REVISED
INSPECTION REPORT
OF
ASBESTOS AND LEAD-BASED PAINT
BUILDING MATERIALS

BUILDING #882
MALMSTROM AIR FORCE BASE
GREAT FALLS, MONTANA

REVISED
INSPECTION REPORT
OF
ASBESTOS AND LEAD-BASED PAINT
BUILDING MATERIALS

BUILDING #882
MALMSTROM AIR FORCE BASE
GREAT FALLS, MONTANA

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EXECUTIVE SUMMARY

Maxim Technologies, Inc. (Maxim) was retained by CTA to perform asbestos and lead-based paint inspection services at Building #882 located at Malmstrom Air Force Base (MAFB) in Great Falls, Montana.

ASBESTOS INSPECTION:

The asbestos inspection of Building #882 was conducted between February 13 and 14, 1997, by Maxim Technologies inspector Dave Simonson. A summary of the building inspection follows:

Four homogeneous areas of asbestos-containing building materials (ACBM) were identified during the survey. These homogeneous materials include:

- Mastic under tan 12"x12" floor tile.
- Mastic under brown 12"x 12" floor tile.
- Built-up roofing materials.
- Transite panels.

LEAD-BASED PAINT INSPECTION:

The lead-based paint inspection of Building #882 was conducted January 13 and 14, 1997, by Maxim Technologies inspector Dave Simonson. A summary of the building inspection follows:

One homogeneous area of lead-based paint was identified during the survey. This homogeneous material included:

- Concrete Traffic Bollards - (Exterior)

Based on our understanding of the renovation project scheduled at this building, we recommend the following:

- Identified ACM's should be removed by a qualified abatement contractor prior to renovation activities.
- Prepare asbestos abatement specifications.

ASBESTOS INSPECTION REPORT
BUILDING #882
MALMSTROM AIR FORCE BASE

1.0 INTRODUCTION:

The purpose of this inspection, was to perform a complete inspection of Building #882 at Malmstrom Air Force Base (MAFB) in Great Falls, Montana, to identify friable and nonfriable known or suspect asbestos containing building materials (ACBM) and known or suspect lead-based paint (LBP) in the building that could be disturbed during the proposed renovation.

The scope of work performed by Maxim for this asbestos and lead-based paint inspection included the following items:

1) Performing the following pre-survey tasks:

   - Informing MAFB personnel about the lead-based paint (LBP) inspection process and the work that would be conducted during the inspection.

   - Reviewing existing as-built drawings to become familiar with the facility and to develop a preliminary sampling plan.

2) Performing a complete asbestos-containing building material (ACBM) and lead-based paint (LBP) building inspection which included:

   - Inspecting, identifying, and sampling suspect ACBM.
   - Inspecting, identifying, and sampling suspect LBP.

3) Preparing a report documenting the sampling procedures and results of the ACBM and LBP inspection.

2.0 ASBESTOS INSPECTION:

2.1 ASBESTOS OVERVIEW:

Asbestos is a trade name for a group of fibrous naturally occurring minerals which was used widely in building materials because of its ability to bind, resist chemicals, insulate, and fireproof. Exposure to elevated levels of asbestos fibers has been documented to cause a variety of diseases including asbestosis and cancer. Consequently, the application, removal, and disposal of asbestos containing materials is regulated by several agencies. A summary of the regulations regarding asbestos containing materials is presented in Appendix A.

One definition for asbestos containing building materials (ACBM) was taken from Environmental Protection Agency regulations (40 CFR, Part 763 - Asbestos Model Accreditation Plan and Section 202, Toxic Substance Control Act):

1) Friable asbestos containing material containing more than one percent asbestos, which has been applied on ceilings, walls, structural members, piping, duct wok, or any other part of a building, which when dry, may be crumbled, pulverized, or reduced to powder by hand pressure. The term includes non-friable asbestos containing materials after it becomes damaged, by any means, such that when dry, it may be crumbled, pulverized, or reduced to powder by hand-pressure. This definition also includes flooring materials.

Another definition taken from Occupational Safety and Health Administration (OSHA) regulations (29 CFR Parts 1910 and 1926):

1) Asbestos containing materials are defined as being any material which contains more than one percent asbestos and also defines certain high risk materials, which are presumed to contain asbestos, as Presumed Asbestos Containing Materials (PACM). The PACM designation applies to thermal system insulation, sprayed on or troweled on surfacing material and debris where such material is present. The PACM terminology was added to ensure compliance with the hazard communication provisions of the laws and specifically for buildings constructed prior to 1980.

2.2 PROCEDURES:

The asbestos inspection was performed using the applicable portions of the currently recognized standard protocol developed for schools under AHERA, as promulgated in Title 40, Code of Federal Regulations (40 CFR), Part 763 and as amended in the Federal

Register.

2.2.1 Inspection and Sampling:

The inspection was conducted by our accredited inspector, and consisted of a detailed visual survey of surfacing materials, thermal system insulation, and miscellaneous materials throughout the building. Suspect ACBM was then grouped into homogeneous materials and sampling plans developed. Components of the inspection included:

- Identification of homogeneous suspect materials on a room by room basis. A summary of the suspect materials identified on a room by room basis is presented for each individual building in the Findings Section. Areas from which samples were to be obtained were also identified during this task.

- Collection and analysis of bulk samples to confirm whether or not the suspect materials contain asbestos.

- An assessment of known or assumed ACBM, generally classifying the materials using categories defined in the National Emission Standards of Hazardous Air Pollutants (NESHAP), for asbestos. Further description of the NESHAP categories is presented in Section 2.2.3.

- An assessment of suspect ACBM using the AHERA classifications. Further description of these categories is presented in Section 2.2.3.

Homogeneous suspect ACBM were, for the purposes of this study and as outlined in the AHERA sampling protocol, placed into the following four material type categories. AHERA sampling protocol specifies sampling procedures for each material type:

Friable Surfacing Material

1) At least three bulk samples from each homogeneous material that is 1,000 square feet or less.

2) At least five bulk samples from each homogeneous material that is greater than 1,000 square feet but less than or equal to 5,000 square feet.

3) At least seven bulk samples from each homogeneous material that is greater than 5,000 square feet.

Thermal System Insulation

1) In a randomly distributed manner, at least three bulk samples from each homogeneous material of thermal system insulation that is not assumed to contain asbestos.

2) At least one bulk sample from each homogeneous material of patched thermal system insulation that was not assumed to be asbestos containing material (ACBM).

3) In a manner sufficient to determine whether the material was ACBM or not ACBM, (generally three samples), bulk samples from each insulated mechanical system that was not assumed to be ACBM where cement or plaster was used on fittings such as tees, elbows, or valves.

4) Bulk samples were not collected from any homogeneous material where the inspector determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-asbestos containing building material.

Miscellaneous Material

1) In a manner sufficient to determine whether a material is ACBM or not, three bulk samples were collected from each area of homogeneous friable miscellaneous material that was not assumed to be ACBM.

Nonfriable suspected ACBM

1) If any nonfriable suspect homogeneous ACBM was not assumed to be ACBM, then in a manner sufficient to determine whether the material is ACBM or not, bulk samples were collected from the homogeneous material.

Sample locations for this survey were chosen in a non-random fashion, with emphasis placed on obtaining samples of each type of accessible, suspect material and minimizing damage to the material being sampled. Samples were collected by carefully removing small portions of the suspect material in a non-abrasive manner. If possible, samples from existing damaged areas or loose pieces of material were collected. Immediately after collection, samples were placed in pre-labeled plastic containers. Containers with samples were then placed in a large resealable plastic bag for transportation to the laboratory.

Samples were obtained by trained, accredited, experienced persons using techniques such as wet slicing, wet boring or similar methods designed to limit contamination of the area during sampling. The sampled area was sealed using patching compounds, duct tape, or spray encapsulants as appropriate to the material being sampled.

2.2.2 Laboratory Analysis:

Bulk samples obtained during the inspection were assigned bulk sample numbers and entered on sample summary sheets. The samples were logged into the laboratory and assigned laboratory numbers. The analysis, or identification of the presence of asbestos, was performed under the supervision of our Certified Industrial Hygienist. The analysis was performed in general accordance with EPA Interim Method 600/M4-82-020, which employs polarized light microscopic techniques with dispersion staining for identification of mineral forms of asbestos. The quantification of asbestos in the sample is intended to be an estimate only and the limit of detection for this method is approximately 1% by volume. The results of the analysis are reported on the Sample Collection and Analysis Data sheets.

On April 1, 1989, our laboratory was assigned "accredited" status by the National Institute of Standards and Technology's National Voluntary Laboratory Accreditation Program (NVLAP), for bulk sample analysis.

2.2.3 AHERA and NESHAP Categories:

Following receipt of the laboratory analysis, homogeneous ACBM were identified and the quantities determined. The materials were then categorized using AHERA and NESHAP criteria and a general recommended response action was determined for each ACBM.

The AHERA Categories are defined as:

Category 1: Damaged or significantly damaged thermal system insulation ACM.
Category 2: Damaged friable surfacing ACM.
Category 3: Significantly damaged friable surfacing ACM.
Category 4: Damaged or significantly damaged friable miscellaneous ACM.
Category 5: ACBM with potential for damage.
Category 6: ACBM with potential for significant damage.
Category 7: Remaining friable ACBM or friable suspected ACBM.

The NESHAP Categories are defined as:

Category I are non-friable asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos.

Category II are non-friable ACBM excluding Category I non-friable ACBM, containing more than one percent asbestos.

Regulated Asbestos Containing Materials (RACM) are friable materials; Category I non-

friable materials that will or may be subjected to sanding, grinding, cutting, or abrading; or Category II non-friable materials that have a high probability of becoming or has become crumbled, pulverized, or reduced to powder by forces expected to act on the material in the course of demolition or renovation operations.

The following is a description of the general recommended response actions:

Removal	-	remove noted damaged ACBM;
Repair	-	repair noted damaged ACBM;
Encapsulate	-	encapsulate ACBM with a penetrating or bridging encapsulate;
Enclosure	-	enclose ACBM by construction an air tight barrier;
O&M	-	include material in a formal operations and maintenance program and maintain ACBM in a nonfriable condition.

2.2.4 Quality Assurance and Quality Control:

Quality Assurance and quality control (QA/QC) measures adopted by Maxim involved field and office components. Key parameters are summarized below:

Field QA/QC

- Review inspection forms for completeness;
- Check Homogeneous Materials Listing for sufficient number of collected samples;
- Verify locations of major mechanical components;

Office QA/QC

- Review lab results for completeness;
- Ensure appropriate cross-referencing of results, forms for given ACBM;
- Review recorded field comments for meaning, incorporate as necessary into report.

2.3 FINDINGS

A general summary of the property inspected is as follows:

BUILDING	ADDRESS	APPROX SIZE, SF	ACBM IDENTIFIED	AREAS NOT INSPECTED
Building #882	Malmstrom Air Force Base Great Falls, Montana	16,512	Yes	None

The asbestos inspection of MAFB Building #882 in Great Falls, Montana, was conducted on January 13 and 14, 1997, by Maxim Technologies inspector Dave Simonson. The following sections describe the finding and results of the inspection.

2.3.1 Building #882

Building #882 is a single story concrete masonry unit (CMU) building with a built-up roof system. Interior finishes generally consist of carpet over 12"x12" vinyl tile floors; sheetrock, CMU or cement asbestos board (transite) walls; and 2′ x 2′ lay-in, or 2′ x 4′ lay-in panel ceilings. The heating system originates from a separate building with the hot water heat supply and return lines entering the building in the mechanical room. The hot water supply and return piping routed above the ceilings have fiberglass insulated straight-run piping with PVC covered fiberglass fittings, or bare piping and fittings. The domestic water lines routed in the floor slab are uninsulated.

2.3.2 Summary of Asbestos Containing Building Materials:

A summary of the homogeneous areas of asbestos containing building materials found in this building and their status follow:

TABLE 1
SUMMARY OF ASBESTOS CONTAINING MATERIALS

Homogeneous Material No.	Homogeneous Material Description and Material Location	AHERA Category[1]	NESHAP Category[2]	Percentage and type of Asbestos
F2.1	Mastic under 12" x12" floor tile (tan) - throughout building.	NA	CAT I	5% Chrysotile
F2.2	Mastic under 12" x12" floor tile (brown) - room 115.	NA	CAT I	15% Chrysotile
M4.1	Cement asbestos board (transite)	NA	Cat I	70% Chrysotile
M1.1	Built-up roofing materials - exterior.	NA	CAT I	3% Chrysotile

[1] AHERA Categories: 1: Damaged or significantly damaged thermal system insulation ACBM.
2: Damaged friable surfacing ACBM.
3: Significantly damaged friable surfacing ACBM.
4: Damaged or significantly friable miscellaneous ACBM.
5: ACBM with potential for damage.
6: ACBM with potential for significant damage.
7: Remaining friable ACBM or friable suspected ACBM.
NA Not Applicable.

2 NESHAP Categories: I: Category I
II: Category II
RACM: Regulated Asbestos Containing Material

The following materials were considered suspect ACBM, but based on laboratory analysis, are not considered asbestos containing:

- Drywall/Taping (M3.1)
- 2′ x 4′ white ceiling panel - fissure (M5.1)
- 2′ x 2′ white ceiling panel - fissure (M5.2)
- 2′ x 4′ white ceiling panel - holes (M5.3)
- Brown linoleum and mastic (F1.1)
- 12" x 12" tan floor tile (F2.1)
- 12" x 12" brown floor tile (F2.2)
- 12" x 12" white & brown floor tile & mastic (F2.3)
- Rubber baseboard / mastic (M12.1)

Asbestos sample results are presented in Appendix B.

2.4 RECOMMENDATIONS

Operations & Maintenance

- A formal, written Operations and Maintenance program need not be developed to assist in maintaining ACBM within the building.

Future Construction Activities

- Any contractor preparing to bid or perform work in the building should be informed of the presence of ACBM in the building and of compliance requirements under current EPA and OSHA regulations. Contractors should be required to submit a detailed plan addressing worker training, worker exposure monitoring, personal protective equipment (PPE) to be utilized during their work. The plan should also address engineering and administrative controls to be implemented to control the generation of asbestos fibers during the construction process and action criteria for work stoppage, PPE upgrades, and work method alternatives. Contractors should also be informed of cleanup and clearance criteria for all renovation/demolition activities.

- Maxim recommends that detailed plans and specifications be prepared by an accredited asbestos abatement designer prior to any asbestos abatement project.

3.0 LEAD-BASED PAINT INSPECTION

Lead-based paint is of concern both as a source of direct exposure through ingestion of paint chips and as a contributor to lead in interior dust and exterior soil. Regulatory agencies which have addressed lead-based paint include EPA, Occupational Safety and Health Administration (OSHA), Department of Health and Urban Development (HUD), and the Consumer Products Safety Commission. A review of these regulations is presented in Appendix A.

3.1 PROCEDURES

Maxim Technologies generally used sampling procedures for lead-based paint, as outlined in 29 CFR, Part 1926.62 (OSHA); American Society for Testing and Materials (ASTM) Method ES 28-94, "Emergency Standard Practice for Field Collection of Dried Paint Samples for Lead Determination by Atomic Spectrometry Techniques"; and in guidelines developed by the Department of Housing and Urban Development (HUD). The scope of work utilized by Maxim Technologies, Inc. at MAFB building #882 in Great Falls, Montana, included:

- A room by room inspection and documentation of building components, including paint colors.

- Field collection of dried paint samples on building components utilizing XRF, heat gun methods, or cold scraping methods.

- Analysis of dried paint samples by laboratory methods for lead determination.

3.1.1 XRF Sampling Methodology

Field X-Ray Fluorescence (XRF) is identified in 24 CFR Part 35 (HUD) as the recommended method to determine lead in paint. For this inspection, Maxim personnel utilized the *Niton XL,* Spectrum Analyzer, which is equipped with a computer program which automatically calculates measurable amounts of lead in paint by correcting for substrate conditions.

XRF results are classified using threshold values. The results are considered positive if they are greater than or equal to the threshold limit and negative if they are less than the threshold limit. The threshold limits of the *Niton XL* XRF equipment is 1 mg/cm^2, plus or minus 0.1 mg/cm^2, for all substrates. The *Niton XL* displays readings and ancillary information useful for classification purposes. An algorithm suggested by the EPA and HUD for classifying results is first applied to 20-second L-shell readings followed by 120-second nominal K-shell readings to resolve inconclusive results and then paint chip samples

are to be taken if necessary. Appendix C presents a summary of the results of the XRF readings.

3.1.2 Quality Assurance and Quality Control

Quality Assurance and quality control (QA/QC) measures adopted by Maxim involved field and office components. Key parameters are summarized below:

Field QA/QC:

- Review lab results for completeness
- Verify locations of major building components;

Office QA/QC:

- Review lab results for completeness;
- Ensure appropriate cross-referencing of results, forms for given ACBM;
- Ensure drawings are updated as necessary following field QC;
- Review recorded field comments for meaning, incorporate as necessary into report.

3.2 FINDINGS

The inspection of lead-based paint in Building #882 at Malmstrom Air Force Base (MAFB) in Great Falls, Montana, was conducted on January 13 and 14, 1997 by Maxim inspector Dave Simonson. The following sections describe the methods used during the inspection and the results of the inspection.

3.2.1 Building Description

Building #882 is a single story concrete masonry unit (CMU) building with a built-up roof system. Interior finishes consist of: painted sheetrock or CMU walls; painted sheetrock, painted 2′ x 2′ lay-in, or painted 2′ x 4′ lay-in panel ceilings; painted metal and wood doors and frames; and painted as well as factory finished window units.

3.2.2 Summary of Suspect Lead-Based Paint: XRF Screening

Based on the results of the XRF survey, most of the painted surfaces were found to contain less that 1 mg/cm^2 of lead. A summary of the XRF results is presented in Appendix D. The components in Table 2 were found to contain more than 1 mg/cm^2 lead, based on the XRF screening. Information in Table 2 includes the homogeneous material number (designated LHA), building component, and current color.

TABLE 2
SUMMARY OF LEAD-BASED PAINT MATERIALS
AS DETERMINED BY XRF SCREENING

LHA No.	Building Component	Current Paint Color†	Lead Concentration mg/cm^2
63D	Concrete Traffic Bollards - Exterior	Brown	>5.0

† Color as of the date of the inspection and may not reflect conditions at a later date.

Results of the XRF screening indicates that the lead in paint concentration for the following materials was below 1 mg/cm^2:

- Sheetrock Walls - White (LHA-02A)
- Sheetrock Walls - Brown (LHA-02D)
- Sheetrock Walls - Green (LHA-02F)
- CMU Walls - Brown (LHA-05D)
- CMU Walls - Cream (LHA-05B)
- CMU Walls - Pink (LHA-05P)
- Wood doors - Brown (LHA-14D)
- Metal doors - White (LHA-15A)
- Metal doors - Tan (LHA-15C)
- Metal doors - Green (LHA-15F)
- Wood door frames - Brown (LHA-17A)
- Metal door frames - White (LHA-18A)
- Metal door frames - Brown (LHA-18D)
- Metal door frames - Green (LHA-18F)
- Metal interior window units - Brown (LHA-21D)
- Metal radiator units - White (LHA-34A)
- Metal radiator units - Brown (LHA-34D)

- Metal exterior window units - Brown (LHA-23D)
- CMU exterior walls - Cream (LHA-05B)
- Metal doors - Brown (LHA-15D)
- Metal doors frames- Brown (LHA-18D)

3.3 RECOMMENDATIONS

This report has been prepared to provide information concerning lead base paint (LBP) which is present in the facility. This inspection and report is intended to identify, assess, and recommend appropriate response actions for the lead-based paint.

3.3.1 General Recommendations

Operations & Maintenance

- A formal, written Operations and Maintenance program need not be developed to assist in maintaining painted surfaces since the lead-based paint identified is on the exterior of the facility.

3.3.2 Specific Recommendations

The paint on the exterior traffic bollards was in generally good condition. However should workers perform paint removal or surface preparation activities on the brown stairs on the traffic bollards, they should receive training as outlined in the OSHA lead in construction standard (29 CFR 1926.62). During the surface preparation for application of paint, workers should wear personal protective equipment consisting of a minimum of a one-half face respirator equipped with HEPA cartridges and disposable coveralls. All paint chips and dust should be cleaned up using a vacuum equipped with a HEPA filter and the removed chips sampled using TCLP to determine the proper disposal method and location.

4.0 LIMITATIONS

This asbestos and lead-based paint assessment report was prepared based on information obtained during several site visits, and interpretation of the laboratory results of bulk samples of building materials collected during these site visits. The conclusions of this report are professional opinions based solely upon visual site observations and interpretations of chemical analyses as described in our report.

This report has been prepared to provide information concerning the various types

and estimated quantities of asbestos containing and lead-based paint materials which may be present in the structure at this site. It includes only those materials that were visible and accessible at the time of our inspection. We did not remove any permanent building enclosures or disassemble any equipment to determine if any asbestos containing materials were present. No samples were collected if the mechanical integrity of the material would be compromised. As a result, additional asbestos-containing materials may be present in inaccessible areas (e.g., between walls, beneath floors, etc.) of the buildings. Permanent building enclosures were not opened or disassembled for inspection and additional asbestos-containing materials may also be present in these areas.

This inspection and report is intended to identify and assess asbestos containing materials. It is not intended to be used by a contractor for removing asbestos containing materials.

Our opinions are intended exclusively for use by CTA. The scope of services performed by Maxim Technologies may not be appropriate to satisfy the needs of other users, and any use or re-use of this document, or the findings presented herein is at the sole risk of the user.

The opinions presented herein apply to the site conditions existing at the time of our investigation. Therefore, our opinions and recommendations may not apply to future conditions that may exist at the site, which we have not had the opportunity to evaluate.

APPENDIX A
REGULATORY REVIEW
ASBESTOS AND LEAD-BASED PAINT

REGULATORY OVERVIEW

ASBESTOS

There are three federal agencies that regulate removal, transport, and disposal of asbestos. They are the Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), and the Department of Transportation (DOT).

Environmental Protection Agency

The Environmental Protection Agency (EPA) was required under The Clean Air Act, to protect the general public from exposure to airborne contaminants that are known to be hazardous to human health. To meet this requirement, the EPA established National Emission Standards for Hazardous Air Pollutants (NESHAP). Asbestos was one of the first hazardous air pollutants regulated.

The asbestos NESHAP regulations protect the public by minimizing the release of asbestos fibers involving the processing, handling, and disposal of asbestos-containing material. To this end, NESHAP specified work practices to be followed during demolitions and renovations of all structures, installations, and buildings (excluding residential buildings that have four or fewer dwelling units). The regulations also require notification to applicable state and local agencies and/or the EPA Regional Officer prior to all demolition or before renovations of buildings that contain a certain threshold amount of asbestos. The NESHAP has grouped asbestos containing materials (ACBM) into three categories: Regulated Asbestos containing material, Category I non-friable ACBM, and Category II non-friable ACBM.

A regulated asbestos containing material (RACM) means any friable asbestos material, a Category I non-friable that will or has been subjected to sanding, grinding, cutting, or abrading, or a Category II non-friable ACBM that has a high probability of becoming or has become crumbled, pulverized, or reduced to power by forces expected to act in the material in the course of demolition or renovation operations.

A RACM is a friable asbestos-containing material or any Category I or Category II material that has become friable.

A Category I non-friable asbestos containing material means asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos.

Category II non-friable ACBM means any material excluding Category I non-friable ACBM, containing more than 1 percent asbestos.

LEAD-BASED PAINT

Regulatory agencies which have addressed lead-based paint include EPA, Occupational Safety and Health Administration (OSHA), Department of Housing and Urban Development (HUD), and the Consumer Products Safety Commission. Lead based paint (LBP) in the liquid form is defined as any paint that contains more than six one hundredths of one percent (0.06) lead by weight, calculated as lead metal, in nonvolatile content of the liquid paint. For paint that has been applied, the Department of Housing and Urban Development (HUD) has defined LBP as any paint which tests equal to or greater than 1.0 milligram/square centimeter when using an X-Ray Fluorescence analyzer or 0.5% by weight when using Flame Atomic Absorption spectrometry (FAAS) or Inductively Coupled Plasma Atomic Emission spectrometry (ICP-AES) analysis.

However, the OSHA Standard for lead in the construction industry does not recognize a minimum concentration of lead. Consequently, all painted surfaces, in which any detectable level of lead is present, must be considered as having the potential to present an occupational exposure to lead to an employee engaged in OSHA regulated construction work.

Occupational Safety and Health Administration

The OSHA Standard for lead in the construction industry (29 CFR 1926.62) became effective June 3, 1993, and applies to all construction work where an employee may be occupationally exposed to lead. OSHA regulated construction work is defined as work for construction, alteration and/or repair, including painting and decorating. Typical activities that fall into these categories include: demolition or salvage of structures where lead or material containing lead are present, removal or encapsulation of materials containing lead, lead contamination/emergency cleanup, transportation, disposal, storage, or containment of lead or materials containing lead on the site or location at which construction activities are performed and maintenance operations associated with the construction activities described above.

HUD Guidelines

When it is determined that paint abatement and/or interim control activities will be performed on housing components, they should be performed according to practices that are described HUD Guidelines and the regulations promulgated under section 402 of TSCA, 15 USC 2682 (as appropriate for the unit in question), including clearance testing.

Waste Disposal Issues

Lead is considered toxic, and therefore is hazardous. However lead-based paint may not be classified as hazardous. The first step in disposal of a waste that is suspect to be hazardous is representative testing. This is done by segregating the debris by type and assumed hazardous or nonhazardous. At the completion of the project, each waste is tested by the Toxic Characteristics Leaching Procedure (TCLP) testing procedure. This is done to determine if in fact the waste is "construction debris" or "hazardous waste". The disposal costs for non-hazardous waste are considerably less that for debris that is considered hazardous, and it can be deposited in a

municipal landfill. Debris that is considered hazardous, based on TCLP results, must be disposed of as hazardous waste, in accordance with the regulations promulgated under the Resource Conservation and Recovery Act (RCRA).

APPENDIX B

ACBM BULK SAMPLE LABORATORY RESULTS

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Billings, MT 59107
(406) 248-9161
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TECHNICAL REPORT

REPORT TO: ATTN: RICK FOUST
MAXIM TECHNOLOGIES, INC.
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BILLINGS MT 59107

DATE: April 1, 1997
JOB NUMBER: 87-910
SHEET: 1 of 3
INVOICE NO.: 040232

REPORT OF: Building Material Analysis - MAFB Building #882 - Platinum #5510702058.A1

SAMPLE IDENTIFICATION:

On March 28, 1997, our laboratory received one building material sample from Peter Klevberg. A completed chain of custody record was received which identified the above referenced project as the source of the samples. Our laboratory assigned laboratory numbers 110861 to the sample. This analysis was performed using an Olympus BH-2 polarizing microscope at magnifications of 40X to 400X in general accordance with EPA Method 600/R4-93-116, July 1993, which employs polarized light microscopic techniques with dispersion staining for identification of mineral forms of asbestos.

There are currently six types of mineral fiber that are regulated as asbestos minerals. These are divided into two categories: serpentine asbestos and amphibole asbestos. Serpentine asbestos is called chrysotile, which is the most commonly encountered type of asbestos in the United States. Five of the asbestos minerals are amphiboles. Included in this group are fibrous grunerite (amosite), fibrous riebeckite (crocidolite), fibrous anthophyllite, fibrous tremolite and fibrous actinolite. All reported percentages are by volume estimates.

The EPA test method for bulk analysis (EPA/600/R-93/116) states in paragraph 2.2.2.that "the detection limit for visual estimation is a function of the quantity of sample analyzed, the nature of matrix interference, sample preparation, and fiber size and distribution. Asbestos may be detected in concentrations of less than one percent by area if sufficient material is analyzed. Samples may contain fibers too small to be resolved by PLM (<0.25 micrometers in diameter) so detection of those fibers by this method may not be possible".

In the case of nonhomogeneous samples (samples which contain more than one visually distinct material which is not mixed), concentrations of materials are given for each layer and composite values are given for the entire sample. The quantification of asbestos in the sample is intended to be a volume estimate only. The concentrations of various components reported for these samples are intended to represent the materials received at our laboratory for testing only. Variations in the concentrations due to the limitations of the visual test method, equipment, and operator are given below. For the range:

1 - 10%, true concentrations may vary ±5% from the reported value
10 - 50%, true concentrations may vary ±10% from the reported value
50 - 100%, true concentrations may vary ±10% from the reported value

According to the National Emission Standards for Hazardous Air Pollutants; Asbestos NESHAP Revision Final Rule in the Federal Register, Volume 55, Number 224 dated November 20, 1990, any friable material containing less than 10 percent asbestos by the Polarized Light Microscopy (PLM) Method is recommended to be verified by the Point Count Method using PLM. Friable asbestos material means any material containing more than one percent asbestos as determined by the visual PLM method, that when dry can be crumbled, pulverized or reduced to powder with hand pressure. This rule applies to building renovations and demolitions.

As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of our clients and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval. Test results apply specifically to the samples tested only. The entire report shall not be reproduced, except in full, without the written approval of the laboratory. Samples will be disposed of after testing is completed unless other arrangements are agreed to in writing.

The U.S. EPA Clarification of the Asbestos NESHAP Requirement to perform Point Counting dated May 8, 1991 states:

- First, that a sample which contains no asbestos by visual PLM does not have to be point counted.
- Second, the owner or operator of the building may choose to assume the asbestos amount to be greater than one percent and treat the material as asbestos containing material (ACM) or require point counting for verification.
- Third, if a result obtained by point counting is different from a result obtained by visual estimation, the point count result will be used.

We will hold the samples for sixty (60) days in the event you choose to have future analysis performed on any sample containing less than 10 percent asbestos.

The results are shown on the following pages. A < sign indicates the value reported was the practical quantitation limit for this sample using the method described. Concentrations of analyte, if present, below this were not quantifiable.

On April 1, 1989, our laboratory was assigned "accredited" status by the National Institute of Standards and Technology's National Voluntary Laboratory Accreditation Program, (NVLAP).

Analyzed by:

Reviewed by:

caj

Maxim

BUILDING MATERIAL ANALYSIS
ASBESTOS CONTENT
MAFB
#5510702058.A1

April 1, 1997
Job No. 87-910
Sheet 3 of 3

Lab No.	Sample Identification	Sample Description	Asbestos Identification and Estimated Quantity	Non-Asbestos Fibrous Material Identification and Estimated Quantity
110861	Bdlg #882 - E. corner of shop	One layer: 1) Gray fibrous solid (100%)	70% Chrysotile	30% Nonfibrous Binder

Maxim

600 South 25th Street
P O Box 30615
Billings, MT 59107
(406) 248-9161
FAX (406) 248-9282

TECHNICAL REPORT

REPORT TO: ATTN: DAVE SIMONSON
MAXIM TECHNOLOGIES, INC.
P O BOX 30615
BILLINGS MT 59107

DATE: February 21, 1997
JOB NUMBER: 87-910
SHEET: 1 of 6
INVOICE NO.: 038560

REPORT OF: Building Material Analysis - CTA - MAFB 882 - Platinum #5510702058

SAMPLE IDENTIFICATION:

On February 17, 1997, our laboratory received 30 building material samples from Dave Simonson. A completed chain of custody record was received which identified the above referenced project as the source of the samples. Our laboratory assigned laboratory numbers 108072 through 108101 to the samples. This analysis was performed using an Olympus BH-2 polarizing microscope at magnifications of 40X to 400X in general accordance with EPA Method 600/R4-93-116, July 1993, which employs polarized light microscopic techniques with dispersion staining for identification of mineral forms of asbestos.

There are currently six types of mineral fiber that are regulated as asbestos minerals. These are divided into two categories: serpentine asbestos and amphibole asbestos. Serpentine asbestos is called chrysotile, which is the most commonly encountered type of asbestos in the United States. Five of the asbestos minerals are amphiboles. Included in this group are fibrous grunerite (amosite), fibrous riebeckite (crocidolite), fibrous anthophyllite, fibrous tremolite and fibrous actinolite. All reported percentages are by volume estimates.

The EPA test method for bulk analysis (EPA/600/R-93/116) states in paragraph 2.2.2. that "the detection limit for visual estimation is a function of the quantity of sample analyzed, the nature of matrix interference, sample preparation, and fiber size and distribution. Asbestos may be detected in concentrations of less than one percent by area if sufficient material is analyzed. Samples may contain fibers too small to be resolved by PLM (<0.25 micrometers in diameter) so detection of those fibers by this method may not be possible".

In the case of nonhomogeneous samples (samples which contain more than one visually distinct material which is not mixed), concentrations of materials are given for each layer and composite values are given for the entire sample. The quantification of asbestos in the sample is intended to be a volume estimate only. The concentrations of various components reported for these samples are intended to represent the materials received at our laboratory for testing only. Variations in the concentrations due to the limitations of the visual test method, equipment, and operator are given below. For the range:

1 - 10%, true concentrations may vary ±5% from the reported value
10 - 50%, true concentrations may vary ±10% from the reported value
50 - 100%, true concentrations may vary ±10% from the reported value

According to the National Emission Standards for Hazardous Air Pollutants; Asbestos NESHAP Revision Final Rule in the Federal Register, Volume 55, Number 224 dated November 20, 1990, any friable material containing less than 10 percent asbestos by the Polarized Light Microscopy (PLM) Method is recommended to be verified by the Point Count Method using PLM. Friable asbestos material means any material containing more than one percent asbestos as determined by the visual PLM method, that when dry can be crumbled, pulverized or reduced to powder with hand pressure. This rule applies to building renovations and demolitions.

As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of our clients and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval. Test results apply specifically to the samples tested only. The entire report shall not be reproduced, except in full, without the written approval of the laboratory. Samples will be disposed of after testing is completed unless other arrangements are agreed to in writing.

The U.S. EPA Clarification of the Asbestos NESHAP Requirement to Perform Point Counting dated May 8, 1991 states:

- First, that a sample which contains no asbestos by visual PLM does not have to be point counted.
- Second, the owner or operator of the building may choose to assume the asbestos amount to be greater than one percent and treat the material as asbestos containing material (ACM) or require point counting for verification.
- Third, if a result obtained by point counting is different from a result obtained by visual estimation, the point count result will be used.

We will hold the samples for sixty (60) days in the event you choose to have future analysis performed on any sample containing less than 10 percent asbestos.

The results are shown on the following pages. A < sign indicates the value reported was the practical quantitation limit for this sample using the method described. Concentrations of analyte, if present, below this were not quantifiable.

On April 1, 1989, our laboratory was assigned "accredited" status by the National Institute of Standards and Technology's National Voluntary Laboratory Accreditation Program, (NVLAP).

Analyzed by: Mike Odness

Reviewed by: Debbie Dilley

ba

Maxim

BUILDING MATERIAL ANALYSIS
ASBESTOS CONTENT

CTA - MAFB - 882
5510702058

February 21, 1997
Job No. 87-910
Sheet 3 of 6

Lab No.	Sample Identification	Sample Description	Asbestos Identification and Estimated Quantity	Non-Asbestos Fibrous Material Identification and Estimated Quantity
108072	F1.1A; Brown linoleum, doorway, Room 133	Two layers: 1) Red solid (98%) 2) Clear resin (2%)	None detected None detected	100% Nonfibrous Binder <1% Cellulose 99% Nonfibrous Binder
108073	F1.1B; Brown linoleum, doorway, Room 132	Two layers: 1) Red solid (98%) 2) Clear resin (2%)	None detected None detected	100% Nonfibrous Binder <1% Cellulose 99% Nonfibrous Binder
108074	F1.1C; Brown linoleum, doorway, Room 132	Two layers: 1) Red solid (99%) 2) Clear resin (1%)	None detected None detected	100% Nonfibrous Binder 100% Nonfibrous Binder
108075	M3.1A; Sheetrock and taping material behind door, Room 115	Three layers: 1) White crystalline solid (10%) 2) Tan/white fibrous backing (45%) 3) White chalky solid (45%)	None detected None detected None detected	100% Nonfibrous Binder 90% Cellulose 10% Nonfibrous Binder 2% Cellulose 98% Nonfibrous Binder
108076	M3.1B; Sheetrock and taping material, NW corner, Room 120	Three layers: 1) White crystalline solid (10%) 2) Tan/white fibrous backing (30%) 3) White chalky solid (60%)	None detected None detected None detected	100% Nonfibrous Binder 90% Cellulose 10% Nonfibrous Binder 2% Cellulose 98% Nonfibrous Binder
108077	M3.1C; Sheetrock and taping material, SE corner, Room 120	Three layers: 1) White crystalline solid (10%) 2) Tan/white fibrous backing (20%) 3) White chalky solid (70%)	None detected None detected None detected	100% Nonfibrous Binder 90% Cellulose 10% Nonfibrous Binder 2% Cellulose 98% Nonfibrous Binder
108078	M12.1A; Rubber base board/mastic, Room 121, west side	Two layers: 1) Brown flexible solid (95%) 2) White gummy resin (5%)	None detected None detected	100% Nonfibrous Binder 1% Cellulose 2% Synthetic Fibers 97% Nonfibrous Binder
108079	M12.1B; Rubber base board/mastic, Room 121, west side	Two layers: 1) Brown flexible solid (98%) 2) White gummy resin (2%)	None detected None detected	100% Nonfibrous Binder 1% Cellulose 2% Synthetic Fibers 97% Nonfibrous Binder

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BUILDING MATERIAL ANALYSIS
ASBESTOS CONTENT

CTA - MAFB - 882
5510702058

February 21, 1997
Job No. 87-910
Sheet 4 of 6

Lab No.	Sample Identification	Sample Description	Asbestos Identification and Estimated Quantity	Non-Asbestos Fibrous Material Identification and Estimated Quantity
108080	M12.1C; Rubber base board/mastic, Room 125, west side	Two layers: 1) Brown flexible solid (97%) 2) White gummy resin (3%)	None detected None detected	100% Nonfibrous Binder 1% Cellulose 2% Synthetic Fibers 97% Nonfibrous Binder
108081	F2.1A; 12"x12" floor tile, tan w/brown streaks, west side, Room 125	Two layers: 1) White solid (100%) 2) Tan resin (Trace)**	None detected None detected	100% Nonfibrous Binder <1% Cellulose 99% Nonfibrous Binder
108082	F2.1B; 12"x12" floor tile, tan w/brown streaks, west side, Room 125	Two layers: 1) White solid (99%) 2) Tan resin with black coating (<1%)	None detected None detected	100% Nonfibrous Binder <1% Cellulose 99% Nonfibrous Binder
108083	F2.1C; 12"x12" floor tile, tan w/brown streaks, east side, Room 121	Two layers: 1) White solid (90%) 2) Black/brown resin (10%) Composite of layers:	None detected 5% Chrysotile <1% Chrysotile	100% Nonfibrous Binder 95% Nonfibrous Binder
108084	M5.1A: 2'x4' lay-in ceiling panel (fissure), Room 116	One layer: 1) Gray fibrous solid (100%)	None detected	35% Cellulose 35% Mineral Wool 30% Nonfibrous Binder and Perlite
108085	M5.1B: 2'x4' lay-in ceiling panel (fissure), Room 101	One layer: 1) Gray fibrous solid (100%)	None detected	35% Cellulose 35% Mineral Wool 30% Nonfibrous Binder and Perlite
108086	M5.1C: 2'x4' lay-in ceiling panel (fissure), Room 102	One layer: 1) Gray fibrous solid (100%)	None detected	35% Cellulose 35% Mineral Wool 30% Nonfibrous Binder and Perlite
108087	M5.2A; 2'x2' lay-in ceiling panel (fissure), Room 111	One layer: 1) Gray fibrous solid (100%)	None detected	30% Cellulose 30% Mineral Wool 40% Nonfibrous Binder and Perlite
108088	M5.2B; 2'x2' lay-in ceiling panel (fissure), Room 111	One layer: 1) Gray fibrous solid (100%)	None detected	30% Cellulose 30% Mineral Wool 40% Nonfibrous Binder and Perlite

** Very small amount to analyze.

Maxim

BUILDING MATERIAL ANALYSIS
ASBESTOS CONTENT

CTA - MAFB - 882
5510702058

February 21, 1997
Job No. 87-910
Sheet 5 of 6

Lab No.	Sample Identification	Sample Description	Asbestos Identification and Estimated Quantity	Non-Asbestos Fibrous Material Identification and Estimated Quantity
108089	M5.2C; 2'x2' lay-in ceiling panel (fissure), Room 111	One layer: 1) Gray fibrous solid solid	None detected	30% Cellulose 30% Mineral Wool 40% Nonfibrous Binder and Perlite
108090	M5.3A; 2'x4' lay-in ceiling panels (holes), Room 125	One layer: 1) Gray fibrous solid (100%)	None detected	30% Cellulose 40% Mineral Wool 30% Nonfibrous Binder and Perlite
108091	M5.3B; 2'x4' lay-in ceiling panels (holes), Room 125	One layer: 1) Gray fibrous solid (100%)	None detected	30% Cellulose 40% Mineral Wool 30% Nonfibrous Binder and Perlite
108092	M5.3C; 2'x4' lay-in ceiling panels (holes), Room 125	One layer: 1) Gray fibrous solid (100%)	None detected	30% Cellulose 40% Mineral Wool 30% Nonfibrous Binder and Perlite
108093	F2.2A; 12"x12" floor tile, brown, and mastic, Room 115	Two layers: 1) Tan solid (99%) 2) Black resin (1%) Composite of layers:	None detected 15% Chrysotile <1% Chrysotile	100% Nonfibrous Binder 85% Nonfibrous Binder
108094	F2.2B; 12"x12" floor tile, brown, and mastic, Room 115	Two layers: 1) Tan solid (99%) 2) Black resin (1%) Composite of layers:	None detected 15% Chrysotile <1% Chrysotile	100% Nonfibrous Binder 85% Nonfibrous Binder
108095	F2.2C; 12"x12" floor tile, brown, and mastic, Room 115	Two layers: 1) Tan solid (99%) 2) Black resin (1%) Composite of layers:	None detected 15% Chrysotile <1% Chrysotile	100% Nonfibrous Binder 85% Nonfibrous Binder
108096	F2.3A; 12"x12" floor tile, white and brown, self-adhesive, Room 135	Two layers: 1) White textured solid (99%) 2) Clear resin (<1%)	None detected None detected	100% Nonfibrous Binder 100% Nonfibrous Binder
108097	F2.3B; 12"x12" floor tile, white and brown, self-adhesive, Room 134	Two layers: 1) White textured solid (99%) 2) Clear resin (<1%)	None detected None detected	100% Nonfibrous Binder <1% Cellulose 99% Nonfibrous Binder

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BUILDING MATERIAL ANALYSIS
ASBESTOS CONTENT

CTA - MAFB - 882
5510702058

February 21, 1997
Job No. 87-910
Sheet 6 of 6

Lab No.	Sample Identification	Sample Description	Asbestos Identification and Estimated Quantity	Non-Asbestos Fibrous Material Identification and Estimated Quantity
108098	F2.3C; 12"x12" floor tile, white and brown, self-adhesive, Room 131	Two layers: 1) White textured solid (99%) 2) Clear resin (<1%)	None detected None detected	100% Nonfibrous Binder 10% Cellulose 10% Synthetic Fibers 80% Nonfibrous Binder
108099	M1.1A; Built-up asphalt roofing, north side	One layer: 1) Black solid w/silver layer (100%)	3% Chrysotile	97% Nonfibrous Binder
108100	M1.1B; Built-up asphalt roofing, south side		H O L D - N o t A n a l y z e d	
108101	M1.1C; Built-up asphalt roofing, south side		H O L D - N o t A n a l y z e d	

CHAIN OF CUSTODY RECORD
BULK ASBESTOS AND LEAD SAMPLES

CTA
Client Name

Maxim - Billings
Client Address

551070 - 2058
Job Number

MAFB Bldg 882
Building Name/Number

2-14-97
Date

Dave Simonson
Collected by/Distribute to:

(Address for the final lab report)

5 day
Turn Around Time

	Laboratory Number	Sample Number	Sample Description and Location	Date Collected	Analysis Required	Results
8072	~~F1.1A~~	F1.1A	Brown Linoleum	2-14-97		
			Doorway room 133			
73	~~F1.1B~~	F1.1B				
			Doorway Room 132			
74	~~F1.1C~~	F1.1C				
			Doorway Room 132			
	75	M3.1A	Sheetrock & Taping Material			
			Behind door room 115			
	76	M3.1B				
			NW corner Room 170			
	77	M3.1C				
			S.E Corner Room 126			

Date	Time	Relinquished by	Total Samples Shipped	Received by	Total Samples Received
2-17-97	9:25	Dave Simonson	3C	Beverly Ayers	
2-17-97	9:25	Beverly Ayers		G Cleveland	

MAXIM TECHNOLOGIES, INC. 600 SOUTH 25TH STREET, BILLINGS, MONTANA 59101 (406) 248-9161

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CHAIN OF CUS ODY RECORD
BULK ASBESTOS AND LEAD SAMPLES

CTA
Client Name

Billings-Maxim
Client Address

551070205S
Job Number

MAFB 882
Building Name/Number

2-14-97
Date

Dave Simonson
Collected by/Distribute to:

(Address for the final lab report)

5 day
Turn Around Time

LABORATORY NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION AND LOCATION	DATE COLLECTED	ANALYSIS REQUIRED PLM	RESULTS
108078	M12.1A	Rubber base board / Mastic	2-14-97		
		Room 121 west side			
79	M12.1B				
		Room 121 West side			
80	M12.1C				
		Room 125 west side			
81	F2.1A	12x12' Floor tile Tan w Brown streak			
		west side room 125			
82	F2.1B				
		West side Room 125			
83	F2.1C				
		East side Room 121			

Date	Time	Relinquished by	Total Samples Shipped	Received by	Total Samples Received
2-17-97	9:25	Dave Simonson	30	Beverly Ayers	
2-17-97	9:26	Beverly Ayers		L Cleveland	

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CHAIN OF CUS ODY RECORD
BULK ASBESTOS AND LEAD SAMPLES

CTA
Client Name

Maxim - Billings
Client Address

55107202058
Job Number

MAFB 582
Building Name/Number

2-14-97
Date

Dave Simonson
Collected by/Distribute to:

(Address for the final lab report)

5day
Turn Around Time

Laboratory Number	Sample Number	Sample Description and Location	Date Collected	Analysis Required	Results
108084	M5.1	2x4' Lay-in ceiling panel (fissure) Room 116	2-14-97		
85	M5.1B	Room 101			
86	M5.1C	Room 102			
87	M5.2A	2x2' Lay-in ceiling panel (fissure) Room 111			
88	M5.2B				
89	M5.2C				

Date	Time	Relinquished by	Total Samples Shipped	Received by	Total Samples Received
2-17-97	9:25	Dave Simonson	30	Kimberly Myers	
2-17-97	9:25	Kimberly Myers		[illegible]	

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CHAIN OF CUSTODY RECORD
BULK ASBESTOS AND LEAD SAMPLES

CTA
Client Name

Maxim - Billings
Client Address

9510-220-58
Job Number

MAFB 882
Building Name/Number

2-14-97
Date

Dave Simonson
Collected by/Distribute to:

(Address for the final lab report)

Turn Around Time

LABORATORY NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION AND LOCATION	DATE COLLECTED	ANALYSIS REQUIRED	RESULTS
108090	M5,3A	2'x4' Lay-in Ceiling panels (holes)	2-14-97		
		Room 125			
91	M5,3B				
92	M5,3C				
93	F2,2A	12"x12" Floor tile Brown & Mastic			
		Room 115			
94	F2,2B				
95	F2,3C				

Date	Time	Relinquished by	Total Samples Shipped	Received by	Total Samples Received
2-17-97	9:25	Dave Simonson	38	Beverly Myers	
Date	Time	Relinquished by	Total Samples Shipped	Received by	Total Samples Received
2-17-97	9:25	Beverly Myers			

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CHAIN OF CUSTODY RECORD
BULK ASBESTOS AND LEAD SAMPLES

CTA
Client Name

Billings Maxim
Client Address

5510702.058
Job Number

MAFB 882
Building Name/Number

2-14-97
Date

Dave Simonson
Collected by/Distribute to:

(Address for the final lab report)

5 day
Turn Around Time

LABORATORY NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION AND LOCATION	DATE COLLECTED	ANALYSIS REQUIRED PLM	RESULTS
108096	F2.3A	12"x12" Floortile-White x Brown-Self Adhesive	2-14-97		
		Room 135			
97	F2.3B				
		Room 134			
98	F2.3C				
		Room 131			
99	M1.1A	Built-up Asphalt Roofing			
		North side			
108100	M1.1B				
		South side			
01	M1.1C				
		South side			

Date	Time	Relinquished by	Total Samples Shipped	Received by	Total Samples Received
2-17-97	9:25	Dave Simonson	30	Beverly Ayers	
2-17-97	9:25	Beverly Ayers		G Cleveland	

MAXIM TECHNOLOGIES, INC. 600 SOUTH 25TH STREET, BILLINGS, MONTANA 59101 (406) 248-9161

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APPENDIX C

LEAD-BASED PAINT XRF RESULTS

SUMMARY OF XRF TESTS
BUILDING 882
MALMSROM AFB
GREAT FALLS, MONTANA
NITON XL # XL309-U638D4346

No	LHA-No.	Room#	Side	Structure	Feature	Fea#	Condition	Substrate	Lead Concentration mg/cm2*
1	21D	101	A	Window	Casing	Lft	Solid	Metal	0.00
2	21D	101	D	Window	Stool		Solid	Metal	0.03
3	05D	101	D	Wall	Midle Wall		Solid	CMU	0.00
4	35D	101	D	Wall	Radiator		Solid	Metal	0.01
5	02A	101	D	Wall	Wall	Lwr	Solid	Drywall	0.01
6	02A	101	D	Wall	Wall	Lwr	Solid	Drywall	0.00
7	02D	101	D	Wall	Wall	Lwr	Solid	Drywall	0.01
8	14D	101	B	Door	Door		Solid	Wood	0.00
9	17D	101	B	Door	Jamb	Lft	Solid	Wood	0.00
10	13A	101	Upr	Ceiling	DC Grid		Solid	Metal	0.00
11	13A	101	Upr	Ceiling	DC Tile		Solid	Tile	0.01
12	21D	102	D	Window	Sash	Lwr	Solid	Metal	0.00
13	21D	102	D	Window	Stool		Solid	Metal	0.02
14	35D	102	D	Window	Radiator		Solid	Metal	0.03
15	02D	102	D	Wall	Wall	Lwr	Solid	Drywall	0.01
16	05D	102	D	Wall	Midle Wall		Solid	CMU	0.02
17	74D	102	A	Wall	Chair rail		Solid	Wood	0.00
18	74D	102	C	Wall	Midle Wall		Solid	Wood	0.00
19	14D	102	C	Door	Door		Solid	Wood	0.00
20	17D	102	B	Door	Jamb	Rht	Solid	Wood	0.00
21	13A	102	Upr	Ceiling	DC Grid		Solid	Metal	0.00
22	13A	102	Upr	Ceiling	DC Tile		Solid	Tile	0.00
23	21D	103	D	Window	Sash	Upr	Solid	Metal	0.00
24	05D	103	D	Wall	Midle Wall		Solid	CMU	0.01
25	21D	103	D	Window	Stool		Solid	Metal	0.02
26	35D	103	D	Window	Radiator		Solid	Metal	0.07
27	74D	103	C	Wall	Midle Wall		Solid	Wood	0.01
28	74D	103	C	Wall	Chair rail		Solid	Wood	0.00
29	05A	103	C	Wall	Midle Wall		Solid	CMU	0.01
30	13D	103	Upr	Ceiling	DC Grid		Solid	Metal	0.00
31	13A	103	Upr	Ceiling	DC Tile		Solid	Tile	0.05
32	17D	103	B	Door	Jamb	Lft	Solid	Wood	0.00
33	14D	103	B	Door	Door		Solid	Wood	0.00
34	14D	105	D	Door	Door		Solid	Wood	0.00
35	17D	105	D	Door	Casing	Lft	Solid	Wood	0.00
36	15D	105	A	Door	Door		Solid	Metal	0.18
37	18D	105	A	Door	Jamb	Lft	Solid	Metal	0.01
38	15D	106	B	Door	Door		Solid	Metal	0.01
39	18D	106	B	Door	Jamb	Rht	Solid	Metal	0.11
40	14D	106	B	Door	Door		Solid	Wood	0.00
41	17D	106	D	Door	Casing	Lft	Solid	Wood	0.00
42	74D	106	C	Wall	Midle Wall		Solid	Wood	0.00
43	13A	106	Upr	Ceiling	DC Grid		Solid	Metal	0.01
44	13A	106	Upr	Ceiling	DC Tile		Solid	Tile	0.06

*The Niton XL XRF measures lead concentrations from 0.1 to 5.0 mg/cm2, +/- 0.1 mg/cm2.

SUMMARY OF XRF TESTS
BUILDING 882
MALMSROM AFB
GREAT FALLS, MONTANA
NITON XL # XL309-U638D4346

No	LHA-No.	Room#	Side	Structure	Feature	Fea#	Condition	Substrate	Lead Concentration mg/cm2*
45	13A	106	Upr	Ceiling	DC Tile		Solid	Tile	0.00
46	12E	107	Upr	Ceiling			Solid	Drywall	0.13
47	02E	107	C	Wall	Wall	Upr	Solid	Drywall	0.15
48	15D	107	C	Door	Door		Solid	Metal	0.11
49	18D	107	C	Door	Jamb	Lft	Solid	Metal	0.05
50	02F	108	B	Wall	Midle Wall		Solid	Drywall	0.04
51	12A	108	Upr	Ceiling			Solid	Drywall	0.21
52	12A	108	Upr	Ceiling			Solid	Drywall	0.27
53	12A	108	Upr	Ceiling			Solid	Drywall	0.06
54	15F	108	B	Door	Jamb	Rht	Solid	Metal	0.02
55	18F	108	B	Door	Door		Solid	Metal	0.02
56	05A	109	A	Wall	Midle Wall		Solid	CMU	0.03
57	21D	109	A	Window	Sash	Lwr	Solid	Metal	0.00
58	21A	109	A	Window	Stool		Solid	Metal	0.08
59	02A	109	A	Wall	Midle Wall		Solid	Drywall	0.09
60	35A	109	A	Wall	Radiator		Solid	Metal	0.04
61	15A	109	D	Door	Door		Solid	Metal	0.00
62	18A	109	D	Door	Casing	Lft	Solid	Metal	0.07
63	15A	109	C	Door	Door		Solid	Metal	0.03
64	15A	109	C	Door	Door		Solid	Metal	0.01
65	16A	109	C	Door	Door		Solid	Metal	0.03
66	18A	109	C	Door	Casing	Lft	Solid	Metal	0.03
67	02E	110	D	Wall	Midle Wall		Solid	Drywall	0.19
68	02E	110	D	Wall	Midle Wall		Solid	Drywall	0.02
69	13A	110	Upr	Ceiling	DC Grid		Solid	Metal	0.02
70	13A	110	Upr	Ceiling	DC Tile		Solid	Tile	0.07
71	15D	110	C	Door	Door		Solid	Metal	0.12
72	18D	110	C	Door	Jamb	Lft	Solid	Metal	0.04
73	15D	110	C	Door	Door		Solid	Metal	0.16
74	18D	110	C	Door	Jamb	Lft	Solid	Metal	0.03
75	02E	110	A	Wall	Midle Wall		Solid	Drywall	0.01
76	15D	111	C	Door	Door		Solid	Metal	0.11
77	18D	111	C	Door	Jamb	Lft	Solid	Metal	0.08
78	05D	112	A	Wall	Midle Wall		Solid	CMU	0.02
79	21D	112	A	Window	Sash	Lwr	Solid	Metal	0.00
80	21A	112	A	Window	Stool		Solid	Metal	0.05
81	02A	112	A	Wall	Wall	Lwr	Solid	Drywall	0.01
82	35A	112	A	Wall	Radiator		Solid	Metal	0.05
83	05D	113	A	Wall	Midle Wall		Solid	CMU	0.00
84	21D	113	A	Window	Sash	Lwr	Solid	Metal	0.00
85	21D	113	A	Window	Stool		Solid	Metal	0.09
86	35A	113	A	Window	Radiator		Solid	Metal	0.04
87	02A	113	A	Wall	Wall	Lwr	Solid	Drywall	0.00
88	14Y	113	C	Door	Door		Solid	Wood	0.01

*The Niton XL XRF measures lead concentrations from 0.1 to 5.0 mg/cm2, +/- 0.1 mg/cm2.

SUMMARY OF XRF TESTS
BUILDING 882
MALMSROM AFB
GREAT FALLS, MONTANA
NITON XL # XL309-U638D4346

No	LHA-No.	Room#	Side	Structure	Feature	Fea#	Condition	Substrate	Lead Concentration mg/cm2*
89	17Y	113	C	Door	Casing	Rht	Solid	Wood	0.00
90	13D	114	Upr	Ceiling	DC Grid		Solid	Metal	0.00
91	13A	114	Upr	Ceiling	DC Tile		Solid	Tile	0.01
92	74D	114	D	Wall	Midle Wall		Solid	Wood	0.00
93	74D	114	C	Wall	Chair rail		Solid	Wood	0.00
94	15D	114	A	Door	Door		Solid	Metal	0.11
95	18D	114	A	Door	Casing	Lft	Solid	Metal	0.04
96	02B	115	C	Wall	Midle Wall		Solid	Drywall	0.06
97	12B	115	Upr	Ceiling			Solid	Drywall	0.01
98	15B	115	A	Door	Door		Solid	Metal	0.01
99	18B	115	A	Door	Casing	Lft	Solid	Metal	0.05
100	05A	116	A	Wall	Midle Wall		Solid	CMU	0.00
101	02A	116	A	Wall	Wall	Lwr	Solid	Drywall	0.01
102	35A	116	A	Wall	Radiator		Solid	Metal	0.03
103	21A	116	A	Window	Stool		Solid	Metal	0.16
104	21A	116	A	Window	Stool		Solid	Metal	0.24
105	21A	116	A	Window	Stool		Solid	Metal	0.12
106	21A	116	A	Window	Stool		Solid	Metal	0.04
107	15D	116	C	Door	Door		Solid	Metal	0.12
108	18D	116	C	Door	Casing	Rht	Solid	Metal	0.09
109	02A	117	D	Wall	Midle Wall		Solid	Drywall	0.00
110	05D	117	A	Wall	Midle Wall		Solid	CMU	0.10
111	21D	117	A	Window	Sash	Lwr	Solid	Metal	0.00
112	21D	117	A	Window	Stool		Solid	Metal	0.19
113	21D	117	A	Window	Stool		Solid	Metal	0.21
114	13A	117	Upr	Ceiling	DC Grid		Solid	Metal	0.00
115	13A	117	Upr	Ceiling	DC Tile		Solid	Tile	0.01
116	14Y	117	C	Door	Door		Solid	Wood	0.00
117	17D	117	C	Door	Jamb	Rht	Solid	Wood	0.00
118	15A	118	D	Door	Door		Solid	Metal	0.11
119	18D	118	D	Door	Jamb	Lft	Solid	Metal	0.04
120	02A	118	A	Wall	Wall	Lwr	Solid	Drywall	0.16
121	35A	118	A	Wall	Radiator		Solid	Metal	0.01
122	21D	118	A	Window	Sash	Lwr	Solid	Metal	0.00
123	05D	118	A	Wall	Midle Wall		Solid	CMU	0.03
124	21A	118	A	Window	Stool		Solid	Metal	0.05
125	13A	118	Upr	Ceiling	DC Grid		Solid	CMU	0.00
126	13A	118	Upr	Ceiling	DC Tile		Solid	Metal	0.00
127	15A	120	B	Door	Door		Solid	Metal	0.01
128	18D	120	B	Door	Jamb	Lft	Solid	Metal	0.02
129	02B	120	C	Wall	Midle Wall		Solid	Drywall	0.01
130	05B	120	C	Wall	Midle Wall		Solid	Drywall	0.01
131	21B	120	A	Window	Stool		Solid	Metal	0.23
132	21B	120	A	Window	Casing	Rht	Solid	Metal	0.04

*The Niton XL XRF measures lead concentrations from 0.1 to 5.0 mg/cm2, +/- 0.1 mg/cm2.

SUMMARY OF XRF TESTS
BUILDING 882
MALMSROM AFB
GREAT FALLS, MONTANA
NITON XL # XL309-U638D4346

No	LHA-No.	Room#	Side	Structure	Feature	Fea#	Condition	Substrate	Lead Concentration mg/cm2*
133	21B	120	A	Window	Stool		Solid	Metal	0.05
134	21B	120	A	Window	Stool		Solid	Metal	0.03
135	15D	122	D	Door	Door		Solid	Metal	0.00
136	18D	122	D	Door	Jamb	Rht	Solid	Metal	0.06
137	14D	122	A	Door	Door		Solid	Wood	0.00
138	17D	122	A	Door	Jamb	Lft	Solid	Wood	0.00
139	05D	122	B	Wall	Midle Wall		Solid	CMU	0.12
140	02D	122	B	Wall	Wall	Lwr	Solid	Drywall	0.01
141	35D	122	B	Wall	Radiator		Solid	Metal	0.06
142	21D	122	B	Window	Sash	Lwr	Solid	Metal	0.00
143	21D	122	B	Window	Stool		Solid	Metal	0.03
144	15D	123	B	Door	Door		Solid	Metal	0.10
145	18D	123	B	Door	Jamb	Lft	Solid	Metal	0.04
146	12B	123	Upr	Ceiling			Solid	Drywall	0.03
147	02B	123	C	Wall	Wall	Upr	Solid	Drywall	0.02
148	07C	123	D	Wall	Midle Wall		Solid	Metal	0.03
149	15D	124	B	Door	Door		Solid	Metal	0.10
150	18D	124	B	Door	Jamb	Rht	Solid	Metal	0.03
151	05B	124	B	Wall	Wall	Upr	Solid	CMU	0.03
152	02B	124	Upr	Ceiling			Solid	Drywall	0.02
153	07C	124	C	Wall	Midle Wall		Solid	Metal	0.03
154	15D	125	C	Door	Door		Solid	Metal	0.02
155	18D	125	C	Door	Jamb	Lft	Solid	Metal	0.01
156	05B	127	A	Wall	Midle Wall		Solid	CMU	0.04
157	12B	127	Upr	Ceiling			Solid	Drywall	0.03
158	15D	127	C	Door	Door		Solid	Metal	0.02
159	15D	127	C	Door	Jamb	Rht	Solid	Metal	0.02
160	05B	104	C	Wall	Midle Wall		Solid	CMU	0.01
161	05B	104	C	Wall	Wall	Upr	Solid	CMU	0.00
162	05D	104	C	Wall	Wall	Lwr	Solid	CMU	0.00
163	12B	104	Upr	Ceiling			Solid	Drywall	0.06
164	15D	104	D	Door	Door		Solid	Metal	0.01
165	08G	104	Lwr	Floor	Door		Solid	Concrte	0.03
166	05P	128	A	Wall	Midle Wall		Solid	CMU	0.02
167	12A	128	Upr	Ceiling			Solid	Drywall	0.03
168	15D	128	B	Door	Door		Solid	Metal	0.03
169	18D	128	B	Door	Jamb	Lft	Solid	Metal	0.02
170	02F	100	A	Wall	Midle Wall		Solid	Drywall	0.02
171	12F	100	Upr	Ceiling			Solid	Drywall	0.02
172	15D	100	A	Door	Door		Solid	Metal	0.03
173	18D	100	A	Door	Jamb	Lft	Solid	Metal	0.03
174	78D	129	B	Wall	Wall	Lwr	Solid	Transite	0.05
175	02D	129	B	Wall	Midle Wall		Solid	Drywall	0.06
176	02B	129	B	Wall	Wall	Upr	Solid	Drywall	0.02

*The Niton XL XRF measures lead concentrations from 0.1 to 5.0 mg/cm2, +/- 0.1 mg/cm2.

SUMMARY OF XRF TESTS
BUILDING 882
MALMSROM AFB
GREAT FALLS, MONTANA
NITON XL # XL309-U638D4346

No	LHA-No.	Room#	Side	Structure	Feature	Fea#	Condition	Substrate	Lead Concentration mg/cm2*
177	15D	129	B	Door	Door		Solid	Metal	0.03
178	18D	129	B	Door	Jamb	Rht	Solid	Metal	0.03
179	78D	129	D	Wall	Wall	Lwr	Solid	Transite	0.02
180	02D	129	D	Wall	Midle Wall		Solid	Drywall	0.02
181	02B	129	D	Wall	Wall	Upr	Solid	Drywall	0.09
182	05D	130	B	Wall	Midle Wall		Solid	CMU	0.02
183	21D	130	B	Window	Sash	Lwr	Solid	Metal	0.00
184	21D	130	B	Window	Stool		Solid	Metal	0.14
185	35D	130	B	Window	Radiator		Solid	Metal	0.08
186	15D	130	D	Door	Door		Solid	Metal	0.02
187	18D	130	D	Door	Jamb	Lft	Solid	Metal	0.11
188	05D	132	C	Wall	Wall	Upr	Solid	CMU	0.02
189	05B	Ext	A	Ext Wall	Siding		Solid	CMU	0.07
190	04B	Ext	A	Ext Wall	Siding		Solid	Concrte	0.05
191	04B	Ext	A	Ext Wall	Siding		Solid	Concrte	0.01
192	58B	Ext	A	Ext Wall	Downspout		Solid	Metal	0.10
193	58B	Ext	A	Ext Wall	Downspout		Solid	Metal	0.01
194	58B	Ext	A	Ext Wall	Downspout		Solid	Metal	0.00
195	15D	Ext	A	Door	Door		Solid	Metal	0.20
196	18D	Ext	A	Door	Jamb		Solid	Metal	0.05
197	04B	Ext	B	Ext Wall	Siding		Solid	Concrte	0.08
198	21D	Ext	B	Window	Sash	Ext	Solid	Metal	0.00
199	63D	Ext	B		Bollard		Solid	Metal	**5.09**
200	63B	Ext	B		Bollard		Solid	Metal	0.36
201	63D	Ext	B		Bollard		Solid	Metal	**4.38**
202	15D	Ext	B	Garage	Door		Solid	Metal	0.02

*The Niton XL XRF measures lead concentrations from 0.1 to 5.0 mg/cm2, +/- 0.1 mg/cm2.

APPENDIX D

MAXIM TECHNOLOGIES PERSONNEL AHERA CERTIFICATES

Gobbell Hays Partners, Inc.

747 Sheridan Boulevard, Unit 8B , Lakewood, Colorado 80214
Ph. (303) 274-1211 - Fax (303) 274-2981

CERTIFIES THAT

DAVE SIMONSON

has successfully completed

A 3-Day EPA-Model Curriculum Course for
LEAD BASED PAINT INSPECTOR
revised to incorporate applicable standards November 11, 1996.

Course Date : 11/11/96 - 11/13/96
Exam Date : 11/13/96
Certificate No : 11196-BPIGHP01
Expires : 11/11/97

Peter D. Cappel - Director

SEAL

Maxim
Technologies, Inc.

CERTIFICATE OF SATISFACTORY COMPLETION

Certificate No.: 961126-07

Expiration Date: November 26, 1997

Student Name: DAVE SIMONSON
(This individual has completed the requisite training for asbestos accreditation under TSCA Title II)

Street: P.O. Box 30615

City: Billings State: MT Zip: 59107

NAME OF COURSE: Asbestos Inspector Refresher/4-Hour

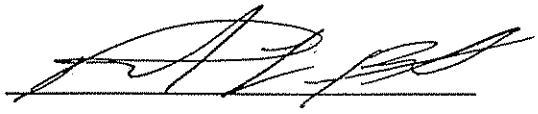
COURSE DATE: November 26, 1996 EXAMINATION DATE: N/A

EXAMINATION PERFORMANCE: PASS N/A FAIL N/A

COURSE APPROVAL:

AIR QUALITY DIVISION
MONTANA DEPARTMENT OF HEALTH
AND ENVIRONMENTAL SCIENCES
P O BOX 200901
HELENA MT 59620-0901
AND
U.S. EPA

COURSE PROVIDER:

MAXIM TECHNOLOGIES, INC.
600 SOUTH 25TH STREET
BILLINGS, MONTANA 59101
PHONE: (406) 248-9161

INSTRUCTOR: