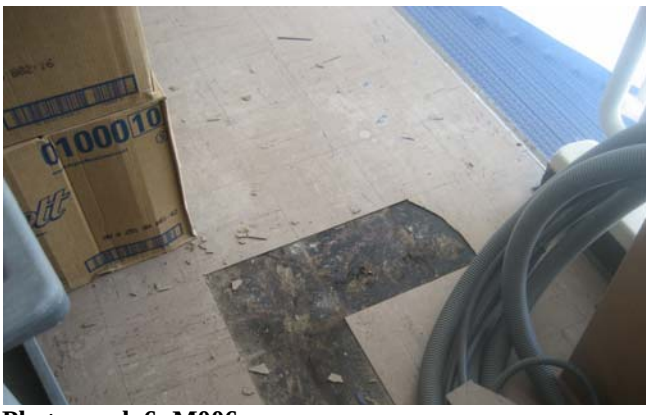
Photograph 1- M007
Window Caulking
Exterior Windows
Contains 5% Asbestos & LBP

Photograph 2-M002
12" Floor Tile, Room 204 Foods Lab
No Asbestos Detected

Photograph 3-M003
Sink Undercoating
Room 204 Foods Lab
No Asbestos Detected

Photograph 4- M004
12" Ceiling Tile w/Adhesive
100 E Corridor
No Asbestos Detected

Photograph 5- T001
TSI Joints/Fittings, Mudded
Room 111 Custodial
No Asbestos Detected



Photograph 6- M006
9" Floor Tile (mastic none detected)
Level 500
Contains 10% Asbestos

DIXON INFORMATION INC.
MICROSCOPY, ASBESTOS ANALYSIS & CONSULTING
A.I.H.A. ACCREDITED LABORATORY # 101579
NVLAP LAB CODE 101012-0

August 21, 2007

Jeff Rowland
Rowland Consulting, Inc.
7301 Paddington Road
West Jordan, UT 84084

Ref: Batch # 75605, Lab # ROW6017 - ROW6036
Received August 20, 2007
Test report
Southern Utah University - General Classrooms
Cedar City, UT.
Sampled by Jeff Rowland, 08/18/07

Dear Mr. Rowland:

Samples ROW6017 through ROW6036 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.

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 ROW6017, Field 01 M001 - Black Mastic (Under Carpet)
This sample contains three types of material: The first type is black tar; the second type is yellow resin mastic; the third type is white paint. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 30% of the sample. The second type is 20% of the sample. The third type is 50% of the sample.

Lab ROW6018, Field 02 M001 - Black Mastic (Under Carpet)
This sample contains three types of material: The first type is black tar; the second type is yellow resin mastic; the third type is white paint. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 15% of the sample. The second type is 25% of the sample. The third type is 60% of the sample.

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Lab ROW6019, Field 03 M001 - Black Mastic (Under Carpet)
This sample contains three types of material: The first type is black tar; the second type is yellow resin; the third type is white paint. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 20% of the sample. The second type is 20% of the sample. The third type is 60% of the sample.

Lab ROW6020, Field 04 M001 - Black Mastic (Under Carpet)
This sample contains two types of material: The first type is 20% plant fiber in black tar; the second type is brown resin mastic. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 20% of the sample. The second type is 80% of the sample.

Lab ROW6021, Field 05 M001 - Black Mastic (Under Carpet)
This sample contains two types of material: The first type is 40% plant fiber in black tar; the second type is brown resin. 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 ROW6022, Field 06 M002 - 12" Floor Tile (Biege with Pink Streaks)
This is a tan and off-white plastic and limestone tile. **Asbestos is none detected.**

Note: No mastic.

Lab ROW6023, Field 07 M002 - 12" Floor Tile (Biege with Pink Streaks)
This sample contains two types of material: The first type is tan and white plastic and limestone tile; the second type is yellow resin mastic. This sample is non-homogeneous. **Asbestos is none detected.**

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

Lab ROW6024, Field 08 M002 - 12" Floor Tile (Biege with Pink Streaks)
This is a tan and 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 ROW6025, Field 09 M003 - Sink Undercoating (Gray)
This is 6% plant fiber in gray binder with limestone and mica. **Asbestos is none detected.**

Lab ROW6026, Field 10 M003 - Sink Undercoating (Gray)
This is 6% plant fiber in white binder with limestone and mica. **Asbestos is none detected.**

Lab ROW6027, Field 11 M004 - 12" Ceiling Tile (Wormhole Pattern) with Mastic
This sample contains two types of material: The first type is brown compressed wood fiber in binder with a white coating on one side; the second type is brown plant fiber paper. This sample is non-homogeneous. **Asbestos is none detected.**

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

Lab ROW6028, Field 12 M004 - 12" Ceiling Tile (Wormhole Pattern) with Mastic
This sample contains two types of material: The first type is brown compressed wood fiber; the second type is brown resin mastic. This sample is non-homogeneous. **Asbestos is none detected.**

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

Lab ROW6029, Field 13 M004 - 12" Ceiling Tile (Wormhole Pattern) with Mastic
This sample contains two types of material: The first type is brown compressed wood fiber in binder with a white coating on one side; the second type is brown resin mastic. This sample is non-homogeneous. **Asbestos is none detected.**

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

Lab ROW6030, Field 14 T001 - TSI Joints/Fittings (Mudded)
This sample contains two types of material: The first type is white cotton cloth with white paint; the second type is 20% mineral wool in off-white plaster. 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 ROW6031, Field 15 M005 - 2x4 Ceiling Tile (Wormhole Pattern)
This is a light gray sample with perlite, 25% plant fiber, and 30% 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 ROW6032, Field 16 M005 - 2x4 Ceiling Tile (Wormhole Pattern)
This is a light gray sample with perlite, 25% plant fiber, and 30% 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 ROW6033, Field 17 M005 - 2x4 Ceiling Tile (Wormhole Pattern)
This is a light gray sample with perlite, 25% plant fiber, and 30% 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 ROW6034, Field 18 M006 - 9" Floor Tile (Brown) with Black Mastic
This is **10% chrysotile asbestos** in a brown plastic and limestone tile.

Note: Asbestos is none detected in the black tar mastic.

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

Lab ROW6035, Field 19 M006 - 9" Floor Tile (Brown) with Black Mastic
According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW6036, Field 20 M006 - 9" Floor Tile (Brown) with Black Mastic
According to your instructions this sample was not analyzed. There is no charge for this 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: 8/21/07

DIXON INFORMATION INC.
MICROSCOPY, ASBESTOS ANALYSIS & CONSULTING
A.I.H.A. ACCREDITED LABORATORY # 101579
NVLAP LAB CODE 101012-0

August 31, 2007

Jeff Rowland
Rowland Consulting, Inc.
7301 Paddington Road
West Jordan, UT 84084

Ref: Batch # 75760, Lab # ROW6142 - ROW6144
Received August 31, 2007
Test report
Southern Utah University (SUU)
General Classroom Bldg., Cedar City, UT
Sampled by Jeff Rowland, 8/25/07

Dear Mr. Rowland:

Samples ROW6142 through ROW6144 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.

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 ROW6142, Field 21 Window Caulking (Exterior)
This is **5% chrysotile asbestos** in gray limestone caulking.

Lab ROW6143, Field 22 Window Caulking (Exterior)
This is **5% chrysotile asbestos** in gray limestone caulking.

Lab ROW6144, Field 23 Window Caulking (Exterior)
This is **5% chrysotile asbestos** in gray limestone caulking.

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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: 08/31/07

RUSH

75605

ROWLAND CONSULTING, INC.

ASBESTOS – LEAD PAINT

BULK ANALYTICAL REQUEST AND CHAIN OF CUSTODY

TAT: ***RUSH***

PAGE: 1 *of* 1

Sample Location: SOUTHERN UTAH UNIVERSITY - GENERAL CLASSROOMS
CEDAR CITY, UT

Sampled by: Jeff Rowland

Date: 8/20/07

Report and Invoice to be sent to:

ROWLAND CONSULTING, INC.

STOP/GO GROUPED SAMPLES

SAMPLE ID#	SAMPLE DESCRIPTION/LOCATION	DATE	LAB #
01 M001	– BLACK MASTIC (UNDER CARPET)	8/18/07	60017
02			60018
03			60019
04			60020
05			60021
06 M002	– 12" FLOOR TILE (BEIGE W/PINK SWIRLS)		60022
07			60023
08			60024
09 M003	– SIDE UNDERCOATING (GRAY)		60025
10			60026
11 M004	– 12" CEILING TILE (WORMHOLE PATTERN) W/MASTIC		60027
12			60028
13			60029
14 T001	– TSI - JOINTS/FITTINGS (MUDDED)		60030
15 M005	– 2X4 CEILING TILE (WORMHOLE PATTERN)		60031
16			60032
17			60033
18 M006	– 9" FLOOR TILE (BROWN) W/BLACK MASTIC		60034
19			60035
20			60036

STOP/GO GROUPED SAMPLES

CHAIN OF CUSTODY

Submitted by:	Jeff Rowland	**Date/Time:**	8/20/07 @ 1345
Rcvd by lab:		**Date/Time:**	8.20.07 1548
Rcvd by Analyst:		**Date/Time:**	8.20.07 1600
Returned by lab:		**Date/Time:**	

RUSH

Dixon Information Inc.
78 West 2400 South
South Salt Lake, Utah 84115
Phone: 1-801-486-0800 Fax: 1-801-486-0849

BULK ANALYTICAL REQUEST FORM

Turnaround Time - Circle One

Batch Number #175760

Rush (24 hours $25.00 per sample)

Non-rush (5 Working days $17.00 per sample)

Name of location sample was taken at SOUTHERN UTAH UNIVERSITY (SUU)
Street address sample was taken at GENERAL CLASSROOM BLDG., CEDAR CITY, UT
Sampled by: JEFF ROWLAND

Report to be sent to: ROWLAND
Company:
Address:
City: State:
Zip Code:
Telephone #:
Fax #:
E-mail:

Billing to be sent to: ROWLAND
Company:
Address:
City: State:
Zip Code:
Telephone #:
Fax #:
PO #:

Field #	Description of Sample	Samples Collected Date	Time	Lab #
21	WINDOW CAULKING (EXTERIOR)	8/25/07		6142
22	"			6143
23	"			6144

Chain of Custody

Submission of asbestos samples for analysis and/or signing a chain of custody is the equivalent of submission of a purchase order and constitutes an agreement to pay for services provided at Dixon Information Incorporated standard schedule of fees for services.

Submitted by: JEFF ROWLAND Date: 8/30/07 Time: 1105
Received by Lab: Date: 8/31/07 Time: 11:05
Received by Analyst: Bruce Thorne Date: 8-31-07 Time: 1300
Returned by Lab: Date: Time:

LEAD-BASED PAINT INSPECTION

Southern Utah University
General Classroom Building
Cedar City, Utah

August 25, 2007

Prepared for:
Mr. Robert Anderson
HAZMAT Manager
Division of Facilities Construction & Management
4110 State Office Building
Salt Lake City, Utah 84114

Prepared by:
ROWLAND CONSULTING, INC.

7301 South Paddington Road
West Jordan, Utah 84084
OFFICE 801.255.2800 FAX 801.569.2501

LEAD-BASED PAINT INSPECTION

Southern Utah University
General Classroom Building
Cedar City, Utah

Introduction

On August 25, 2007, **ROWLAND CONSULTING, INC.** performed a Lead-Based Paint (LBP) survey of the Southern Utah University General Classroom Building, Cedar City, Utah. The purpose of the survey was to identify the existence, extent and condition of LBP on interior/exterior surfaces of the building. Measurements for lead in paint were made using a *Radiation Monitoring Devices, Inc*. (RMD) *LPA-1 X-ray Fluorescence (XRF) Spectrum Analyzer***.** Chip sampling and laboratory analysis was not performed unless it was required in accordance with the spectrum analyzers current performance characteristics sheet. However, **ROWLAND CONSULTING, INC.** recommends confirmatory chip sampling of XRF measurements between 0.0-0.3 prior to planned renovation activities.

The survey was conducted by Jeff Rowland with **ROWLAND CONSULTING, INC.,** in West Jordan, Utah**.** Jeff Rowland has completed Lead Inspector Training through the University of Utah Rocky Mountain Center For Occupational And Environmental Health Lead Training Facility, an EPA-sponsored Regional Lead Training Center, and is certified by the State of Utah, Division of Air Quality, as a Lead Inspector.

The U.S. Department of housing and Urban Development (HUD) *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in housing* (HUD Guidelines), Chapter7: Lead-Based Paint Inspection, 1997 Revision, were generally followed for this survey, with modifications appropriate for a non-residential building.

Lead-Based Paint Definitions

HUD defines “lead-based paint” as any coating that has a lead concentration of 1.0 milligram of lead per square centimeter (1.0 mg/cm^2) 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 ppm (0.06% by weight). In 1978, the CPSC banned the sale of lead-based paint to consumers, and banned its application in areas where consumers have direct access to painted surfaces. 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. By contrast, the mission of the Occupational Safety and Health Administration (OSHA) with respect to lead-containing paint, is to protect workers during construction activities that may generate elevated airborne lead concentrations. OSHA states that construction work (including renovation, maintenance, and demolition) carried-out on structures coated with paint have lead concentrations lower than the HUD or CPSC can still result in airborne lead concentrations in excess of regulatory limits. For this reason, OSHA has not defined lead-containing paint, but states that paint having any measurable level of lead may pose a substantial exposure hazard during construction work, depending upon the work performed.

Paint Sampling Methodologies

Direct measurements of lead in paint were made using a Radiation Monitoring Devices, Inc. (RMD) ***LPA-1 X-ray Fluorescence (XRF) Spectrum Analyzer*** (serial number ***2311***). The LPA-1 Lead Paint Analyzer non-destructively measures lead concentrations of painted surfaces, regardless of the number of layers present. These instruments were developed specifically for addressing lead-based paint issues in housing and their use in identifying potential exposure hazards for renovation or construction work must be augmented by selective collection and analysis of physical paint chip samples.

The newer XRF instruments are capable of identifying lead in paint at concentrations of about 0.3 milligram per square centimeter (mg/cm^2) or greater. When lead concentrations are lower than this, the instruments are not capable of making accurate, reliable measurements, and the reported lead concentration may underestimate or overestimate the actual lead concentration in the paint. Therefore, an XRF readings of 0.4 mg/cm^2 or greater may be considered lead-containing from an OSHA perspective, and any readings of 0.3 mg/cm^2 or less should be confirmed by the collection and laboratory analysis of paint chip samples, or assumed to be positive for lead.

Where paint chip samples are necessary, samples are collected according to the protocol specified in the HUD Guidelines. The samples are then submitted to a laboratory recognized under the EPA's National Lead Laboratory Accreditation Program (NLLAP) for analysis by flame atomic absorption spectrophotometry according to American Society of Testing and Materials (ASTM) method ASTM-E 1645.

XRF Calibration

Before beginning the testing and after the testing was completed, the internal calibration of the LPA-1 was checked by taking three consecutive measurements on a National Institute for Standards and Technology (NIST) standard with a known concentration of lead. Three more readings were taken on a lead-free wood block. These calibration checks are reported within the XRF data tables found in Appendix A of this report and are maintained in a file at **ROWLAND CONSULTING, INC.** to detect changes in instrument performance over time.

Lead Paint Inspection Data Tables

The XRF instrument generates a unique set of data tables for each inspection. The Sequential Report lists the measurements made throughout the property in sequential order, from the first measurement to the last.

Results and Conclusions

DETECTABLE MEASURMENTS OF LEAD WERE IDENTIFIED ON THE FOLLOWING COMPONENTS:

Interior

- *North Mural*

Exterior

- *North and NE Window Panels (300 Ea. 3x5 Window Panels, 300 Ea. 3x6 Window Panels)*

TOXICITY CHARACHERISTIC LEACHING PROCEDURE (TCLP) TESTING MAY BE NECESSARY PRIOR TO DISPOSAL OF COMPONENTS COATED WITH LBP DURING RENOVATION/DEMOLITION OF THIS FACILITY.

Table 1
XRF Sampling Results

Sample No.	Area of Building	Color / Condition	*Sample Location / Substrate*	XRF Results Mg/cm²
01				CALIBRATION 0.7
02				CALIBRATION 0.6
03				CALIBRATION 0.6
04				CALIBRATION 0.6
05				CALIBRATION -0.2
06				CALIBRATION -0.5
07	Level 200 Entry	East Wall/Brick	Beige/Good	NEGATIVE -0.2
08	Level 200 Entry	East Wall/Wall Board	Beige/Good	NEGATIVE -0.3
09	**Level 200 Entry**	**North Mural/Ceramic**	**Blue/Good**	**POSITIVE >9.9**
10	**Level 200 Entry**	**North Mural/Ceramic**	**Brown/Good**	**POSITIVE >9.9**
11	**Level 200 Entry**	**North Mural/Ceramic**	**Red/Good**	**POSITIVE 3.2**
12	Room 204 Foods Lab	East Wall/Brick	White/Good	NEGATIVE -0.0
13	Room 204 Foods Lab	South Wall/Plaster	White/Good	NEGATIVE -0.2
14	Room 204 Foods Lab	West Wall/ Wall Board	White/Good	NEGATIVE -0.2
15	200 Corridor	West Wall/ Vinyl & Wall Board	Beige/Good	NEGATIVE -0.4
16	Level 300 Men's Room	South Wall/ Ceramic Tile	White/Good	NEGATIVE -0.3
17	Level 300 Men's Room	South Wall/ Ceramic Tile	Green/Good	NEGATIVE -0.4
18	Level 300 Men's Room	Floor/Ceramic Tile	Gray/Good	NEGATIVE -0.5
19	Level 300 N/S Corridor	Upper West Wall/ Wall Board	White/Good	NEGATIVE -0.3
20	Level 300 N/S Corridor	Lower West Wall/ Wall Board	Tan/Good	NEGATIVE -0.2
21	Room 107 Lecture Classroom	South Wall/ Wall Board	White/Good	NEGATIVE -0.1
22	Level 100 East Stairway	East Wall/Brick	Clear/Good	NEGATIVE -0.1

Table 1
XRF Sampling Results
(Continued)

23	Level 100 East Stairway	West Wall/Plaster	White/Good	NEGATIVE -0.1
24	Level 300 E/W Corridor	Upper North Wall/ Wall Board	White/Good	NEGATIVE -0.2
25	Level 300 E/W Corridor	Lower North Wall/ Wall Board	Tan/Good	NEGATIVE -0.3
26	Room 011-103 Mechanical Room	Floor/Concrete	Gray/Poor	NEGATIVE -0.1
27	Room 011-103 Mechanical Room	Stairs/Metal	Blue//Good	NEGATIVE -0.3
28	Room 011-103 Mechanical Room	Intake Fan/Metal	Green/Good	NEGATIVE -0.0
29	Room 011-103 Mechanical Room	Door/Metal	Yellow/Good	NEGATIVE -0.1
30	Room 011-103 Mechanical Room	Hand Rail/Metal	Red/Good	NEGATIVE -0.2
31	**Exterior Level 100**	**North Window Panel/ Metal**	**Tan/Good**	**POSITIVE 1.0**
32	**Exterior Level 100**	**NE Window Panel/ Metal**	**Tan/Good**	**POSITIVE 1.0**

The XRF instrument indicated that lead is ***present*** in/on painted interior/exterior surfaces.

The OSHA Lead in Construction Standard (29 CFR 1926.62) shall apply to any construction work (including renovation and demolition) that may disturb those surfaces. The standard requires, among other things, the following:

- Initial training on the hazards of lead exposure, proper work practices, respiratory protection, and other topics;
- An initial exposure assessment, by air monitoring, to determine the lead exposure assessment, until sample analysis indicates exposures below the Permissible Exposure Limit;
- Hand washing facilities, designated clean change areas, and designated eating areas.

In addition to the above considerations, the presence of lead in demolition debris has the potential to impose limitations on where and how the debris may be disposed. The Resource Conservation and Recovery Act (RCRA), Subtitles C and D, require that the waste must be analyzed to determine the amount of leachable lead present. The type of test to be performed on the waste is the Toxicity Characteristic Leaching Procedure (TCLP) for lead, and the results of this test will determine whether the material must be handled and disposed of as hazardous waste. For structures containing large amounts of lead-containing paint, significant potential for failing the TCLP exists.

OTHER HAZARDOUS MATERIALS

Southern Utah University
General Classroom Building
Cedar City, Utah

Hazardous materials requiring proper removal and disposal identified at Southern Utah University General Classroom Building are as follows:

Material	Location	Quantity	Unit Cost
Fluorescent Light Tubes	Throughout	Approx. 1,550	$9,000.00 @$6.00/Tube

NOTE: no PCB containing light ballasts were observed during the survey.

DFCM policy requires the items above to be removed and disposed of at a facility approved to accept such waste prior to demolition. The cost estimated to transport and dispose of these hazardous materials is approximately **$9,000.00** This cost estimate is based on industry standard unit prices. The unit prices include transportation and disposal only. This estimate does not include removal, design, or management fees associated with dismantling and packaging the materials.