



COPY

May 18, 2001

University of New Mexico  
Safety, Health & Environmental Affairs  
Attn.: Ms. Donii Fox  
1801 Tucker Street NE - Building 233  
Albuquerque, New Mexico 87131-3510

**RE:** Hazardous Materials Building Inspection, Laboratory Analysis, and Summary Final Report for the **Elks Lodge Building**, 1642 University Blvd. NE, University of New Mexico, Albuquerque, New Mexico

Dear Ms. Fox:

The following is the final report of findings of the hazardous materials inspection performed at the subject site in April, 2001. This project was initiated by an inspection request from your office concerning the renovation of the subject building. In order to complete this work order the building materials and / or fixtures in this building would be disturbed. These materials have been presumed to contain hazardous or otherwise regulated materials and may require possible sampling and analysis as per OSHA and EPA regulations.

This inspection was commissioned preceding a possible renovation of the subject building. The asbestos and lead base paint inspection portions of this project were performed, when applicable, in accordance to the Environmental Protection Agency (EPA), Asbestos Hazard Emergency Response Act (AHERA), and the Occupational Safety and Health Administration (OSHA) regulations for the total number of bulk samples to be taken or types of materials to sample.

This inspection addresses a variety of concerns regarding the presence of potential hazardous or regulated materials. The issues inspected as part of this final report include: asbestos containing materials, lead based paints, mercury containing florescent lamps, PCB containing lighting ballast's, mercury containing devises including thermostat switches, Ozone Depleting Substance (ODS) containing refrigeration equipment, RCRA hazardous wastes, and radiological concerns.

Thank you for the opportunity to serve you on this project. I look forward to providing my professional environmental inspection / consulting services to the University of New Mexico again on future projects. If you have any additional questions concerning this project or are in need of any further assistance, don't hesitate to call my office at (505) 892-7211 or contact me directly by digital pager at (505) 229-1935.

Sincerely,  
**Rhodes Environmental Inspection Services, Inc.**

Ronald K. Rhoades, CRS, CEI, CTS  
Certified Environmental Specialist / President

e-mail: REIS@twrol.com



## EXECUTIVE SUMMARY con't

<u>Inspection Issue</u>	<u>Results</u>	<u>Recommendation</u>
Lighting Ballast's	Assumed PCB Containing	Reuse elsewhere or properly dispose of, SHEA can assist upon request
Ozone Depleting Substances	Water Fountain Equipment Present Refrigerated HVAC Equipment Present	Reuse elsewhere or recover ODS via EPA Certified Tech.
Mercury Containing Devices	Thermostat Switches	Properly dispose of, SHEA can assist upon request
RCRA Hazardous Wastes	- Chemicals Stored On-site - Floor Drains Present	- Properly dispose of, SHEA can assist upon request - No Action Needed
Radiological Concerns	No Issues Noted	No Action Needed

## Asbestos Containing Materials

Asbestos refers to six (6) naturally occurring fibrous minerals, which were used to enhance the strength of various building materials because of its physical characteristics. When asbestos is mined or blended into a building material, the asbestos is typically separated into very thin fibers. When those building materials become damaged, the potential exists for the asbestos fibers to be released and become airborne. When inhaled, asbestos fibers can result in various serious health problems.

The EPA defines a presumed asbestos containing material (PACM) as one which contains greater than 1% (>1%) asbestos or any combinations of asbestos types. An independent accredited laboratory using Polarized Light Microscopy (PLM) analytical methods performed all laboratory analysis. The EPA, into two (2) separate classification categories; friable and non-friable classifies ACM. A friable ACM is one which when dry can be easily crumbled or pulverized into a powder with hand pressure. ACMs in this form are more likely to become damaged through everyday activities and possibly become an adverse health risk to the building occupants.

Non-friable asbestos containing building materials (ACBM) are categorized into two (2) groups: Category I non-friable ACBM (which includes packings, gaskets, floor coverings, and roofing materials) and Category II non-friable ACBM (which includes any building materials not considered Category I). A regulated asbestos containing material (RACM) is defined as (a) friable asbestos materials, (b) Category I non-friable ACBM that has become friable, (c) Category I non-friable ACBM that will be or has been subjected to sanding, grinding, cutting, or abrading, or (d) Category II non-friable ACBM that has the high probability of becoming or has become crumbled, pulverized, or reduced to a powder by forces in the course of demolition or renovation operations.

Current regulations under the Clean Air Act require proper material removal techniques and handling, and notification requirements for ACBM that will be disturbed during a building renovation and demolition. These regulations are referred to as the National Emission Standards for Hazardous Air Pollutants (NESHAP) and are found in 40 CFR Part 61, Subpart M. NESHAP requires that a thorough asbestos survey be conducted prior to demolition or renovation of the building.

Mr. Ronald K. Rhoades, CES, CEI of Rhoades Environmental Inspection Services, Inc. conducted the limited asbestos inspection, an EPA accredited asbestos inspector on April 27, 2001. The purpose of this limited survey was to sample readily accessible ACBMs that may have been used in the construction or subsequent renovation of the building. Samples were collected from locations, which were already damaged or from areas where the sampling would not be easily evident. However, the sample collection may have involved the possible damage of some materials. Rhoades Environmental Inspection Services, Inc. is not responsible for damage to, or replacement of, any sampled building materials including the roof.

All presumed asbestos containing materials were placed into a specific homogenous area based on its date of construction and visual appearance. Within this homogenous area several homogenous materials were identified and sampled as per OSHA regulations. Each sample was placed into a sealable plastic bag and given a unique sample number. See the attached sampling forms and laboratory reports concerning the building materials included in this inspection. A summary report is also attached that outlines the building materials reported as asbestos containing.

In 1990 the EPA National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations amended the Asbestos Hazard Emergency Response Act (AHERA) regulations to include an additional form of asbestos bulk sampling analysis known as point counting. The AHERA regulations only govern schools (K-12th grade), but the use of point counting has become an industry standard throughout the private sector. Due to the tightly woven matrix found in non-friable materials an accurate analysis can sometimes be more difficult with PLM methods. The new rule allows for building owners to re-analyze those non-friable bulk samples, which were reported less than 10% asbestos under PLM analysis for more accurate fiber identification. When point counting methods are used, the results reported would take precedent over the PLM method results previously reported.

Polarized Light Microscopy (PLM) Analysis involves the use of polarized filters in a magnetic field to differentiate distinctive characteristics of various particles and fibers. Two (2) types of PLM are used in the general industry to quantify asbestos percentages. They include Visual Area Estimation and Point Count Estimation Methods.

The following is a summary of these two (2) forms of analysis and their advantages and limitations:

Visual Area Estimation Methods, used in PLM, involves an estimated percentage of asbestos fibers compared to the estimated percentages of all other matrix components viewed in a magnetic field. The estimated quantities are then compared to a similar calibrated material having a known percentage of asbestos and other matrix materials. The result is an assigned percentage of asbestos content based on the analyst's visual estimation compared to a similar calibrated material of known asbestos content. The analyst typically views 100 fields on a total of three (3) prepared slides of one (1) sampled material. This type of analysis is most commonly used when analyzing suspected ACM.

Point Count Estimation Methods involve a derived percentage of asbestos content based on direct counts of asbestos fibers and other matrix components viewed within a specified homogenous area in a magnetic field. Strict requirements are used when identifying asbestos fibers and accuracy increases with the number of points/counts performed. This type of analysis provides a percentage of asbestos content based on the exact count of asbestos fibers within a specified homogenous area rather than an estimation of the whole. The analyst counts at least 400 points (where the cross hairs meet) on a total of eight prepared slides. This type of analysis is utilized when greater precision is required, especially when analyzing materials with an expected asbestos content of less than 10%.

Of the ACM observed at the subject site all appeared to be in good condition and classified as non-friable, with exception to the friable TSI insulation and acoustical ceiling materials which had some damage noted. Materials reported to be asbestos containing on the roof were the non-friable HVAC duct mastic, roofing tar, and roofing felts. The only direct access to the roof is from the outside only and is at a height of approximately 15-20 feet. The asbestos materials identified at the subject building, with exception to the damaged TSI insulation and acoustical ceiling materials, can probably remain in place as long as they remain undisturbed. Leaving these materials in place would only be permitted provided they would not be disturbed during the renovation or any maintenance activities.

Concerning the asbestos bulk sampling and analysis portion of this report, Polarized Light Microscopy (PLM) is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative transmission electron microscopy (TEM) is currently the only reliable method that can be used to determine if this material can be considered or treated as non-asbestos containing. Although PLM analysis is an approved EPA method to determine if asbestos is present in a building material, TEM analysis is a more accurate laboratory method.

### **Lead Based Paints**

EPAs Title X (10), the Residential Lead-Based Paint Hazard Reduction Act of 1992, amends the Toxic Substances Control Act (TSCA) and defines "lead-based paint" as paint that has a lead mass concentration greater than or equal to 0.5% lead by weight (5,000 parts per million (ppm)) or an area concentration greater than or equal to 1.0 milligrams of lead per square centimeter (1.0 mg/cm<sup>2</sup>). The intent of this inspection is to identify accessible paints that contain lead in concentrations greater than or equal to 1.0 mg/cm<sup>2</sup> of surface area on the subject buildings different paint types.

Samples were taken of various painted surfaces throughout the subject building which were suspected to have had lead based paint applied to them. Windowsills, baseboards, exterior doors, steel framing, and interior walls were some of the areas inspected. All samples were labeled with a unique sample number, placed in sealable bags, sent to an independent accredited laboratory, using Flame Atomic Absorption (Flame AA) methods, and tested for total lead content.

This type of inspection does not comply with the current requirements as set forth by the Department of Housing and Urban Development (HUD) regulations. A more comprehensive inspection would need to be performed in order to meet these requirements. Based on the use and type of the subject building, it does not appear to fall under the compliance of the HUD regulations.

See the attached sampling forms and laboratory reports concerning the specific paint types included in this report. All of the exterior parking lot paints tested, as part of this report, were reported above the regulatory limits for a lead-based paint and would require special handling during the renovation of the subject building should they be disturbed.

### Fluorescent Lamps

SHEA recommends that all florescent lamps that are not reused need to be physically removed, packaged in appropriate cardboard boxes and recycled. If more info is desired please contact Larry Watson. At 277-5488

### Lighting Ballasts

The light fixtures could also contain ballasts that are PCB containing. Only those ballast's that are clearly marked, as non-PCB containing may be allowed to remain in place and be disposed of as construction debris. All other non-labeled ballasts would have to be properly removed, packaged, and disposed of as per the applicable regulations.

A limited inspection of the light fixtures revealed that the lighting ballasts were not marked with PCB-free labeling. These light ballast's are assumed to be PCB containing and would require proper disposal as per the applicable regulations for this type of material. For more information contact Mr. Larry Watson at 277-5488.

### Mercury Containing Equipment

Mercury containing devices may be present at the subject building (i.e. thermostat switches). These devices were present in the proposed renovation areas and noted to be non-mercury containing.

No special precautions are required when disturbing this equipment. Should any device be discovered in the demolition area that contains any mercury materials these device(s) should be removed and properly packaged for recycling. For more information contact Mr. Larry Watson at 277-5488.

### Ozone Depletion Substances (ODS)

When removal or demolition of refrigeration-related equipment is involved in a renovation project, the EPA regulations related to the management Ozone Depleting Substances (ODS) will apply. Air conditioners, refrigerated cooling systems or water fountains are examples of equipment that contain regulated ODS refrigerants. EPA certified technicians must remove all refrigerants from equipment before demolition or disposal.

The renovation area does contain several water fountains throughout the subject building. This equipment likely contain ODS and should be rendered ODS free before they are disturbed during the renovation / demolition process.



## Hazardous Materials and Wastes

Various hazardous regulated chemicals were noted throughout the subject building. These materials should be characterized, properly package, and dispose / recycle before the renovation of the subject building.

For more information contact Mr. Larry Watson at 277-5488.

## Radiological Concerns

No issues were discovered and no further action is required at this time.

## Limitations

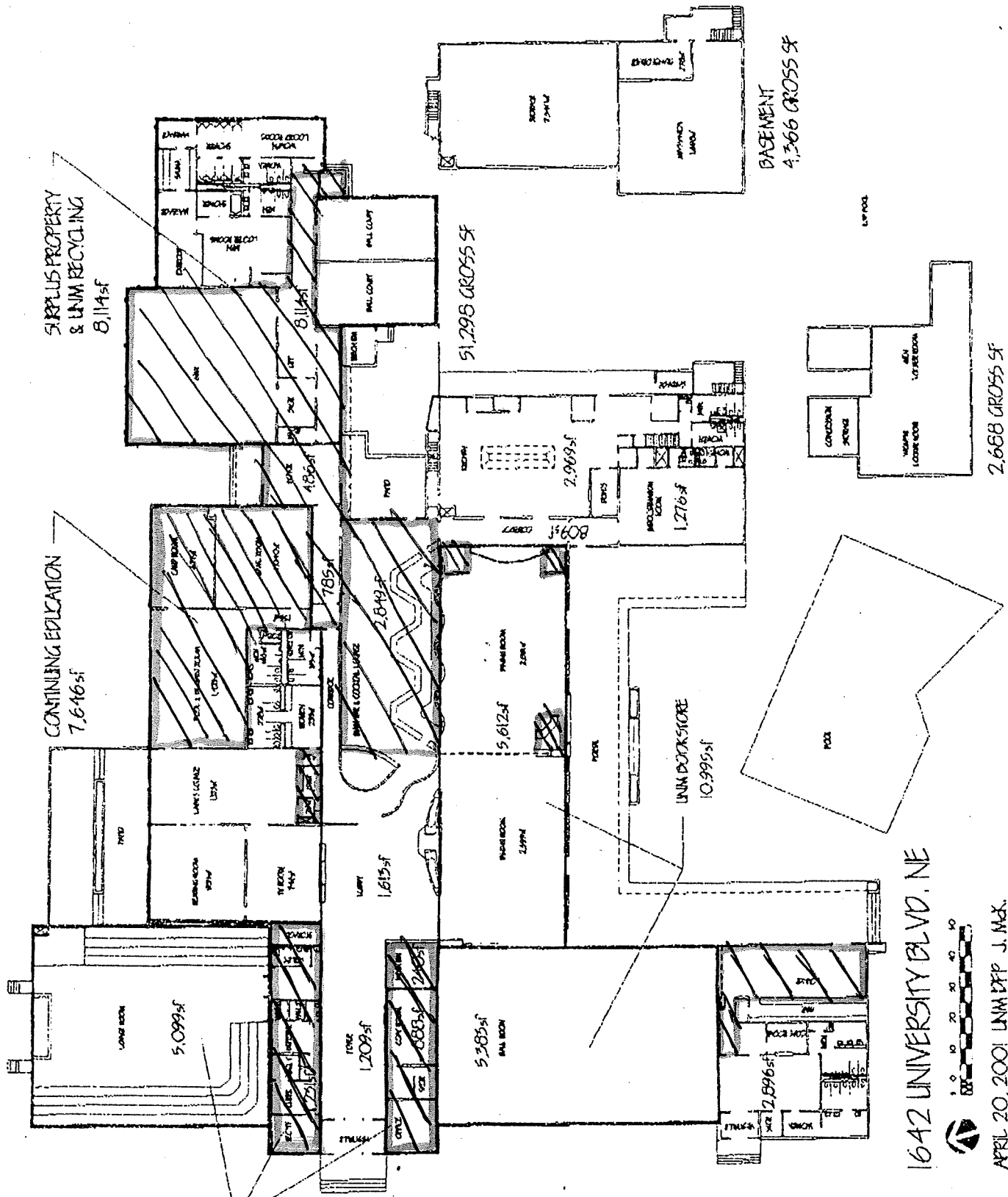
These professional services have been performed by Rhoades Environmental Inspection Services, Inc. using that degree of care and skill ordinarily exercised under similar circumstances by reputable environmental consultants practicing in this or similar locations. No other warranty, expressed or implied, is made. The professional services performed do not guarantee compliance with federal, state, or local laws. This report is not a bidding document, and any contractor or consultant reviewing this report must draw his own conclusions regarding further investigation or remediation deemed necessary for the project.

The scope of this limited asbestos inspection is limited to observations made during the on-site inspection, independent laboratory analytical results, and reviews of readily available published and unpublished reports and literature. As a result, these conclusions are based on information supplied by others, and interpretations by qualified personnel. Any conclusions and / or recommendations made in this report are subject to modification if Rhoades Environmental Inspection Services obtain subsequent information.

There is no assessment thorough enough to completely exclude the presence of hazardous materials at any site. Therefore, if none are identified as part of a limited scope of work, such a conclusion should not be construed as a guarantee absence of such materials. It is merely the result of the assessment. Project services have been completed in agreement with our contracted understanding with the University of New Mexico. This document and the information contained herein have been prepared for the use of the University of New Mexico and their assigned parties.

A qualified environmental assessor under a limited scope of work completed this limited asbestos inspection in accordance with the work agreement. This report provides opinions of Rhoades Environmental Inspection Services, Inc. concerning recognized environmental conditions at the subject property. It is possible, despite the use of reasonable care and interpretation that Rhoades Environmental Inspection Services, Inc. may have failed to identify regulatory violations or the presence of hazardous material, which were in obscured or subsurface areas.

Concerning the asbestos bulk sampling and analysis portion of this report, Polarized Light Microscopy (PLM) is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing. Although PLM analysis is an approved EPA method to determine if asbestos is present in a building material, TEM analysis is a more accurate laboratory method.



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